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INFECTIVITY OF ANOPHELES CRUCIANS IN NATURE.

Reports of interest are given in the two papers which follow. Biologist Bruce Mayne records the finding for the first time of an *Anopheles crucians* infected with malaria parasites under natural conditions. Mr. Mayne's work was done in 1917.

Asst. Surg. Gen. H. R. Carter in a memorandum has especially pointed out two other points of importance brought out in this paper: (1) The percentage of infection found in *Anopheles quadrimaculatus* in nature (i. e., in "wild" specimens), a statement which has not heretofore been recorded, and (2) the latest date at which *quadrimaculatus* has been found to be infected. This latter point, he states, is of considerable sanitary importance, since it was used to determine the date at which the service stopped oiling last autumn, entailing a saving of about \$10,000.

Mr. Mayne's report acquires increased significance when combined with the corroborating observations made by Dr. Metz, who, in 1918, found two specimens of *Anopheles crucians* infected in nature.

The Occurrence of Malaria Parasites in *Anopheles Crucians* in Nature: Percentage of Infection of *Anopheles Quadrimaculatus* and Latest Date Found Infected in Northern Louisiana.

By BRUCE MAYNE, Biologist, United States Public Health Service.¹

The finding of maturely developed *Plasmodium* in the gut wall or salivary glands in artificially infected mosquitoes kept under laboratory conditions has been held by numerous investigators as ample proof of the susceptibility of a species as an efficient host. The three American species of *Anopheles*, namely, *A. quadrimaculatus*, *A. punctipennis*, and *A. crucians*, have been reported as capable of harboring the organisms of malarial fever under experimental conditions. Several workers have discovered American *Anopheles* in the rôle of carriers under natural environments. Within the past few years *Anopheles quadrimaculatus* has been found both with oocyst infection of the gut and with salivary gland sporozoites. On only one occasion a specimen of *A. punctipennis* has been found in nature with stomach infection, and that with a single oocyst. *A. crucians*, which is first reported by the writer as a host of *Plasmodium vivax*

¹ The author's name has been legally changed; it was formerly M. Bruin Mitzmain.

and *P. falciparum* under laboratory procedure, has never before been found infected in the natural state.

The main purpose of this article is to report the finding of *A. crucians* infected in the field. During the summer and fall of 1917 malaria investigations were conducted in northern Louisiana at Lenwil, a lumber settlement six miles west of Monroe. The infected specimen of *A. crucians*, specimen number 15, was captured on October 11 from a privy of a negro resident at Lenwil. The gut wall of this mosquito was negative. The six lobes of the salivary glands were moderately infested with sporozoites which showed active motility under pressure of the cover glass.

The percentage of infection presented by the 20 specimens of *A. crucians* dissected was 5, but it is assumed that too few mosquitoes of this species were examined to furnish a comprehensive relation of percentages. It is pointed out, however, that the finding of the single infected specimen of *A. crucians* is significant on account of the presence of viable gland sporozites.

A preliminary survey at Lenwil among 250 mill employees and their families gave a history index of malaria infections of 83 per cent and a parasite index of 22 per cent. On August 27, two collected specimens of *A. quadrimaculatus* were shown to be infected. Dissections of anopheline mosquitoes were continued without interruption until the latter part of November. The last infected mosquito was captured October 20.

The following table indicates the dates of collecting the mosquitoes which proved upon dissection to be harboring organisms of malaria:

TABLE 1.—Dates collected, species and number of each found to be infected.

Date dissected.	Number of specimens.			Specimens found infected.		
	Quadri-maculatus.	Punctipennis.	Crucians.	Quadri-maculatus.	Punctipennis.	Crucians.
1917.						
Aug. 23-26.....	46		1			
Aug. 27.....	29	1		2		
Aug. 29.....	3					
Aug. 30.....	3					
Aug. 31.....	20		1			
Sept. 1.....	11			1		
Sept. 6.....	8					
Sept. 7.....	24			1		
Sept. 8.....	8					
Sept. 10.....	5					
Sept. 11.....	10					
Sept. 13.....	39			1		
Sept. 14-20.....	125					
Sept. 22.....	40			1		
Sept. 24-Oct. 4.....	155	1				
Oct. 6.....	10			4		
Oct. 7.....	5			1		
Oct. 8.....	17			2		
Oct. 10.....	13					
Oct. 11.....	9		1	1		1
Oct. 12.....	9			1		
Oct. 15.....	20	1	1	1		
Oct. 16-19.....	31	1				
Oct. 20.....	2			1		
Oct. 22-Nov. 25.....	67	13	16			
Total.....	700	17	20	17		1

The percentage of infection found among the 709 specimens of *A. quadrimaculatus*, namely, 2.4, appears to be fairly constant in all our field dissections thus far conducted.

TABLE 2.—Descriptions of the extent of infection in the specimens of *A. quadrimaculatus*.

Specimen No.	Date dissected.	Infected stomach wall.	Salivary gland sporozoites.
1	Aug. 27.....	.....	1 lobe infected slightly.
2	Aug. 28.....	.....	2 lobes infected; 1 slightly, 1 moderately.
3	Sept. 1.....	A single oocyst presporoblastic without pigment.	
4	Sept. 7.....	7 oocysts in young stages of development; pigment present.	
5	Sept. 13.....	3 oocysts presporoblastic.....	
6	Sept. 22.....	.....	2 lobes of 6 heavily infected.
7	Oct. 6.....	.....	1 lobe infected slightly.
8	.....do.....	.....	4 lobes, moderate infection.
9	.....do.....	.....	2 lobes, moderate infection.
10	.....do.....	.....	1 lobe, heavily infected.
11	Oct. 7.....	.....	6 lobes, moderate infection.
12	Oct. 8.....	.....	6 lobes with numerous sporozoites.
13	.....do.....	.....	4 lobes, scanty infection.
14	Oct. 11.....	.....	6 lobes, moderate infection.
16	Oct. 12.....	.....	2 mid lobes, scant infection.
17	Oct. 15.....	.....	6 lobes, moderate to heavy infection.
18	Oct. 20.....	.....	4 lobes, moderate infection.

ANOPHELES CRUCIANS WIED. AS AN AGENT IN MALARIA TRANSMISSION.

By C. W. METZ, Ph. D., Special Investigator, United States Public Health Service.

So far as the writer is aware there is little published evidence upon which to judge the importance of *Anopheles crucians* Wied. as a vector of malaria in nature. The species is known to be a suitable host for the parasite of æstivo-autumnal and tertian malaria (Mitzmain, 1916 (a), (b)) and to transmit at least the former type under laboratory conditions (Mitzmain 1916 (a), King 1916), but no available literature records the finding of infected specimens in nature. Beyer and his coworkers and Dupree are reported by various authors to have found cases of this sort, but the reports are, according to King (1916), based upon a misinterpretation of the statements of these investigators.

Epidemiological considerations and observations on the habits of *crucians* have led to indefinite conclusions. According to King the incrimination of *crucians* by Beyer and his associates was based upon epidemiological findings. On the other hand the apparent absence of any marked tendency on the part of *crucians* to enter dwellings has argued against its efficiency as a vector. It may be considered a relatively open question, therefore, whether *crucians* is or is not of practical importance—certainly the question is not yet settled.

In arriving at a conclusion in this case it is of primary importance to determine the relative frequency with which *crucians* bites man under conditions suitable for malaria transmission. The present

paper is concerned largely with this determination. Obviously, the best criterion for the purpose is the finding of infected specimens of *crucians* in nature, and most of the accompanying observations deal with this phase of the matter, although other data are considered.

After these observations were made, it was learned that a case of natural infection of *crucians* had been found in 1917 by Bruce Mayne, at Monroe, La. Gland sporozoites were observed in this infected specimen of *crucians*.

Observations on Habits of *Anopheles crucians*.

In a previous paper (Metz 1918, Table I) the writer has recorded the types of hiding places selected by 634 specimens of *crucians* taken in connection with an experiment to determine the range of flight. Although much larger numbers have been taken at other times, these records are significant because, in obtaining them, a thorough search was made of all available hiding places. The buildings consisted mainly of houses and sheds, with a few stables and privies and one or two pigpens. The results are summarized as follows: Under houses 415, inside houses 2, in stables 111, in pigpens 25, in privy 1, in sheds 45, under bridges 35. These observations all apply to one locality—outskirts of Montgomery, Ala., on the west.

Subsequently more extended observations were made in Polk County, Fla., where *Anopheles crucians* and *quadrimaculatus* intermingle in varying proportions. Here it was possible to make a fairly accurate comparison of the relative tendency of the two species to enter buildings frequented by man. In each case the proportions depended largely upon the relative abundance of the respective species, but the evidence was so consistent throughout there could be no doubt as to the general conclusion. The number of *crucians* found in dwellings as compared with the number found elsewhere (as underneath houses, in privies and other outbuildings) was always small, while with *quadrimaculatus* the situation was reversed. However, in privies *crucians* was almost as numerous, on the average, as was *quadrimaculatus*.

The finding of *crucians* in such large numbers underneath dwellings suggested (as similar observations on *punctipennis* have suggested with respect to that species, Carter, Le Prince and Griffiths, 1916) that they might have the habit of entering the dwellings during the night and flying out again in the morning. To test this, window traps were installed in a dwelling located in a region heavily infested with *crucians*. Less than half a dozen specimens were taken in two weeks' time, making it very probable that no considerable flight into the house took place.

These observations would tend to give *crucians* a relatively unimportant place in malaria transmission when compared with *quadrimaculatus*. On the other hand, certain localities have been found in

which *crucians* was the predominant *Anopheles*—almost to the exclusion of the others—and in which malaria appeared to be prevalent. One such locality is that near Montgomery, Ala. (Metz 1918). A history index of this area made by the Public Health Service during the winter of 1917–18 reported a high malaria rate during the preceding year. Similarly, in Florida the writer has found at least two places in which malaria was said ¹ to be prevalent in localities found to be infested with *crucians* but practically free from other *Anopheles*.

Relative Percentage of Infectivity of *Anopheles crucians* and *Anopheles quadrimaculatus*.

Although the above observations all bear more or less directly on the question under consideration, more explicit information is needed. For this reason an attempt was made to secure exact data on the relative number of infected specimens of *crucians* and *quadrimaculatus* present under natural conditions in a given region (Polk County, Fla.)². Both species were collected and examined in as large numbers as practicable. They were taken from several localities, mostly in or near Mulberry, Fla., and in the rural districts within 10 miles of Lakeland, Fla. Altogether, 1,757 specimens were examined, but many of these were from localities in which no infection was found. Leaving the latter out of account the results are as follows:³

	Number exam- ined.	Infected.	Not infected.	Per cent infected.
<i>Anopheles crucians</i>	379	2	377	1.188
<i>Anopheles quadrimaculatus</i>	423	4	419	1.105

Considering the small number of infected specimens and the large mathematical probable error resulting therefrom, the ratio given can be no more than an approximation, but it indicates a probability that the percentage of infected specimens was approximately the same in both species.

It may be of interest to note, in the case of the infected specimens mentioned above, that the amount of infection in the individual mosquito was greater in *quadrimaculatus* than in *crucians*. Neither of the two specimens of *crucians* showed more than a dozen oocysts on the stomach wall, whereas three of the four infected *quadrimaculatus* possessed at least four times that many, one of them exhibiting more than 200 oocysts.

¹ Reports of physicians and patients.

² So far as known *A. punctipennis* does not occur in this region.

³ The criterion used in determining infection in these cases was the presence of oocysts on the stomach wall. The salivary glands were also examined in the cases that revealed oocysts on the stomach. In all but one of them, however, the glands appeared to be free from sporozoites. The exception was a specimen of *quadrimaculatus*.

These observations were made during the fall and early winter—September to December—the infected specimens being taken on the following dates: September 15, October 15, 26, and 30, November 23, and December 4. The most heavily infected specimen was taken on the last-mentioned date. No marked lessening in the amount of infection was observed as the season advanced and the weather became cooler—possibly because the temperature, even in December, averaged over 60° F. (average maximum 73°, average minimum 52°, lowest extreme 41°).

All of the infected specimens were taken near dwellings, and probably most of them were taken in or underneath dwellings, for most of the collecting was done in those places. The exact point of capture is known for only two of the six. Of these, one (*crucians*) was taken in a pigpen about 200 feet from the nearest dwelling, in which, however, there was reported to be no malaria; the other (*quadrимaculatus*) was taken in a privy near several negro houses where malaria was prevalent.

Conclusions.

It is believed that the data given above leave no doubt as to the susceptibility of *Anopheles crucians* to infection with malaria plasmodia under natural conditions. Likewise, they indicate that, although the habits of this species are probably less conducive to natural infection than are those of *quadrимaculatus*, nevertheless a considerable amount of infection occurs. This evidence of *crucians*' susceptibility of infection in nature, taken in conjunction with the demonstration of its infectivity; i. e., its rôle as a vector, under laboratory conditions (Mitzmain, 1916 (a), King, 1916), would indicate that this species is potentially of definite sanitary importance. The evidence is too meager, however, to indicate the degree of importance it merits as compared with *quadrимaculatus* and *punctipennis*.

Considering its habits, it seems probable that *crucians* is primarily an out-of-door biter; i. e., it is probably most effective on porches and in outhouses. If such proves to be the case, especial precautions against out-of-door exposure in the evening will be necessary in *crucians* infested districts, whereas screening of dwellings will be relatively unimportant except where other species must also be considered.

References.

- KING, W. V.
1916. Experiments on the development of malaria parasites in three American species of *Anopheles*. Jour. Exp. Med. XXIII: pp. 703-716.
- MITZMAIN, M. B.
1916. (a) *Anopheles punctipennis* Say. Its relation to the transmission of malaria. Public Health Reports, Feb. 11, 1916, pp. 301-307. Reprint No. 324.
1916. (b) Tertian malarial fever. Public Health Reports, May 12, 1916, pp. 1172-1177. Reprint No. 337.
- CARTER, LE PRINCE and GRIFFITHS.
1916. Impounded water. Public Health Bulletin No. 79.
- METZ, C. W.
1918. *Anopheles crucians*: Habits of larvæ and adults. Public Health Reports, Dec. 6, 1918. Reprint No. 495.

EPIDEMIC INFLUENZA IN FOREIGN COUNTRIES.

By W. H. FROST, Surgeon, and EDGAR SYDENSTRICKER, Statistician, United States Public Health Service.

To construct a full picture of the recent influenza epidemic, showing its relative chronology and severity in different parts of the world, will require the most painstaking analysis of detailed records which are not yet available even for the United States. In the meantime the current statistics published in the Weekly Health Index of the United States Census Bureau have already given a very fair picture of the epidemic in the larger cities of this country; and in connection with this the summaries herewith presented, abstracted from reports which are not so widely circulated in this country, may be of current interest. They are, therefore, presented at this time in abbreviated form and with no attempt at full analysis, merely to give a general idea of the course of the epidemic in foreign countries.

With reference to the general chronology of the epidemic, a summary has been prepared from the reports rendered to the Surgeon General of the United States Public Health Service by consular officers in foreign countries and State health authorities in the United States. These reports, which have already been published from time to time in the Public Health Reports, are here summarized in consecutive order. Although the reports are incomplete, and in many instances more or less indefinite as to dates and extent of epidemic prevalence, they still have a definite interest and significance in showing that as early as June and July, 1918, influenza was epidemic in Great Britain, parts of Continental Europe, India, China, Africa, and Brazil; that by September, when the epidemic first attracted attention in the United States, it already had a wide prevalence in many other countries; and that to date its extension has been virtually world wide.

Summary of the First Reports of the Pandemic of Influenza in Different Parts of the World.

JUNE.

Switzerland: June 1.—Reported as present in Zurich.
 England: June 15.—Outbreak in Birmingham. Reported present in other localities.
 India: June 22.—Epidemic in Bombay.
 Brazil: June 16.—Epidemic in Santos.

JULY.

Netherlands: Reported as seriously prevalent.
 Norway: July 13.—Reported as present in Christiania.
 Sweden: July 13.—Few cases reported in Malmo.
 July 27.—Reported as epidemic in Gothenburg.
 Switzerland: Reported as epidemic throughout the country.
 China: July 27.—Epidemic in Chungking, about one-half of the population being affected.
 India: Reported as present in Madras and Calcutta, and spreading throughout India.
 Algeria: Reported as prevalent during the summer.

AUGUST.

Greece: Aug. 18.—Reported as epidemic in Saloniki and in Kalamata.
 Sweden: Aug. 10.—Outbreak in Stockholm.
 Switzerland: Aug. 1.—Seriously prevalent in St. Gall.

Spain: Aug. 13.—Epidemic in city and district of Tarragona and in Huelva.
 United States: Aug. 28.—Outbreak began in Boston.
 West Indies: Aug. 3.—Reported as epidemic in Guadeloupe.

SEPTEMBER.

Denmark: Entire country affected during the month of September.
 France: Epidemic reported in Brest, Bordeaux, Havre, Paris, Marseille, and Nantes.
 Norway: Epidemic reported in Trondhjem.
 Italy: Sept. 27.—Seriously prevalent in Palermo and in Florence.
 Spain: Sept. 28.—Epidemic reported as general throughout Spain.
 Portugal: Sept. 30.—Seriously prevalent in Lisbon.
 Korea: Epidemic reported in Chemulpo, Fusan, and Seoul.
 China: Sept. 28.—Widely prevalent in Hankow.
 Tunis: Reported as epidemic in Tunis.
 South African Union: Sept. 14.—First cases reported in Durban.
 Sept. 18.—Epidemic in Rand area.
 Sept. 23.—Reported in Cape Town and Kimberley.
 Sierra Leone: Sept. 23.—Epidemic in Freetown.
 Senegal: Sept. 23.—Epidemic in Dakar.
 Morocco: Sept. 28.—Reported as present in epidemic form in Tangier.
 Canada: Sept. 30.—Epidemic in Hamilton.
 Sept. 28.—Epidemic in Quebec.
 Sept. 21.—Epidemic in Victoriaville.
 United States: Prevalent along the Atlantic seaboard and the Gulf of Mexico, and spreading rapidly westward, its presence being reported in 43 States and the District of Columbia.
 Mexico: Epidemic reported in Santa Cruz.
 Salvador: Sept. 11.—Reported as epidemic in Republic of Salvador.
 Honduras: Sept. 16.—Epidemic in Amapala.
 Brazil: Reported as epidemic in Bahia.
 Bermuda: Sept. 25.—Epidemic reported in Bermuda.
 Jamaica: Sept. 30.—Outbreak in Lucea and Montego Bay.

OCTOBER.

France: Seriously prevalent in Lyon.
 Oct. 1.—Epidemic reported in St. Etienne.
 Russia: Oct. 1.—Present in epidemic form in Archangel City.
 Italy: Oct. 6.—Epidemic present among troops in Leghorn and in Messina.
 Greece: Oct. 25.—Epidemic in Patras.
 China: First week in October, epidemic reported in Chang-sha.
 Liberia: Oct. 5.—Quarantine placed against vessels from any port in Africa.
 Mexico: Oct. 5-21.—Present in epidemic form in Agujita, Chihuahua, Piedras Negras, Sabinas, Matamoros, and spreading rapidly throughout the country.
 Canada: Oct. 5-18.—Epidemic reported in Nova Scotia, Province of Ontario, New Brunswick, and Newfoundland.
 United States: Epidemic spread practically over the entire United States except into the more isolated rural and mountain areas. About October 15, the crest of the epidemic had been reached in cities along the Atlantic seaboard and in some interior cities, and by the end of the month the crest had been passed in nearly all the larger cities. In rural sections of the central and western sections the epidemic had not reached its height by November 1.
 Honduras: Oct. 7.—Epidemic present in Tegucigalpa.
 Oct. 30.—Epidemic reported in Belize and the surrounding country.
 Guatemala: Oct. 11.—Epidemic reported in Guatemala city.
 Costa Rica: Oct. 12.—Prevalent in Limon.
 Uruguay: First week in October, widespread outbreak in Montevideo.
 Brazil: Oct. 8.—Epidemic reported in Lorenzo Marques.
 Oct. 20.—Seriously prevalent in Para and epidemic in Sao Paulo.

Venezuela: Oct. 25.—Epidemic in La Guaira, Maracaibo, and Puerto Cabello, and spreading rapidly.

Colombia: Oct. 26.—Epidemic reported in Bogota, Barranquilla, Cartagena, and Peru.

Cuba: Oct. 9.—Seriously prevalent in Camaguey and Nuevitas.
Oct. 15.—Epidemic in Republic of Cuba and seriously prevalent in Nueva Gerona.

Oct. 29.—Quarantine placed on all ports.

Oct. 21.—Seriously prevalent in Regla.

Jamaica: Oct. 12.—Epidemic reported in Port Antonio.

Oct. 23.—Epidemic reported in Kingston.

Porto Rico: Oct. 23.—Widely prevalent. Quarantine placed on all ports.

Azores: Oct. 22.—Epidemic reported in Azores.

Australia: Oct. 17.—Quarantine placed on all ports.

Hawaii: Few cases reported in Honolulu.

Canary Islands: Oct. 18.—Reported in epidemic form.

Oct. 23.—Epidemic reported in Grand Canary, Las Palmas, and Tenerife.

New Zealand: Oct. 19.—Severe epidemic reported in Auckland and generally diffused throughout dominion.

Madagascar: Oct. 19.—Outbreak in Madagascar.

NOVEMBER.

England: Severely prevalent in Nottingham.

Arabia: Outbreak in Aden.

India: Seriously prevalent throughout country.

China: Nov. 2.—Epidemic in mild form in Canton.

United States: Epidemic reached and passed its peak in the more isolated rural and mountain sections.

Honduras: Present in epidemic form in San Pedro.

Dutch Guiana: Outbreak in Paramaribo.

Jamaica: Nov. 2.—Spreading throughout island.

Samoa: Nov. 22.—Epidemic reported in Apia.

DECEMBER.

Paraguay: Prevalent in Paraguay and Asuncion.

West Indies: Present in light form in Trinidad.

Hawaii: Present in mild form in Island of Oahu.

Fiji Islands: Seriously prevalent.

Tonga Islands: Dec. 3.—Seriously prevalent.

Society Islands: Dec. 8.—Epidemic reported on Island Tahiti in every district.

Dec. 21.—Seriously prevalent on Islands Mururoa, Makatea, Raia-tea, and Bora Bora.

Dominican Republic: Dec. 19.—Seriously prevalent in La Plata, Puerto Plata, and Santo Domingo.

JANUARY.

China: Epidemic reported in Amoy.

Dominican Republic: Jan. 2.—Prevalent throughout Province.

Brazil: Epidemic present in Campinas and Ribeirao Preto.

Australia: Jan. 25.—Epidemic present in Melbourne. This is the first definite report of the epidemic prevalence in Australia.

A much more definite picture of the chronology and severity of the epidemic in limited areas is given in Tables I and II, which show the annual death rates from all causes in certain cities of Great Britain and of continental Europe and India, by weeks, from June 2, 1918, to April 5, 1919, or to the last week for which statistics are available.

These tables are compiled from the Weekly Return of Births and Deaths of the Registrar General of England and Wales (1) (3),¹ excepting the statistics for Paris, which are derived chiefly from the Weekly

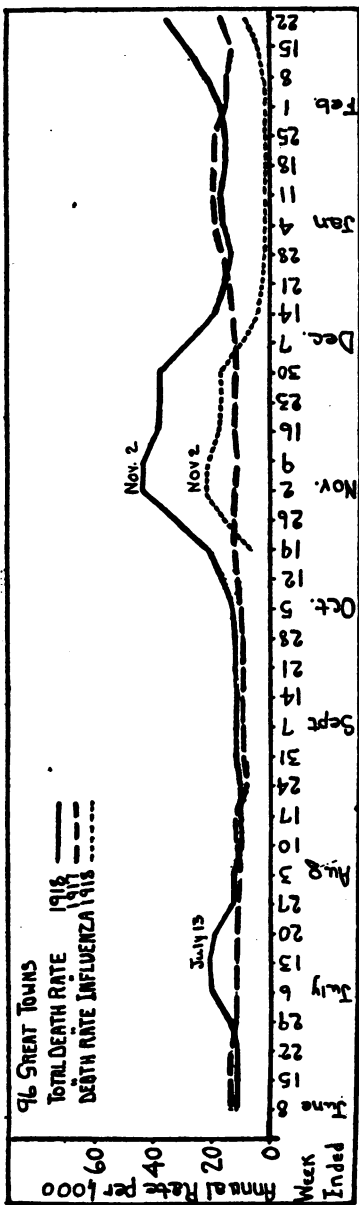


FIG. 1.—Effect of influenza upon mortality in 96 great towns of England and Wales: Annual death rate per 1,000 of population from all causes, by weeks, June 2, 1918, to February 22, 1919, and for the corresponding period in 1917-18, and annual death rate per 1,000 population from influenza, by weeks, October 13, 1918, to February 22, 1919.

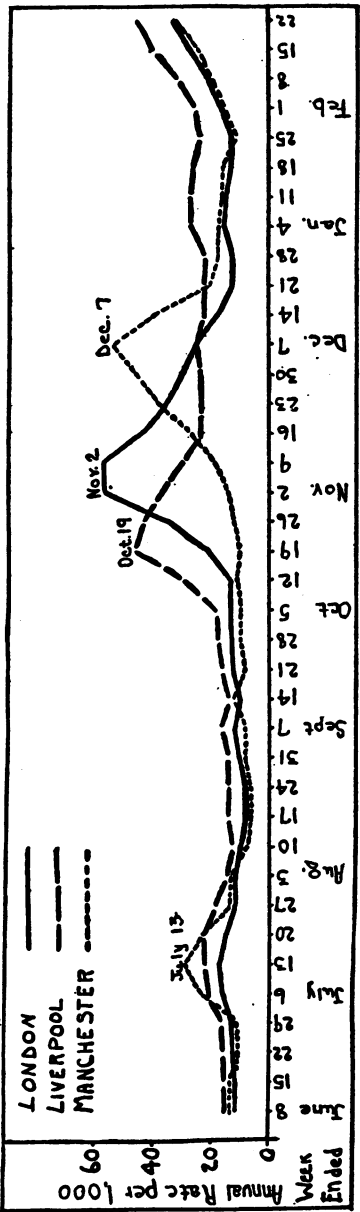


FIG. 2.—Effect of influenza epidemic upon mortality in London, Liverpool, and Manchester, England: Annual death rates per 1,000 of population from all causes, by weeks, June, 1918, to February 22, 1919.

Statistical Bulletin of the City of Paris (2).¹ From these reports statistics of mortality from all causes are available by weeks for the whole of the years 1917 and 1918 and such part of 1919 as is included in the tables. The records for the full years 1917 and 1918 have been

¹ Numbers refer to reports cited. See page 1376.

compiled for purposes of study, but in the tables here presented statistics are given only for the period since June 2, 1918, because it is only during this period that the gross mortality rates show the distinct and unmistakable influence of the influenza epidemic. Comparative statistics for corresponding weeks of 1917-18 are included in the tabulation only for the 96 Great Towns of England and Wales.

TABLE I.—*Annual death rates per 1,000 from all causes in 96 great towns of England and Wales, in London and in certain other large cities of Great Britain, by weeks, from June 2, 1918, to Apr. 5, 1919, with death rates for corresponding weeks of 1917-18 in 96 great towns.*

Week ended (1918-19)—	96 great towns. Population, 16,577,344.		Liverpool. Population, 716,140.	Glasgow. Population, 1,118,700.	Dublin. Population, 405,000.	London. Population, 4,028,901.	Sheffield. Population, 469,208.	Leeds. Population, 417,061.	Edinburgh. Population, 530,500.	Bristol. Population, 334,873.	Belfast. Population, 401,000.	Bradford. Population, 266,338.	Birmingham. Population, 370,211.	Manchester. Population, 660,143.	New Castle on Tyne. Population, 266,551.
	1917	1918													
June 8	12.7	11.5	15.0	12.5	17.3	11.2	11.2	14.8	10.8	10.0	14.1	11.4	9.0	11.5	11.5
15	12.8	11.4	15.1	11.2	17.0	11.0	12.1	11.5	9.9	8.9	17.1	14.5	10.4	11.1	10.6
22	12.4	11.7	15.7	12.2	16.9	12.0	12.0	13.4	11.3	11.2	25.3	13.1	11.3	11.5	12.5
29	11.7	13.2	15.2	11.7	15.7	13.2	16.9	17.8	12.2	8.4	45.2	15.3	11.0	13.4	13.7
July 6	11.2	19.0	20.2	12.8	23.4	17.3	27.9	21.5	12.8	12.6	44.4	17.2	19.8	23.1	25.4
13	11.7	21.1	21.3	12.2	32.7	18.4	24.3	23.0	18.0	12.9	28.3	21.9	23.2	23.8	29.7
20	11.2	18.0	21.0	15.9	27.2	15.2	21.2	17.8	16.6	15.7	20.2	21.9	15.1	23.9	22.3
27	11.2	13.1	18.4	14.9	20.0	11.8	12.3	10.6	11.1	13.2	17.4	18.4	10.0	13.9	13.3
Aug. 3	10.3	12.1	14.1	13.1	15.9	11.4	13.2	15.4	12.4	13.4	15.0	13.9	9.0	11.8	11.5
10	10.4	10.4	12.5	12.4	15.3	10.5	9.9	8.0	10.5	8.3	13.5	11.9	8.3	9.4	11.3
17	10.5	10.4	14.7	10.9	17.6	9.8	9.3	13.0	8.0	12.9	15.7	13.3	8.7	9.5	10.8
24	10.6	10.8	14.8	11.0	18.6	9.6	12.4	12.6	8.3	10.1	13.8	10.6	9.4	10.5	13.7
31	10.6	11.2	14.8	9.2	17.0	10.5	10.8	12.5	9.2	10.6	12.7	12.9	10.7	9.6	14.9
Sept. 7	11.1	11.9	17.1	11.7	17.3	11.3	12.7	13.8	9.9	10.3	11.3	11.7	11.9	11.1	12.3
14	10.6	11.3	13.3	11.0	19.1	10.5	13.9	12.9	10.8	11.7	14.5	12.9	9.7	9.6	12.5
21	11.1	11.7	16.0	12.8	16.9	11.8	12.0	12.6	11.7	10.6	14.5	13.7	9.2	10.4	9.2
28	10.8	11.4	17.2	18.6	20.0	12.2	12.2	13.8	11.9	9.3	10.2	9.0	8.8	10.2	13.7
Oct. 5	11.1	12.6	18.9	26.2	21.3	12.7	10.6	13.3	13.8	11.8	9.6	9.2	8.8	11.6	12.5
12	11.8	15.1	29.0	35.9	24.6	13.9	15.3	17.3	11.6	14.5	14.1	15.9	9.6	10.8	13.5
19	12.0	20.7	46.2	38.4	38.6	20.1	24.9	18.5	13.0	17.0	11.0	12.1	11.2	11.5	12.8
26	12.0	30.9	44.5	34.8	47.3	34.5	46.1	33.0	19.3	24.9	13.8	12.1	12.9	14.8	14.3
Nov. 2	12.6	43.9	37.4	26.7	65.5	55.5	83.3	49.5	35.4	49.7	17.5	20.6	19.4	19.7	19.4
9	11.8	43.8	29.2	19.2	60.0	55.5	75.9	57.1	46.2	50.3	34.0	29.0	24.8	27.0	31.3
16	12.2	38.7	23.2	18.9	45.6	44.0	51.9	52.5	36.6	42.4	54.7	43.7	29.4	36.3	33.1
23	12.3	36.3	23.7	23.5	31.9	36.8	38.2	41.1	32.5	32.5	65.0	48.6	35.8	45.3	36.2
30	11.9	36.5	24.2	21.8	26.0	32.8	37.9	33.4	32.2	30.1	61.4	47.2	44.3	54.3	42.4
Dec. 7	12.4	28.6	25.7	17.6	23.5	26.0	28.7	24.9	20.5	24.6	41.7	33.1	35.1	40.2	31.9
14	13.6	20.2	22.0	15.1	22.0	18.2	16.6	18.5	16.1	22.0	24.7	20.0	25.1	22.6	23.1
21	15.3	16.8	22.1	14.0	18.9	14.4	16.4	15.1	12.7	16.7	19.2	16.1	16.7	19.1	17.0
28	17.9	14.8	22.2	16.6	20.4	13.3	16.3	15.9	14.7	13.1	19.4	13.9	11.3	16.2	13.9
Jan. 4	18.1	16.1	27.0	15.1	23.4	16.6	15.7	18.9	17.8	16.8	17.3	14.1	13.4	15.2	16.4
11	19.6	16.0	27.3	18.6	21.2	15.8	14.8	19.4	19.1	15.7	20.4	12.9	14.3	16.5	15.8
18	18.7	15.5	26.0	14.9	22.1	14.8	14.1	18.6	21.1	13.7	15.7	18.0	13.3	16.9	16.2
25	17.1	15.0	24.6	16.4	23.0	14.1	13.7	19.6	21.4	12.8	18.9	14.3	12.1	14.9	16.8
Feb. 1	15.0	17.2	25.7	16.9	23.6	16.9	14.2	21.1	21.4	14.2	16.4	16.1	13.7	17.2	20.9
8	15.7	21.0	33.7	20.9	25.0	20.2	19.9	18.5	42.5	17.0	21.8	26.0	16.3	21.1	33.5
15	14.8	27.8	41.3	31.6	33.3	27.2	21.8	27.4	51.6	22.3	22.8	40.3	20.3	25.7	61.0
22	16.7	35.7	46.7	42.2	45.2	34.8	29.9	43.3	52.1	26.1	28.3	60.5	29.6	34.0	66.1
Mar. 1	18.4	35.7	43.4	48.3	60.0	32.4	29.8	41.9	41.2	31.1	30.9	53.3	32.4	40.6	44.2
8	17.4	31.9	38.2	42.9	63.0	26.6	28.9	40.3	27.9	35.8	30.3	52.9	28.7	41.0	30.7
15	18.5	26.4	28.8	32.7	47.8	21.4	28.6	33.4	23.6	32.2	33.9	32.3	30.5	30.1	20.7
22	16.5	20.9	22.3	25.5	37.1	18.0	22.8	23.3	18.3	22.9	30.9	19.6	26.5	24.4	18.0
29	17.7	19.3	20.0	22.8	31.5	17.6	22.6	17.9	15.3	19.9	28.9	24.7	23.4	24.2	18.2
Apr. 5	17.3	17.9	20.0	19.5	32.6	17.1	21.9	17.1	16.7	18.8	21.8	18.8	19.4	19.9	16.8

TABLE II.—*Annual death rates per 1,000 from all causes in continental European and Indian cities, by weeks, from June 2, 1918, to Mar. 29, 1919.*

Week ended (1918-19)—	Bombay, Popu- lation, 979,445.	Madras, Popu- lation, 518,660.	Trieste, Popu- lation, 162,740.	Budapest, Popu- lation, 1,031,266.	Vienna, Popu- lation, 2,312,274.	Gothenburg, Popu- lation, 196,943.	Berlin, Popu- lation, 1,705,215.	Hamburg, Popu- tion, 1,950,300.	Paris, Population, 2,847,229.	Stockholm, Popu- lation, 413,162.	Copenhagen, Popu- lation 539,000.	Amsterdam, Popu- lation, 644,073.	Christiania, Popu- lation, 269,627.	Calcutta, Popu- lation, 800,067.
June 8.....	37.2	39.1	26.6	24.3	17.9	7.6	16.6	18.8	11.1	10.1	12.7	11.3	12.9	24.9
15.....	33.2	36.2	31.0	.....	20.8	12.7	16.4	23.6	11.0	13.3	11.1	11.5	11.3	26.9
22.....	37.2	40.0	22.8	.....	18.2	9.7	15.9	21.6	11.5	10.8	9.9	10.8	10.5	25.7
29.....	54.6	40.7	26.6	.....	19.0	9.5	19.4	20.9	11.2	10.9	9.9	10.9	10.9	26.6
July 6.....	77.8	41.7	.....	26.1	19.3	13.0	20.9	21.1	11.5	13.3	10.8	9.7	11.7	25.6
13.....	63.0	48.3	20.1	24.0	22.7	9.7	16.4	23.3	13.0	8.1	9.2	10.6	16.2	31.3
20.....	40.6	62.9	.....	.....	.....	11.1	18.3	22.5	11.5	9.7	10.9	11.7	24.2	52.9
27.....	34.2	63.6	.....	19.2	.....	13.2	20.9	23.5	10.4	10.6	12.8	7.5	21.2	50.4
Aug. 3.....	33.2	54.6	28.3	.....	.....	40.8	20.1	16.4	10.7	11.3	13.9	14.1	10.4	.....
10.....	33.8	.....	26.6	20.9	15.6	12.1	22.5	16.6	9.7	18.4	14.7	15.2	13.0	.....
17.....	.....	.....	31.7	22.1	16.7	10.0	.....	.....	10.7	12.6	11.2	17.0	8.8	25.1
24.....	31.1	.....	28.9	19.2	.....	11.9	23.2	16.6	10.6	12.1	9.7	13.5	7.0	.....
31.....	.....	38.0	23.8	20.8	.....	12.7	.....	.....	12.1	11.5	8.2	.....	8.8	25.4
Sept. 7.....	36.4	41.0	30.3	18.8	15.7	.....	21.3	18.4	11.9	.....	6.5	9.8	13.4	23.5
14.....	51.0	42.3	35.7	23.7	17.4	.....	21.9	20.4	12.9	10.6	8.2	10.3	12.2	28.0
21.....	100.0	45.9	45.2	23.6	19.6	.....	21.7	18.6	15.7	.....	.....	10.3	12.6	29.9
28.....	169.1	65.2	45.3	23.8	22.1	15.6	20.5	20.2	15.9	.....	.....	11.4	15.6	32.8
Oct. 5.....	257.2	97.5	2.8	36.4	25.3	24.4	21.3	23.8	17.8	16.7	11.5	.....	12.6	34.6
12.....	220.4	170.3	103.8	45.8	39.4	42.5	29.2	33.4	26.0	33.5	.....	.....	16.6	41.6
19.....	114.2	202.1	136.5	58.4	58.6	67.9	.....	.....	34.9	36.7	19.8	26.0	20.4	42.5
26.....	72.1	176.7	.....	57.4	48.4	42.2	41.7	47.7	46.1	40.5	35.4	39.2	23.2	47.1
Nov. 2.....	54.0	113.3	.....	39.4	29.3	28.5	37.5	37.3	43.2	33.2	44.5	52.7	36.5	46.1
9.....	43.3	119.5	.....	46.0	22.2	24.5	22.0	26.5	28.4	26.4	37.1	42.0	29.5	53.2
16.....	40.9	81.0	.....	36.5	24.0	23.8	21.7	28.8	21.0	23.2	23.8	31.6	26.0	59.7
23.....	40.1	79.9	.....	43.4	27.6	16.9	21.1	22.9	17.9	22.1	16.9	21.4	19.8	58.5
30.....	33.1	56.6	.....	46.4	27.3	16.1	22.7	22.7	19.4	20.1	15.0	20.9	17.1	63.3
Dec. 7.....	36.2	58.2	.....	49.1	28.0	19.8	23.7	25.7	20.6	20.9	15.5	21.1	16.2	56.5
14.....	55.0	60.5	.....	34.3	24.4	15.1	23.5	23.6	19.7	19.5	15.2	16.1	15.2	56.6
21.....	86.5	66.6	.....	32.4	20.7	17.7	14.7	.....	15.9	20.1	21.6	15.5	17.2	53.3
28.....	85.0	71.1	.....	40.5	19.4	18.7	9.7	.....	17.0	20.4	13.8	16.1	16.0	51.4
Jan. 4.....	101.0	78.4	.....	.....	20.1	14.5	22.3	21.2	17.8	23.0	17.5	14.9	18.6	47.2
11.....	81.0	97.9	.....	.....	19.0	15.6	14.6	21.9	18.8	20.1	24.9	14.5	15.2	48.6
18.....	76.5	88.8	.....	.....	17.5	12.7	20.9	22.4	18.5	15.6	23.2	14.6	12.0	56.1
25.....	180.6	88.7	39.2	.....	.....	18.4	19.6	21.8	18.0	14.6	20.3	14.3	11.8	65.6
Feb. 1.....	237.8	74.2	38.2	.....	.....	14.7	.....	.....	18.1	15.6	17.0	14.7	11.0	51.1
8.....	160.2	67.2	31.1	.....	.....	13.7	.....	.....	21.8	12.2	17.5	18.9	11.0	47.3
15.....	92.1	58.1	.....	.....	.....	14.7	.....	.....	26.2	13.6	17.0	21.1	11.8	45.2
22.....	.....	.....	.....	.....	.....	18.1	.....	.....	34.1	14.2	16.8	24.0	.....	.....
Mar. 1.....	.....	.....	30.3	.....	.....	.....	.....	30.3	30.3	14.5	17.4	16.7	12.2	.....
8.....	.....	25.6	.....	.....	.....	.....	.....	25.9	25.9	18.6	18.7	18.4	21.4	.....
15.....	.....	.....	.....	.....	.....	.....	.....	20.4	.....	.....	15.5	.....	.....	.....
22.....	.....	.....	.....	.....	.....	.....	.....	17.9	.....	.....	16.9	.....	.....	.....
29.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Considering first the 96 Great Towns of England and Wales, comprising London and 95 other cities of over 50,000 population in 1911, it is evident from Table I and Figure 1 that since June 1, 1918, there have been three periods of sharply increased general mortality, namely:

First, from the week ending June 29, to the week ending July 27, inclusive, the highest mortality, corresponding to an annual rate of 21.1 per 1,000, being reached in the week ending July 13.

Second, from the week ending October 5, to that ending December 21, the highest mortality, an annual rate of 43.8 per 1,000, occurring in the week ending November 9.

Third, from the week ending February 8 to that ending March 22, the peak of mortality in this period, an annual rate of 35.7 per 1,000, being in the weeks ending February 22 and March 1.

These three waves of high mortality are, in turn, manifest in each of the thirteen large cities¹ for which statistics are given separately in the tabulation, though showing considerable variations in date, duration, and height. The variations in individual cities are illustrated in Figure 2, showing weekly mortality curves for Liverpool, London, and Manchester.

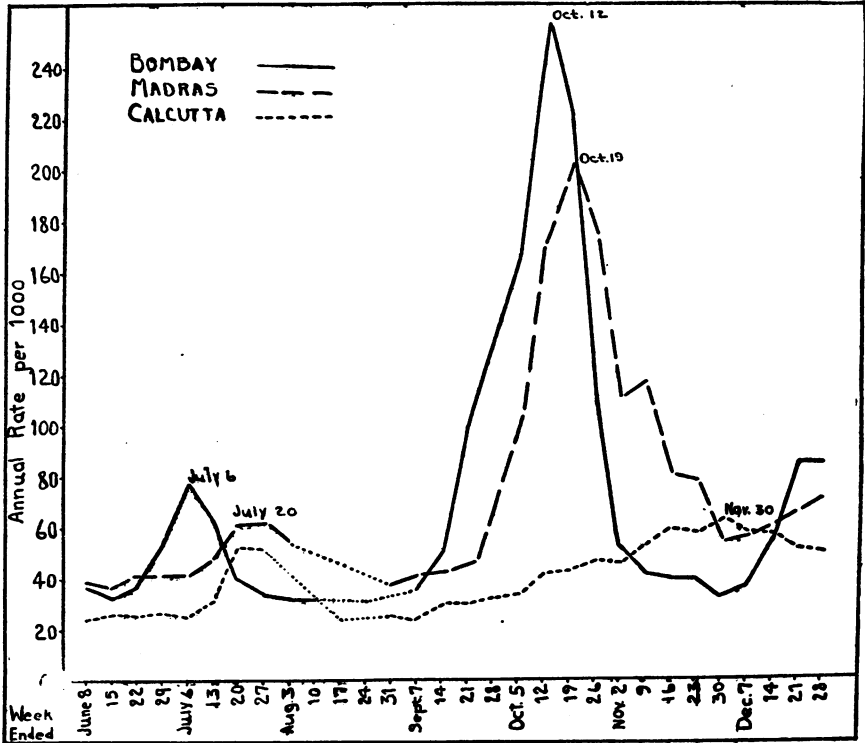


FIG. 3.—Effect of influenza epidemic upon mortality in Bombay, Madras, and Calcutta, India: Annual death rates per 1,000 of population from all causes, by weeks, June 2 to December 28, 1918.

Ordinarily, gross weekly death rates would not justify any conclusion as to the influence of a particular cause of death, especially where the population and environment have been materially altered by the abnormal conditions of war. In this instance, however, the increase in mortality rates is so very great, so general, and so nearly synchronous in the different cities, as to clearly indicate the operation of a single wide-spread cause, undoubtedly epidemic influenza. The certainty that epidemic influenza was the major factor in these increased death rates is established by the more detailed analyses presented later.

¹ With the exception of Glasgow, Edinburgh, Dublin, and Belfast, these cities are all included in the group of 96 Great Towns.

The death rates of Continental European and Indian cities as presented in Table II are of less clear and less definite significance since, in some of these cities, the death rates throughout 1917 and

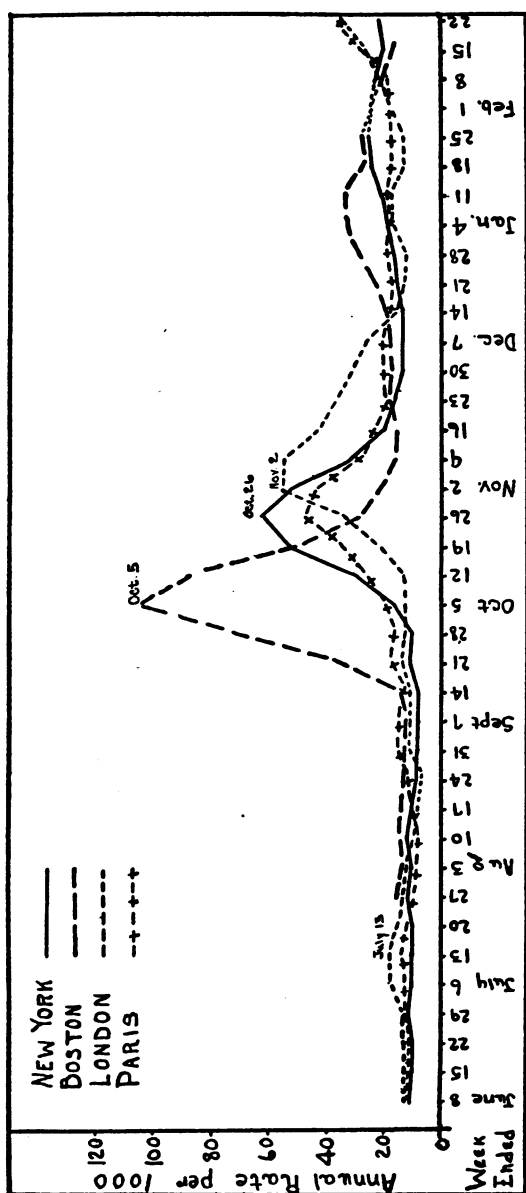


FIG. 4.—Effect of influenza epidemic upon mortality in New York City, Boston, London, and Paris: Annual death rates per 1,000 of population from all causes, by weeks, June 2, 1918, to February 22, 1919.

The graphs for New York City are plotted from data given in the Weekly Bulletin of the New York City Department of Health; those for Boston from the Weekly Health Index of the Bureau of the Census.

the first half of 1918 had been abnormally high or irregular, and since, moreover, the statistics for the period embraced in the table are incomplete in places. Nevertheless, increased death rates which may safely be attributed to the influenza epidemic are noted during July

in Bombay, Madras and Calcutta, and in Christiania. A relatively slight increase which can be definitely attributed to the influenza epidemic only upon evidence which is presented later, is noted in Paris during the second week of July. In August, distinctly increased death rates, presumably indicative of the influenza epidemic, are noted in Stockholm, Copenhagen, and Amsterdam. The irregularity of death rates in the remaining cities of this group during June, July, and August does not warrant definite conclusions in the absence of more information as to the causes of death.

In all the cities of this group there is a very sharp increase in mortality rates, beginning at various dates from the first half of September to the latter part of October; reaching a maximum in the week ended October 5 in Bombay, the week ended November 30 in Calcutta, and between these dates in the other cities. Within this period the mortality in Bombay reached a maximum annual rate of 257.2, that in Madras 202, and in Trieste 136 per 1,000. The maximum mortality rates in the remainder of the cities are within the range of rates observed in the British cities.

The third wave of high mortality noted in British cities is shown, likewise, in the Indian cities, Bombay, Madras, and Calcutta, notably in Bombay. Among the Continental cities, Paris shows a distinct and considerable rise in February and March, which is less clearly evident in the other cities for which the statistics are fairly complete.

Figure 4, showing the annual mortality rates from all causes, by weeks, in Boston, New York City, London, and Paris, affords a convenient comparison of the course of the epidemic in these four cities, with reference to chronology and the extent of influence upon general mortality.

A more comprehensive comparison of relative chronology of the epidemic in American, British, Continental European, and Indian cities is presented in the following summary showing, for each of the cities listed, the week in which the highest mortality rate occurred between October 1 and November 30, which comprises the period of maximum epidemic mortality in all these cities.

Weeks in which the highest mortality occurred during the influenza epidemic of 1918-19 in cities of the United States, Great Britain, Continental Europe, and India.

Week ended (1918)—	United States.	Great Britain.	Continental Europe.	India.
Oct. 5.....	Boston..... Cambridge.....			Bombay.
Oct. 12.....	Fall River..... Lowell..... Worcester.....			
Oct. 19.....	Providence..... Syracuse..... Philadelphia..... Baltimore..... Washington..... Richmond..... Indianapolis..... Memphis..... Nashville..... Omaha.....	Glasgow..... Liverpool.....	Gothenburg..... Vienna..... Budapest..... Trieste.....	Madras.

Weeks in which the highest mortality occurred during the influenza epidemic of 1918-19 in cities of the United States, Great Britain, Continental Europe, and India—Con.

Week ended (1918)—	United States.	Great Britain.	Continental Europe.	India.
Oct. 26.....	Albany..... Rochester..... Buffalo..... New Haven..... New York..... Newark..... Jersey City..... Atlanta..... Birmingham..... Louisville..... New Orleans..... Chicago..... Cincinnati..... Columbus..... Toledo..... Dayton..... Milwaukee..... Minneapolis..... Denver..... Seattle.....		Stockholm..... Hamburg..... Berlin..... Paris.....	
Nov. 2.....	Cleveland..... St. Louis..... Kansas City..... San Francisco..... Los Angeles..... Oakland..... Portland.....	London..... Sheffield..... Dublin.....	Christiania..... Copenhagen..... Amsterdam.....	
Nov. 9.....	Pittsburgh..... Spokane.....	Edinburgh..... Leeds.....		
Nov. 16.....	St. Paul..... Grand Rapids.....			
Nov. 23.....		Bradford..... Belfast.....		
Nov. 30.....		Newcastle..... Manchester..... Birmingham.....		Calcutta.

The most striking fact in this summary is that this phase of the epidemic reached its maximum intensity simultaneously in Boston and in Bombay. The peak of mortality in the majority of American cities, outside of Massachusetts and of Continental European cities, fell during the two weeks ended October 26, while a majority of the British cities reached their maximum rates in the weeks ended November 2 to 30, inclusive.

Tables III and IV show, respectively, the number of deaths and the annual death rates from influenza, by weeks from October 13, 1918, to April 5, 1919, in certain British cities, including a majority of those comprised in Table I. These statistics, which are abstracted from the Weekly Reports of the Registrar General for England and Wales, are available only from the week ending October 19 (2) (3).¹ Reference to these tables shows that the excessively high mortality rates from all causes during October, November, and subsequent months correspond to excessive death rates from influenza, which, however, represent only a portion of the excess mortality attributable to the epidemic, part of the deaths having been returned, as in the United

¹ Numbers refer to reports cited. See page 1376.

States, under the diagnosis of pneumonia or other acute respiratory infections.

TABLE NO. III.—Number of deaths from influenza in Great Britain—96 great towns of England and Wales, London and certain other cities of over 250,000 inhabitants—by weeks, from Oct. 13, 1918, to Apr. 5, 1919.

Cities.	Week ended—										
	October.		November.					December.			
	19	26	2	9	16	23	30	7	14	21	28
96 great towns.....	1,895	4,482	7,412	17,560	5,916	5,106	5,119	3,574	1,885	1,014	581
London.....	371	1,256	12,458	12,433	1,665	1,178	942	660	322	186	95
Bristol.....	24	63	190	186	144	105	73	57	37	32	18
Birmingham.....	8	51	98	187	246	280	1,388	276	164	68	25
Liverpool.....	1215	230	170	118	86	55	66	68	51	43	44
Manchester.....	12	32	83	162	235	311	1,374	234	111	55	39
Bradford.....	2	10	30	73	122	121	120	69	29	13	8
Leeds.....	39	101	194	1247	203	163	110	57	31	13	14
Sheffield.....	69	233	1468	402	241	164	166	97	30	22	18
Newcastle on Tyne.....	12	7	32	81	73	191	199	68	40	15	15
Dublin.....	103	162	1250	204	141	67	49	42	24	14	9

Cities.	Week ended—												
	January.				February.				March.				April
	4	11	18	25	1	8	15	22	1	8	15	22	5.
96 great towns.....	441	380	274	222	272	604	1,363	3,046	3,889	3,218	2,320	1,361	888
London.....	65	68	43	33	58	103	273	653	808	597	435	230	125
Bristol.....	19	14	5	10	4	3	13	39	70	76	63	37	21
Birmingham.....	19	19	8	4	8	10	29	84	159	134	157	107	94
Liverpool.....	66	56	33	40	29	55	19	188	196	149	93	59	19
Manchester.....	14	16	18	6	9	28	44	130	196	210	117	74	54
Bradford.....	6	2	6	4	5	37	50	142	129	106	47	14	23
Leeds.....	14	14	2	15	9	14	29	82	130	96	71	45	23
Sheffield.....	9	5	12	6	8	13	18	53	64	83	57	36	27
Newcastle on Tyne.....	7	6	3	3	11	42	119	163	94	58	33	22	15
Dublin.....	10	6	10	6	3	4	21	88	153	148	104	77	34

¹ Indicates week of highest mortality rate from all causes (see Table I).

TABLE NO. IV.—Annual death rates per 1,000 from influenza in Great Britain—96 great towns of England and Wales, London and certain other cities of over 250,000 inhabitants—by weeks, from Oct. 13, 1918, to Apr. 5, 1919.

Cities.	Week ended—										
	October.		November.					December.			
	19	26	2	9	16	23	30	7	14	21	28
96 great towns.....	6.0	14.1	23.3	23.8	18.6	16.1	16.1	11.2	5.9	3.2	1.8
London.....	4.8	16.3	31.8	31.5	21.5	15.2	12.2	8.5	4.2	2.4	1.3
Bristol.....	3.7	9.8	29.6	28.9	22.4	16.4	11.4	8.9	5.8	5.0	2.8
Birmingham.....	5	3.1	5.9	11.2	14.7	16.8	23.2	16.5	9.8	4.1	1.5
Liverpool.....	15.6	16.7	12.4	8.6	6.2	4.0	4.8	4.9	3.7	3.1	3.2
Manchester.....	9	2.5	6.6	12.8	18.6	24.6	29.5	20.1	8.8	4.3	3.1
Bradford.....	4	2.0	5.9	14.3	23.9	23.7	23.5	13.5	5.7	2.5	1.6
Leeds.....	4.9	12.6	24.2	30.9	26.0	20.4	13.8	7.1	3.9	1.6	1.8
Sheffield.....	7.7	25.9	61.9	44.6	26.8	18.2	15.5	10.8	4.3	2.4	2.0
Newcastle on Tyne.....	2.3	1.4	6.3	15.8	14.3	19.7	10.4	13.3	7.8	2.9	2.9
Dublin.....	13.3	20.8	32.2	26.2	18.1	8.6	6.3	5.4	3.1	1.8	1.2

¹ Indicates week of highest mortality rate from all causes (see Table I).

TABLE NO. IV.—*Annual death rates per 1,000 from influenza in Great Britain, etc.—Con.*

Cities.	Week ended—															April 5.
	January.				February.				March.							
	4	11	18	25	1	8	15	22	1	8	15	22	29			
96 great towns.....	1.4	1.2	0.9	0.7	0.9	1.9	4.3	9.6	12.2	10.1	7.3	4.3	2.8	1.8		
London.....	.8	.9	.6	.4	.8	1.3	3.5	8.4	10.4	7.7	6.5	3.0	1.6	1.2		
Bristol.....	3.0	2.2	.8	1.6	.6	.5	2.0	6.1	10.9	11.8	9.8	5.8	3.3	1.6		
Birmingham.....	1.1	1.1	.5	.2	.5	.6	1.7	5.0	9.5	18.0	9.4	6.4	5.6	3.4		
Liverpool.....	4.8	4.1	2.4	2.9	2.1	4.0	1.4	13.7	14.8	10.8	6.8	4.3	1.4	2.2		
Manchester.....	1.1	1.3	1.4	.5	.7	2.2	3.5	10.3	15.5	16.6	9.2	5.8	4.3	2.7		
Bradford.....	1.2	.4	1.2	.8	1.0	7.2	9.8	27.8	25.2	20.7	9.2	2.7	4.5	1.4		
Leeds.....	1.8	1.8	.3	1.9	1.1	1.8	3.6	10.3	16.3	12.0	8.8	5.7	2.9	1.4		
Sheffield.....	1.0	.6	1.3	.7	.9	1.4	2.0	5.9	7.1	9.2	6.3	4.0	3.0	3.0		
Newcastle on Tyne.....	1.4	1.2	.6	.6	2.2	8.2	23.3	31.9	24.3	15.0	8.5	5.7	3.9	1.0		
Dublin.....	1.3	.8	1.3	.8	.4	.5	2.7	11.3	19.7	19.0	3.4	9.9	4.4	5.3		

Table V shows the number of deaths from influenza in Continental European and Indian cities by weeks so far as this information is available, i. e., from the week ended September 7, 1918, or, in some instances, from a later period, to week ended March 15, 1919. This table, compared with Table II, shows also a very definite parallelism between gross death rates and deaths from influenza.

In order to show more specifically the influence of epidemic influenza upon the excess death rates from all causes, Table VI has been compiled, showing for London (1),¹ Paris (2),¹ and Dublin (3),¹ the only foreign cities for which detailed records are as yet available, the number of deaths each week from influenza, all forms of pneumonia, acute bronchitis and "other diseases of the respiratory system" for the period June 2, 1918, to February 22, 1919, with parallel records for corresponding weeks in the previous year. One column in this table shows the excess deaths from these causes in the 1918-19 epidemic period as compared with the preceding year. From this table it is evident that the slightly increased mortality in Paris during July was attributable to an increase in deaths from these causes. This is even more clearly evident in respect to London and Dublin during July, and in respect to all three cities during the subsequent epidemic periods.

TABLE V.—*Number of deaths from influenza in Continental European and Indian cities, by weeks, from Sept. 7, 1918, to Mar. 15, 1919.*

Cities.	September.				October.				November.				
	7	14	21	28	5	12	19	26	2	9	16	23	30
Bombay.....	11	108	490	* 934	984	505	252	137	72	60	43	23	
Madras.....	4	2	25	150	554	* 890	709	399	331	108	89	44	
Trieste.....	3	2	8	17	53	* 61							
Budapest.....	2	4	16	54	143	266	* 481	336	358	339	199	297	282
Vienna.....			9	28	98	421	* 908	841	300	160	151	227	249
Göteborg.....			26	47	95	* 183	104	67		40	33	24	
Paris.....	12	15	53	94	192	472	890	* 1,863	1,119	629	309	176	184
Stockholm.....				53	128	178	* 221	160		25		71	65
Copenhagen.....						11	26	* 15		25		6	
Amsterdam.....						101	225	* 390	183	110	52	48	
Christiania.....							72	(*)	90		42	21	
Calcutta.....	2	2	15	45	121	158	252	326	389	438	408	* 378	

¹ Numbers refer to reports cited. See page 1376.

* Indicates week of highest recorded mortality rate from all causes. (See Table II.)

TABLE V.—*Number of deaths from influenza in Continental European and Indian cities by weeks, from Sept. 7, 1918, to Mar. 15, 1919—Continued.*

Cities.	December.				January.				February.				March.		
	7	14	21	28	4	11	18	25	1	8	15	22	1	8	15
Bombay....	21	14	18	21	13	25	12	7	6	4	6	.....	.....	.....	.....
Madras.....	32	23	13	15	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste.....	.....	.....	.....	.....	.....	.....	.....	2	.....	2	.....	.....	4	3	.....
Budapest....	339	185	224	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vienna.....	214	151	93	66	42	35	44	.....	.....	.....	.....	.....	.....	.....	.....
Göteborg....	23	17	19	27	16	.....	.....	19	10	4	3	14	.....	.....	.....
Paris.....	236	171	168	142	142	151	89	75	77	91	155	353	424	296	161
Stockholm..	49	33	53	42	56	44	24	20	17	19	11	22	22	38	.....
Copenhagen..	.....	4	8	4	4	10	5	12	6	.....	3	2	6	4	6
Amsterdam..	31	30	23	14	.....	6	8	3	5	5	1	8	5	5	2
Christiania..	.....	23	22	13	29	9	11	5	3	.....	6	.....	2	26	46
Calcutta....	332	277	216	229	208	222	201	160	166	155	92	.....	.....	.....	.....

TABLE VI.—*Number of deaths from influenza and other acute respiratory diseases in each week from June 2, 1918, to Feb. 22, 1919, and in corresponding weeks of 1917-18 in London, Dublin, and Paris.*

1918-19 Week ended—	London.			Dublin.			Paris.		
	1917-18	1918-19	Increase or decrease 1918-19.	1917-18	1918-19	Increase or decrease 1918-19.	1917-18	1918-19	Increase or decrease 1918-19.
June 8.....	121	116	— 5	19	21	+ 2	71	51	— 20
15.....	122	114	— 8	21	21	+ 0	78	53	— 25
22.....	87	131	+ 44	14	31	+ 16	77	69	— 17
29.....	78	202	+ 124	13	28	+ 15	46	85	+ 39
July 6.....	98	426	+ 328	20	72	+ 52	40	83	+ 43
13.....	119	571	+ 452	24	153	+ 129	53	135	+ 82
20.....	109	379	+ 270	18	100	+ 82	65	87	+ 22
27.....	91	227	+ 136	21	66	+ 45	57	58	+ 1
Aug. 3.....	83	125	+ 42	18	24	+ 6	53	65	+ 12
10.....	79	96	+ 17	15	23	+ 8	47	51	+ 4
17.....	64	93	+ 29	10	24	+ 14	36	75	+ 39
24.....	81	71	— 10	16	19	+ 3	40	75	+ 35
31.....	70	83	+ 16	14	15	+ 1	38	93	+ 55
Sept. 7.....	91	83	— 8	18	25	+ 7	39	81	+ 42
14.....	66	87	+ 21	15	18	+ 3	40	114	+ 74
21.....	77	90	+ 13	14	19	+ 5	44	167	+ 123
28.....	94	122	+ 28	15	38	+ 23	44	252	+ 208
Oct. 5.....	103	158	+ 55	15	50	+ 35	51	372	+ 321
12.....	99	278	+ 179	16	71	+ 55	42	718	+ 676
19.....	174	675	+ 501	24	196	+ 172	62	1,174	+ 1,112
26.....	182	1,689	+ 1,507	13	270	+ 257	68	1,741	+ 1,673
Nov. 2.....	189	3,178	+ 2,989	25	418	+ 393	109	1,499	+ 1,390
9.....	178	3,228	+ 3,050	24	350	+ 333	109	874	+ 774
16.....	194	2,378	+ 2,184	27	241	+ 214	101	476	+ 375
23.....	212	1,781	+ 1,577	31	147	+ 115	95	323	+ 231
30.....	187	1,451	+ 1,264	20	107	+ 87	86	371	+ 285
Dec. 7.....	220	1,070	+ 850	33	83	+ 45	72	443	+ 371
14.....	219	612	+ 393	44	70	+ 26	88	342	+ 254
21.....	343	342	— 1	27	48	+ 21	131	315	+ 204
28.....	564	311	— 253	35	51	+ 13	177	283	+ 109
Jan. 4.....	566	321	— 245	39	64	+ 25	234	220	+ 83
11.....	554	323	— 231	46	55	+ 9	261	322	+ 61
18.....	491	281	— 210	41	48	+ 7	225	256	+ 31
25.....	347	280	— 67	38	45	+ 7	183	250	+ 64
Feb. 1.....	276	369	+ 93	41	52	+ 11	163	257	+ 94
8.....	287	529	+ 242	25	69	+ 44	120	344	+ 224
15.....	252	907	+ 655	27	124	+ 97	112	520	+ 417
22.....	290	1,464	+ 1,174	31	209	+ 178	113	852	+ 739

A further analysis of the influence of deaths from influenza, pneumonia, bronchitis, and other respiratory diseases (excepting pulmonary tuberculosis) in contributing to the excess death rates in London, Paris, and Dublin, is shown in Tables VII and VIII, in which also are included statistics for New York City compiled from the Weekly Bulletin of the New York City Department of Health (4)¹. From Table VIII it is seen that excess deaths from influenza are 74.3 per cent, and the excess deaths from pneumonia (all forms) are 50.6 per cent of the excess deaths from all causes in New York, the combined total of excess deaths from influenza and pneumonia thus being approximately 25 per cent greater than the excess deaths from all causes.²

The London statistics differ from those of New York in showing a relatively larger percentage of excess deaths returned under the diagnosis of influenza, a much smaller percentage, 7.3 per cent, returned as due to pneumonia, and a considerable proportion, 13.7 per cent, returned as due to bronchitis, the sum of the excess from these causes being approximately equal to the total excess.

The Paris statistics are generally similar in respect to the proportion of deaths from influenza and pneumonia, but have a negligible proportion, 0.2 per cent, attributed to bronchitis and a notably large proportion, 20.1 per cent, attributable to "other diseases of the respiratory system." This difference is readily accounted for by the fact that in the Paris statistics deaths from broncho-pneumonia are included in the group of "other diseases of the respiratory system," whereas in the statistics of New York and British cities these deaths are included under the diagnosis of "pneumonia, all forms."

TABLE VII.—*Number of deaths from all causes and from influenza, pneumonia (all forms), bronchitis, and other respiratory diseases,¹ for the period June 2, 1918, to Feb. 22, 1919, and for the corresponding period in 1917-18, and number of excess deaths from these causes in 1918 over 1917, in New York, London, Paris, and Dublin.*

Cities.	All causes.			Influenza.			Pneumonia (all forms).		
	1917	1918	Excess.	1917	1918	Excess.	1917	1918	Excess.
New York.....	54, 871	74, 742	20, 071	236	15, 151	14, 915	6, 923	17, 084	10, 161
London.....	41, 531	57, 732	16, 201	285	12, 868	12, 583	3, 285	4, 467	1, 182
Paris.....	28, 334	39, 102	10, 768	37	7, 362	7, 325	761	1, 451	690
Dublin.....	5, 117	8, 136	3, 039	19	1, 622	1, 603	346	1, 045	699

Cities.	Bronchitis.			Other respiratory diseases. ³		
	1917	1918	Excess.	1917	1918	Excess.
New York.....						
London.....	3, 746	5, 964	2, 218	234	351	117
Paris.....	129	152	23	2, 477	4, 646	2, 169
Dublin.....	520	816	296	50	81	412

¹ Numbers refer to reports cited. See page 1376.

² In letting the number of excess deaths be represented by 100 per cent, an algebraic rather than an arithmetical sum is used, and, whereas the excess deaths from influenza and pneumonia (all forms) are represented by plus quantities the excess deaths from certain other diseases are minus quantities. This means that the indicated death rates in these latter diseases are below rather than in actual excess of the rates for the comparative period.

³ Except pulmonary tuberculosis.

⁴ Decrease.

TABLE VIII.—*Ratio of the excess deaths from influenza, pneumonia (all forms), bronchitis, and other respiratory diseases during the period June 2, 1918, to Feb. 22, 1919, to excess deaths from all causes in this period as compared with the corresponding period in 1917-18, in New York, London, Paris, and Dublin.*

Cities.	Ratio of excess deaths from each cause to excess, all causes.					
	All causes.	Influenza.	Pneumonia (all forms).	Bronchitis.	Other respiratory diseases.	Total of diseases specified.
New York.....	100.0	74.3	50.6	-----	-----	¹ 124.9
London.....	100.0	77.7	7.3	13.7	0.7	99.4
Paris.....	100.0	68.0	6.4	.2	20.1	94.7
Dublin.....	100.0	52.7	23.0	9.7	² 0.4	85.0

¹ Including influenza and pneumonia (all forms).

² Decrease.

The Dublin statistics show a relatively smaller proportion of deaths attributable to influenza and a larger proportion to pneumonia than do the London and Paris statistics.

Whether the differences in relative prominence of these various assigned causes of deaths are due to actual clinical differences in the disease as manifested in the several cities, or only to differences in nomenclature and classification, is uncertain.

While this paper was in process of publication the report of the Influenza Commission of the Union of South Africa was received, from which Tables IX and X have been abstracted.

These figures are of special interest because of the enormous case incidence—42.8 per cent; also because of the notably higher incidence and death rates in the native as compared with the European population.

With reference to this difference the Commission makes the following comment:

“As to the reasons for these variations, the Commission can express no definite opinion. The well-established susceptibility of the native and colored population of South Africa to diseases of the respiratory tract, inhygienic housing and lack of even the most rudimentary knowledge of caring for the sick, and, in many cases, prejudice against medical help and against admission to hospitals, undoubtedly played very important rôles in causing heavy mortality.”

TABLE IX.—*Number of cases and number of deaths from influenza in Union of South Africa during the period Aug. 1 to Nov. 30, 1918.¹*

Province.	Population.			Cases.			Deaths.		
	European (1918). ²	Other than European (1911).	Total.	European.	Other than European.	Total.	European.	Other than European.	Total.
Cape.....	617,131	1,932,588	2,599,719	192,007	1,009,223	1,201,230	5,855	81,253	87,108
Transvaal.....	493,413	1,265,650	1,764,063	140,639	491,448	632,087	3,267	25,397	28,664
Orange Free State.....	181,613	352,985	534,598	79,532	150,492	230,024	2,242	7,495	9,737
Natal.....	120,903	1,095,929	1,216,832	42,475	510,939	553,464	362	13,600	13,962
Union.....	1,418,060	4,697,152	6,115,212	454,653	2,162,152	2,616,805	11,726	127,745	139,471

¹ Report of the Influenza Epidemic Commission, Union of South Africa, 1919.

² Preliminary figures.

TABLE X.—*Case incidence, case fatality, and death rates from influenza in Union of South Africa during the period Aug. 1 to Nov. 30, 1918.*¹

Province.	Case incidence, per cent.			Case fatality, per cent.			Death rate per 1,000.		
	European.	Other than European.	Total.	European.	Other than European.	Total.	European.	Other than European.	Total.
Cape.....	31.11	50.90	46.20	3.04	8.05	7.25	9.48	40.98	33.50
Transvaal.....	28.31	38.82	35.83	2.32	5.16	4.53	6.55	20.06	16.24
Orange Free State.....	43.79	42.63	43.02	2.81	4.98	4.23	12.34	21.23	18.21
Natal.....	35.13	46.62	45.43	.85	2.66	2.52	2.99	12.40	11.47
Union.....	32.06	46.03	42.79	2.57	5.90	5.32	8.26	27.19	22.80

¹ Report of the Influenza Epidemic Commission, Union of South Africa, 1919

References.

(1) Weekly Return of Births and Deaths Registered: London and Ninety-five Other Great Towns. By authority of the Registrar General. H. M. Stationery Office, London. Vols. 51 (1917), 52 (1918), and 53 (1919).

(2) Bulletin Hebdomadaire de Statistique Municipale, Ville de Paris. Masson & Cie., Paris, 1917, 1918, 1919.

(3) Weekly Return of Births and Deaths Registered in the Dublin Registration Area and in Eighteen of the Principal Urban Districts of Ireland. By authority of the Registrar General. Alex. Thom & Co. (Ltd.), Dublin. Vols. 54 (1917), 55 (1918), and 56 (1919).

(4) Weekly Bulletin of the Department of Health, City of New York. Vols. VI, VII, and VIII.

(5) Report of the Influenza Epidemic Commission, Union of South Africa. Cape Times (Ltd.), Cape Town, 1919.

CLOSING OF SCHOOLS AND THEATERS DURING INFLUENZA EPIDEMIC.

ARIZONA SUPREME COURT DECIDES THAT LOCAL BOARDS OF HEALTH CAN ORDER SUCH CLOSING.

In a recent Arizona case ¹ the supreme court of that State decided that a local board of health can order the schools to be closed during an epidemic to prevent the spread of the disease.

The board of school trustees of the city of Globe sought to enjoin the enforcement of regulations of the city board of health closing the schools during the epidemic of influenza. It was contended that it was beyond the power of the health board to take such action.

The regulations in question declared certain things to be nuisances, among these being holding sessions of schools during the influenza epidemic, and prohibited the same. The court treats very fully of

¹ Globe School Dist. No. 1, of Globe, Gila County, v. Board of Health of City of Globe, 179 Pac. 55.

the powers of local boards of health and declares that the action of the health board, in so far as defining and declaring what were nuisances, was void, as being an exercise of the legislative power. The power of the board of health, however, to close the schools during the epidemic was conceded. In treating of this the court said:

* * * The local boards of health are granted the power to determine the fact whether the emergency exists for the making of rules and regulations and the adoption of health measures, but such powers are administrative—not legislative. The adoption by the city local board of health of section 11, the order closing the public schools during the rage of the said epidemic of Spanish influenza, for the purpose of preventing the spread of such epidemic, was a valid measure, adopted within the power of the local city board under the authority of subdivision 3 of paragraph 4370 and on the approval of the State superintendent of public health. Necessity is the law of time and place, and the emergency calls into life the necessity for the operation of the law. The emergency calls forth the occasion to exercise the power to protect the public health.

Regarding the powers of the educational authorities and the board of health, respectively, it was said:

While school trustees and educational administrative officers are invested with power to establish, provide for, govern, and regulate public schools within their respective jurisdictions, they are in these respects nowise subject to the direction or control of the State or county or city boards of health, yet when the necessity arises to close the schools for the protection of the public health such emergency, while it exists, is a superior power to that given the school administration officers, and the law of necessity controls the situation during the existence of the emergency giving rise to the power.

In concluding the court said:

I am of the opinion that the measure adopted by the local board of health, closing the schools of the Globe school district, was, at the time adopted, a valid, enforceable order and regulation for the purpose of reasonably protecting the public health, under authority of chapter 1, title 41, paragraph 4370, subdivision 3; that during the existence of said disease in epidemic form in said community said regulation was binding upon the educational administrative officers, and continued binding so long as such epidemic continued in such form, and no longer.

In another case¹ decided a little later by the same court, it was held that the local board of health had the power to order the closing of motion picture shows during the epidemic. The opinion is short and refers to the previous case as deciding the matter.

¹ Alden v. State, 179 Pac. 646.

DEATHS DURING WEEK ENDED JUNE 7, 1919, IN CITIES.

The table following shows the registered deaths from all causes and from pneumonia (all forms) and influenza combined in certain large cities of the United States during the week ended June 7, 1919.

The data are taken from the "Weekly Health Index," June 10, 1919, issued by the Bureau of the Census, Department of Commerce.

Registered deaths and annual death rates per 1,000 population in certain large cities of the United States, week ended June 7, 1919—Deaths from all causes, and from pneumonia (all forms) and influenza combined.

City.	Population July 1, 1918, estimated.	Total deaths, all causes.	Annual death rate per 1,000.	Annual death rate for preceding years. ¹	Influenza and pneu- monia (all forms).	
					Number of deaths.	Annual death rate per 1,000.
Albany, N. Y.	112,565	34	15.7	C. 14.8	2	0.9
Atlanta, Ga.	201,732	69	17.8	C. 18.6	.....	.....
Baltimore, Md.	269,981	220	17.1	A. 16.4	.....	.....
Birmingham, Ala.	197,670	64	16.9	A. 20.0	.....	.....
Boston, Mass.	785,245	232	15.4	A. 15.3	24	1.6
Buffalo, N. Y.	473,229	142	15.6	C. 24.2	.....	.....
Cambridge, Mass.	111,432	34	15.9	A. 12.8	.....	.....
Chicago, Ill.	2,596,681	668	13.4	A. 13.7	54	1.1
Cincinnati, Ohio.	418,022	120	15.0	C. 11.1	.....	.....
Cleveland, Ohio.	810,306	178	11.5	C. 9.8	10	.6
Columbus, Ohio.	225,286	68	15.7	C. 12.7	4	.9
Dayton, Ohio.	130,655	31	12.4	C. 13.6	5	2.0
Denver, Colo.	.....	64	.....	.....	.....	.....
Fall River, Mass.	128,392	31	12.6	C. 17.5	4	1.6
Grand Rapids, Mich.	135,450	32	12.3	C. 7.3	.....	.....
Indianapolis, Ind.	290,389	82	14.7	C. 12.2	.....	.....
Jersey City, N. J.	318,770	65	10.6	C. 12.6	.....	.....
Kansas City, Mo.	313,785	74	12.3	C. 13.6	7	1.2
Los Angeles, Calif.	568,495	140	12.8	A. 12.6	4	.4
Louisville, Ky.	242,707	70	15.0	C. 12.9	8	1.7
Lowell, Mass.	100,081	35	16.7	A. 13.2	.....	.....
Memphis, Tenn.	154,759	57	19.2	C. 14.2	2	.7
Milwaukee, Wis.	453,481	94	10.8	A. 11.6	17	2.0
Minneapolis, Minn.	383,442	70	9.5	C. 12.1	.....	.....
Nashville, Tenn.	119,215	37	16.2	C. 15.7	4	1.7
Newark, N. J.	428,684	114	13.9	C. 11.3	.....	.....
New Haven, Conn.	154,865	47	15.8	C. 12.5	.....	.....
New Orleans, La.	382,273	129	17.6	A. 21.2	.....	.....
New York, N. Y.	5,215,879	1,304	13.0	C. 12.4	139	1.4
Oakland, Calif.	214,206	49	11.9	A. 10.2	.....	.....
Omaha, Nebr.	180,264	32	9.3	C. 10.1	.....	.....
Philadelphia, Pa.	1,761,371	502	14.9	³ 14.1	.....	.....
Pittsburgh, Pa.	593,303	185	16.3	C. 12.9	30	2.6
Portland, Oreg.	.....	62	.....	.....	4	.....
Providence, R. I.	263,613	63	12.5	C. 13.5	8	1.6
Richmond, Va.	160,719	50	16.2	C. 19.1	.....	.....
Rochester, N. Y.	264,856	85	16.7	C. 13.6	4	.8
St. Louis, Mo.	779,951	191	12.8	C. 11.1	14	.9
St. Paul, Minn.	257,699	43	8.7	C. 10.1	.....	.....
San Francisco, Calif.	478,530	126	13.7	C. 14.6	15	1.6
Seattle, Wash.	.....	56	.....	.....	6	.....
Spokane, Wash.	.....	21	.....	.....	.....	.....
Syracuse, N. Y.	161,404	38	12.3	C. 12.9	2	.6
Toledo, Ohio.	262,234	77	15.3	A. 12.4	3	.6
Washington, D. C.	401,681	106	13.8	A. 15.4	5	.6
Worcester, Mass.	173,650	44	13.2	C. 9.9	.....	.....

¹ "A" indicates that the rate given is the average annual death rate per 1,000 population for the corresponding week, of the years 1913 to 1917, inclusive. "C" indicates that the rate is the annual death rate per 1,000 population for the corresponding week of 1918.

² Population estimated as of July 1, 1919.

³ Rate is 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.

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED JUNE 14.

CAMP DIX ZONE, N. J.		GULFPORT HEALTH DISTRICT, MISS.	
Measles:	Cases.	Diphtheria:	Cases.
Chesterfield Township.....	1	Biloxi.....	1
FAYETTEVILLE SANITARY DISTRICT, N. C.		Dysentery:	
Chancroid.....	1	Gulfport.....	1
Chicken pox.....	1	Lyman.....	4
Gonorrhea.....	7	Gonorrhea:	
Malaria.....	1	Biloxi.....	2
Syphilis.....	6	Gulfport.....	6
GAS AND FLAME SCHOOL ZONE, GA. AND ALA.		Handshoro.....	1
Dysentery:		Kiln.....	1
Phoenix City.....	1	Larue.....	1
Malaria:		Logtown.....	1
Columbus.....	1	Moss Point.....	2
Muscogee County.....	3	Pascagoula.....	2
Bibb City.....	1	Hookworm:	
Measles:		Lizana.....	1
Columbus.....	5	Malaria:	
Muscogee County.....	3	Biloxi.....	2
Pneumonia:		De Lisle.....	1
Columbus.....	2	East Side.....	1
Muscogee County.....	1	Escatawpa.....	1
Typhoid fever:		Gulfport.....	11
Columbus.....	1	Handshoro.....	1
Whooping cough:		Kiln.....	1
Columbus.....	7	Landon.....	1
Muscogee County.....	2	Logtown.....	3
CAMP GORDON ZONE, GA.		Mississippi City.....	1
Atlanta:		Moss Point.....	6
Chicken pox.....	2	Ocean Springs.....	1
Diphtheria.....	2	Pascagoula.....	3
Dysentery.....	4	Pass Christian.....	3
Gonorrhea.....	31	Measles:	
Measles.....	6	Pascagoula.....	4
Mumps.....	1	Mumps:	
Scarlet fever.....	1	Biloxi.....	1
Septic sore throat.....	1	Gulfport.....	1
Smallpox.....	6	Long Beach.....	2
Syphilis.....	31	Pass Christian.....	1
Tuberculosis.....	4	Pellagra:	
Typhoid fever.....	1	Pearlington.....	1
Whooping cough.....	5	Gulfport.....	1
		Pneumonia:	
		Long Beach.....	1

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED JUNE 14—Continued.

GULFPORT HEALTH DISTRICT, MISS.—continued.

Syphilis:	Cases.
Long Beach	1
Typhoid fever:	
Gulfport	2
Lorraine	1
Whooping cough:	
Gulfport	2
Handsboro	1
Pascagoula	2
Pass Christian	3

CAMP A. A. HUMPHREYS ZONE, VA.

Alexandria:	
Chicken pox	1
Mumps	2
Typhoid fever	2

CAMP JACKSON ZONE, S. C.

Columbia:	
Chicken pox	12
Mumps	4
Paratyphoid fever	1
Whooping cough	2
Government clinic:	
Gonorrhea	13
Syphilis	7

CAMP LEE ZONE, VA.

Petersburg:	
Gonorrhea	7
Malaria	1
Syphilis	4
Tuberculosis	4
Typhoid fever	1

CAMP MERRITT ZONE, N. J.

Englewood:	
Chicken pox	3
Pneumonia, lobar	1
Haworth:	
Measles	1

MUSCLE SHOALS SANITARY DISTRICT, ALA.

Lauderdale County:	
Chicken pox	3
Gonorrhea	3
Malaria	2
Mumps	1
Syphilis	6
Tuberculosis	1
Nitrate Plant No. 2:	
Gonorrhea	3

PICRIC ACID PLANT ZONE, GA.

Brunswick:	
Malaria	2
Pellagra	1
Syphilis	4
Tuberculosis	1
Typhoid fever	1

CAMP PIKE ZONE, ARK.

Little Rock:	Cases.
Chancroid	1
Chicken pox	2
Gonorrhea	10
Malaria	4
Mumps	2
Pneumonia	2
Ptomaine poisoning	1
Syphilis	2
Typhoid fever	1

North Little Rock:	
Gonorrhea	1
Malaria	2
Mumps	1
Syphilis	1
Scott:	
Septic sore throat	1
Tuberculosis	2

CAMP POLK ZONE, N. C.

Diphtheria:	
Wake Forest Township	1
Gonorrhea:	
Cary Township	1
Little River Township	1
Raleigh	6
Measles:	
Raleigh	1
Poliomyelitis:	
White Oak Township	1
Syphilis:	
Durham	3
Raleigh	3
Tuberculosis:	
Raleigh	1
Typhoid fever:	
Durham Township	2
Marks Creek Township	1
Swift Creek Township	1
Wake Forest Township	1
Whooping cough:	
Durham	12
Raleigh	1
White Oak Township	2

PORTSMOUTH AND NORFOLK COUNTY HEALTH DISTRICT, VA.

Cerebrospinal meningitis:	
Norfolk County	1
Chicken pox:	
Norfolk	1
Diphtheria:	
Norfolk	1
Measles:	
Norfolk	4
Port Norfolk	1
Smallpox:	
Portsmouth	2
Tuberculosis:	
Portsmouth	2
Typhoid fever:	
Portsmouth	1

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED JUNE 14—Continued.

CAMP SHERMAN ZONE, OHIO.		CAMP UPTON ZONE, N. Y.	
Chillicothe:	Cases.		Cases.
Chicken pox.....	4	No cases of communicable diseases reported.	
Scarlet fever.....	1	WILMINGTON SANITARY DISTRICT, N. C.	
Smallpox.....	1	Wilmington:	
Government clinic:		Diphtheria.....	1
Gonorrhea.....	3	Gonorrhea.....	11
Syphilis.....	1	Measles.....	3
CAMP TRAVIS ZONE, TEX.		Mumps.....	1
San Antonio:		Syphilis.....	4
Diphtheria.....	3	Tuberculosis.....	2
Gonorrhea.....	13	Whooping cough.....	3
Mumps.....	1	Sea Gate:	
Pneumonia.....	1	Tuberculosis.....	1
Syphilis.....	1		
Tuberculosis.....	1		
Typhoid fever.....	2		
Whooping cough.....	1		

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES.

The following data are taken from telegraphic reports received in the office of the Surgeon General of the United States Army for the week ended June 6, 1919. Reports from the American Expeditionary Forces are delayed in transmission, and the "current week" for troops in the American Expeditionary Forces is not the same period as "current week" for troops in the United States.

	Current week.	Last week.
Annual admission rate per 1,000 (all causes).....	488.63	597.15
All troops in United States.....	806.39	1,152.50
American Expeditionary Forces.....	322.66	377.00
Annual admission rate per 1,000 (disease only).....	416.00	524.45
All troops in United States.....	673.81	1,011.25
American Expeditionary Forces.....	281.33	334.64
Noneffective per 1,000 on day of report.....	23.10	35.34
All troops in United States.....	46.55	54.43
American Expeditionary Forces.....	22.41	26.88
Annual death rate per 1,000 (all causes).....	7.59	6.94
All troops in United States.....	9.53	10.16
American Expeditionary Forces.....	6.58	5.51
Annual death rate per 1,000 (diseases only).....	4.83	4.31
All troops in United States.....	8.05	8.41
American Expeditionary Forces.....	3.15	2.56

¹ Sick and death rates among troops in the United States will continue to be relatively high, as the numerical strength of troops in the United States continues to decline from week to week as a result of demobilization. Well men only are eligible for discharge, while the sick and otherwise disabled are retained in service for further treatment. The continued influx of sick and wounded (properly chargeable to commands overseas) is another factor tending to increase rates in the United States and to diminish correspondingly similar rates overseas.

Cases of special diseases reported during the week ended June 6, 1919.

Camp.	Pneu- monia.	Dys- en- tery..	Ma- laria.	Venereal diseases.		Influ- enza.	Meas- les.	Menin- gitis.	Scarlet fever.	Annual admis- sion rate per 1,000 (disease only).	Noneffective per 1,000 on day of report.
				Total.	New infect- ions.						
Benning.....				5	5					547.36	18.57
Bowie.....			1	13	1					793.89	107.37
Bragg.....											
Custer.....				5	3					604.65	42.25
Devons.....	2			9						395.07	94.04
Dix.....	1			19						424.33	34.37
Dodge.....	2			4	1				1	494.40	96.97
Funston.....	1			15						883.83	45.66
Gordon.....				11						783.99	49.57
Grant.....	2			45						808.67	59.37
Humphreys.....				3	1					530.61	32.65
Jackson.....				16		1				612.34	61.39
Kearny.....				1	1					956.32	189.08
Henry Knox.....				2						85.99	5.51
Lee.....				11	8					691.62	64.87
Lewis.....	2			5						1,431.57	150.60
Meade.....	2			25	4		1			848.77	71.87
Pike.....				11	2					1,961.40	163.15
Shelby.....				3	1					796.84	85.81
Sherman.....				10	1	1				1,335.15	133.84
Taylor.....	2			8	3				1	633.24	105.21
Travis.....			1	4	4					763.79	77.01
Upton.....	3			15	2					394.05	28.51
Northeastern Department.....				3	3					422.62	19.97
Eastern Depart- ment.....	2			18	2	2				451.81	18.34
Southeastern Department.....			2	2	1					630.12	31.15
Central Depart- ment.....				4					2	382.54	17.25
Southern De- partment.....	1		1	77	2	3				878.36	68.15
Western Depart- ment.....				14	11					516.20	13.23
Aviation camps. Port of embarka- tion:	1			28		2			1	919.15	43.68
Hoboken.....	43		1	28	1	3	2	1	3	324.16	66.11
Newport News.....	13			57	8	108		1	4	2,896.67	65.61
Fort Monroe.....				4						359.81	16.40
Alcatraz Discip- linary Barracks										298.85	11.49
Leavenworth Disciplinary Barracks.....				2						524.05	39.01
Columbus Bar- racks.....				1			2			587.57	22.59
Jefferson Bar- racks.....	1			10	6					1,851.40	88.57
Fort Logan.....				2	2					929.84	39.83
Fort McDowell.....				2						928.50	32.29
Fort Sill.....				6	5					549.83	24.75
Fort Slocum.....				3						789.32	30.90
Fort Thomas.....				4	3					1,095.34	38.80
West Point.....				3						953.84	14.79
Arsenals.....				1						374.87	27.46
Miscellaneous small stations.....				5						351.31	25.03
Total.....	78		6	514	51	120	5	2	12	673.81	46.55

Number of deaths at large camps in United States week ended June 6, 1919.

Camp.	Strength.	Deaths.		Camp.	Strength.	Deaths.	
		All causes.	Disease only.			All causes.	Disease only.
Benning.....	1,615	.....	.....	Sherman.....	7,322	3	.....
Bowie.....	1,965	.....	.....	Taylor.....	7,062	2	1
Bragg.....	.....	.....	.....	Travis.....	2,519	.....	.....
Custer.....	3,526	1	.....	Upton.....	32,338	1	1
Devens.....	5,923	.....	.....	Northeastern Department.....	2,953	.....	.....
Dix.....	33,956	4	4	Eastern Department.....	12,437	1	1
Dodge.....	4,733	.....	.....	Southeastern Department.....	3,466	.....	.....
Funston.....	5,277	1	1	Central Department.....	3,942	.....	.....
Gordon.....	3,449	1	1	Southern Department.....	28,897	3	3
Grant.....	10,615	2	2	Western Department.....	8,764	.....	.....
Humphreys.....	1,960	1	1	Aviation camps.....	16,187	4	.....
Jackson.....	6,369	1	1	Port of embarkation:	.....	.....	.....
Kearny.....	1,740	.....	.....	Hoboken.....	34,976	9	9
Henry Knox.....	9,070	.....	.....	Newport News.....	23,759	1	1
Lee.....	10,158	.....	.....	All others.....	82,524	35	34
Lewis.....	3,705	.....	.....	Total.....	387,090	71	60
Meade.....	10,179	.....	.....		
Pike.....	3,420	1	.....			
Shelby.....	2,284	.....	.....		

Annual admission rate per 1,000 for certain diseases.

Disease.	Troops in United States.		American Expeditionary Forces.	
	Current week.	Last week.	Current week.	Last week.
Pneumonia.....	10.20	9.29	3.50	7.05
Dysentery.....	.....	.14	.28	.....
Malaria.....	.80	1.30	.77	.44
Veneral.....	69.18	89.42	57.30	74.45
Paratyphoid.....	.....	.14	.23	.25
Typhoid.....	.....	.14	.23	.25
Measles.....	.67	1.30	1.19	2.18
Meningitis.....	.26	.14	.64	.64
Scarlet fever.....	1.61	.53	.35	.25
Influenza.....	16.11	9.0	.....	.....

CURRENT STATE SUMMARIES.¹**Telegraphic Reports for the Week Ended June 14, 1919.**

California.—Influenza: Cases reported 87. Smallpox: Long Beach 2, Orange County 5, Vallejo 1, Alameda 4, Oakland 2, San Francisco 2, South San Francisco 1, Santa Clara County 3, San Jose 4, Turlock 1. Typhoid fever 11 cases, of which in San Francisco 2, San Jose 3, and the others scattered over State. Cerebrospinal meningitis: 1 case reported in Placer County.

Connecticut.—The State reports no outbreak or undue prevalence of disease.

Delaware.—Diphtheria: Greenwood 1, Wilmington 1. Malaria: Dover 2. Measles: Dover 2, Roselle 1, Wilmington 3. Scarlet fever: Wilmington 1. Smallpox: Fairmount 2. Tuberculosis: Dover 1,

¹ These telegraphic reports are preliminary and may be changed when complete reports are received by the State health departments.

Middletown 1, Newport 1, Wilmington 4. Syphilis: Dover 1, Wilmington 7. Chancroid: Wilmington 1. Gonorrhea: Wilmington 28, Dover 18, Laurel 1, Millsboro 1, Newport 1, Marshallton 1.

Florida.—Pensacola reports 1 case epidemic meningitis. State totals: Typhoid fever 14, malaria 12, smallpox 4, scarlet fever 3, diphtheria 1, dysentery 11.

Georgia.—State totals: Hookworm 4, chicken pox 15, diphtheria 6, dysentery (amebic) 13, dysentery (bacillary) 39, favus 1, German measles 1, gonorrhea 126, influenza 2, malaria 39, measles 44, mumps 12, pneumonia (acute lobar) 5, scarlet fever 3, septic sore throat 9, smallpox 62, syphilis 110, tetanus 1, trachoma 2, tuberculosis (pulmonary) 10, tuberculosis (other than pulmonary) 4, typhoid fever 55, whooping cough 12.

Illinois.—Diphtheria: Cases reported 129, of which in Chicago 107, Camp Grant 4, Streator 3. Scarlet fever: Cases reported 82, of which in Chicago 51, Oglesby 6, Belvidere 3, Peru 3. Smallpox: Cases reported 136, of which in Carlock 22, Rock Island 14, Peoria 12, Rockford 10, McLeansboro 7, Grandville Township (Jasper County) 6, Sawyerville 6, Fairmount 6, Canton Township (Fulton County) 5, Galesburg 5, Pekin 4, Ottawa 3, Witt 3, Jacksonville 3. Chicago reports 1 case meningitis. Poliomyelitis: Chicago 1, East St. Louis 1. Zion City reports 1 case lethargic encephalitis. Influenza: Cases reported 10, of which in Chicago 8. Gonorrhea 251, syphilis 113.

Indiana.—Scarlet fever reported by counties: Hancock, Wabash, St. Joseph, and Bartholomew. Smallpox by counties: Vermilion, Elkhart, Jay, Fountain, Madison, and Montgomery; reported epidemic in Laporte. Diphtheria by counties: Orange 1, Johnson 2, Huntington 1, Whitley 1, Tippecanoe 1, Ripley 1, Vigo 1, Montgomery 1. Typhoid fever reported in Hammond. Measles reported by counties: Ripley, Elkhart, and Pulaski. Terre Haute reports 1 case of rabies. Syphilis 21, gonorrhea 49.

Iowa.—Diphtheria: Cedar Rapids 1, Des Moines 1, Mason city 1. Gonorrhea: Cedar Rapids 1, Cherokee 1, Davenport 2, Greene 1, Guthrie Center 2, Keokuk 1, Mason City 1, Newton 1, Rembrandt 1, Strawberry Point 3. Measles: Blencoe 1, Council Bluffs 3, Mason City 1. Mumps: Fort Des Moines 1. Scarlet fever: Burlington 1, Carroll 4, Cedar Rapids 1, Des Moines 6, Dubuque 1, Postville 2. Smallpox: Bangor 1, Boone 3, Calumet 1, Cedar Rapids 13, Cedar Falls 2, Council Bluffs 1, Davenport 21, Davis City 21, Des Moines 1, Dubuque 1, Fort Dodge 2, Mason City 1, Minerva 1. Syphilis: Clear Lake 1, Davenport 5, Des Moines 1, Dubuque 1, Newton 2. Whooping cough: Council Bluffs 1. In rural districts of following counties. Gonorrhea: Jasper 1, Palo Alto 2. Scarlet fever: Appanoose 1, Buchanan 1, Keokuk 2, Kossuth 1, Marshall 3, Warren 1, Webster 1. Smallpox: Hamilton 1, Keokuk 1, Mahaska 2, Marshall 7, Webster 1.

Kansas.—State totals: Smallpox 68, diphtheria 7, scarlet fever 37, influenza 7.

Louisiana.—Poliomyelitis 1, smallpox 23, typhoid fever 46, diphtheria 5, pellagra 8, gonorrhea 111, syphilis 60, chancroid 13.

Maine.—Chicken pox: Orono 4, Bangor 1, Portland 2. Diphtheria: Bristol 3, Readfield 1, Friendship 1, Belfast 1, Auburn 1. Gonorrhea: Portland 10, Albion 2, Biddeford 2, New Portland 2, Auburn 1, Belgrade 1, Bucksport 1, Camden 1, Greenville 1, Harmony 1, Rockland 1, Waterford 1. Mumps: Sanford 3. Scarlet fever: Bath 3, Bowdoinham 1, Brunswick 4, Portland 7, Livermore 2. Smallpox: Bath 1, Waterville 1, Brunswick 1. Syphilis: Augusta 1, Portland 1, Bar Harbor 2, Sullivan 1. Tuberculosis: Bangor 1, Fairfield 1, Augusta 1, Lewiston 1, Waldoboro 1, Westbrook 1, South Berwick 2. Whooping cough: South Berwick 8.

Massachusetts.—Unusual prevalence of diphtheria, North Attleboro reporting 9 cases. Worcester reports 34 cases of measles and 21 cases of whooping cough.

Minnesota.—Smallpox (new foci): Faribault County (Winnebago village) 1, Houston County (Mayville Township) 2, Spring Grove Township 1, Kanabec County (Ogilvie village) 7, Lyon County (Tracy city) 4, Sherburne County (Lake Fremont village) 5. Syphilis 28, gonorrhea 51, chancroid 2, poliomyelitis 1.

New Jersey.—Cases reported: Influenza 7, pneumonia 56. Smallpox reported from Bordentown (Burlington County). No unusual prevalence of other diseases reported.

New York.—Reports, exclusive of New York City: Typhoid fever 18, measles 510, scarlet fever 120, whooping cough 75, diphtheria 191. Smallpox: Buffalo 1, Oneonta 1. Cerebrospinal meningitis: Buffalo 1, Yonkers 1. Pneumonia: Cases reported 58. Voluntary reports: Syphilis 279, gonorrhea 85.

North Carolina.—State totals: Whooping cough 143, measles 155, diphtheria 15, scarlet fever 6, septic sore throat 4, smallpox 56, chicken pox 28, infantile paralysis 2, typhoid fever 100, epidemic meningitis 1, broncho-pneumonia 5, lobar pneumonia 3, cholera infantum 32, dysentery (bacillary) 3, dysentery (amebic) 2, gonorrhea 119, syphilis 40, chancroid 10, gonorrhea and chancroid 2, gonorrhea and syphilis 3, gonorrhea, syphilis, and chancroid 1, balanitis 2.

Ohio.—Scarlet fever, 45 cases reported from Cincinnati. Smallpox: Youngstown 20, Alliance 6, Avon 6, Hamilton 5, Mingo Junction 16. Trachoma: Cases reported from Portsmouth 27:

Oregon.—Portland reports 6 cases of and 1 death from influenza, and Hood River reports 9 cases.

Virginia.—Smallpox reported by counties: Sussex 3, Albemarle 2, Princess Anne 1, Bath 1, Norfolk 2, Richmond 1. Fauquier County reports 1 case lethargic encephalitis.

West Virginia.—Diphtheria: Buckhannon 4, Huntington 1, Keyser 1, Wheeling 3. Measles: Charleston 2, Charlestown 1, Clarksburg 1, Fairmont 11, Hinton 1, Huntington 1, Keyser 4, Parkersburg 1, Weston 12. Meningitis: Montgomery 1. Scarlet fever: Bluefield 2, Charleston 2, Charlestown 1, Elkins 1, Huntington 1, Martinsburg 1, Parkersburg 3, Wellsburg 1. Smallpox: Beckley 1, Bluefield 2, Charleston 1, Charlestown 1, Elkins 1, Grafton 7, Keyser 1, Montgomery 1, Morgantown 3, Wellsburg 3, Williamson 5. Typhoid fever: Charleston 1, Elkins 2, Fairmont 3, Hinton 1, Wellsburg 1, Weston 2, Wheeling 1.

ACTINOMYCOSIS.

Massachusetts, May, 1919.

During May one case of actinomycosis was reported in Massachusetts.

ANTHRAX.

Chelsea and Peabody, Mass., May, 1919.

During the month of May two cases of anthrax were reported in Massachusetts; one at Chelsea, Suffolk County, and one at Peabody, Essex County.

Norwood, Ohio—Correction.

The report in the Public Health Reports of April 25 of one case and one death from anthrax at Norwood, Ohio, was in error, no anthrax having occurred at that place.

CEREBROSPINAL MENINGITIS.

State Reports for April and May, 1919.

Place.	New cases reported.	Place.	New cases reported.
Delaware (May):		Massachusetts (May)—Continued.	
Sussex County—		Plymouth County—	
Ellendale.....	1	Brockton (town).....	1
District of Columbia (May).....	1	Suffolk County—	
Maryland (May):		Bo ton.....	6
Baltimore.....	1	Winthrop (town).....	1
Anne Arundel County.....	2	Worcester County.....	1
Total.....	3	Northboro (town).....	1
Massachusetts (May):		Worcester.....	1
Berkshire County—		Total.....	25
North Adams (town).....	1	Nebraska (May):	
Bristol County—		Chase County.....	6
Fall River.....	2	Lancaster County.....	2
Essex County—		Total.....	8
Gloucester.....	1	South Dakota (April):	
Haverhill.....	1	Denel County.....	1
Lynn.....	2	Lake County.....	1
Middlesex County—		Stanley County.....	1
Belmont (town).....	1	Total.....	3
Cambridge.....	1		
Everett.....	2		
Norfolk County—			
Quincy.....	2		
Weymouth (town).....	1		

CEREBROSPINAL MENINGITIS—Continued.**City Reports for Week Ended May 31, 1919.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.	1	1	McKeesport, Pa.	1	1
Boston, Mass.	3	3	Milwaukee, Wis.	1	1
Charleston, S. C.	1	1	Minneapolis, Minn.	1	1
Chicago, Ill.	3	1	Montgomery, Ala.	1	2
Concord, N. H.	1	1	Nashville, Tenn.	2	4
Dallas, Tex.	1	1	New York, N. Y.	7	1
Detroit, Mich.	2	1	Paterson, N. J.	1	1
Greeley, Colo.	1	1	Philadelphia, Pa.	1	1
Ironwood, Mich.	1	1	Reading, Pa.	1	1
Jamestown, N. Y.	1	1	Waterbury, Conn.	1	1
Leavenworth, Kans.	1	1	Worcester, Mass.	1	1
Los Angeles, Calif.	1	1			

CHANCROID.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Fayetteville sanitary district, N. C.	Camp Pike zone, Ark.
1	1

DIPHTHERIA.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Camp Gordon zone, Ga.	Camp Travis zone, Tex.
2	3
Gulfport health district, Miss.	Wilmington sanitary district, N. C.
1	1
Camp Polk zone, N. C.	
1	
Portsmouth and Norfolk County health district, Va.	
1	

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1395.

GONORRHEA.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Fayetteville sanitary district, N. C.	Camp Pike zone, Ark.
7	11
Camp Gordon zone, Ga.	Camp Polk zone, N. C.
31	8
Gulfport health district, Miss.	Camp Sherman zone, Ohio.
16	3
Camp Jackson zone, S. C.	Camp Travis zone, Tex.
13	13
Camp Lee zone, Va.	Wilmington sanitary district, N. C.
7	11
Muscle Shoals sanitary district, Ala.	
6	

LEPROSY.**Boston, Mass., May, 1919.**

During May two cases of leprosy of nodular type were reported at Boston, Mass. In the case of T. W. C., Chinese, male, age 22, the disease was diagnosed clinically and verified bacteriologically May 8. In the case of N. F., Greek, male, age 22, the patient absconded from the hospital and his present whereabouts are unknown.

MALARIA.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

	Cases.		Cases.
Fayetteville sanitary district, N. C.....	1	Muscle Shoals sanitary district, Ala.....	2
Gas and Flame school zone, Ga. and Ala.....	5	Picric Acid plant zone, Ga.....	2
Gulfport health district, Miss.....	36	Camp Pike zone, Ark.....	6
Camp Lee zone, Va.....	1		

State Reports for May, 1919.

Place.	New cases reported.	Place.	New cases reported.
Delaware:		Maryland—continued.	
Kent County—		Worcester County—	
Dover.....	1	Pocomoke City, R. D.....	1
Maryland:		Total.....	11
Anne Arundel County.....	4	Massachusetts:	
Dorchester County—		Suffolk County—	
Ravenswood.....	1	Boston.....	1
Prince Georges County—		Winthrop (town).....	1
Brandywine.....	1	Worcester County—	
Mitchellville, R. D.....	2	Northbridge (town).....	1
Wicomico County—		Total.....	3
Salisbury.....	1		
Bivalve.....	1		

City Reports for Week Ended May 31, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Columbus, Ga.....	1	.....	Montclair, N. J.....	1	.....
High Point, N. C.....	1	.....	Richmond, Va.....	1	.....
Little Rock, Ark.....	4	.....	Tuscaloosa, Ala.....	1	.....
Memphis, Tenn.....		1			

MEASLES.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

	Cases.		Cases.
Camp Dix zone, N. J.....	1	Camp Polk zone, N. C.....	1
Gas and Flame school zone, Ga. and Ala.....	8	Portsmouth and Norfolk County health district, Va.....	5
Camp Gordon zone, Ga.....	6	Wilmington sanitary district, N. C.....	3
Gulfport health district, Miss.....	4		
Camp Merritt zone, N. J.....	1		

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1395.

PELLAGRA.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

	Cases.		Cases.
Gulfport Health district, Miss.....	2	Picric Acid plant zone, Ga.....	1

State Reports for May, 1919.

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	1	Massachusetts—Continued.	
Massachusetts:		Suffolk county—	
Norfolk County—		Boston.....	1
Foxboro (town).....	1	Total.....	2

PELLAGRA—Continued.

City Reports for Week Ended May 31, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alexandria, La.....	1	.....	High Point, N. C.....	1	.....
Asheville, N. C.....	.....	1	Lexington, Ky.....	.....	1
Austin, Tex.....	.....	1	Memphis, Tenn.....	.....	2
Birmingham, Ala.....	1	1	Mobile, Ala.....	2	2
Dallas, Tex.....	1	.....	Nashville, Tenn.....	.....	1

PLAGUE-INFECTED GROUND SQUIRRELS.

Alameda County, Calif.

During the period from May 23 to May 28, inclusive, eight plague-infected ground squirrels (*Citellus beechyi*) were reported found in localities in Alameda County, Calif., respectively about 6 miles south of Sunol, 4½ to 5 miles north, and about 7 miles northeast of Altamont. In all cases diagnoses were based upon animal inoculation and cultures. Intensive hunting and poisoning operations are being carried on.

PNEUMONIA.

Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.

	Cases.		Cases.
Gas and flame school zone, Ga. and Ala.....	3	Camp Pike zone, Ark.....	2
Gulftport health district, Miss.....	1	Camp Travis zone, Tex.....	1
Camp Merritt zone, N. J.....	1		

City Reports for Week Ended May 31, 1919.

Place.	Lobar.		All forms.		Place.	Lobar.		All forms.	
	Cases.	Deaths.	Cases.	Deaths.		Cases.	Deaths.	Cases.	Deaths.
Albany, N. Y.....	1	.....	.....	.....	Kansas City, Kans.....	1	.....	.....	.....
Alliance, Ohio.....	1	.....	.....	.....	Kansas City, Mo.....	.....	.....	9	5
Atlanta, Ga.....	1	1	.....	.....	Lackawanna, N. Y.....	2	3	.....	.....
Baltimore, Md.....	13	9	.....	.....	Lawrence, Mass.....	2	1	.....	.....
Binghamton, N. Y.....	2	.....	.....	.....	Los Angeles, Calif.....	4	2	4	3
Boston, Mass.....	26	10	.....	.....	Louisville, Ky.....	3	6	.....	.....
Brunswick, Ga.....	1	1	.....	.....	Lowell, Mass.....	1	1	.....	.....
Cadillac, Mich.....	1	.....	.....	.....	Lynn, Mass.....	4	1	.....	.....
Cambridge, Mass.....	2	1	.....	.....	Manchester, N. H.....	1	1	.....	.....
Camden, N. J.....	3	.....	.....	.....	Manitowoc, Wis.....	.....	.....	2	2
Charleston, W. Va.....	1	.....	.....	.....	Marquette, Mich.....	1	.....	.....	.....
Charlotte, N. C.....	2	2	.....	.....	Melrose, Mass.....	1	.....	.....	.....
Chelsea, Mass.....	1	1	.....	.....	Milford, Mass.....	1	1	.....	.....
Chicago, Ill.....	.....	.....	152	45	Nashville, Tenn.....	1	.....	.....	.....
Chicopee, Mass.....	1	.....	.....	.....	Natick, Mass.....	1	1	.....	.....
Cleveland, Ohio.....	5	9	.....	.....	Newark, N. J.....	20	8	.....	.....
Columbus, Ga.....	2	2	.....	.....	Newburgh, N. Y.....	1	.....	.....	.....
Cranston, R. I.....	1	1	3	3	New London, Conn.....	1	1	.....	.....
Cumberland, Md.....	2	1	.....	.....	Newport, Ky.....	2	2	.....	.....
Dayton, Ohio.....	1	1	.....	.....	Newport News, Va.....	1	.....	.....	.....
Detroit, Mich.....	5	15	6	19	New York, N. Y.....	.....	.....	37	128
Duluth, Minn.....	2	2	.....	.....	Northampton, Mass.....	2	.....	.....	.....
East Orange, N. J.....	1	.....	.....	.....	Pasadena, Calif.....	2	.....	.....	.....
Everett, Mass.....	1	.....	.....	.....	Paterson, N. J.....	13	.....	.....	.....
Fall River, Mass.....	2	.....	.....	.....	Philadelphia, Pa.....	53	24	.....	.....
Fitchburg, Mass.....	1	.....	.....	.....	Pittsfield, Mass.....	1	.....	.....	.....
Flint, Mich.....	1	1	.....	.....	Roanoke, Va.....	1	.....	.....	.....
Framingham, Mass.....	1	1	.....	.....	Rock Island, Ill.....	1	1	.....	.....
Gloversville, N. Y.....	2	.....	.....	.....	Sandusky, Ohio.....	.....	.....	3	.....
Grand Rapids, Mich.....	3	.....	.....	.....	San Francisco, Calif.....	5	5	.....	.....
Hartford, Conn.....	1	2	.....	.....	Springfield, Mass.....	2	.....	.....	.....
Haverhill, Mass.....	3	1	.....	.....	Toledo, Ohio.....	1	3	.....	.....
Hogulam, Wash.....	.....	.....	1	.....	Trenton, N. J.....	2	1	.....	.....
Independence, Mo.....	.....	.....	3	.....	Watertown, Mass.....	1	.....	.....	.....
Ironwood, Mich.....	1	.....	.....	.....	Westfield, Mass.....	2	1	.....	.....
Jamestown, N. Y.....	.....	.....	2	2	Wichita, Kans.....	1	.....	.....	.....
Kalamazoo, Mich.....	1	1	.....	.....	Worcester, Mass.....	4	1	.....	.....

POLIOMYELITIS (INFANTILE PARALYSIS).**Maryland and Massachusetts, May, 1919.**

Place.	New cases reported.	Place.	New cases reported.
Maryland:		Maryland—Continued.	
Baltimore.....	1	Worcester County—	
Carroll County—		Snow Hill.....	1
Sykesville.....	1	Total.....	5
Harford County—			
Madonna.....	1	Massachusetts:	
Washington County—		Essex County—	
Hagerstown.....	1	Ipswich (town).....	1

City Reports for Week Ended May 31, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	1	1	Middletown, N. Y.....	1	.....
Chicago, Ill.....	2	1	Mount Vernon, N. Y.....	1	.....
Columbus, Ohio.....	1	1	New York, N. Y.....	3	1
East St. Louis, Ill.....	1	1	Superior, Wis.....	.....	1
Houston, Tex.....	2	.....	Topeka, Kans.....	1	1

RABIES IN ANIMALS.**City Reports for Week Ended May 31, 1919.**

Place.	Cases.	Place.	Cases.
Alexandria, La.....	4	Kansas City, Mo.....	2
Detroit, Mich.....	1	Washington, D. C.....	1
East Orange, N. J.....	1		

SCARLET FEVER.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Camp Gordon zone, Ga..... 1	Camp Sherman zone, Ohio..... 1

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1395.

SMALLPOX.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Camp Gordon zone, Ga..... 6	Camp Sherman zone, Ohio..... 1
Portsmouth and Norfolk County health district, Va..... 2	

SMALLPOX—Continued.

State Reports for May, 1919—Vaccination Histories.

Place.	Newcases reported.	Deaths.	Vaccination history of cases:			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
District of Columbia	50	.....	.....	.....	50	.....
Maryland:						
Baltimore.....	3	.....	.....	.....	3	.....
Baltimore County—						
Sparrows Point.....	2	.....	.....	.....	2	.....
Dorchester County—						
Cambridge.....	2	.....	.....	.....	2	.....
Garrett County—						
Johnsons, R. D.....	1	.....	.....	.....	1	.....
Prince George County—						
Upper Marlboro.....	1	.....	.....	.....	1	.....
Washington County—						
Clearspring, R. D.....	1	.....	.....	.....	1	.....
Hagerstown.....	5	.....	.....	.....	6	.....
Funkstown.....	1	.....	.....	.....	1	.....
Total.....	17	.....	.....	.....	17	.....
Massachusetts:						
Dukes County—						
Edgartown (town).....	1	.....	.....	.....	1	.....
Essex County—						
Gloucester.....	2	.....	.....	.....	2	.....
Hampden County—						
Ludlow (town).....	1	.....	.....	.....	1	.....
Springfield.....	2	.....	.....	.....	2	.....
Middlesex County—						
Cambridge.....	1	.....	1	.....	.....	.....
Suffolk County—						
Boston.....	1	.....	.....	.....	1	.....
Total.....	8	.....	1	.....	7	.....

State Reports for April and May, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Delaware (May):			South Dakota (April):		
Sussex County—			Aurora County.....	2	.....
Fairmount.....	1	.....	Beadle County.....	33	.....
Nebraska (May):			Ben Homme County.....	5	.....
Box Butte County.....	1	.....	Brown County.....	8	.....
Buffalo County.....	12	.....	Brule County.....	7	.....
Burt County.....	5	.....	Charles Mix County.....	11	.....
Cass County.....	3	.....	Codington County.....	2	.....
Cheyenne County.....	2	.....	Davison County.....	1	.....
Custer County.....	5	.....	Deuel County.....	1	.....
Dodge County.....	12	.....	Dewey County.....	1	.....
Douglas County.....	148	.....	Douglas County.....	3	.....
Franklin County.....	1	.....	Fall River County.....	2	.....
Frontier County.....	4	.....	Hamlin County.....	1	.....
Gage County.....	30	.....	Hand County.....	5	.....
Howard County.....	2	.....	Hyde County.....	1	.....
Johnson County.....	5	.....	Kingsbury County.....	1	.....
Kearney County.....	2	.....	Marshall County.....	2	.....
Lancaster County.....	185	.....	Miner County.....	1	.....
Lincoln County.....	3	.....	Minnehaha County.....	2	.....
Nemaha County.....	1	.....	Moody County.....	5	.....
Otoe County.....	5	.....	Spink County.....	2	.....
Rock County.....	5	.....	Walworth County.....	5	.....
Saunders County.....	10	.....	Yankton County.....	17	.....
Scotts Bluff County.....	5	.....	Total.....	118	.....
Seward County.....	14	.....		
Sheridan County.....	2	.....		
Stanton County.....	3	.....		
Washington County.....	7	.....		
Wayne County.....	1	.....		
Total.....	473	.....		

SMALLPOX—Continued.

City Reports for Week Ended May 31, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Aberdeen, S. Dak.	3	.....	Los Angeles, Calif.	3	.....
Aberdeen, Wash.	1	.....	Louisville, Ky.	1	.....
Ablene, Tex.	3	.....	Madison, Wis.	1	.....
Alexandria, La.	2	.....	Manitowoc, Wis.	4	.....
Anniston, Ala.	6	.....	Marinette, Wis.	7	.....
Atchison, Kans.	1	.....	Memphis, Tenn.	1	.....
Atlanta, Ga.	26	.....	Milwaukee, Wis.	19	.....
Austin, Tex.	1	.....	Minneapolis, Minn.	39	.....
Baton Rouge, La.	4	.....	Mobile, Ala.	4	.....
Battle Creek, Mich.	5	.....	Moline, Ill.	8	.....
Beatrice, Nebr.	1	.....	Newark, N. J.	1	.....
Birmingham, Ala.	5	.....	New Orleans, La.	4	.....
Boise, Idaho.	4	.....	Newport News, Va.	5	.....
Butte, Mont.	1	.....	Norfolk, Va.	4	.....
Cape Girardeau, Mo.	3	.....	Oakland, Calif.	2	.....
Charleston, W. Va.	1	.....	Oklahoma City, Okla.	5	.....
Cheyenne, Wyo.	1	.....	Omaha, Nebr.	26	.....
Chicago, Ill.	4	.....	Oshkosh, Wis.	13	.....
Cincinnati, Ohio.	3	.....	Parsons, Kans.	6	.....
Cleveland, Ohio.	8	.....	Pasadena, Calif.	2	.....
Columbus, Ga.	3	.....	Peekin, Ill.	19	.....
Columbus, Ohio.	2	.....	Peoria, Ill.	9	.....
Council Bluffs, Iowa.	9	.....	Pittsburgh, Pa.	1	.....
Covington, Ky.	1	.....	Portland, Oreg.	31	.....
Dallas, Tex.	10	.....	Portsmouth, Va.	2	.....
Danville, Ill.	2	.....	Racine, Wis.	16	.....
Davenport, Iowa.	12	.....	Raleigh, N. C.	2	.....
Denver, Colo.	15	.....	Red Wing, Minn.	7	.....
Des Moines, Iowa.	12	.....	Roanoke, Va.	5	.....
Detroit, Mich.	5	.....	Rock Island, Ill.	17	.....
Dubuque, Iowa.	2	.....	St. Joseph, Mo.	7	.....
Duluth, Minn.	5	.....	St. Louis, Mo.	5	.....
Everett, Wash.	12	.....	St. Paul, Minn.	18	.....
Flint, Mich.	1	.....	San Francisco, Calif.	3	.....
Fond du Lac, Wis.	4	.....	San Jose, Calif.	3	.....
Fort Wayne, Ind.	3	.....	Savannah, Ga.	1	.....
Fort Worth, Tex.	2	.....	Seattle, Wash.	19	.....
Galesburg, Ill.	12	.....	Sioux City, Iowa.	2	.....
Galveston, Tex.	1	.....	South Bend, Ind.	1	.....
Grand Rapids, Mich.	1	.....	Spokane, Wash.	3	.....
Great Falls, Mont.	11	.....	Springfield, Ohio.	1	.....
Green Bay, Wis.	1	.....	Steubenville, Ohio.	1	.....
Hammond, Ind.	2	.....	Superior, Wis.	4	.....
High Point, N. C.	1	.....	Tacoma, Wash.	3	.....
Hoquiam, Wash.	6	.....	Tiffin, Ohio.	1	.....
Indianapolis, Ind.	2	.....	Toledo, Ohio.	2	.....
Kalamazoo, Mich.	2	.....	Topeka, Kans.	1	.....
Kansas City, Kans.	1	.....	Vancouver, Wash.	2	.....
Kansas City, Mo.	9	.....	Walla Walla, Wash.	2	.....
Kenosha, Wis.	2	.....	Washington, D. C.	7	.....
Kokomo, Ind.	7	.....	Wichita, Kans.	18	.....
La Fayette, Ind.	4	.....	Winston-Salem, N. C.	5	.....
Lincoln, Nebr.	8	.....	Yakima, Wash.	20	.....
Logansport, Ind.	7	.....	Zanesville, Ohio.	1	.....
Long Beach, Calif.	2	.....		

SYPHILIS.

Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.

	Cases.		Cases.
Fayetteville sanitary district, N. C.	6	Picric Acid plant zone, Ga.	4
Camp Gordon zone, Ga.	31	Camp Pike zone, Ark.	3
Gulfport health district, Miss.	1	Camp Polk zone, N. C.	6
Camp Jackson zone, S. C.	7	Camp Sherman zone, Ohio.	1
Camp Lee zone, Va.	4	Camp Travis zone, Tex.	1
Muscle Shoals sanitary district, Ala.	6	Wilmington sanitary district, N. C.	4

TETANUS.**City Reports for Week Ended May 31, 1919.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alexandria, La.....	1	1	Malden, Mass.....	1	1
Chicago, Ill.....	1	1	Pittsfield, Mass.....	1	1
Los Angeles, Calif.....	2	.....	Wilmington, N. C.....	.....	2

TRICHINOSIS.**South Dakota, May, 1919.**

During May one case and one death from trichinosis were reported in South Dakota.

TUBERCULOSIS.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Camp Gordon zone, Ga.....	4
Camp Lee zone, Va.....	4
Muscle Shoals sanitary district, Ala.....	1
Picric Acid plant zone, Ga.....	1
Camp Pike zone, Ark.....	2
Camp Polk zone, N. C.....	1
Portsmouth and Norfolk County health district, Va.....	2
Camp Travis zone, Tex.....	1
Wilmington sanitary district, N. C.....	3

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1395.

TYPHOID FEVER.**Cases Reported in Extra-Cantonment Zones, Week Ended June 14, 1919.**

Cases.	Cases.
Gas and Flame school zone, Ga. and Ala.....	1
Camp Gordon zone, Ga.....	1
Gulfport health district, Miss.....	3
Camp A. A. Humphreys zone, Va.....	2
Camp Lee zone, Va.....	1
Picric acid plant zone, Ga.....	1
Camp Pike zone, Ark.....	1
Camp Polk zone, N. C.....	5
Portsmouth and Norfolk County health district, Va.....	1
Camp Travis zone, Tex.....	2

State Reports for April and May, 1919.

Place.	New cases reported.	Place.	New cases reported.
Delaware (May):		Maryland (May)—Continued.	
Kent County—		Caroline County—	
Felton.....	1	Mount Zion, R. D.....	1
New Castle County—		Cecil County—	
Blackbird.....	1	Cherry Hill.....	2
Wilmington.....	1	Rowlandville.....	4
Sussex County—		Carroll County—	
Seaford.....	1	Westminster.....	1
Total.....	4	Dorchester County—	
District of Columbia (May).....	10	East New Market.....	1
		Airys.....	1
Maryland (May):		Cambridge.....	1
Baltimore.....	18	Frederick County—	
Alleghany County—		Brunswick.....	1
Cresaptown.....	1	Garrett County—	
Old Town, R. D.....	3	Oakland.....	1
Anne Arundel County—		Howard County—	
Annapolis, R. D.....	1	Hanover.....	1
Deale.....	1	Montgomery County—	
Arnold.....	1	Gaithersburg, R. D.....	13
Baltimore County—		St. Marys County—	
Raspeburg.....	1	Hollywood.....	1
Calvert County—		Washington County—	
Lowry.....	1	Bakersville.....	1
		Hagerstown, R. D.....	1
		Bakersville, R. D.....	1

TYPHOID FEVER—Continued.

State Reports for April and May, 1919—Continued.

Place.	New cases reported.	Place.	New cases reported.
Maryland (May)—Continued.		Massachusetts (May)—Continued.	
Washington County—Continued.		Middlesex County—Continued.	
Cavetown.....	1	Newton.....	1
Hagerstown.....	3	Somerville.....	1
Mount Lena.....	1	Stow (town).....	1
Garrets Mill.....	1	Norfolk County—	
Total.....	65	Braintree (town).....	1
Massachusetts (May):		Needham (town).....	1
Berkshire County—		Norwood (town).....	1
Dalton (town).....	1	Quincy.....	3
Pittsfield.....	1	Suffolk County—	
Bristol County—		Boston.....	7
Fall River.....	3	Worcester County—	
New Bedford.....	1	Milford (town).....	2
Essex County—		Uxbridge (town).....	1
Gloucester.....	2	Worcester.....	2
Lawrence.....	5	Total.....	42
Lynn.....	2	Nebraska (May):	
Marblehead (town).....	1	Saline County.....	1
Hampshire County—		South Dakota (April):	
Amherst (town).....	1	Charles Mix County.....	4
Middlesex County—		Stanley County.....	1
Arlington (town).....	1	Walworth County.....	2
Everett.....	1	Total.....	7
Lowell.....	1		
Malden.....	1		

City Reports for Week Ended May 31, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alexandria, La.....	1	1	Lynn, Mass.....		1
Atlanta, Ga.....	1		Manchester, N. H.....	5	
Baltimore, Md.....	3	3	Meriden, Conn.....	1	
Birmingham, Ala.....	2		Minneapolis, Minn.....	1	2
Boston, Mass.....	1	2	Moline, Ill.....	1	
Buffalo, N. Y.....	1	2	Nashville, Tenn.....	2	
Centralia, Ill.....	1		New Haven, Conn.....	3	
Charleston, S. C.....	2		New Orleans, La.....	2	
Chicago, Ill.....	1	1	New York, N. Y.....	10	1
Columbus, Ga.....	1		Oakland, Calif.....	1	
Columbus, Ohio.....	1		Oklahoma City, Okla.....	1	
Connellsville, Pa.....	2		Philadelphia, Pa.....	5	
Dallas, Tex.....	1		Plainfield, N. J.....	1	
Des Moines, Iowa.....		1	Portland, Me.....	2	
Duluth, Minn.....	1		Portland, Oreg.....	2	
Durham, N. C.....	1		Portsmouth, Va.....	1	
East Orange, N. J.....	1		Providence, R. I.....	1	
East St. Louis, Ill.....	1		Reno, Nev.....	1	
Elizabeth, N. J.....	1		Richmond, Va.....	6	
Fairmont, W. Va.....	1		Rocky Mount, N. C.....	1	
Fall River, Mass.....	2		Sacramento, Calif.....	2	
Fort Worth, Tex.....	1		St. Louis, Mo.....	2	
Galveston, Tex.....	1	1	San Francisco, Calif.....	1	1
Great Falls, Mont.....	1		Savannah, Ga.....	1	
Greeley, Colo.....	1		Scranton, Pa.....	1	
Greenville, S. C.....	1		Seattle, Wash.....	1	
Hammond, Ind.....	1		Sioux Falls, S. Dak.....	1	
Harrisburg, Pa.....	1		Spartanburg, S. C.....	1	
High Point, N. C.....	1		Troy, N. Y.....	1	
Hutchinson, Kans.....	3		Walla Walla, Wash.....	1	
Kalamazoo, Mich.....	1		Washington, D. C.....	1	1
Kansas City, Mo.....		1	Wheeling, W. Va.....	1	
Lawrence, Mass.....	2		Wilmington, Del.....	1	
Long Beach, Calif.....	1		Wilmington, N. C.....	1	
Long Branch, N. J.....	1		Winston-Salem, N. C.....	2	
Los Angeles, Calif.....	4		York, Pa.....	1	
Louisville, Ky.....	3				

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for April and May, 1919.

State.	Cases reported.			State.	Cases reported.		
	Diph- theria.	Meas- les.	Scarlet fever.		Diph- theria.	Meas- les.	Scarlet fever.
Delaware (May).....	2	21	6	Massachusetts (May).....	559	1,307	805
District of Columbia				Nebraska (May).....	33	262	76
(May).....	119	42	88	South Dakota (April).....	32	34	105
Maryland (May).....	156	545	909				

City Reports for Week Ended May 31, 1919.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Aberdeen, S. Dak.	15,926						6			
Adams, Mass.	14,406	2	1				1	1		
Alameda, Calif.	28,433	6	1		2				2	1
Albany, N. Y.	106,632		3		46		4		6	
Alexandria, La.	16,232	25					2		4	
Allentown, Pa.	65,109		2		29					
Alliance, Ohio.	19,581		1				1			
Alton, Ill.	23,783						1			
Altos, Pa.	59,712		5		5		2			
Anderson, Ind.	24,230	4								
Ann Arbor, Mich.	15,041	6								1
Annisson, Ala.	14,326								1	
Ansonia, Conn.	16,954				6				2	
Appleton, Wis.	18,005	1								
Arlington, Mass.	13,073	1					11			
Asbury Park, N. J.	14,629	5			9					
Asheville, N. C.	25,656	15					1		5	5
Ashtabula, Ohio.	22,008	8					7			
Atchison, Kans.	16,785		1				8		1	
Atlanta, Ga.	196,144	56	2		18		5	1	1	3
Attleboro, Mass.	19,776	4					2			
Austin, Tex.	35,612		1				1			2
Bakersfield, Calif.	17,543	10							2	5
Baltimore, Md.	594,637	176	15	2	13		120		42	22
Barre, Vt.	12,401	3							1	
Baton Rouge, La.	17,544	5	1		5		3	1		
Battle Creek, Mich.	30,159		9	1	1		2			
Bayonne, N. J.	72,204		5		3		1		5	
Beatrice, Nebr.	10,437	3								1
Beaumont, Tex.	28,851	12								3
Beaver Falls, Pa.	13,749						1			
Bellaire, Ohio.	14,575	5			1					
Beloit, Wis.	18,547	5			10		1		1	
Benton Harbor, Mich.	11,099	1								
Berkeley, Calif.	60,427	5	1				1			
Berlin, N. H.	13,862	3								
Beverly, Mass.	22,128	4					1			
Biddeford, Me.	17,760	4								
Billings, Mont.	15,123		1		1		5			
Binghamton, N. Y.	54,564	13	1				1		2	
Birmingham, Ala.	189,716	56			11		3		11	5
Bloomfield, N. J.	19,013						6			
Boise, Idaho.	35,951	7	1				3			
Boston, Mass.	767,813	203	48	2	20		58	1	42	28
Brachmont, Pa.	22,060	1	1							
Brant, Ind.	10,472	1			1					
Bridgeport, Conn.	124,724	31	5		12		3		1	4
Bristol, Conn.	16,318	2			8		1		2	
Brockton, Mass.	69,152	10	1						1	1
Brookline, Mass.	33,526	7			2					
Brunswick, Ga.	10,984	4							1	
Buffalo, N. Y.	475,781	136	58	6	90	3	17		29	18
Burlington, Iowa.	25,144	7								
Burlington, Vt.	21,802	1			1		1			
Butler, Pa.	28,677		1				1			
Butte, Mont.	44,057		2				5			
Cadillac, Mich.	10,158	2	1							
Cairo, Ill.	15,995	6	1		1					1

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

City Reports for Week Ended May 31, 1919—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Cambridge, Mass.	114, 293	33	1	.....	3	.....	2	.....	4	5
Camden, N. J.	108, 117	.....	4	.....	.....	.....	5	.....	7	.....
Canton, Ill.	13, 674	1	.....	.....	.....	.....	.....	.....	.....	.....
Canton, Ohio.	62, 566	12	.....	.....	5	1	1	.....	.....	1
Cape Girardeau, Mo.	11, 146	.....	.....	.....	.....	.....	4	.....	.....	.....
Carlisle, Pa.	10, 795	.....	1	.....	33	.....	.....	.....	.....	.....
Centralia, Ill.	11, 838	2	.....	.....	.....	.....	1	.....	2	.....
Chambersburg, Pa.	12, 475	.....	.....	.....	3	.....	.....	.....	.....	.....
Charleston, S. C.	61, 041	21	.....	.....	3	.....	2	.....	.....	1
Charleston, W. Va.	31, 060	9	.....	.....	6	.....	1	.....	3	1
Charlotte, N. C.	40, 759	17	1	.....	.....	.....	.....	.....	.....	3
Chelsea, Mass.	48, 405	.....	2	.....	6	.....	.....	.....	4	1
Chester, Pa.	41, 857	.....	1	.....	5	.....	1	.....	2	2
Cheyenne, Wyo.	11, 320	.....	1	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	2, 547, 201	597	114	10	862	12	69	1	165	58
Chicopee, Mass.	29, 950	6	.....	.....	.....	.....	.....	.....	2	.....
Chillicothe, Ohio.	15, 625	3	.....	.....	.....	1	2	.....	.....	.....
Cincinnati, Ohio.	414, 248	99	7	.....	39	1	32	.....	19	17
Cleveland, Ohio.	692, 259	141	26	4	96	2	15	.....	33	17
Clinton, Mass.	13, 075	4	.....	.....	1	.....	.....	.....	.....	.....
Coatesville, Pa.	14, 998	.....	.....	.....	1	.....	.....	.....	.....	.....
Coffeyville, Kans.	18, 331	.....	.....	.....	2	.....	.....	.....	.....	.....
Cohoes, N. Y.	25, 292	5	1	.....	.....	.....	2	.....	2	.....
Colorado Springs, Colo.	38, 965	22	.....	.....	.....	.....	.....	.....	22	7
Columbus, Ga.	26, 306	12	.....	.....	15	.....	.....	.....	3	1
Columbus, Ohio.	220, 135	61	4	2	10	.....	6	.....	5	6
Concord, N. H.	22, 858	7	.....	.....	.....	.....	1	.....	1	1
Connellsville, Pa.	15, 876	.....	.....	.....	2	.....	1	.....	2	.....
Council Bluffs, Iowa.	31, 838	9	2	.....	5	.....	.....	.....	.....	.....
Covington, Ky.	59, 623	12	.....	.....	3	.....	3	.....	2	2
Cranston, R. I.	26, 773	5	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland, Md.	26, 686	4	.....	.....	4	.....	5	1	.....	1
Dallas, Tex.	120, 738	26	1	.....	.....	.....	.....	.....	6	.....
Danville, Ill.	32, 969	1	.....	.....	5	.....	.....	.....	2	.....
Davenport, Iowa.	49, 618	.....	1	.....	1	.....	.....	.....	.....	.....
Dayton, Ohio.	128, 939	34	1	.....	10	.....	2	.....	1	.....
Decatur, Ill.	41, 483	11	2	.....	.....	.....	2	.....	4	3
Dedham, Mass.	10, 618	3	.....	.....	1	.....	1	.....	.....	.....
Denver, Colo.	268, 439	68	4	1	16	.....	9	.....	.....	13
Des Moines, Iowa.	104, 052	.....	3	2	.....	.....	6	.....	1	.....
Detroit, Mich.	619, 648	168	41	5	91	2	51	1	58	14
Dover, N. H.	13, 276	5	.....	.....	.....	.....	.....	.....	.....	1
Du Bois, Pa.	14, 994	.....	2	.....	.....	.....	1	.....	.....	.....
Dubuque, Iowa.	40, 096	.....	1	.....	.....	.....	.....	.....	.....	.....
Duluth, Minn.	97, 077	23	5	.....	68	.....	2	.....	4	1
Durham, N. C.	26, 160	2	.....	.....	1	.....	.....	.....	.....	1
East Chicago, Ind.	30, 286	5	.....	.....	.....	.....	.....	.....	.....	.....
East Orange, N. J.	43, 761	4	2	.....	3	.....	1	.....	.....	1
East St. Louis, Ill.	77, 312	.....	.....	.....	7	.....	2	.....	.....	1
Eau Claire, Wis.	18, 887	.....	1	.....	18	.....	3	.....	1	.....
Elgin, Ill.	28, 362	8	.....	.....	.....	.....	3	.....	.....	.....
Elizabeth, N. J.	88, 830	.....	7	.....	.....	.....	11	.....	3	4
Elmira, N. Y.	38, 272	12	1	.....	3	.....	.....	.....	.....	1
El Paso, Tex.	69, 149	30	.....	.....	.....	.....	4	.....	.....	7
Englewood, N. J.	12, 603	2	1	.....	.....	.....	.....	.....	.....	.....
Evanston, Ill.	29, 304	7	.....	.....	39	.....	.....	.....	.....	.....
Everett, Mass.	49, 160	5	.....	.....	.....	.....	.....	.....	1	.....
Everett, Wash.	37, 205	.....	.....	.....	.....	.....	3	.....	.....	.....
Fairmount, W. Va.	16, 111	.....	.....	.....	4	.....	.....	.....	.....	.....
Fall River, Mass.	129, 828	27	2	.....	22	4	.....	.....	4	1
Fargo, N. Dak.	17, 872	7	.....	.....	20	.....	.....	.....	.....	1
Findlay, Ohio.	14, 858	4	.....	.....	13	.....	.....	.....	.....	.....
Fitchburg, Mass.	42, 119	8	.....	.....	.....	.....	.....	.....	.....	.....
Flint, Mich.	57, 386	10	.....	.....	2	.....	.....	.....	.....	1
Fond du Lac, Wis.	21, 486	9	.....	.....	.....	.....	3	.....	.....	.....
Fort Dodge, Iowa.	21, 039	2	.....	.....	.....	.....	.....	.....	.....	1
Fort Scott, Kans.	10, 564	3	.....	.....	1	.....	1	.....	.....	2
Fort Wayne, Ind.	78, 014	14	.....	.....	10	.....	2	.....	.....	.....
Fort Worth, Tex.	109, 597	17	2	.....	.....	.....	.....	.....	.....	.....
Fostoria, Ohio.	10, 959	2	.....	.....	1	.....	.....	.....	.....	.....
Framingham, Mass.	14, 149	7	.....	.....	7	.....	2	.....	1	.....

1 Population Apr. 15, 1910.

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

City Reports for Week Ended May 31, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Frederick, Md.	11,225	5			1					
Freeport, Ill.	19,844	1			6		2			
Fremont, Ohio	11,034	4	3							
Fresno, Cal.	36,314	10							1	2
Galesburg, Ill.	24,629	5			9		1			
Galveston, Tex.	42,650	10							1	2
Gloversville, N. Y.	22,314	1	1		15				2	
Grand Rapids, Mich.	132,861	28	1	1	22		2		2	1
Great Falls, Mont.	113,948						4			
Greely, Colo.	11,942	4								
Green Bay, Wis.	30,017	10								
Greenfield, Mass.	12,251	8					2			
Greensboro, N. C.	20,171	8								1
Greenville, S. C.	18,574	2								
Greenwich, Conn.	19,594				1		1		3	
Hackensack, N. J.	17,412	2	1						2	
Hammond, Ind.	27,016	1			5					
Harrisburg, Pa.	73,276				57		2			
Harrison, N. J.	17,345								1	
Hartford, Conn.	112,831	26	3		6		4		3	1
Haverhill, Mass.	49,180	20	2		6				1	
Hazleton, Pa.	28,981				4					
Hibbing, Minn.	17,550		1							
High Point, N. C.	13,439				5					
Hoboken, N. J.	78,324	10	7		2				3	
Holland, Mich.	12,459	1								
Holyoke, Mass.	66,503	10	1	1			6			2
Houston, Tex.	116,878	48			3		1		1	7
Hudson, N. Y.	12,898	2								
Hutchinson, Kans.	21,461				1					
Independence, Mo.	11,964	3							1	1
Indianapolis, Ind.	283,622	60	5		28		7		50	12
Iowa City, Iowa	11,626	2	1							
Ironton, Ohio	14,079	2								
Ironwood, Mich.	15,095	8								2
Ithaca, N. Y.	16,017	2					5		1	
Janestown, N. Y.	37,431	16	6		4		3			1
Janesville, Wis.	14,411	9								
Jersey City, N. J.	312,557		19		3		6		7	
Johnstown, N. Y.	10,678	2								1
Johnstown, Pa.	30,473		5		16				2	
Joplin, Mo.	35,400	5								
Kalamazoo, Mich.	59,408	24			47	1	4		3	3
Kansas City, Kans.	102,096		1		1				8	
Kansas City, Mo.	305,516	79	5	1	20		4		3	2
Kearney, N. J.	24,325	5	2		1		4		2	
Keene, N. H.	10,725									1
Kenosha, Wis.	32,833	8	1		30		5			
Knoxville, Tenn.	59,112		1				4		2	1
Kokomo, Ind.	21,929	5					2			1
Lackawanna, N. Y.	16,219	7					1			
La Crosse, Wis.	31,833	10	2		4				1	2
La Fayette, Ind.	21,481	7	3		1					
Lancaster, Ohio	16,086	7					4			
Lancaster, Pa.	51,437						1			
Lawrence, Kans.	13,477	3							1	1
Lawrence, Mass.	102,923	14	12				6	1	3	3
Leavenworth, Kans.	19,363		2							
Leominster, Mass.	21,365	6	1		11		1		1	
Lexington, Ky.	41,997	21			32		1		1	5
Lima, Ohio	37,145	5	1		41		4			
Lincoln, Nebr.	46,957	8			1		1			
Little Rock, Ark.	58,716	12			1					3
Logansport, Ind.	21,338	4			1		2			
Long Beach, Calif.	29,163	11			1		1			
Long Branch, N. J.	15,733	3					1			
Lorain, Ohio	38,266	12	1						27	1
Los Angeles, Calif.	535,485	117	14	1	9		5		4	16
Louisville, Ky.	240,808	58	10		4		16		4	5
Lowell, Mass.	114,366	26	4		5		2		4	6
Lynchburg, Va.	33,497	7					2		2	

¹ Population Apr. 15, 1910.

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

City Reports for Week Ended May 31, 1919—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Lynn, Mass.	104,534	25	7	.....	34	.....	10	.....	3	2
McKeesport, Pa.	48,299	.....	.....	.....	10	.....	.....	.....	1	.....
Madison, Wis.	31,315	3	1	.....	20	.....	3	.....	.....	.....
Mahanoy City, Pa.	17,709	.....	2	.....	.....	.....	.....	.....	1	.....
Malden, Mass.	52,243	9	.....	.....	1	.....	3	.....	1	3
Manchester, Conn.	15,859	2	.....	.....	.....	.....	.....	.....	.....	.....
Manchester, N. H.	79,607	12	1	.....	.....	.....	1	.....	2	2
Manitowoc, Wis.	13,931	7	.....	.....	20	.....	.....	.....	.....	.....
Mankato, Minn.	10,365	6	1	.....	4	.....	.....	.....	.....	1
Marinette, Wis.	14,610	1	.....	.....	.....	.....	4	.....	.....	.....
Marion, Ind.	19,923	6	.....	.....	.....	.....	7	.....	.....	.....
Marion, Ohio.	24,129	.....	.....	.....	.....	.....	1	.....	.....	.....
Marlboro, Mass.	15,285	3	1	.....	.....	.....	.....	.....	1	.....
Marquette, Mich.	12,555	6	.....	.....	10	.....	.....	.....	.....	1
Martinsburg, W. Va.	12,984	.....	.....	.....	.....	.....	8	.....	.....	.....
Martins Ferry, Ohio.	10,135	1	.....	.....	.....	.....	.....	.....	.....	1
Mason City, Iowa.	14,938	5	.....	.....	.....	.....	.....	.....	.....	.....
Medford, Mass.	26,681	6	.....	.....	.....	.....	2	.....	1	.....
Melrose, Mass.	17,724	4	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn.	151,877	64	4	1	.....	.....	5	.....	8	9
Meriden, Conn.	29,431	.....	.....	.....	.....	.....	.....	.....	2	1
Methuen, Mass.	14,320	3	.....	.....	.....	.....	.....	.....	.....	.....
Middletown, N. Y.	15,890	.....	.....	.....	1	.....	.....	.....	4	.....
Middletown, Ohio.	16,384	4	.....	.....	.....	.....	.....	.....	.....	.....
Milwaukee, Wis.	445,008	79	20	1	8	.....	12	1	11	5
Minneapolis, Minn.	373,448	29	1	70	1	29	.....	29	12	.....
Mobile, Ala.	59,201	24	1	.....	1	.....	1	.....	.....	4
Moline, Ill.	27,978	2	9	.....	.....	.....	.....	.....	.....	.....
Monessen, Pa.	23,070	.....	1	.....	.....	.....	.....	.....	.....	.....
Montgomery, Ala.	44,039	17	.....	.....	.....	.....	.....	.....	.....	.....
Morgantown, W. Va.	14,444	1	.....	.....	1	.....	1	.....	1	.....
Morristown, N. J.	13,410	7	4	.....	.....	.....	.....	.....	.....	.....
Moundsville, W. Va.	11,513	4	.....	.....	.....	.....	.....	.....	.....	.....
Mount Carmel, Pa.	20,709	.....	1	.....	13	.....	.....	.....	2	.....
Mount Vernon, N. Y.	37,991	9	.....	.....	.....	.....	1	.....	1	1
Muscatine, Iowa.	17,713	.....	.....	.....	.....	.....	1	.....	.....	.....
Nashua, N. H.	27,541	6	1	.....	.....	.....	3	.....	.....	1
Nashville, Tenn.	118,136	44	.....	.....	11	.....	5	.....	7	4
Natick, Mass.	10,140	2	.....	.....	.....	.....	.....	.....	.....	.....
Newark, N. J.	418,789	97	37	1	11	.....	13	.....	29	16
Newark, Ohio.	30,317	11	1	.....	.....	.....	1	.....	1	1
New Bedford, Mass.	121,622	32	2	.....	6	.....	5	.....	11	6
New Britain, Conn.	55,385	11	1	.....	4	.....	4	.....	1	.....
New Brunswick, N. J.	25,855	.....	2	.....	.....	.....	.....	.....	.....	.....
Newburgh, N. Y.	29,893	10	1	.....	.....	.....	.....	.....	2	4
Newburyport, Mass.	15,291	5	.....	.....	1	.....	.....	.....	.....	.....
New Haven, Conn.	152,275	32	7	.....	15	.....	3	.....	8	1
New London, Conn.	21,199	4	1	.....	.....	.....	1	.....	.....	.....
New Orleans, La.	377,010	121	5	.....	1	.....	.....	.....	20	14
Newport, Ky.	32,133	.....	.....	.....	.....	.....	.....	.....	1	1
Newport, R. I.	30,585	5	.....	.....	.....	.....	1	.....	.....	.....
Newton, Mass.	44,345	10	.....	.....	.....	.....	1	.....	3	1
New York, N. Y.	5,737,492	1,302	290	35	279	3	88	4	252	156
Niagara Falls, N. Y.	38,466	13	.....	.....	3	.....	5	.....	1	2
Norfolk, Va.	91,148	.....	.....	.....	6	.....	.....	.....	2	5
Norristown, Pa.	31,969	.....	.....	.....	8	.....	1	.....	1	.....
North Adams, Mass.	122,019	3	1	.....	.....	.....	2	.....	.....	.....
Northampton, Mass.	20,006	5	.....	.....	.....	.....	1	.....	.....	.....
North Attleboro, Mass.	11,248	1	.....	.....	.....	.....	.....	.....	.....	.....
North Braddock, Pa.	15,684	.....	.....	.....	1	.....	2	.....	.....	.....
North Tonawanda, N. Y.	14,060	7	.....	.....	2	.....	.....	.....	.....	.....
Norwich, Conn.	21,923	1	.....	.....	.....	.....	.....	.....	.....	1
Norwood, Ohio.	23,269	5	.....	.....	15	.....	1	.....	1	.....
Oakland, Calif.	206,405	44	4	.....	3	.....	3	.....	4	2
Oak Park, Ill.	27,816	9	2	.....	47	.....	.....	.....	.....	.....
Oil City, Pa.	20,162	.....	1	.....	31	.....	.....	.....	.....	.....
Oklahoma City, Okla.	97,588	17	1	.....	.....	.....	7	.....	1	2
Old Forge, Pa.	15,479	.....	.....	.....	.....	.....	1	.....	.....	.....
Olean, N. Y.	16,927	8	.....	.....	.....	.....	.....	.....	.....	1
Omaha, Nebr.	177,777	38	1	1	42	.....	8	2	.....	2
Orange, Conn.	14,393	6	.....	.....	.....	.....	.....	.....	4	.....

1 Population Apr. 15, 1910.

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

City Reports for Week Ended May 31, 1919—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- cul sis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Orange, N. J.	33,636	8			1		2			
Oshkosh, Wis.	36,549	10								2
Parkersburg, W. Va.	21,059	8					5		1	
Pasadena, Calif.	49,620	9								
Passaic, N. J.	74,478	9					1			2
Paterson, N. J.	140,512		7		1		3		7	
Peekskill, N. Y.	19,034	1							8	
Pekin, Ill.	10,973		1		1					
Peoria, Ill.	72,184	18	6		2		1			2
Perth Amboy, N. J.	42,646	6			1					1
Philadelphia, Pa.	1,735,514	480	66	8	100	2	78	2	108	61
Phoenixville, Pa.	11,871				23					
Pine Bluff, Ark.	17,777						2			
Piqua, Ohio.	14,275	8					1			
Pittsburgh, Pa.	586,196		14		35		11		23	
Pittsfield, Mass.	39,673	16							1	1
Plainfield, N. J.	24,330	4		1			3			
Plymouth, Mass.	14,001	1								
Pocatello, Idaho.	12,806						1			
Pomona, Calif.	13,624	4								
Pontiac, Mich.	18,006		2		3				2	2
Port Chester, N. Y.	16,727	3					1			
Portland, Me.	64,720	14	1		1		6			3
Portland, Oreg.	308,399	56	2		5		11		17	2
Portsmouth, Va.	40,693	21	1						1	1
Pottstown, Pa.	16,987				16					
Providence, R. I.	259,895	61	10		1		6			10
Pueblo, Colo.	56,084	1					1		3	
Quincy, Ill.	36,832	7					2			
Quincy, Mass.	39,622	6					7			
Racine, Wis.	47,465	12			8					1
Rahway, N. J.	10,361	1								
Raleigh, N. C.	30,274	7							1	
Reading, Pa.	111,607		1		2					
Redlands, Calif.	14,573	4								1
Reno, Nev.	15,514	5			1		1			
Richmond, Va.	158,702	48	1		7		3		32	6
Riverside, Calif.	20,496	6								2
Roanoke, Va.	48,282	11			13		1		1	1
Rockford, Ill.	56,739	15			9	1	2			1
Rock Island, Ill.	29,452	6			2					
Rocky Mount, N. C.	12,673	6							2	2
Rome, N. Y.	24,259		1		2		1			
Rutland, Vt.	17,038	6								
Sacramento, Calif.	68,984	19	1				4			2
Saginaw, Mich.	56,469	12					4			
St. Cloud, Minn.	12,013		1							
St. Joseph, Mo.	86,498	27		1						1
St. Louis, Mo.	768,630	174	44	3	109	3	20	1	26	16
St. Paul, Minn.	252,465	57	50	4	91		10	1	8	8
Salem, Mass.	49,346	10	3				1		1	1
Salem, Oreg.	21,274	1								
Salt Lake City, Utah.	121,623	22	1	1			2			1
San Bernardino, Calif.	17,616	12								5
San Diego, Calif.	56,412	13			1		2			
Sandusky, Ohio.	20,226	8							2	
San Francisco, Calif.	471,023	39	7	1	2		1		28	14
San Jose, Calif.	39,810						2			1
Santa Barbara, Calif.	15,360	2								
Santa Cruz, Calif.	15,150	3								
Saratoga Springs, N. Y.	13,839	4							1	1
Saugus, Mass.	10,210	4			3		5		1	
Sault Ste. Marie, Mich.	14,130	3	1						1	1
Savannah, Ga.	69,250	31							2	4
Schnectady, N. Y.	103,774	10	3		4		5		3	
Scranton, Pa.	149,541		1				3		6	
Seattle, Wash.	366,445		6		19		10			
Shamokin, Pa.	21,274		4		34					
Sioux Falls, S. Dak.	16,887	6			2		4			
Somerville, Mass.	88,618	24	3	1			6		3	5
South Bend, Ind.	70,967	14	3		4					
Southbridge, Mass.	14,465	3								

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

City Reports for Week Ended May 31, 1919—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Spartanburg, S. C.	21,985	4							1	1
Spokane, Wash.	157,656		1		2		14			
Springfield, Ill.	62,623	16								
Springfield, Mass.	108,668	24			2		4		3	4
Springfield, Mo.	41,169	14								5
Springfield, Ohio.	52,296	12			5		1		1	3
Steelton, Pa.	15,759				4				1	
Steubenville, Ohio.	28,259	9								
Stockton, Calif.	30,209	23								3
Sunbury, Pa.	16,661				1					
Superior, Wis.	47,157	11					6			1
Syracuse, N. Y.	158,559		4	2			4		5	4
Tacoma, Wash.	117,446				3		5			
Taunton, Mass.	36,610	19	1		11		2		1	3
Terre Haute, Ind.	67,361	13							2	1
Tiffin, Ohio.	12,962	6	1						1	
Toledo, Ohio.	202,010	68	2		130	1	11		12	9
Topeka, Kans.	49,538	13	1							1
Trenton, N. J.	113,974	32	2		51	1	5		6	1
Troy, N. Y.	78,094	24	1	1			1		3	5
Tuscaloosa, Ala.	10,824	2	1						1	
Uniontown, Pa.	21,600				1					
Vallejo, Calif.	13,803	1								
Vancouver, Wash.	13,805		1							
Walla Walla, Wash.	26,067				1		2			
Waltham, Mass.	31,011	5			1					
Washington, D. C.	369,282		24	6	9		18		32	18
Waterbury, Conn.	89,201	3	4		30	1	6		3	1
Watertown, Mass.	15,188	4					1			
Wausau, Wis.	19,666	3					1			
West Chester, Pa.	13,403		1		7		4			
Westfield, Mass.	18,789	3					2		2	
West New York, N. J.	19,613	4	1						1	
Wheeling, W. Va.	43,657	8					4		2	
Wichita, Kans.	73,597	20	1		2		1		1	2
Wilkes-Barre, Pa.	78,334		1		13				3	3
Wilmington, Del.	95,369	21							1	
Wilmington, N. C.	30,400	15								
Winchester, Mass.	10,812	2								
Winston-Salem, N. C.	33,136	15			11				2	2
Winthrop, Mass.	13,105						1			
Woburn, Mass.	16,076	9								2
Worcester, Mass.	166,106	30	7		37		8		3	1
Yakima, Wash.	22,058				1		12			
Yonkers, N. Y.	103,066	33	3		5		2			5
York, Pa.	52,770		1		2		6		2	
Zanesville, Ohio.	31,320	10					1		2	1

FOREIGN.

AUSTRALIA.

Influenza—State of Victoria.

Under date of February 2, 1919, there were 1,241 cases of influenza reported in the State of Victoria, Australia. Estimated population, December 31, 1917, 1,411,004.

CUBA.

Communicable Diseases—Habana and Regla.

Communicable diseases have been notified at Habana and Regla as follows:

Disease.	Apr. 21-30, 1919.		Remain- ing under treat- ment Apr. 30, 1919.
	New cases.	Deaths.	
Influenza.....			3
Leprosy.....			17
Malaria.....	17	1	125
Paratyphoid fever.....			3
Scarlet fever.....			1
Typhoid fever.....	13	1	266

¹ From the interior, 19.

² From the interior, 29.

GREAT BRITAIN.

Influenza—Mortality, 1919—Birmingham.

Fatalities from influenza have been reported at Birmingham, England, as follows: Period from December 29, 1918, to January 25, 1919, 41; four weeks ended February 22, 128; four weeks ended March 29, 638; four weeks ended April 26, 131.

NETHERLANDS.

Typhus Fever—April, 1919.

During the month of April, 1919, 16 cases of typhus fever were notified in the Netherlands. Of these cases 2 occurred at Amsterdam, 4 at Naaldwijk, 9 at Rotterdam, and 1 at Wateringen. The total number of cases of typhus reported in the Netherlands to April 30, 1919, was 769.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended June 20, 1919. ¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Calcutta.....	Apr. 20-26.....	.....	277	
Rangoon.....	Apr. 6-19.....	8	9	
Indo-China:				
Saigon district.....	.....	.....	.....	Apr. 7-20, 1919: Cases, 111;
Cholon.....	Apr. 7-20.....	7	4	deaths, 76.
Saigon.....	do.....	10	10	
Java:				
East Java.....	.....	.....	.....	Mar. 12-Apr. 1, 1919: Cases, 415;
Surabaya.....	Mar. 12-Apr. 1.....	178	112	deaths, 248.
Mid-Java.....	.....	.....	.....	Mar. 7-27, 1919: Cases, 1,389;
.....	.....	.....	.....	deaths, 1,031.
West Java.....	.....	.....	.....	Mar. 28-Apr. 17, 1919: Cases, 12;
Batavia.....	Mar. 28-Apr. 17.....	4	1	deaths, 8.
Mesopotamia:				
Bagdad.....	Apr. 12-18.....	1	1	
Philippine Islands:				
Provinces.....	.....	.....	.....	Apr. 27-May 3, 1919: Cases, 87;
Batangas.....	Apr. 27-May 3.....	7	5	deaths, 72.
Laguna.....	do.....	38	31	
Pampanga.....	do.....	42	36	
Siam:				
Bangkok.....	Mar. 23-Apr. 5.....	6	2	

PLAGUE.

China:				
Hongkong.....	May 25-31.....	74	72	
Egypt:				
Cities.....	.....	.....	.....	Jan. 1-Apr. 24, 1919: Cases, 140;
Suez.....	Apr. 12-17.....	16	10	deaths, 103.
Provinces.....	.....	.....	.....	1 septicemic.
Assiout.....	Apr. 17.....	22	4	
Bent-Souef.....	Apr. 22.....	1	1	15 cases septicemic.
Minieh.....	do.....	1	1	
India:				
Calcutta.....	Apr. 20-26.....	.....	23	Apr. 6-12, 1919: Cases, 2,661;
Karachi.....	Apr. 20-May 7.....	54	36	deaths, 2,092.
Rangoon.....	May 6-19.....	73	69	
Indo-China:				
Saigon district.....	.....	.....	.....	Apr. 7-20, 1919: Cases, 16; deaths,
Cholon.....	Apr. 7-20.....	1	.....	7.
Saigon.....	do.....	1	.....
Java:				
East Java.....	.....	.....	.....	Mar. 12-Apr. 1, 1919: Cases, 59;
Surabaya.....	Mar. 12-Apr. 1.....	10	10	deaths, 59.
Mid-Java.....	.....	.....	.....	Mar. 21-27, 1919: Cases, 15; deaths,
Samarang.....	Mar. 21-27.....	7	7	15.
Mesopotamia:				
Bagdad.....	May 12-18.....	59	44	

SMALLPOX.

Brazil:				
Sao Paulo.....	Apr. 19-25.....	.....	2	
Canada:				
New Brunswick—	.....	.....	.....
Campbellton.....	Apr. 6-May 10.....	2	.....
Nova Scotia—	.....	.....	.....
Halifax.....	May 25-31.....	3	.....	Present in 4 other localities.
Sydney.....	May 17-24.....	1	.....
Quebec—	.....	.....	.....
Quebec.....	May 25-31.....	4	.....
China:				
Amoy.....	Apr. 8-14.....	.....	3	Apr. 15-28: Present.
Antung.....	May 5-11.....	1	.....
Canton.....	Apr. 20-May 3.....	.....	.....	Present.
Hongkong.....	Apr. 13-May 3.....	7	2	
Tientsin.....	May 4-10.....	1	.....
Denmark:				
Copenhagen.....	Apr. 6-May 3.....	20	.....

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 June 20, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Apr. 30-May 13....	44	9	
France:				
Paris.....	Apr. 20-May 3....	4		
Great Britain:				
London.....	Apr. 27-May 17....	4		
Southampton.....	May 18-24.....	1		
Greece:				
Saloniki.....	Apr. 6-May 10....		45	
India:				
Calcutta.....	Apr. 20-26.....		81	
Karachi.....	Apr. 20-May 3....	18	18	
Rangoon.....	Apr. 6-19.....	133	56	
Indo-China:				
Saigon district.....				Apr. 7-20, 1919: Cases, 33; deaths, 2.
Saigon.....	Apr. 7-20.....	1		
Italy:				
Castroreale.....	May 12-18.....	1	1	
Messina.....	do.....	3		
Milazzo.....	do.....	5	1	
Naples.....	do.....	29	31	
Japan:				
Kobe.....	Apr. 27-May 3....	34	15	
Taihoku.....	Apr. 23-29.....	1		
Tokyo.....	Apr. 26.....	1		
Yokohama.....	Apr. 21-27.....	1		
Java:				
West Java.....				Mar. 25-Apr. 7, 1919: Cases, 124; deaths, 35.
Batavia.....	Mar. 28-Apr. 17...	5	4	
Newfoundland:				
St. Johns.....	May 24-30.....	1		
Tunis:				
Tunis.....	May 2-8.....	4		

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Apr. 30-May 13....	242	57	
Great Britain:				
Liverpool.....	May 11-17.....	1		From vessel.
Greece:				
Saloniki.....	Apr. 6-May 10....		10	
Italy:				
Province—				
Aquila.....	Apr. 28-May 4....	24		One locality. Prisoners of war.
Arezzo.....	do.....	1		One locality. Military.
Avellino.....	do.....	1		One locality. Civil.
Bari.....	do.....	1		One locality. Military.
Caltanissetta.....	do.....	1		One locality. Prisoner.
Caserta.....	do.....	85		One locality. 7 military, 78 prisoners.
Florence.....	do.....	1		One locality. Prisoner.
Genoa.....	do.....	6		One locality. Prisoners.
Naples.....	do.....	6		One locality. Civil; 1 prisoner.
Pisa.....	do.....	4		One locality. Prisoners.
Porto Maurizio.....	do.....	1		One locality. Military.
Reggio Calabria.....	do.....	1		One locality. Civil.
Rome.....	do.....	17		One locality. Prisoners.
Salerno.....	do.....	5		Do.
Udine.....	do.....	2		Do.
Venice.....	do.....	8		Do.
Japan:				
Nagasaki.....	do.....	15	1	
Netherlands:				
Amsterdam.....	Apr. 6-12.....	2		
Naaldwijk.....	Mar. 30-Apr. 19...	4		
Rotterdam.....	Apr. 1-30.....	9		
Wateringen.....	Mar. 30-Apr. 5....	1		
Russia:				
Archangel.....	Apr. 1-15.....	1	2	
Tunis:				
Tunis.....	May 2-8.....	2		

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

Reports Received from Dec. 23, 1913, to June 13, 1915.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombia.....	Nov. 17-30.....	4	5	
China:				
Swatow.....	June 3.....			Present.
Germany:				
Berlin.....	To Oct. 5.....	17	11	
Bremen.....	Oct. 13-19.....	1		On a barge.
Marienwerder.....				1 case in October, 1913, on a barge in canal.
India:				
Bombay.....	Aug. 18-Dec. 28.....	1,351	1,031	
Do.....	Dec. 29-Mar. 22.....	9,691	8,529	
Calcutta.....	Sept. 20-Dec. 21.....		241	Reports for weeks ended Nov. 23 1913, and Mar. 23, 1915, missing.
Do.....	Dec. 29-Apr. 19.....		1,633	
Karachi.....	Jan. 25-Mar. 22.....	3	3	
Madras.....	Oct. 5-Dec. 23.....	264	184	Oct. 27-Nov. 2, 1912: Cases, 9; deaths, 4.
Do.....	Jan. 5-Apr. 19.....	439	306	
Rangoon.....	Oct. 5-Dec. 21.....	35	35	
Do.....	Dec. 29-Apr. 5.....	57	45	
Indo-China:				July 1-Oct. 31, 1913: Cases, 753; deaths, 472.
Anam.....	July 1-Aug. 31.....	37	30	
Cambodia.....	July 1-Oct. 31.....	224	171	
Cochin China.....	do.....	436	337	
Salgon.....	Oct. 7-Dec. 22.....	75	45	
Do.....	Dec. 3-Apr. 6.....	563	343	
Kwang-Chow-Wan.....	July 1-31.....	59	34	
Tonkin.....	July 1-Oct. 31.....	6		
Java:				
East Java.....				Oct. 7-Dec. 31, 1913: Cases, 381; deaths, 323. Jan. 1-Mar. 27, 1915: Cases, 756; deaths, 719.
Surabaya district.....	Oct. 7-Dec. 31.....	655	423	
Do.....	Jan. 1-Mar. 17.....	387	282	Sept. 25-Dec. 13, 1913: Cases, 3,232; deaths, 2,014. Jan. 24-Mar. 14, 1915: Cases, 1,966; deaths, 1,503.
Mid-Java.....				Oct. 3-Dec. 11, 1913: Cases, 412; deaths, 238. Dec. 27, 1913-Mar. 13, 1915: Cases, 12; deaths, 2.
Samarang.....	Sept. 28-Oct. 16.....	120	111	
West Java.....				
Batavia.....	Oct. 3-Dec. 11.....	291	148	
Do.....	Dec. 27-Mar. 3.....	8	2	
Cheribon.....	Jan. 3-Mar. 3.....	3		
Mesopotamia:				
Bagdad.....	Oct. 11-18.....	8		
Philippine Islands:				
Manila.....	Sept. 22-Dec. 23.....	209	135	
Do.....	Dec. 29-Apr. 19.....	51	22	Nov. 2-Dec. 23, 1913: Cases, 1,626; deaths, 1,515. Dec. 29, 1913-Apr. 19, 1915: Cases, 1,454; deaths, 1,022.
Provinces:				
Albay.....	Dec. 15-21.....	1	1	
Amboan Camarines.....	Feb. 15-21.....	10	2	
Batman.....	Nov. 17-Dec. 28.....	38	32	
Batangas.....	Nov. 2-Dec. 23.....	258	230	
Do.....	Dec. 29-Apr. 19.....	90	66	
Behol.....	Nov. 2-Dec. 23.....	29	24	
Do.....	Dec. 29-Mar. 29.....	83	55	
Do.....	Apr. 6-12.....	10	6	
Bulacan.....	Oct. 12-Dec. 23.....	51	8	
Do.....	Dec. 23-Feb. 21.....	42	26	
Capiz.....	Dec. 22-23.....	7	5	
Do.....	Jan. 5-25.....	29	14	
Cavite.....	Oct. 27-Dec. 21.....	207	115	
Do.....	Dec. 29-Apr. 19.....	13	17	
Cebu.....	Nov. 10-Dec. 21.....	50	27	
Do.....	Jan. 12-Apr. 19.....	29	15	
Ilocos Sur.....	Dec. 8-23.....	17	8	
Do.....	Dec. 29-Feb. 15.....	56	38	
Iloilo.....	Oct. 27-Dec. 21.....	112	78	
Do.....	Jan. 5-Mar. 29.....	194	125	
Laguna.....	Oct. 27-Dec. 23.....	18	11	
Do.....	Dec. 29-Apr. 19.....	182	145	
Lanao.....	Jan. 5-11.....	8	4	
Mindoro.....	Nov. 21-30.....	7	14	
Misamis.....	Oct. 27-Nov. 2.....	6	5	
Do.....	Nov. 17-Dec. 23.....	75	48	
Do.....	Jan. 5-Mar. 29.....	194	86	
Nueva Ecija.....	Jan. 12-25.....	9	6	
Occidental Negros.....	Feb. 2-Mar. 21.....	8	5	
Oriental Negros.....	Nov. 2-Dec. 7.....	32	18	
Do.....	Jan. 5-Feb. 8.....	33	22	

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

Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands—Contd.				
Provinces—Continued.				
Pampanga.....	Nov. 24-Dec. 14....	4	4	
Do.....	Jan. 5-Apr. 19.....	118	83	
Pangasinan.....	Nov. 2-Dec. 28.....	930	652	
Do.....	Dec. 29-Apr. 19.....	169	131	
Rizal.....	Oct. 27-Nov. 2.....	3	1	
Do.....	Nov. 24-30.....	16	5	
Samar.....	Dec. 15-21.....	8	1	
Sorsogon.....	Nov. 17-23.....	8	4	
Do.....	Jan. 19-Feb. 8.....	44	36	
Tayabas.....	Nov. 3-Dec. 28.....	60	40	
Do.....	Dec. 29-Feb. 15.....	69	62	
Union.....	Nov. 2-Dec. 28.....	18	14	
Zamboanga.....	Dec. 8-28.....	27	19	
Do.....	Jan. 5-Feb. 8.....	25	21	
Poland:				
Plonsk district.....	Oct. 2-Nov. 27.....	5	-----	
Warsaw.....	Sept. 29-Oct. 26....	5	1	
Russia:				
Petrograd.....	To July 16.....	3,388	1,054	In civil and military hospitals. In military hospitals, July 5-Aug. 21, 1918: Cases, 884; deaths, 783. In municipal hospitals, Oct. 1, 1918: Cases, 279.
Do.....	July 17-Sept. 11....	3,479	1,455	
Ukraine:				
Ekaterinaslav.....	Sept. 1-20.....	7	6	
Odesa.....	do.....	25	-----	Sept. 1-20, 1918: 11 cases on s. s. Helena.

PLAGUE.

Brazil:				
Porto Alegre.....	.....	.....	.....	Present in April, 1919.
Ceylon:				
Colombo.....	Oct. 27-Nov. 2.....	1	1	
Do.....	Feb. 9-Apr. 5.....	14	10	
China:				
Amoy.....	Nov. 24-Dec. 8.....	.....	.....	Do.
Chungking.....	Dec. 1-7.....	.....	.....	Do.
Hing-Ning district.....	Mar. 15.....	.....	.....	Do.
Hongkong.....	Oct. 1-Dec. 28.....	4	4	
Do.....	Jan. 1-Apr. 5.....	44	39	May 4-17, 1919: Deaths, 65. May 18-31, 1919: Cases, 71. June 1-6, 1919: Cases, 41; deaths, 37.
Ecuador:				
Duran.....	Feb. 16-Mar. 16.....	2	1	
Guayaquil.....	July 1-Dec. 31.....	20	7	
Do.....	Jan. 1-Apr. 30.....	55	17	
Taura.....	Dec. 16-31.....	1	1	
Egypt:				
Cities—				
Alexandria.....	Mar. 23.....	1	1	Jan. 1-Nov. 21, 1918: Cases, 357; deaths, 153. Jan. 1-May 1, 1919: Cases, 202; deaths, 144.
Suez.....	Jan. 31-Apr. 29.....	57	34	
Provinces—				
Assiout.....	Feb. 24-Apr. 5.....	.....	9	1 septicemic.
Fayoum.....	Apr. 26.....	13	3	
Girgeh.....	Feb. 22-Mar. 22.....	10	5	2 pneumonic.
Minieh.....	Feb. 21-27.....	2	2	1 pneumonic.
India:				
Bombay.....	Aug. 18-Dec. 28.....	41	29	Sept. 23-Dec. 23, 1918: Cases, 24,279; deaths, 18,369. Dec. 29, 1918-Mar. 1, 1919: Cases, 25,506; deaths, 19,401. Mar. 9-15, 1919: Cases, 13,981; deaths, 5,402. Mar. 30-Apr. 5, 1919: Cases, 4,193; deaths, 3,453.
Do.....	Jan. 12-Mar. 22.....	68	52	
Calcutta.....	Dec. 22-28.....	.....	1	
Do.....	Jan. 12-Apr. 19.....	.....	145	
Karachi.....	Oct. 19-Dec. 28.....	17	17	
Do.....	Dec. 29-Apr. 19.....	73	60	
Madras.....	Dec. 8-28.....	26	17	
Do.....	Dec. 29-Apr. 5.....	206	117	
Madras Presidency.....	Oct. 13-Dec. 28.....	1,152	774	Oct. 27-Nov. 2, 1918: Cases, 142; deaths, 33.
Do.....	Dec. 29-Apr. 19.....	2,583	1,743	
Rangoon.....	Oct. 5-Dec. 21.....	84	81	
Do.....	Dec. 29-Apr. 5.....	315	303	

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

Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Indo-China.....				July 1-Oct. 21, 1918: Cases, 161; deaths, 145.
Anam.....	July 1-Oct. 31.....	42	36	
Cambodia.....	do.....	72	72	
Cochin-China.....	do.....	65	35	
Saigon.....	Oct. 7-Nov. 24.....	5	1	
Do.....	Jan. 13-Apr. 6.....	23	19	City and vicinity.
Kwang-Chow-Wan.....	July 1-31.....	1	1	
Java:				
East Java.....				Oct. 7-Nov. 18, 1918: Cases, 109; deaths, 109. Jan. 1-Feb. 25, 1919: Cases, 178; deaths, 179.
Surabaya (district).....	Oct. 7-Dec. 31.....	92	92	
Do.....	Jan. 1-Feb. 25.....	49	49	
Mid-Java.....				Sept. 25-Oct. 16, 1918: Cases, 14; deaths, 14. Jan. 30-May 14, 1919: Cases, 205; deaths, 205.
Samarang.....	Sept. 25-Oct. 16.....	6	6	
Mesopotamia:				
Bagdad.....	Nov. 16-29.....	5	2	
Do.....	Feb. 22-Apr. 11.....	163	89	
Siam:				
Bangkok.....	Sept. 21-Oct. 12.....	6	5	
Do.....	Jan. 19-Feb. 22.....	7	6	
Venezuela:				
Caracas.....	Dec. 30.....	1		
On vessel:				
S. S. Japan.....	Jan. 14.....	1	1	At Suez quarantine station from Bombay.
S. S. Sparta.....	May 21.....	1	1	At Liverpool, England, from Bombay.

SMALLPOX.

Algeria:				
Algiers.....	Oct. 1-Dec. 31.....	2	1	
Do.....	Mar. 1-31.....	1	1	
Arabia:				
Aden.....	Apr. 14-21.....		1	
Austria:				Dec. 1, 1918-Jan. 11, 1919: Cases, 68. Jan. 12-Mar. 15, 1919: Cases, 154.
Vienna.....	Dec. 1-Jan. 11.....	6		
Do.....	Feb. 9-Mar. 15.....	28		
Bohemia:				Feb., 1919: Reported prevalent
Gablonz.....	Feb.-Mar.....	974	19	Mar., 1919: Cases, 57.
Brazil:				
Bahia.....	Mar. 30-Apr. 5.....	5		
Rio de Janeiro.....	Dec. 1-28.....	46	19	Oct. 6-12, 1918: Cases, 15; deaths, 10.
Do.....	Dec. 30-Mar. 22.....	42	19	
Sao Paulo.....	Mar. 3-16.....		2	
British East Africa:				
Mombasa.....	Sept. 1-Nov. 30.....	6	1	
Canada:				
New Brunswick—				
Campbellton.....	Dec. 22-28.....	1		
Do.....	Jan. 5-18.....	2		
St. John.....	Nov. 8-14.....	3		
Do.....	Jan. 26-Feb. 22.....	6		
Nova Scotia—				
Bear River.....	Dec. 29-Jan. 4.....			Present.
Higbee.....	Jan. 10.....			Do.
Cape Sable Island.....	May 13.....			Present on south side.
Digby.....	Jan. 4.....			Present.
Halifax.....	Dec. 7-28.....	10		
Do.....	Jan. 5-May 24.....	378		Present in 20 other localities.
Middleton.....	Dec. 29-Jan. 4.....			Present.
Sydney.....	Jan. 5-Mar. 8.....	4		
Do.....	Mar. 23-May 10.....	10		
Ontario:				
North Bay.....	Jan. 19-25.....	1		
Ottawa.....	Jan. 12-May 31.....	14		
Toronto.....	Feb. 2-15.....	2		
Do.....	Mar. 16-22.....	1		
Prince Edward Island—				
Charlotte Town.....	Feb. 27-Apr. 16.....	2		
Quebec:				
Montreal.....	Jan. 24-Dec. 21.....	2		
Do.....	Jan. 12-May 10.....	32		
Paspébiac.....	Jan. 12-Mar. 8.....	8		
Quebec.....	Dec. 15-21.....	1		
Do.....	Dec. 29-May 24.....	27		

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

Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo.....	Jan. 12-Apr. 5....	5	.....
China:				
Amoy.....	Oct. 13-Dec. 28....	.....	.....	Present.
Do.....	Mar. 11-Apr. 12....	4	3	Do.
Antung.....	Feb. 10-16.....	1	.....
Do.....	Feb. 24-Mar. 2....	1	.....
Canton.....	Nov. 17-23.....	.....	.....	Do.
Do.....	Feb. 9-15.....	.....	.....	Do.
Changsha.....	Mar. 16-Apr. 12....	5	.....
Chungking.....	Nov. 10-Dec. 23....	.....	.....	Do.
Do.....	Jan. 5-Apr. 19....	.....	.....	Do.
Foochow.....	Nov. 21-Dec. 23....	.....	.....	Do.
Do.....	Dec. 29-Apr. 5....	.....	.....	Do.
Hankow.....	Apr. 13-19.....	1	.....
Hongkong.....	Dec. 15-21.....	1	1	
Do.....	Feb. 2-8.....	1	.....
Do.....	Feb. 16-Apr. 12....	9	3	
Nanking.....	Dec. 1-28.....	.....	.....	Do.
Do.....	Dec. 29-Apr. 26....	.....	.....	Do.
Shanghai.....	Jan. 20-26.....	1	.....
Tsingtao.....	Mar. 3-9.....	2	.....
Chosen (Korea):				
Chemulpo.....	Nov. 1-Dec. 31....	15	4	
Do.....	Jan. 1-Mar. 31....	16	7	
Fusan.....	Feb. 1-Mar. 31....	20	16	
Seoul.....	Feb. 1-Mar. 31....	3	1	
Colombia:				
Barranquilla.....	Apr. 6-12.....	.....	1	
Denmark:				
Copenhagen.....	Nov. 9-Dec. 28....	12	.....
Do.....	Dec. 29-Apr. 5....	101	.....
Egypt:				
Alexandria.....	Dec. 17-23.....	1	1	
Do.....	Jan. 22-Apr. 29....	36	15	
Finland:				Jan. 1-Apr. 15, 1919: Cases, 936.
Provinces:				
Abo Och Björneborg.....	Jan. 1-Apr. 15....	91	.....
Kuopio.....	do.....	188	.....
Nyland.....	do.....	25	.....
St. Michael.....	do.....	135	.....
Tavastehus.....	do.....	16	.....
Aleaborg.....	do.....	1	.....
Vasa.....	do.....	16	.....
Viborg.....	do.....	464	.....
France:				
Bordeaux.....	Feb. 8-13.....	.....	1	
Brest.....	Feb. 2-8.....	1	.....
Paris.....	Mar. 2-Apr. 19....	13	3	
Germany:				Nov. 24-Dec. 7, 1918: Cases, 34.
Dresden.....	Nov. 24-Dec. 7....	18	.....	Dec. 8, 1918-June 11, 1919:
Halle.....	do.....	4	.....	Cases, 177. Additional cases
Friedland.....	do.....	1	.....	reported later, 54, for week
				ended Jan. 11. Feb. 16-Mar.
				22, 1919: Cases, 230; among
				soldiers and prisoners of war,
				745 cases.
Königsberg.....	do.....	8	.....	In persons evacuated from the
Schkeuditz.....	do.....	1	.....	Ukraine.
Tilsit.....	do.....	1	.....
Torgau.....	do.....	1	.....
Aix-la-Chapelle (district).....	Dec. 8-Jan. 11....	17	.....
Cassel.....	do.....	10	.....
Danzig.....	do.....	3	.....
Doristhal.....	do.....	8	.....	District of Gumbinnen.
Dresden.....	Dec. 8-Feb. 15....	247	.....	26 additional cases reported later
Halle.....	Dec. 8-Jan. 11....	5	.....	at Dresden.
Hanover.....	do.....	7	.....	Among interned Russians.
Königsberg.....	do.....	15	.....
Kottowitz.....	do.....	5	.....
Meyrode.....	do.....	6	.....
Riesa.....	do.....	4	.....	District of Dresden.
Great Britain:				
Liverpool.....	Jan. 28-Mar. 15....	7	.....	Of these, 2 from vessels.
London.....	Mar. 9-Apr. 26....	13	2	

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.****SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Greece:				
Saloniki.....	Feb. 2-Apr. 5.....		42	○
India:				
Bombay.....	Aug. 18-Dec. 28.....	35	8	
Do.....	Dec. 28-Mar. 22.....	430	179	
Calcutta.....	Sept. 29-Dec. 23.....		17	Reports for weeks ended Nov. 23,
Do.....	Dec. 29-Apr. 12.....		606	1918, and Mar. 29, 1919, missing.
Karachi.....	Sept. 29-Dec. 28.....	13	4	
Do.....	Dec. 29-Apr. 19.....	159	68	
Madras.....	Oct. 5-Dec. 28.....	62	40	
Do.....	Dec. 29-Apr. 19.....	295	131	
Rangoon.....	Oct. 20-Dec. 21.....	32	6	
Do.....	Dec. 29-Apr. 5.....	1,012	404	
Indo-China:				
Anam.....	July 1-Oct. 31.....	146	67	
Cambodia.....	Aug. 1-Oct. 31.....	165	74	July 1-Oct. 31, 1918: Cases, 620;
Cochin-China.....	July 1-Oct. 31.....	400	112	deaths, 254.
Saigon.....	Oct. 7-Dec. 22.....	20	5	
Do.....	Dec. 30-Apr. 6.....	119	21	City and vicinity.
Tonkin.....	July 1-Oct. 31.....	20	1	
Italy:				
Andria.....	Mar. 10-16.....	1		Province of Bari.
Barletta.....	Mar. 3-9.....	2		Do.
Genoa.....	Jan. 9-Mar. 15.....	4	2	
Locce (Province).....	Feb. 17-23.....	2		
Leghorn.....	Apr. 14-30.....	1		
Messina.....	Mar. 2-30.....	4		Cases reported in several local-
Naples.....	Mar. 10-May 11.....	55	31	ties in Province.
Palermo.....	Jan. 31-Apr. 16.....	53	2	
Turin.....	Jan. 27-Mar. 23.....	9	2	
Japan:				
Kobe.....	Oct. 26-Dec. 28.....	186	46	
Do.....	Dec. 29-Apr. 26.....	596	205	
Nagasaki.....	Mar. 31-Apr. 6.....	3		
Nagoya.....	Mar. 2-15.....	2		
Taihoku.....	Jan. 15-Apr. 15.....	151	18	Island of Formosa.
Yokohama.....	Jan. 20-26.....	1		
Java:				
East Java.....				Oct. 7-Dec. 31, 1918: Cases, 22;
Surabaya (district).....	Oct. 7-Dec. 31.....	16		deaths, 1. Jan. 1-Feb. 25, 1919:
Do.....	Jan. 1-Feb. 25.....	4	2	Cases, 4; deaths, 3.
Mid-Java.....				Sept. 25-Dec. 18, 1918: Cases, 172;
				deaths, 3. Jan. 24-30, 1919:
				Case, 1.
West Java.....				Oct. 2-Dec. 11, 1918: Cases, 800;
Batavia.....	Oct. 2-Dec. 11.....	185	151	deaths, 263. Dec. 27, 1918-
Do.....	Dec. 27-Mar. 27.....	49	27	Mar. 27, 1919: Cases, 586;
				deaths, 118.
				Sept. 1-Oct. 16, 1918: Cases, 44.
Lithuania.....				
Manchuria:				
Dairen.....	Jan. 15-21.....	1		
Do.....	Feb. 22-Apr. 28.....	5	2	
Mesopotamia:				
Bagdad.....	Oct. 11-Dec. 27.....	308	97	
Do.....	Dec. 28-Feb. 9.....	8		
Mexico:				
Ciudad Juarez.....	Nov. 24-30.....	1		
Guadaluajara.....	Mar. 1-31.....	1		
Do.....	Mar. 29-Apr. 30.....	1		
Mexico City.....	Sept. 22-Dec. 28.....	28		
Do.....	Dec. 29-May 3.....	28		
Vera Cruz.....	Feb. 10-Apr. 12.....	2	1	
Newfoundland:				
St. Johns.....	Dec. 6-20.....	4		Outports—Dec. 6-27, 1918: Cases,
Do.....	Jan. 24-May 22.....	50		78. Dec. 28, 1918-May 22, 1919:
				Cases, 333.
Panama:				
Colon.....	Dec. 15-21.....	1		Aug. 1-31, 1918: Cases, 123, oc-
Do.....	Dec. 29-Feb. 9.....	8		curring at Colon, Panama, and
				points in the interior. Jan.
				1-25, 1919: Cases, 28.
Philippine Islands:				
Manila.....	Nov. 2-16.....	5	3	
Do.....	Dec. 29-Apr. 19.....	43	22	Variceloid, 16.
Portugal:				
Lisbon.....	Nov. 16-Dec. 28.....	843		
Oporto.....	Mar. 9-May 10.....	143	96	

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

Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Portuguese East Africa: Lourenco Marques.....				July 1-Oct. 31, 1918: 45 fatal cases
Siberia: Vladivostok.....	Nov. 1-3.....	4		
Do.....	Jan. 17-23.....		1	
Do.....	Feb. 1-Mar. 15.....	16	1	
Spain: Barcelona.....	Jan. 9-Feb. 11.....		5	
Do.....	Feb. 19-Apr. 16.....	6	2	
Bilbao.....	Jan. 1-Feb. 20.....	6		
Cadiz.....	Oct. 1-Dec. 31.....	18		
Do.....	Jan. 1-Mar. 31.....		35	
Madrid.....	Sept. 1-Oct. 31.....	153		
Do.....	Jan. 1-Mar. 31.....		81	
Seville.....	Nov. 1-Dec. 31.....		8	
Do.....	Jan. 1-Mar. 31.....		5	
Valencia.....	Nov. 10-Dec. 31.....	40	9	
Do.....	Dec. 29-Jan. 25.....	93	10	
Do.....	Feb. 16-Apr. 26.....	516	45	
Straits Settlements: Penang.....	Oct. 6-12.....	1		
Singapore.....	Feb. 2-22.....	3		
Sweden: Stockholm.....	Feb. 2-8.....		1	
Tunis: Tunis.....	Apr. 26-May 1.....	1	1	
Union of South Africa: Cape Town.....	Aug. 1-30.....	1		Nov. 1-30: Cases, 4.
Do.....	Dec. 21-Jan. 31.....	1		
Johannesburg.....	Aug. 1-Oct. 31.....	12		
On vessels: S. S. Euripides.....	Mar. 21.....	1		From England via Suez and Colombo. Case removed at Colombo. Vessel arrived Fremantle, Australia, Apr. 10.
S. S. Port Sydney.....	Mar. 13.....	1	1	From Egypt to Australia via Colombo. Arrived Fremantle Mar. 31.
S. S. Ulmaroa.....	Mar. 26.....	1		From Egypt via Colombo. Case developed after arrival at Colombo. Vessel arrived at Fremantle, Australia, Apr. 8.

TYPHUS FEVER.

Algeria: Algiers.....	Nov. 1-30.....	1		Dec. 1, 1918-Jan. 11, 1919: Cases, 125. Jan. 12-Mar. 15, 1919: Cases, 479. Occurring almost exclusively in repatriated soldiers and their contacts.
Austria: Vienna.....	Dec. 1-Jan. 11.....	110		
Do.....	Jan. 12-Mar. 15.....	410		
Brazil: Ceara.....	Sept. 14-21.....	1		
Rio de Janeiro.....	Dec. 15-22.....	2		Present. Do.
Do.....	Dec. 29-Feb. 22.....	29	3	
Sao Paulo.....	Jan. 13-19.....	3		
Bulgaria: Aeteven.....	Mar. 10.....			
Rustchuk.....	do.....			
China: Antung.....	Dec. 2-15.....	2		
Do.....	Jan. 6-Apr. 20.....	3	1	
Chosen (Korea): Fusan.....	Feb. 1-23.....	1	1	
Seoul.....	Jan. 1-Feb. 28.....	12	1	
Colombia: Barranquilla.....	Nov. 8-Dec. 28.....		2	
Do.....	Jan. 5-Mar. 8.....	2	3	

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

Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Oct. 14, Dec. 31...	85	36	
Do.....	Jan. 1-Apr. 29....	725	188	Confined to one quarter of city and mostly to natives. Oct. 20-Nov. 7, 1918: Cases, 12; deaths, 1.
Finland:				Jan. 1-Apr. 15, 1919: Cases, 80.
Provinces—				
ÅlÖ Och Björneborg...	Jan. 1-Apr. 15....	61		
Nyland.....	do.....	17		
Uleaborg.....	Mar. 1-31.....	1		
Viborg.....	Apr. 1-15.....	1		
France:				
Marseille.....	Mar. 1-31.....			Apr. 26, 1919, present in 2 civil and 2 military prisons.
Germany:				
Breslau.....	Sept. 29-Oct. 19...	12	8	
Gumbinnen district.....	Oct. 20-Nov. 7....	1		
Dresden.....	do.....	1		
Griefswald.....	do.....	1		
Godullahutte.....	do.....	1		
Königsberg.....	Sept. 29-Oct. 19...	3	1	
Königshutte.....	Oct. 20-Nov. 7....	1	1	
Magdeburg.....	do.....	2		
Mostalten.....	Sept. 29-Oct. 19...	7	2	District of Allenstein.
Oppeln district.....	Oct. 20-Nov. 7....	5		
Great Britain:				
Cork.....	Feb. 2-Mar. 22....	4	1	
Glasgow.....	Dec. 22-23.....	5		
Do.....	Jan. 5-Feb. 8....	9	1	
Do.....	Mar. 9-15.....	1		
Greece:				
Athens.....	Mar. 8.....	2	2	
Saloniki.....	Sept. 29-Dec. 21...		34	
Do.....	Dec. 29-Apr. 5....		107	
Hungary:				
Budapest.....	Sept. 3-Nov. 26...	75	2	Sept. 9-Nov. 26, 1918: Cases, 110; deaths, 8. Nov. 27, 1918-Feb. 2, 1919: Cases, 473.
Do.....	Jan. 13-Feb. 2....	131	7	Nov. 27, 1918-Jan. 12, 1919: Cases, 159.
Debreczin.....	Jan. 20-Feb. 2....	42		
Pressburg.....	Sept. 29-Nov. 6....	11	1	
Szatmarnemeti.....	Nov. 4-26.....	1		Present in county of Bihar.
Tyrnau.....	do.....	1		
Italy:				
Arezzo Province.....	Apr. 7-13.....	4		At Arezzo.
Bari.....	Feb. 3-9.....	19		In soldiers returning from Black Sea.
Belluno Province.....	Apr. 7-13.....	1		
Florence.....	do.....	21		
Leghorn.....	Apr. 14-27.....	9	2	
Naples.....	Feb. 3-May 11.....	9		
Novara Province.....	Apr. 7-13.....	1		
Taranto.....	Feb. 3-Apr. 13....	4		
Udine Province.....	Apr. 7-13.....	13		At Cividale, 11 cases; at Udine, 2.
Japan:				
Nagasaki.....	Nov. 10-Dec. 29...	13	4	
Do.....	Dec. 30-Apr. 20...	38	5	
Java:				
East Java.....				Oct. 7-21, 1918: Cases, 5.
Surabaya.....	Oct. 7-21.....	4		
Mid-Java.....				Sept. 25-Oct. 16, 1918: Cases, 3.
West Java.....				Oct. 2-23: Cases, 31; deaths, 6.
Batavia.....	Oct. 2-23.....	15	4	
Lithuania.....				Sept. 1-Oct. 26, 1918: Cases, 539; deaths, 26.
Macedonia:				
Drama.....	Mar. 17.....			Present.
Epirus.....	Mar. 21.....			Do.
Kavala.....	Mar. 17.....	300		Estimated.
Mesopotamia:				
Bagdad.....	Oct. 5-Dec. 27....	2		
Do.....	Dec. 28-Apr. 11...	15	2	

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

Reports Received from Dec. 28, 1918, to June 13, 1919—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Aguascalientes.....	Feb. 2-23.....		3	
Do.....	Mar. 24-Apr. 13.....		4	
Guadalajara.....	Nov. 1-Dec. 31.....	4	1	
Do.....	Jan. 1-Apr. 30.....	9	5	
Mexico City.....	Sept. 22-Dec. 28.....	434		
Do.....	Dec. 29-May 3.....	644		
Netherlands:				
Amsterdam.....	Dec. 8-14.....	1		
Do.....	Jan. 12-Apr. 12.....	6		
Delft.....	Feb. 26.....			Present.
Harlem.....	do.....			Do.
Leiden.....	do.....			Do.
Limburg.....	do.....	5	1	Mining district.
Rotterdam.....	Feb. 2-Apr. 12.....	507	90	Jan. 30-Feb. 27, 1919: Cases, 462; deaths, 46.
Schiedam.....	Feb. 26.....			Present. Sept. 29-Oct. 26, 1918: Cases, 572; deaths, 50.
Poland:				
Lodz.....	Sept. 29-Oct. 26.....	55	8	
Warsaw.....	do.....	111	13	
Portugal:				
Braga.....	Mar. 24.....			
Oporto.....	Mar. 8-May 10.....	889		
Russia:				
Archangel.....	Jan. 15-Mar. 15.....	233	61	
Serbia:				
Belgrade.....	Feb. 5.....	62		Among soldiers and prisoners.
Siberia:				
Vladivostok.....	Sept. 1-Dec. 30.....	43		
Do.....	Jan. 17-Mar. 15.....	143	15	
Spain:				
Huelva.....	Oct. 1-31.....		2	
Madrid.....	Dec. 1-31.....		1	
Tunis:				
Tunis.....	Apr. 12-May 1.....	2	2	
Ukraine:				
Ukraine.....				Apr. 5, 1919: Reported to be spreading.
Union of South Africa:				
Port Elizabeth.....	Sept. 14-28.....			Present among natives in several interior towns.

YELLOW FEVER.

Brazil:				
Bahia.....	Jan. 12-Mar. 1.....	5	2	
Pernambuco.....	Oct. 1-Nov. 30.....	2	1	
Colombia:				
Cartagena.....	Jan. 29-Feb. 4.....		4	
Ecuador:				
Babahoyo.....	Nov. 1-30.....	1		
Do.....	Mar. 1-15.....	1		
Catarama.....	Feb. 1-15.....	1		
Chobo.....	Jan. 1-15.....	1		
Daule.....	do.....	1	1	
Duran.....	Nov. 1-Dec. 31.....	3	2	
Do.....	Jan. 16-Mar. 15.....	5	1	
Guayaquil.....	July 1-Dec. 31.....	326	177	
Do.....	Jan. 1-Mar. 31.....	124	68	
Hacienda Vainilla.....	Feb. 16-28.....	1		
Milagro.....	Nov. 1-15.....	1		
Do.....	Feb. 1-Mar. 15.....	2	1	
Naranjal.....	Nov. 1-15.....	1	1	
Do.....	Jan. 1-15.....	1	1	
Naranjito.....	Nov. 1-15.....	1	1	
Do.....	Jan. 1-Feb. 28.....	2	2	
Payo (Hacienda).....	Nov. 1-15.....	1		
Punta de Piedra.....	Nov. 1-30.....	1		
Salvador:				
San Salvador.....	Jan. 9.....	1		
On vessel:				
S. S. Jamaica.....	Jan. 30.....	1		At quarantine station, Canal Zone, Panama.