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VIRULENT SMALLPOX AT AUSTIN, TEX.

Virulent smallpox has been present in Austin, Tex., since the fourth week in January. Incomplete reports which have been received give a total of 123 cases up to April 21, of which at least 22 had proved fatal. The greatest numbers of cases were reported during the weeks ended April 7 and April 14, when 25 and 22 cases, respectively, were reported.

EPIDEMIC CEREBROSPINAL MENINGITIS.

CURRENT PREVALENCE.

For several weeks cerebrospinal meningitis has prevailed to an unusual degree in various sections of the country. The occurrence of the disease in epidemic form at this time is of particular importance. The disease is one which frequently gains entrance to and spreads in encampments of troops.

The principal recognized foci of the disease have been in Philadelphia, Cleveland, St. Louis, Hartford, and Minneapolis. In Minnesota particular attention has been given to the study of the present outbreak by the State department of health, and the information regarding the Minnesota foci is perhaps the most complete. From January 1 to May 2, there occurred in Minneapolis, 103 cases; in St. Paul, 34 cases; and in Duluth, 11 cases. Besides these there were 43 scattered cases throughout the State.

The Philadelphia outbreak has undoubtedly been the largest and most important, and since the first of the year 237 cases have been reported. There have undoubtedly been many unreported cases.

One hundred and sixteen cases have been reported in New York City, but when the population of New York is taken into consideration this number is small compared with many of the municipalities enumerated in the following table, which shows the number of cases reported in the various cities since the first of the year.

Number of cases of epidemic cerebrospinal meningitis reported from Jan. 1 to Apr. 21, 1917, in certain cities.

Akron, Ohio.....	17	Nashville, Tenn.....	1
Alameda, Cal.....	1	Newark, N. J.....	11
Atlantic City, N. J.....	1	New Bedford, Mass.....	2
Austin, Tex.....	3	New Britain, Conn.....	5
Baltimore, Md.....	30	New Castle, Pa.....	1
Binghamton, N. Y.....	5	New Haven, Conn.....	11
Birmingham, Ala.....	7	New Orleans, La.....	3
Boston, Mass.....	20	Newport, Ky.....	1
Bridgeport, Conn.....	8	New York, N. Y.....	116
Buffalo, N. Y.....	8	Norristown, Pa.....	2
Butler, Pa.....	1	Northampton, Mass.....	1
Camden, N. J.....	2	Oakland, Cal.....	1
Chicago, Ill.....	51	Omaha, Nebr.....	22
Cincinnati, Ohio.....	9	Orange, N. J.....	4
Cleveland, Ohio.....	64	Pawtucket, R. I.....	1
Coffeyville, Kans.....	1	Philadelphia, Pa.....	237
Columbus, Ohio.....	6	Pittsburgh, Pa.....	45
Dayton, Ohio.....	3	Pittsfield, Mass.....	2
Detroit, Mich.....	35	Portsmouth, Va.....	3
Dubuque, Iowa.....	5	Providence, R. I.....	19
Duluth, Minn.....	11	Quincy, Ill.....	1
Elizabeth, N. J.....	3	Reading, Pa.....	1
El Paso, Tex.....	6	Rochester, N. Y.....	1
Evansville, Ind.....	2	Saginaw, Mich.....	1
Fall River, Mass.....	3	St. Joseph, Mo.....	7
Fort Worth, Tex.....	1	St. Louis, Mo.....	79
Harrisburg, Pa.....	1	St. Paul, Minn.....	134
Hartford, Conn.....	94	Salt Lake City, Utah.....	3
Indianapolis, Ind.....	10	San Francisco, Cal.....	5
Jackson, Mich.....	2	San Jose, Cal.....	1
Kansas City, Kans.....	13	Schenectady, N. Y.....	2
Kansas City, Mo.....	26	Sioux City, Iowa.....	2
Lincoln, Nebr.....	3	Springfield, Mass.....	1
Los Angeles, Cal.....	6	Steubenville, Ohio.....	1
Lowell, Mass.....	3	Toledo, Ohio.....	5
Lynn, Mass.....	2	Trenton, N. J.....	1
Manchester, N. H.....	3	Washington, D. C.....	11
Medford, Mass.....	1	Wichita, Kans.....	1
McKeesport, Pa.....	1	Wilmington, Del.....	6
Milwaukee, Wis.....	14	Worcester, Mass.....	1
Minneapolis, Minn.....	103	York, Pa.....	2
Montclair, N. J.....	24		

DIPHTHERIA.

PREVALENCE IN CITIES DURING 1916.¹

The table which follows shows the recorded prevalence of diphtheria during the year 1916 in cities of the United States having over 100,000 population. The cities have been divided into groups according to their population and arranged in each group in the order of the prevalence of the disease as indicated by the recorded cases. Data are given for all the cities of the United States having an estimated population of 100,000 or over as of July 1, 1916, with the exception of Cambridge, Mass., and Memphis, Tenn.

¹ To May 2, 1917.

² To April 23, 1917.

³ The data in the table are taken from the article "The Notifiable Diseases—Prevalence during 1916 in cities of over 100,000," Pub. Health Repts, Apr. 27, 1917, pp. 595-607.

DIPHTHERIA—Continued.

PREVALENCE IN CITIES DURING 1916—Continued.

City.	Indicated case rate per 1,000 inhabitants.	Indicated fatality rate per 100 cases.	Cases reported.	Deaths registered.	Indicated death rate per 1,000 inhabitants.	Population July 1, 1916 (estimated by U. S. Census Bureau).
Over 500,000 inhabitants:						
Los Angeles, Cal.	0.794	5.00	400	20	0.040	503,812
Baltimore, Md.	1.245	8.31	734	61	.103	589,621
Philadelphia, Pa.	1.462	15.33	2,499	383	.224	1,709,518
Pittsburgh, Pa.	2.121	9.77	1,228	120	.207	579,090
New York, N. Y.	2.413	7.63	13,521	1,031	.184	5,602,841
Chicago, Ill.	2.795	11.25	6,980	786	.315	2,497,722
Cleveland, Ohio	2.832	6.29	1,909	120	.178	674,073
Boston, Mass.	3.185	7.68	2,409	185	.245	756,476
St. Louis, Mo.	3.634	5.45	2,752	150	.198	757,309
Detroit, Mich.	6.327	7.16	3,618	259	.453	571,784
From 300,000 to 500,000 inhabitants:						
Seattle, Wash.	.241	8.33	84	7	.020	348,639
Buffalo, N. Y.	1.552	9.49	727	69	.147	468,558
Milwaukee, Wis.	1.640	10.20	716	73	.167	436,535
Washington, D. C.	1.778	5.10	647	33	.091	363,980
New Orleans, La.	2.241	4.44	833	37	.100	371,747
Newark, N. J.	2.257	6.18	923	57	.139	408,894
Jersey City, N. J.	2.308	6.08	707	43	.140	306,345
Minneapolis, Minn.	2.674	7.30	972	71	.195	363,454
San Francisco, Cal.	2.923	9.67	1,355	131	.283	463,516
Cincinnati, Ohio	2.933	5.07	1,204	61	.149	410,476
From 200,000 to 300,000 inhabitants:						
Portland, Oreg.	.437	6.20	129	8	.027	295,463
Denver, Colo.	.702	1.64	183	3	.012	260,800
Louisville, Ky.	.820	5.10	196	10	.042	238,910
Rochester, N. Y.	.991	9.06	254	23	.090	256,417
Columbus, Ohio	1.410	6.93	303	21	.098	214,878
Kansas City, Mo.	1.810	14.10	539	76	.255	297,847
St. Paul, Minn.	1.848	4.81	457	22	.089	247,232
Indianapolis, Ind.	2.459	7.63	668	51	.188	271,708
Providence, R. I.	2.957	10.08	754	76	.298	254,960
From 100,000 to 200,000 inhabitants:						
Spokane, Wash.	.173	3.85	26	1	.007	150,323
Tacoma, Wash.	.585	7.58	66	5	.044	112,770
Fort Worth, Tex.	.603	1.59	63	1	.010	104,562
Grand Rapids, Mich.	.639	8.54	82	7	.055	128,291
Reading, Pa.	.649	16.90	71	12	.110	109,381
Birmingham, Ala.	.655	7.56	119	9	.050	181,762
Dallas, Tex.	.739	5.43	92	5	.040	124,527
Oakland, Cal.	.775	14.94	154	23	.116	198,604
Houston, Tex.	.908	5.88	102	6	.053	112,307
New Haven, Conn.	.915	16.06	137	22	.147	149,685
Des Moines, Iowa	.945	6.25	96	6	.059	101,598
Albany, N. Y.	.969	11.88	101	12	.115	104,199
Fall River, Mass.	.982	15.08	126	19	.148	128,366
New Bedford, Mass.	.982	7.76	116	9	.076	118,158
Atlanta, Ga.	1.291	13.01	246	32	.168	190,558
Nashville, Tenn.	1.307	7.19	153	11	.094	117,057
San Antonio, Tex.	1.486	5.43	184	10	.081	123,831
Paterson, N. J.	1.502	8.17	208	17	.123	138,443
Youngstown, Ohio	1.541	4.19	167	7	.065	108,385
Richmond, Va.	1.537	2.05	244	5	.032	156,687
Toledo, Ohio	1.624	10.93	311	34	.177	191,554
Springfield, Mass.	1.671	10.17	177	18	.170	105,942
Omaha, Nebr.	1.813	10.33	300	31	.187	165,470
Camden, N. J.	1.817	12.95	193	25	.235	106,233
Worcester, Mass.	1.874	7.84	306	24	.147	163,314
Scranton, Pa.	1.989	8.90	292	26	.177	146,811
Salt Lake City, Utah	2.206	6.18	259	16	.136	117,399
Syracuse, N. Y.	2.281	5.63	355	20	.129	155,624
Bridgeport, Conn.	2.385	7.93	290	23	.189	121,579
Trenton, N. J.	2.518	7.47	281	21	.188	111,583
Hartford, Conn.	2.597	5.90	288	17	.153	110,900
Lynn, Mass.	2.617	5.97	288	16	.156	102,425
Lawrence, Mass.	2.665	8.21	268	22	.219	100,560
Lowell, Mass.	2.720	13.31	308	41	.362	113,245
Dayton, Ohio	2.971	5.56	378	21	.165	127,224

TYPHOID FEVER AND MUNICIPAL ADMINISTRATION.¹

By A. W. FREEMAN, Epidemiologist, United States Public Health Service.

Typhoid fever under the conditions of modern city life approaches absolute preventability. In this respect it stands almost alone among the communicable diseases commonly prevalent in the United States. Other diseases may be relatively preventable, or may be, within reasonable limits, controllable, but typhoid fever may be said to be, under practical working conditions, almost absolutely preventable. The means of spread of typhoid are so well understood and the measures of prevention so accurately determined that any city can, with the expenditure of a reasonable amount of money and effort, reduce its typhoid fever to the vanishing point.

Typhoid fever is unique also, in that its prevention may be accomplished with measures instituted and carried out by public authority, with a minimum of inconvenience to and effort on the part of the individual citizen. The control of most communicable diseases is concerned with the intimate details of the daily life of the citizens, and can be accomplished only by changes in these details usually brought about only after considerable effort over long periods of time. Typhoid control, however, is in very large part a function of the public sanitation of the community, and demands from the individual citizen only legal and financial support. Typhoid prevention, therefore, is in a peculiar sense a purchasable commodity, and as such is a measure of the real dollars-and-cents desire of the people for better health.

It is particularly fortunate, in connection with typhoid prevention, that the major measures necessary for its accomplishment are in line with what is ordinarily understood by the people at large to be reasonable and proper sanitary procedures. They are in line also with our inherited ideas of decency and cleanliness. In congratulating ourselves on the progress already made in typhoid prevention in cities we should not overlook the fact that much of this result is due to measures instituted from these primary considerations of cleanliness and decency, rather than from any real conscious effort to prevent typhoid fever.

The measures necessary for the prevention of typhoid fever in cities are, of course, well understood and need not be taken up in detail at this time. It would seem, however, advisable to consider the relative importance of various means of prevention and of the results which may properly be expected from their application.

The first essential in municipal typhoid prevention is, of course, the installation of a public water supply of the highest possible purity. Public opinion in the United States is probably more nearly unani-

¹Read before the Indiana Water Supply and Sanitary Association, Indianapolis, Ind., Feb. 15, 1917.

mous on this point than on any other point in connection with public sanitation. Opinions may differ as to what constitutes a good supply, but practically everyone will agree on the necessity for pure water. It can not be too strongly emphasized that a public water supply, to be acceptable, must be absolutely pure at all times. A supply which falls short of the highest actual and potential purity will not prevent typhoid. It may reduce typhoid prevalence, since typhoid prevalence in cities is, within limits, proportional to the purity of the public water supply, but typhoid eradication may be accomplished only in the presence of a public supply of the highest possible purity. Engineering science has advanced to the point where such a supply can be obtained under almost all circumstances and at a cost not prohibitive.

In connection with the question of water supply we must recognize the fact that a public water supply, to be effective in reducing typhoid prevalence, must be in use by all the citizens of a community. This is too often ignored in municipal administration. It is not uncommon to find a public water supply of high quality which is supplied to only half or even a third of the citizens of a populous community. The remainder of the citizens must depend upon private supplies, installed and operated without supervision of any kind, and open usually to great danger of pollution. Universal distribution of the public water supply is as essential as its installation.

The second essential in typhoid prevention is the immediate and complete removal from the community of all human excreta. This is accomplished, of course, only by a complete system of sanitary sewers to which every home in the community is connected. This is a truth which even the most advanced of modern sanitarians have been slow to recognize. The sewer systems of our cities have in large measure been installed from reasons of convenience and comfort, rather than from those of health. They are looked upon by a large proportion of the people as desirable from the standpoint of comfort, convenience, and decency, but not as an absolute essential to health.

The result is that in our cities we find usually that the better and more thickly built up residential and business districts are connected with the sewers, while in the outlying and poorer sections of the city there are no sewers. The inhabitants of these sections must rely on some form of the unsatisfactory and always more or less insanitary privy for the disposal of excreta.

Typhoid control may be accomplished even in the absence of any sewers, but typhoid eradication can not. To control a system of privies necessitates constant watchfulness, frequent prosecutions, and a complete repetition of effort every few years. It is a most unsatisfactory procedure. If typhoid is to be eradicated, the surface privy and all individual methods of private sewage disposal must first be abandoned.

The measures referred to above comprise the fundamental groundwork of typhoid eradication in any municipality. By these measures the major portion of the work of reduction may be accomplished. Some years ago¹ the writer estimated that under average conditions at that time, water purification alone would, in a northern city, with sanitary conditions as usually found in such cities, and with a low percentage of negro population, result in a reduction of the typhoid death rate to a figure in the neighborhood of 20 per 100,000 population, per annum; while in a southern city, under the existing sanitary conditions, and with a high percentage of negro population, such a procedure would result in reducing the typhoid rate to approximately 50 per 100,000 per annum. Mr. George A. Johnson, the well known sanitary engineer and student of typhoid fever, has recently, in reviewing the subject, expressed the opinion that these figures were, in all probability, somewhat too high.² The table published with his paper, however, including 20 cities, of which only 4 are located in the south, would seem to prove that this estimate is perhaps not far from the truth. Exceptionally, as occurred in Cincinnati and Paterson, N. J., even more striking results may come from water purification alone.

The effect of the installation of a complete sewer system upon the typhoid prevalence, depends very largely upon the conditions existing prior to such installation. In general it may be said that in northern cities universal sewerage will, in the presence of a pure public water supply, reduce the typhoid death rate to approximately 10 per 100,000 per annum, and under the same conditions in the South, to an average death rate of approximately 20 per 100,000 per annum. These estimates, however, are subject to wide variations, since the instances of complete sewerage of cities, north or south, are not sufficiently numerous to give reliable indications as to what may be expected from a more general application of the measure.

Assuming, therefore, that by the means previously mentioned, the typhoid death rate of any city may be reduced to a figure between 10 and 20 per 100,000 per annum, there remain for consideration the measures necessary for the reduction and final elimination of the residue. It must be recognized, of course, that as the typhoid rate diminishes its further reduction becomes increasingly difficult. The general causes, impure water and improper sewage disposal, which give rise to the larger part of the total rate, may be eliminated by general measures of an engineering nature, but with their elimination there remains for consideration a multitude of minor causes, each of which must be attacked separately if success is to be expected.

¹ The Present Status of our Knowledge Regarding the Transmission of Typhoid Fever. Public Health Reports, Jan. 10, 1913.

² Johnson, Geo. A., The Typhoid Toll, Journal American Water Works Association, Vol. III, No. 2, June, 1916.

The first of these minor causes of typhoid prevalence, and probably the most important from the quantitative standpoint, is infection of milk supplies. Upon the importance of this factor there has been considerable difference of opinion. Everyone recognizes the fact that milk-borne epidemics of typhoid not infrequently occur and that there is an additional possibility that a considerable number of cases are caused by milk infection in groups of persons not sufficiently large to be identified from the epidemiological evidence. Kelley, of Massachusetts, recently stated ¹ that in only 5 per cent of the cases of typhoid in Massachusetts was milk infection definitely assigned as the cause and in only 6 per cent suspected to be the cause. These statistics are based on cases occurring in Massachusetts between 1909 and 1913. In defining a milk epidemic of typhoid fever, however, Kelley says: "In order definitely to declare any disease milk borne, however, it is necessary to carry out, by epidemiologic and laboratory means, a careful search for and detection of the disease, or a past history of the disease, in a person or the persons handling the milk at any point and a thoroughgoing exclusion of all other probable channels of infection." In view of the fact that every experienced investigator of typhoid has encountered epidemics undoubtedly due to milk-borne infection in which no direct connection, either epidemiological or laboratory, could be established with actual or previous cases of typhoid in persons handling the milk, and in consideration, further, of the fact that the epidemiological features of a milk-borne epidemic are very characteristic and constant, and in most cases practically unmistakable, Dr. Kelley's limitation of the definition seems unduly extreme.

Frost in a recent paper ² reviews the subject fully, arriving at an estimate of the influence of epidemics of milk-borne infection in the causation of typhoid approximately the same as that stated by Kelley, but is inclined to think that the incidence of milk-borne infection, in groups too small to be identified as such is considerably higher than is assumed by Kelley.

We may safely assume, therefore, that in the eradication of typhoid fever from a city the prevention of milk-borne infection must have an important part.

The control of milk supplies has occupied an important place in public-health procedures in the past 10 years, and great improvements have already been made. It has become increasingly evident, however, that inspection alone, however efficiently performed, is not an adequate protection against milk-borne disease, and against typhoid fever in particular. The danger of infection of a large milk

¹ Kelley, E. R., J. A. M. A., LXVII, No. 27, p. 1997, Milk-Borne Infections.

² Frost, W. H., Relation of Milk Supplies to Typhoid Fever. Reprint No. 380, Public Health Reports, Dec. 1, 1916.

supply from a carrier or an abortive case of typhoid can not be avoided by inspection, or by the enforcement of any standard of cleanliness of equipment or methods. The danger of epidemics may be diminished by these means, but not entirely removed. It must be frankly recognized that the only really efficient protection against milk-borne typhoid is complete compulsory pasteurization, under public supervision, of the entire milk supply of a city. The percentage of the milk supply of any community which is effectively pasteurized is the measure of the protection of that community against milk-borne typhoid.

When the danger of infection from water, improper disposal of excreta, and milk has been removed, there remains a small residuum of typhoid infection, due to carriers, contact with known cases, and other minor factors. These can not be attacked and removed in mass, as can the major factors, but must be attacked individually. They demand for success a real interest and enthusiasm on the part of the health officer and a painstaking study of each case as it occurs and of the entire picture of the prevalence of the disease from month to month and from year to year. Among the measures which have been found of value in this battle of detail are the bacteriological examination of convalescents, the inspection and physical examination, including the Widal test, of food handlers, the registration and supervision of known carriers, and the prophylaxis of known cases, including hospitalization of cases and vaccination of exposed persons. The success of this work depends upon the personality and enthusiasm of the health officer and his assistants. It will be effective usually just in proportion as the health officer desires really to eradicate the disease from the community.

The example of the larger cities, New York, Boston, Newark, Providence, Cincinnati, Cambridge, Richmond and others in the reduction of typhoid practically to the vanishing point are examples of what may be accomplished by this work. So far no large city has been able to go through a year without a death from typhoid fever, but if the present rate of progress is continued, the time will not be long before this record will be made.

Present Conditions in Typhoid Prevention in Cities in the Ohio River Valley.

It has seemed to the writer that it might be of interest to compare the foregoing more or less idealistic statement of the relation of the municipality to the subject of typhoid prevention, with conditions as they actually exist in a group of cities located in the basin of the Ohio River. For this purpose a group of cities, twenty-four in number, having a population of 25,000 or over by the census of 1910, have been selected. This list includes all the cities over 25,000 in the Ohio Valley, except the three metropolitan cities of Pittsburgh,

Cincinnati, and Louisville. These metropolitan cities have been omitted for the reason that they were not included in the survey from which the information regarding the smaller cities was obtained. Full information regarding them is not available. The information regarding the cities included in this study was collected in the course of a sanitary survey of the cities of the Ohio River Basin, conducted by the Public Health Service in connection with the study of the pollution of the Ohio River. Each of the cities was visited, and all the information was collected at first hand. The water supplies and sewer systems were inspected by a sanitary engineer of the service, and the information regarding the operations of the health departments of the cities was collected by a medical officer. It is believed that this information is as accurate as could be obtained, and fairly represents the conditions of the cities at the time the survey was made during the summers of 1914 and 1915. The surveys included the collection of information regarding the prevalence of typhoid during the five years prior to the time of the survey, and these years have been used in computing the average typhoid death rate of the cities.

In two cities, New Castle, Pa., and Evansville, Ind., important changes were made in the water supply during the period under consideration, and for that reason these two cities are considered only for the period since the change was made, the typhoid death rates being computed on these years instead of the full period of five years.

In view of the fact that figures for typhoid morbidity are incomplete or entirely lacking in certain of the cities, the studies of typhoid prevalence have been based entirely upon the deaths from typhoid fever, which are believed to be accurately registered in practically all the cities included in the study.

Table No. 1 gives the fundamental facts regarding the conditions affecting typhoid prevalence, as they were found to exist in the various cities at the time of the survey. The "rating" of the water supplies is a numerical expression of the sanitary quality of the water supply, based on 100 as the maximum, as assigned by the members of the survey party after a careful inspection of the source, safeguards, and methods of purification, and a study of all available records of laboratory examinations of the public water supply. It represents the opinion of the members of the survey party as to the sanitary quality of the water, after a careful examination of all available facts regarding it. These values were assigned without considering the actual prevalence of typhoid fever in the community.

The percentage of the population using the public water supply and the percentage connected with the sewers were determined as accurately as possible from the local records.

TABLE 1.—*Status of measures for the control of typhoid fever in 24 cities of 25,000 population and over in the Ohio Basin,*
[Includes all cities of 25,000 population in 1910 except Pittsburgh, Cincinnati, and Louisville.]

City.	Esti- mated popula- tion, 1915.	Water supply.		Sewers, per cent of popula- tion con- nected.	Milk.		Reporting typhoid.		Study of typhoid.		Is pro- phylaxis of cases under official control?	Deaths and average death rate per 100,000 from typhoid fever, 3 years, 1910-1914.		
		Source and treatment.	"Rat- ing."		Per cent of popula- tion supplied.	Dairy inspec- tion system?	Per cent of supply Pasteur- ized.	Per cent of known cases reported.	Per cent of known deaths reported.	Are all cases visited?			Are current cases studied?	
Canton, Ohio.....	59,139	Drilled wells.....	93	96	83	Yes.....	66	50	100	Yes.....	No.....	55	20.4	
Dayton, Ohio.....	125,509	do.....	93	90	67	Yes.....	65	90	100	Yes.....	Yes.....	Yes.....	109	18.1
Hamilton, Ohio.....	39,655	do.....	95	80	33	No.....	85	95	100	Yes.....	No.....	No.....	30	16.1
Jamestown, N. Y.....	35,729	do.....	98	97	95	Yes.....	15	100	100	Yes.....	No.....	No.....	32	19.2
Springfield, Ohio.....	50,804	Infiltration well, in old bed of creek.....	85	95	38	Yes.....	85	90	100	Yes.....	Yes.....	Partial..	51	21.0
Columbus, Ohio.....	209,722	Mechanical filtration, hy- pochlorite, Scioto River.....	95	95	95	Yes.....	85	90	100	Yes.....	Yes.....	do.....	103	16.9
Lexington, Ky.....	39,703	Impounded creeks, me- chanical filtration, hypo- chlorite.....	90	80	33	Yes.....	25	50	100	Yes.....	Yes.....	do.....	58	31.3
Evansville, Ind.....	72,325	Ohio River, mechanical filtration, hypochlorite.....	90	70	50	No.....	28	75	100	Yes.....	No.....	No.....	138	126.8
New Castle, Pa.....	40,351	Shenango River, mechan- ical filtration, hypochlo- rite.....	87	70	80	Yes.....	20	90	100	Yes.....	No.....	No.....	121	126.8
Chattanooga, Tenn.....	58,576	Tennessee River, mechan- ical filtration.....	87	97	75	Yes.....	45	55	100	Yes.....	No.....	No.....	99	39.5
McKeesport, Pa.....	46,743	Youghiogheny River, me- chanical filtration.....	86	93	55	Yes.....	40	90	100	Yes.....	No.....	No.....	77	34.7
Terre Haute, Ind.....	64,806	Wabash River, mechan- ical filtration, hypochlo- rite.....	85	52	40	Yes.....	40	50	100	No.....	No.....	No.....	90	28.6
Knoxville, Tenn.....	38,900	Tennessee River, mechan- ical filtration.....	83	95	90	Yes.....	36	55	100	No.....	No.....	No.....	74	39.8
Huntington, W. Va.....	43,572	Ohio River, mechanical filtration.....	80	90	70	Yes.....	5	10	75	No.....	No.....	No.....	60	41.7
Danville, Ill.....	31,554	Vermilion River, mechan- ical filtration, hypochlo- rite.....	75	75	47	Yes.....	10	90	100	Yes.....	Yes.....	Yes.....	52	35.3
Youngstown, Ohio.....	104,489	Mahoning River, mechan- ical filtration, copper sulphate.....	250	80	70	Yes.....	75	90	100	Yes.....	No.....	No.....	189	43.3

Indianapolis, Ind....	265,578	Drilled wells and White River; latter mechanical filter, hypochlorite.	90	65	60	Yes.....	25	90	100	Yes.....	Yes.....	305	24.7
Johnstown, Pa.....	66,535	Impounding reservoirs on small streams; hypochlorite and chlorine.	65	94	50	Yes.....	49	90	100	Yes.....	Yes.....	89	23.5
Nashville, Tenn.....	115,978	Cumberland River, coagulated and settled, hypochlorite.	80	68	60	Yes.....	18	75	100	Yes.....	Yes..... Partial..	255	45.3
Covington, Ky.....	56,520	Ohio River, sedimentation and storage.	70	92	50	Yes.....	66	60	100	Yes.....	No.....	37	13.6
Newport, Ky.....	31,722	Ohio River, partial coagulation and hypochlorite, sedimentation and storage.	72	91	50	Yes.....	75	75	100	No.....	No.....	39	25.2
Newark, Ohio.....	28,953	Infiltration system, and raw Licking River, untreated.	25	75	40	No.....	33	50	100	Yes.....	No.....	32	23.8
Zanesville, Ohio.....	30,406	Muskingum River, hypochlorite.	15	90	40	No.....	25	40	100	No.....	No.....	80	55.1
Wheeling, W. Va....	43,097	Ohio River, untreated.....	0	50	65	No.....	50	75	100	Yes.....	No.....	120	56.8
Total population.	1,699,816	Weighted averages...	79.7	81	64	.....	53	75	.....	.....	.....	.....	23.6

¹ Deaths and rates for 1913 and 1914 only.

² New plant since inspection.

NOTE.—All average death rates computed by dividing the total number of typhoid deaths by the sum of the populations for the years in which they occurred.

The percentage of the population using pasteurized milk was obtained by estimating the total amount of milk sold, as accurately as possible, and determining the amount pasteurized by a visit to all pasteurizing plants in the community.

The information regarding the collection and study of records of cases and deaths, and regarding case prophylaxis, was obtained from the health office by inquiry and inspection.

Water Supply.

Of the 24 cities included in this study, 5 use ground waters. Four of these supplies are taken from driven wells and the fifth from an infiltration well in an old creek bed. All were rated over 90 in quality except one. The rating for the supply from the infiltration well was 85. The weighted average rating of the group is 93.

Eleven cities used supplies from surface streams. These were filtered, after coagulation and sedimentation, and with two exceptions were afterwards treated with hypochlorite of lime. Three of these supplies were rated above 90, six between 80 and 90, one at 75, and one at 50. The last supply, however, that at Youngstown, Ohio, was under improvement at the time of inspection, and the new plant, rating 85, was put into operation early in 1915. The average weighted rating for the group of filtered supplies is 83.

Indianapolis is classified separately, as it possesses a mixed ground and filtered surface supply, rated at 90 on the scale used.

Johnstown, Pa., possesses a supply obtained from the impounding of small streams and used without any treatment other than storage. It was rated at 65.

Three cities use water from large rivers treated by settling. In one, Nashville, settling is aided by coagulation and sedimentation. The other two supplies have a period of storage of approximately 30 days. These supplies were rated 80, 72, and 70, respectively, the average weighted rating for the group being 75.

Three cities use untreated surface waters, from polluted streams. One is taken from the headwaters of the Muskingum River, one from Licking River, and one from the Ohio River 68 miles below Pittsburgh. The rating of these supplies is respectively 25, 15, and 0. The Ohio River 68 miles below Pittsburgh is believed to be totally unfit for consumption without treatment.

Of the 24 cities, therefore, 8 have supplies which rate as 90 or over, and may be considered as excellent. Eight have supplies rating between 80 and 90, which may be considered as good, while eight have supplies rating below 80, three of the eight being in the positively dangerous class.

The average rating of the water supplies, for the entire group weighted according to population, is 79.

The percentage of use of these water supplies by the various cities shows wide variations. In 13 cities the public water supply is in use by 90 per cent or more of the population. In 3 cities between 80 and 90 per cent use the public water. In 4 between 70 and 80 per cent, in 2 between 60 and 70 per cent, and in 2 between 50 and 60 per cent use the public supply. The lowest percentage of use, 50 per cent, is in Wheeling, W. Va., which has also the doubtful distinction of possessing the water supply of lowest rating.

Taking the group as a whole, 81 per cent of the population use the public water supply.

Sewage Disposal.

The status of the sewage disposal conditions in the various cities is expressed by the percentage of the population connected with sewers. No account is taken of sewage purification systems, since these are chiefly for the benefit of those living further downstream. The result sought is the promptness and efficiency of the removal of human excreta from the community and is best expressed by the percentage connected with the sewers. As will be seen from the table, this varies widely. The highest percentage is 95, for Columbus, Ohio, while only three cities altogether have over 90 per cent connected. Two have between 80 and 90 per cent connected, three between 70 and 80, four between 60 and 70, five between 50 and 60, four between 40 and 50 and three between 30 and 40 per cent.

Taking the group as a whole, therefore, only 64 per cent of the total population is connected with the sewers, the remaining 36 per cent still depending upon one form or another of the insanitary and archaic privy.

Milk.

All but five of the twenty-four cities have some form of dairy inspection, and all have partial pasteurization. None, however, has complete pasteurization, the nearest approach being made at Columbus, Springfield, and Hamilton, Ohio, which have pasteurization of 85 per cent of the total milk supply. The average percentage of the milk supply which is pasteurized, weighted according to population, is 53 per cent.

Reporting, Study, and Prophylaxis of Cases.

The reporting of cases of typhoid in the various cities varies from 10 to 90 per cent in completeness, the weighted average for the group being 75 per cent.

Reporting of deaths is approximately complete for all cities of the group except for Huntington, W. Va., where it is estimated to be 75 per cent complete.

In all but five of the cities a visit is made to the home of reported cases of typhoid fever by some representative of the health department, usually by a sanitary policeman or some other untrained person.

In only seven of the cities is any systematic study made of reported cases of typhoid. In most of the cities the reports are filed and no further attention is paid to them. In seven of the cities, however, current chronological charts and spot maps of the cases are made in such a manner as to make it probable that even a small outbreak of typhoid would receive immediate attention.

The prophylaxis of cases is left almost entirely to the efforts of the private physician, only five cities making any effort to supervise prophylaxis other than leaving a printed circular at the home of the patient.

Summarizing the progress of these cities toward the ideal of typhoid eradication, therefore, we find that in the furnishing of good water to every citizen the work is approximately two-thirds complete, in that water of 80 per cent quality is furnished to 80 per cent of the population. In sewerage the work is approximately two-thirds done; in pasteurization of milk, one-half done; and in real typhoid study and prophylaxis not more than one-third done.

Typhoid Prevalence.

The typhoid prevalence of the group of cities gives an average death rate per 100,000 for the five years of 28.6, as against 18.7 for the registration area as a whole and as against an average rate of 16 per 100,000 per annum for the same period as exhibited by the three metropolitan cities of the watershed—Pittsburgh, Cincinnati, and Louisville.

This rate reflects with considerable accuracy the condition of the group of cities as regards water supply, sewage disposal, milk control, and general typhoid control. The rates vary widely, the lowest rate being that for Covington, Ky., which is located in the Cincinnati metropolitan district. The highest rates are those for Wheeling and Zanesville. These are readily accounted for by the condition of the public water supply of these cities.

The influence of water supply in causing this undue prevalence of typhoid is demonstrated quite strikingly by grouping the cities in classes according to their water-supply rating and computing the typhoid death rate for each group. The following table shows the results of this grouping. It will be seen that the group of cities having the highest water-supply rating (92.8) shows the lowest death rate from typhoid (21.1), while the group with the lowest water-supply rating (11.3) shows the highest typhoid death rate (47.3). In general the typhoid death rates vary quite regularly in inverse

proportion to the water-supply rating, with the exception of the group with ratings between 60 and 70. This group contains only three cities, one of which, Danville, Ill., has a rather high rate, but the other two have rates quite low, one, Covington, Ky., having the lowest rate of any city in the group, notwithstanding the fact that its rating for water supply is only 70, and only 50 per cent of the population is connected with the sewers.

TABLE 2.—*Summary of water-supply ratings, etc., by groups, with weighted averages and typhoid deaths and death rates.*

Group with ratings.	Number of cities.	Total population of cities of group, 1915.	Weighted average water supply rating of group.	Per cent of population using public supply.	Per cent connected with sewer system.	Total typhoid deaths, 1910 to 1914.	Average death rate for group, 1910 to 1914.
90 to 100.....	8	847,360	92.8	81.4	69.3	1,790	21.1
80 to 90.....	8	459,130	84.5	79.5	61.3	727	36.5
70 to 80.....	3	119,796	71.7	87.5	49.3	128	22.3
50 to 70.....	2	171,074	56.1	85.4	62.2	278	37.7
0 to 50.....	3	102,456	11.3	68.9	50.5	232	47.3
Total.....	24	1,609,816	79.7	81.0	64.0	2,155	28.6

¹ Includes Evansville, Ind., for years 1913-14 only Includes Newcastle, Pa., for years 1913-14 only.

The low typhoid death rates of Covington and Newport have been of great interest in the whole course of the study. The two cities are located just across the river from Cincinnati, and are not remarkable for their sanitary development or administration. The water supply of the two is taken from the Ohio River just above Cincinnati, and is treated by simple settling and storage for a period of 30 days. Newport adds a small quantity of coagulant and a very small amount of hypochlorite of lime. From the standpoint of the raw water, the methods of treatment and the bacteriological quality of the water supplied, which have been carefully examined, the water can not be considered of the highest quality. In spite of these facts, the towns have been remarkably free from typhoid fever for a number of years. It would seem probable that the effect of settling and storage on the typhoid organisms which are most probably frequently present in the raw water is somewhat selective, and that the actual purification of the water as regards destruction of typhoid bacilli is considerably more efficient than is indicated by the results of the ordinary bacteriological and chemical tests.

The differences in the typhoid prevalence of the different groups of cities arranged according to their rating for water supply are shown also, quite strikingly, by differences in the seasonal prevalence of the disease in the different groups. This is shown by the following table which gives the whole number of typhoid deaths each month for each group, and also the average equivalent annual death rates per 100,000 by months.

TABLE 3.—*Seasonal distribution of typhoid fever in 24 cities of 25,000 and over in Ohio River basin.*

Arranged in groups according to water supply rating, showing total deaths in each month and equivalent average annual death rates by months.]

Water supply rating.	Months.												Total for year.
	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Group 90-100:													
Deaths.....	40	37	40	39	33	39	62	124	133	98	79	57	1 781
Equivalent annual rate.....	13.1	12.1	13.1	12.7	10.8	12.7	20.3	40.4	43.4	32.0	25.8	18.6	21.2
Group 80-90:													
Deaths.....	42	28	26	30	35	47	97	102	113	100	60	47	727
Equivalent annual rate.....	25.3	16.9	15.7	18.1	21.1	28.3	58.4	61.4	58.1	60.2	36.1	28.3	36.5
Group 70-80:													
Deaths.....	5	11	4	12	6	9	10	19	20	18	4	10	128
Equivalent annual rate.....	10.2	22.9	8.4	26.1	12.5	18.8	20.9	39.7	41.7	37.6	8.4	20.9	22.3
Group 50-70:													
Deaths.....	11	31	32	19	22	9	14	26	32	34	25	23	278
Equivalent annual rate.....	17.9	50.4	52.0	30.9	35.8	14.6	22.8	42.3	52.0	55.3	40.6	37.4	37.7
Group 0-50:													
Deaths.....	17	13	16	17	14	10	7	12	18	11	10	20	165
Equivalent annual rate.....	56.1	42.8	52.7	56.1	46.1	33.0	23.0	39.5	59.3	36.2	33.0	65.8	45.3
All cities:													
Deaths.....	115	120	118	117	110	114	190	283	316	261	178	157	2,079
Equivalent annual rate.....	18.8	19.6	19.3	19.1	18.0	18.6	31.1	46.2	51.6	42.6	29.0	25.7	28.3

¹ Includes deaths for Evansville, Ind., for 1913 only; 9 deaths occurring in 1914 omitted; monthly distribution unknown.

² Includes deaths for Wheeling, W. Va., for 1912 and 1913 only; 67 deaths in 1910, 1911, and 1914 omitted; monthly distribution unknown.

It will be seen from the accompanying chart that the group of waters rating between 90 and 100 shows a curve quite characteristic of a pure water supply, running almost level during the winter months with a characteristic rise during the summer months.

The next group of supplies, rating from 80 to 90, shows the same general shape of curve, higher in its whole course, and with a somewhat prolonged peak. The shape of this curve is no doubt modified by the fact that it contains a considerable number of the larger southern cities whose typhoid under similar conditions of water supply will consistently show a higher rate than the northern cities and the crest of whose prevalence comes somewhat earlier than in the northern cities. For these reasons this rate is probably higher and the curve broader than would have been the case had the group, like the first group, contained only northern cities.

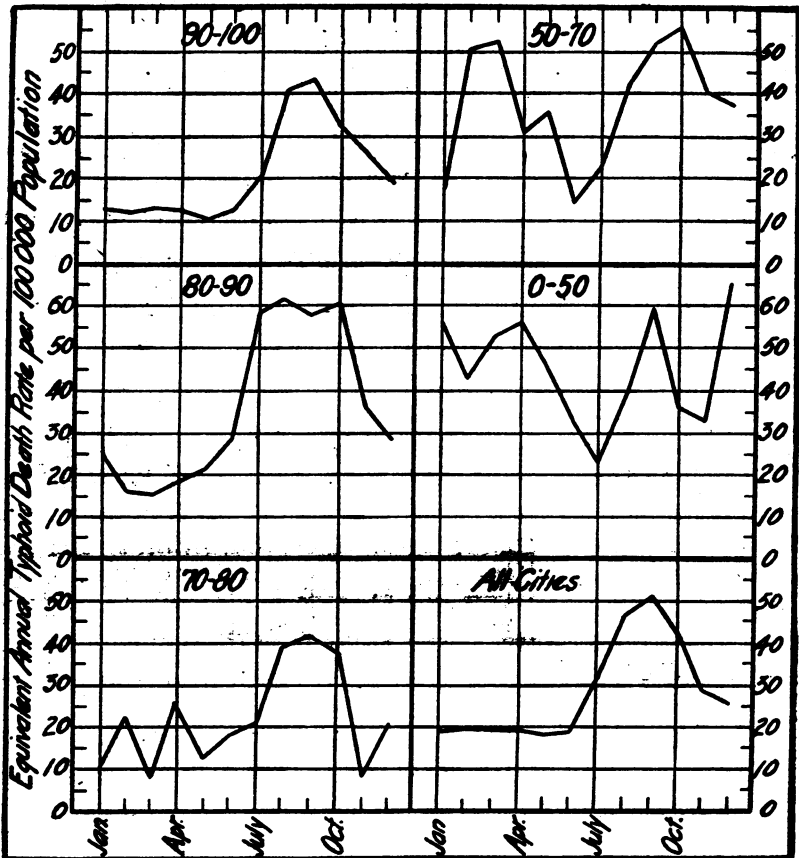
The next group, containing Covington and Newport, has been previously discussed. While the total rate, as compared with the rates of the first group, does not evidence water infection, the general shape of the curve is somewhat irregular and shows several winter crests which are usually taken to indicate the possibility of water-borne infection.

The group containing the cities with water-supply ratings between 50 and 60 shows, likewise, a winter peak and an abnormally high

prevalence. The last group, rating below 50, shows the characteristically irregular curve commonly found in cities using grossly polluted water.

Conclusions.

The prevalence of typhoid fever in the group of cities included in this study bears out strikingly the conclusions drawn from a study of



Seasonal prevalence of typhoid fever in 24 cities in the Ohio River basin, arranged in groups according to quality of water supply as expressed by "water-supply rating"

the means of typhoid prevention employed. The major factors in typhoid causation, polluted water and improper disposal of human excreta, are still largely operative. The minor factors, with the exception of the pasteurization of milk, are largely ignored. This group of cities, fairly representative of a very large class of American municipalities, still suffers from an excessive prevalence of typhoid fever, due to well understood and easily preventable causes.

FLIGHT OF MOSQUITOES.

STUDIES ON THE DISTANCE OF FLIGHT OF ANOPHELES QUADRIMACULATUS.

By J. A. A. LE PRINCE, Sanitary Engineer, and T. H. D. GRIFFITHS, Assistant Epidemiologist, United States Public Health Service.

In connection with measures for malaria control, it is of great importance to know how far the control of mosquito production should be extended in order to prevent *Anopheles* from conveying malaria to the community.

In the Southern States *Anopheles quadrimaculatus* is probably the principal carrier of malaria. The extent to which *Anopheles punctipennis* or *Anopheles crucians* may transmit the disease has not yet been determined. While the relative importance which should be attached to each of these species of mosquitoes as factors in the actual conveyance of malaria is still under investigation, sufficient evidence is at hand to justify the statement that *A. quadrimaculatus* is by far the most efficient vector of the three. For this reason the studies of flight distance have been devoted to *A. quadrimaculatus*, although it is important that the distance of flight of the other species should likewise be determined.¹

In connection with malarial investigations on impounded waters 1914-15, opportunities were afforded to determine how far from known breeding places *Anopheles* could be found. Numerous inspections of the interiors of buildings indicated that *A. quadrimaculatus* was very rarely present more than a mile from the breeding area, even though the latter was very prolific. This species was never found in houses and barns located at distances of $1\frac{1}{2}$ miles and more from the most prolific breeding places. Persons living $1\frac{1}{2}$ miles from such areas reported an entire absence of mosquitoes.

In 1916 experiments were undertaken at Stevens Creek and Fort Lawn, S. C., in order that more exact data concerning the flight range of *A. quadrimaculatus* might be obtained.

From previous investigations conducted at Stevens Creek, which is located about 10 miles from North Augusta, S. C., it was known that a body of impounded water at that place formed a prolific breeding area for *A. quadrimaculatus*, and that a heavy house infestation of this species existed in that general vicinity. It had also been observed that the number of *A. quadrimaculatus* in occupied houses and barns became progressively smaller as the distance from the body of impounded water increased. This led to the conclusion that the en-

¹ The ultimate goal should be the determination of the distance of contaminating flight. It is possible that the maximum flight of the *Anopheles* mosquito is that which she makes to obtain her first blood meal, and she is not infective to man until 10 to 14 days later. This may explain the fact that the great flight at Gatun in 1913 did not increase the malaria rate at that place.

gorged mosquitoes found in the occupied buildings had come mainly from the breeding place mentioned.

The experiments were planned on the same lines as those carried out with the flight of a Panama species, *A. tarsimaculata*, at Gatun. Accordingly, a large number of *A. quadrimaculata* was captured alive for the test, the sources from which they were taken and the methods of capture being as follows:

1. Mosquito nets were placed close to the breeding places at night, and the *Anopheles* were attracted into the nets by men who served as bait. The *Anopheles* were stained in the nets by spraying with a 1 per cent aqueous solution of eosin (yellowish) from an atomizer and liberated.

2. Resting *Anopheles* were caught in heavily infested houses in the daytime by means of a hand collecting device.

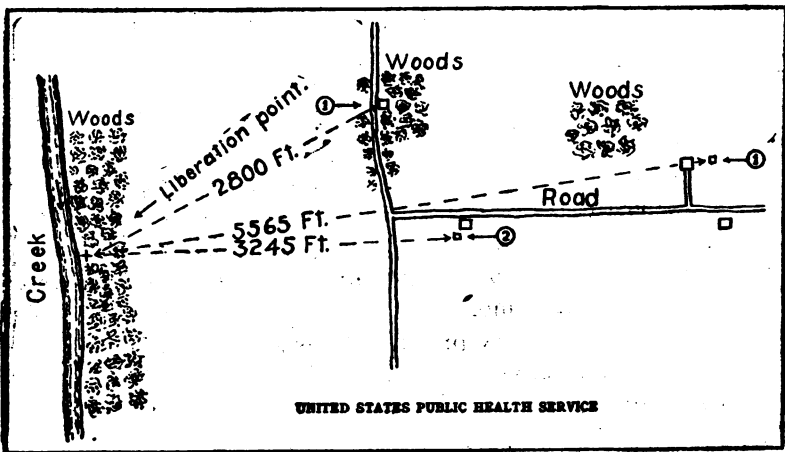


FIG. 1.—Sketch showing relative location point and barns where stained *Anopheles* were recaptured, North Augusta, S. C.

The mosquitoes were taken to a point in the breeding area which had been selected as a liberation station. They were then stained as above described and allowed to escape. On the first day only a few were set free, but on the second day a large number was liberated, all at one point.

For 10 days following the liberation of the first batch of stained mosquitoes daily catches were made in inhabited houses, barns, and stables within a distance of $1\frac{1}{2}$ miles from the place of liberation. During this period 1,542 anopheles were captured and examined for stain.

The first stained specimen was recovered on the third day after the liberation of the first batch. This positive specimen was found at a distance of 5,565 feet from the liberation station. On the following day the second specimen was caught at 2,800 feet. Two others

were captured on the sixth day at 3,245 feet. All of the stained specimens recovered were engorged, and were taken during the day-time, apparently near where they fed. By referring to Figure 1 it will be seen that the flight from the liberation station was divergent.

The topography, as shown by figures 1 and 2, is such that the houses or barns could be seen for only a short distance.

At Fort Lawn, S. C., the staining station selected was on the Catawba River and about 18 miles from Chester, S. C. At this place the land rises rapidly from the edge of the river, and it was desired to determine if *A. quadrimaculatus* would fly across the river.

A point for the liberation of the specimens was selected on the east bank where there were only one or two houses within 1 mile. On the west shore houses were more numerous and there were cattle in the fields—a plentiful blood supply.

Anopheles quadrimaculatus were fairly numerous in houses from one-quarter to one-third of a mile from the river. This species was

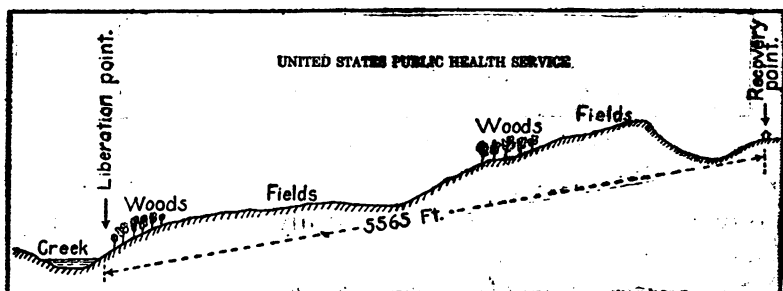


FIG. 2.—Profile of path of flight at North Augusta, S. C.

very scarce in houses one-half mile from the river, and could not be found in houses 1 mile distant.

About 270 *A. quadrimaculatus* and 30 *A. punctipennis* were captured in houses and barns within one-half mile of the Catawba River on the west side. These were stained with a 1 per cent solution of eosin and liberated from the point selected on the east side. Within 72 hours two of them, *A. quadrimaculatus*, were found in a negro shack on the west side of the river. A third *A. quadrimaculatus* was taken at the same place on the following day. It is worthy of note that a large per cent of the *Anopheles* originally captured for the experiment came from the cabin where the stained specimens were recovered later. The flight distance was 3,090 feet from the point of liberation, providing the flight was in a direct line, 800 feet of which was over the waters of the Catawba River.

An examination of many houses from three-quarters of a mile to a mile distant from the river proved negative. The production of *Anopheles* at Fort Lawn was much less extensive than at North Augusta,

and so far as could be determined by house examination the average maximum flight distance was shorter. This might have been expected on account of the less prolific breeding and the more convenient blood supply.¹

Summary.

(1) Observations on the flight of *Anopheles quadrimaculatus* in nature showed the flight to extend to approximately a mile from a breeding place producing very profusely. Beyond this distance stained specimens were not found.

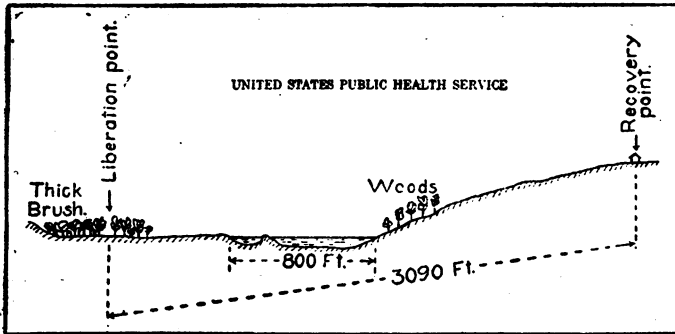


FIG. 3.—Profile of path of flight at Fort Lawn, S. C.

(2) The distance of flight from a place producing very freely but less profusely than the above was decidedly less—approximately a half mile.

(3) Stained specimens of *A. quadrimaculatus* were taken as follows: One at 5,565 feet from the point of liberation; two at 3,245 feet; three at 3,090 feet; one at 2,800 feet.

4. *A. quadrimaculatus*, in one test, flew across a river 800 feet wide in returning to a plantation from which they were originally caught for the test.

Approximately 900 or 1,000 mosquitoes were liberated.

¹ See Reprint No. 244, P. H. Reports, page 11. Also Carter, H. R. The Effect of Impounded Waters on the Incidence of Malaria, Southern Medical Journal, March, 1915.

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.

ANTHRAX.

New York Report for March, 1917.

During the month of March, 1917, one case of anthrax was reported in the State of New York.

ANTHRAX IN ANIMALS.

Hawaii—Hanalei.

Surg. Trotter reported that, during the period from April 9 to 26, 1917, 90 cases of anthrax in cattle were reported at Hanalei, Kauai, Hawaii.

CEREBROSPINAL MENINGITIS.

Kansas—Lincoln.

Collaborating Epidermiologist Crumbine reported that on April 26, 1917, one case of cerebrospinal meningitis was notified at Lincoln, Kans.

Texas—Galveston.

Surg. Bahrenburg reported the occurrence on April 26, 1917, of one case of cerebrospinal meningitis at Galveston, Tex.

CEREBROSPINAL MENINGITIS—Continued.

State Reports for March, 1917.

Place.	New cases reported.	Place.	New cases reported.
Connecticut:		Indiana—Continued.	
Hartford County—		Owen County.....	2
East Hartford.....	1	Vandeburgh County.....	1
Hartford.....	35	Total.....	22
South Windsor.....	1	Iowa:	
West Hartford.....	3	Polk County.....	3
Wethersfield.....	1	Pottawattamie County.....	1
Fairfield County—		Total.....	4
Bridgeport.....	6	Mississippi:	
New Haven County—		Scott County.....	1
Naugatuck.....	2	New York:	
New Haven.....	3	Chautauqua County.....	1
Waterbury.....	3	Erie County.....	6
Tolland County—		Essex County.....	1
Rockville.....	2	St. Lawrence County.....	2
Total.....	57	Schenectady County.....	1
Indiana:		New York City.....	38
Kosciusko County.....	1	Total.....	49
Lake County.....	3		
Marion County.....	15		

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Atlantic City, N. J.....	1	1	Lowell, Mass.....	1	1
Baltimore, Md.....	5		McKeesport, Pa.....	1	2
Binghamton, N. Y.....	1		Milwaukee, Wis.....	2	1
Bridgeport, Conn.....	2	1	Minneapolis, Minn.....	9	
Buffalo, N. Y.....	1	1	Newark, N. J.....	6	1
Camden, N. J.....	2		New Britain, Conn.....	3	1
Chicago, Ill.....	6	10	New Haven, Conn.....	3	
Cincinnati, Ohio.....	1	1	New York, N. Y.....	12	8
Cleveland, Ohio.....	11	4	Omaha, Nebr.....	2	1
Columbus, Ohio.....	1		Orange, N. J.....		1
Detroit, Mich.....	3	1	Philadelphia, Pa.....	14	9
Duluth, Minn.....	3	4	Pittsburgh, Pa.....	7	1
El Paso, Tex.....	1	1	Providence, R. I.....	5	
Evansville, Ind.....	1	1	Saginaw, Mich.....		2
Fall River, Mass.....	1	1	St. Joseph, Mo.....	1	
Harrisburg, Pa.....	1	1	St. Louis, Mo.....	9	4
Hartford, Conn.....	8	4	Toledo, Ohio.....		1
Indianapolis, Ind.....	2		Washington, D. C.....	2	1
Kansas City, Mo.....	1				

DIPHThERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 670.

ERYSIPELAS.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Allentown, Pa.	1	.....	Los Angeles, Cal.	3	.....
Ann Arbor, Mich.	1	.....	McKeesport, Pa.	1	.....
Baltimore, Md.	4	.....	Milwaukee, Wis.	3	1
Boston, Mass.	.....	5	Newark, N. J.	12	.....
Brockton, Mass.	2	.....	New Bedford, Mass.	.....	1
Buffalo, N. Y.	6	.....	New Orleans, La.	.....	1
Butler, Pa.	2	.....	New York, N. Y.	.....	6
Chelsea, Mass.	.....	1	Oakland, Cal.	.....	1
Chicago, Ill.	46	.....	Omaha, Nebr.	5	.....
Cincinnati, Ohio.	1	.....	Orange, N. J.	1	.....
Cleveland, Ohio.	11	.....	Philadelphia, Pa.	10	.....
Columbus, Ohio.	.....	1	Pittsburgh, Pa.	22	6
Dayton, Ohio.	1	.....	Portland, Oreg.	1	1
Denver, Colo.	1	.....	Providence, R. I.	.....	1
Detroit, Mich.	8	3	Quincy, Ill.	1	.....
Duluth, Minn.	1	.....	Reading, Pa.	2	1
East Orange, N. J.	2	.....	Rochester, N. Y.	6	2
El Paso, Tex.	.....	1	St. Joseph, Mo.	.....	1
Erie, Pa.	3	.....	St. Louis, Mo.	21	1
Harrisburg, Pa.	1	.....	San Francisco, Cal.	2	1
Kalamazoo, Mich.	3	.....	Seattle, Wash.	1	.....
Kansas City, Mo.	4	2	Williamsport, Pa.	1	.....

MALARIA.

Mississippi Report for March, 1917.

Place.	New cases reported.	Place.	New cases reported.
Mississippi:		Mississippi—Continued.	
Adams County	30	Lowndes County	16
Alcorn County	22	Madison County	30
Amite County	41	Marion County	35
Attala County	34	Marshall County	118
Benton County	17	Monroe County	20
Bolivar County	558	Montgomery County	22
Calhoun County	83	Neshoba County	26
Carroll County	40	Newton County	7
Chickasaw County	20	Noxubee County	60
Choctaw County	20	Oktibbeha County	42
Claiborne County	45	Panola County	91
Clarke County	21	Pearl River County	15
Clay County	10	Perry County	21
Coahoma County	202	Pike County	32
Copiah County	116	Pontotoc County	60
Covington County	56	Prentiss County	33
De Soto County	9	Quitman County	68
Forrest County	67	Rankin County	8
Franklin County	24	Scott County	30
George County	7	Sharkey County	91
Greene County	10	Simpson County	55
Grenada County	10	Smith County	33
Hancock County	45	Stone County	25
Harrison County	69	Sunflower County	367
Hinds County	205	Tallahatchie County	99
Holmes County	264	Tate County	144
Issaquena County	35	Tippah County	37
Itawamba County	44	Tishomingo County	11
Jackson County	33	Tunica County	163
Jasper County	40	Union County	12
Jefferson County	102	Walthall County	16
Jefferson Davis County	12	Warren County	234
Jones County	87	Washington County	205
Lafayette County	50	Wayne County	13
Lamar County	31	Webster County	20
Lauderdale County	96	Wilkinson County	7
Lawrence County	45	Winston County	29
Leake County	44	Yalobusha County	35
Lee County	61	Yazoo County	266
Leflore County	229		
Lincoln County	53		
		Total	5,717

MALARIA—Continued.**City Reports for Week Ended Apr. 14, 1917.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Berkeley, Cal.	1	.....	New Orleans, La.	2	.....
Charleston, S. C. ....	.....	1	Richmond, Va.	1	.....
Lynn, Mass.	1	.....	Sacramento, Cal. ....	.....	1

MEASLES.**California—Los Angeles.**

Senior Surg. Brooks reported that during the week ended April 21, 1917, 285 cases of measles were notified at Los Angeles, Cal.

Washington—Seattle.

Surg. Lloyd reported that during the week ended April 14, 1917, 145 cases of measles, with 1 death, were notified in Seattle, Wash., making a total of 7,845 cases, with 22 deaths, reported since February 15, 1916.

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 670.

PELLAGRA.**Mississippi Report for March, 1917.**

Place.	New cases reported.	Place.	New cases reported.
Mississippi:		Mississippi—Continued:	
Adams County.....	5	Lowndes County.....	3
Amite County.....	3	Madison County.....	2
Attala County.....	3	Marion County.....	5
Bolivar County.....	21	Marshall County.....	12
Calhoun County.....	2	Monroe County.....	2
Chickasaw County.....	2	Montgomery County.....	3
Choctaw County.....	1	Neshoba County.....	9
Clarke County.....	2	Newton County.....	1
Clay County.....	4	Noxubee County.....	12
Coahoma County.....	23	Oktibbeha County.....	1
Copiah County.....	13	Panola County.....	2
Covington County.....	6	Perry County.....	2
De Soto County.....	1	Pike County.....	6
Forrest County.....	12	Prentiss County.....	3
George County.....	6	Quitman County.....	12
Greene County.....	6	Scott County.....	3
Grenada County.....	1	Sharkey County.....	1
Hancock County.....	1	Simpson County.....	4
Harrison County.....	7	Smith County.....	1
Hinds County.....	12	Stone County.....	3
Holmes County.....	10	Sunflower County.....	8
Issaquena County.....	1	Tallahatchie County.....	5
Itawamba County.....	5	Tippah County.....	2
Jasper County.....	2	Tishomingo County.....	5
Jackson County.....	3	Tunica County.....	11
Jefferson County.....	1	Union County.....	2
Jones County.....	21	Walthall County.....	5
Lamar County.....	5	Warren County.....	6
Lauderdale County.....	18	Washington County.....	7
Lawrence County.....	6	Wayne County.....	2
Leake County.....	1	Winston County.....	7
Lee County.....	6	Yazoo County.....	26
Leflore County.....	4		
Lincoln County.....	12	Total.....	399

PELLAGRA—Continued.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.....		1	Fort Worth, Tex.....		1
Charleston, S. C.....		3	Mobile, Ala.....		1
Detroit, Mich.....		1	Nashville, Tenn.....	1	

PLAGUE.

Louisiana—New Orleans—Plague-Infected Rat Found.

Passed Asst. Surg. Simpson reported that a rat found dead April 3, 1917, at South Hagan and Cleveland Avenues, New Orleans, La., was proved to be plague infected April 24, 1917.

PNEUMONIA.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Ann Arbor, Mich.....	2	1	Kalamazoo, Mich.....	1	1
Baltimore, Md.....	11	30	Kansas City, Mo.....	7	31
Beaver Falls, Pa.....	1		Los Angeles, Cal.....	8	5
Berkeley, Cal.....	2	3	Manchester, N. H.....	5	5
Binghamton, N. Y.....	7	10	Newark, N. J.....	60	14
Braddock, Pa.....	1		New Castle, Pa.....	4	
Chicago, Ill.....	250	126	Newport, Ky.....	2	2
Cleveland, Ohio.....	24	42	Norristown, Pa.....	2	1
Dayton, Ohio.....	3	7	Philadelphia, Pa.....	125	56
Detroit, Mich.....	27	44	Pittsburgh, Pa.....	32	24
Dubuque, Iowa.....	1	1	Reading, Pa.....	5	1
Duluth, Minn.....	2	2	Rochester, N. Y.....	20	5
Flint, Mich.....	14	5	San Francisco, Cal.....	5	12
Grand Rapids, Mich.....	1	3	Schenectady, N. Y.....	2	1
Jackson, Mich.....	1		Toledo, Ohio.....	2	7
Johnstown, Pa.....	1	3	Wichita, Kans.....	1	1

POLIOMYELITIS (INFANTILE PARALYSIS).

State Reports for March, 1917.

Place.	New cases reported.	Place.	New cases reported.
Connecticut:		Mississippi:	
Hartford County.....		Adams County.....	1
Glastonbury.....	1	Itawamba County.....	1
New Britain.....	1	Total.....	2
Total.....	2	New York:	
Indiana:		Cayuga County.....	1
Jasper County.....	1	Columbia County.....	1
St Joseph.....	2	Onondaga County.....	1
Total.....	3	Orange County.....	1
Iowa:		Oswego County.....	1
Clinton County.....	1	St. Lawrence County.....	4
Palo Alto County.....	1	Schenectady County.....	1
Webster County.....	1	Suffolk County.....	1
Total.....	3	New York City.....	7
		Total.....	18

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Buffalo, N. Y.	1	.....	Philadelphia, Pa.	2	1
Cincinnati, Ohio.	1	.....	Springfield, Mass. ....	.....	1
Lynn, Mass.	1	.....		

RABIES IN ANIMALS.

City Report for Week Ended Apr. 14, 1917.

During the week ended April 14, 1917, four cases of rabies in animals were reported in Buffalo, N. Y

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 670.

SMALLPOX.**California—San Francisco Quarantine.**

Surg. Korn reported the removal from vessels in quarantine at San Francisco, Cal., of three cases of smallpox, two of which were in Chinese children from the steamship *China*, arrived from oriental ports March 12, 1917. The other case was in a Mexican removed from the coastwise vessel *Rose City* on March 20, 1917.

Massachusetts—Worcester.

Collaborating Epidemiologist Kelley reported that during the month of April, 1917, 5 cases of smallpox were notified at Worcester, Mass.

Minnesota.

Collaborating Epidemiologist Bracken reported that during the week ended April 28, 1917, two new foci of smallpox infection were reported in Minnesota, cases of the disease having been notified as follows: Lincoln County, Lake Stay Township 1; Mower County, Racine Township 1.

Minnesota—Duluth—Fatal Case.

Collaborating Epidemiologist Bracken reported the death from smallpox on April 26, 1917, of M. S., who had nursed two smallpox patients at the isolation hospital at Duluth, Minn. This nurse had never been successfully vaccinated.

Ohio—Cleveland.

Surg. Holt reported that on April 26, 1917, a seaman from the United States dredge *Burton* was found to be suffering from smallpox and was removed to the isolation hospital at Cleveland, Ohio.

Texas—Galveston.

Surg. Bahrenburg reported the occurrence of two cases of smallpox, one each on April 26 and 27, 1917, at Galveston, Tex.

SMALLPOX—Continued.

Miscellaneous State Reports.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Connecticut (Mar. 1-31):			Iowa (Mar. 1-31)—Contd.		
Fairfield County—			Henry County.....	20	1
Easton.....	1		Lee County.....	10	
Fairfield.....	2		Linn County.....	1	
Newtown.....	26		Mahaska County.....	1	
Stamford.....	1		Monona County.....	6	
Hartford County—			Muscatine County.....	1	
Hartford.....	1		O'Brien County.....	1	
Southington.....	2		Pocahontas County.....	5	
Litchfield County—			Polk County.....	5	
Plymouth.....	3		Sac County.....	1	
Torrington.....	6		Scott County.....	4	
Watertown.....	2		Sioux County.....	1	
New Haven County—			Story County.....	5	
Naugatuck.....	12		Van Buren County.....	9	
Waterbury.....	39		Wapello County.....	1	
New London County—			Wayne County.....	6	
New London.....	3		Webster County.....	10	
Old Lyme.....	5		Woodbury County.....	11	1
Stonington.....	5				
Total.....	108		Total.....	153	2
Indiana (Mar. 1-31):			Mississippi (Mar. 1-31):		
Cass County.....	2		Bolivar County.....	3	
Clinton County.....	1		Carroll County.....	5	
Decatur County.....	2		Coahoma County.....	4	
Delaware County.....	3		De Soto County.....	1	
Elkhart County.....	5		Forrest County.....	3	
Fontain County.....	31		Grenada County.....	7	
Gibson County.....	41		Hinds County.....	3	
Greene County.....	12		Jones County.....	36	
Hamilton County.....	7		Lafayette County.....	1	
Harrison County.....	7		Lauderdale County.....	10	
Howard County.....	1		Lee County.....	11	
Jackson County.....	7		Lee County.....	1	
Jay County.....	4		Lincoln County.....	2	
Jennings County.....	6		Madison County.....	3	
Johnson County.....	7		Marshall County.....	11	
Knox County.....	4		Panola County.....	2	
Lagrange County.....	1		Pearl River County.....	2	
Lake County.....	2		Quitman County.....	2	
Laporte County.....	1		Stone County.....	1	
Lawrence County.....	2		Sunflower County.....	6	
Madison County.....	3		Tallahatchie County.....	5	
Marion County.....	23		Tunica County.....	5	
Martin County.....	1		Union County.....	11	
Morgan County.....	2		Warren County.....	19	
Owen County.....	15		Yalobusha County.....	1	
Parke County.....	3				
Pike County.....	20		Total.....	155	
Posey County.....	36				
Putnam County.....	1		New York (Mar. 1-31):		
Ripley County.....	4		Dutchess County.....	1	
Sullivan County.....	42	1	Erie County.....	2	
Switzerland County.....	1		New York City.....	1	
Tippecanoe County.....	9				
Tipton County.....	32		Total.....	4	
Vanderburg County.....	14				
Vermilion County.....	12		North Dakota (Mar. 1-31):		
Vigo County.....	101		Bowman County.....	5	
Warren County.....	5		Burleigh County.....	1	
Warrick County.....	4		Cass County.....	1	
Washington County.....	2		Grant County.....	11	
White County.....	7		Hettinger County.....	4	
			McKenzie County.....	6	
Total.....	477	1	Morton County.....	6	
Iowa (Mar. 1-31):			Mountrail County.....	7	
Adair County.....	1		Nelson County.....	5	
Adams County.....	1		Ramsey County.....	9	
Allamakee County.....	1		Ward County.....	4	
Audubon County.....	2		Williams County.....	1	
Benton County.....	1				
Boone County.....	7		Total.....	60	
Cedar County.....	17				
Cherokee County.....	3		Wyoming (Mar. 1-31):		
Clay County.....	1		Lincoln County.....	2	
Crawford County.....	5		Goshen County.....	6	
Dallas County.....	1		Laramie County.....	1	
Fayette County.....	15		Total.....	9	

SMALLPOX—Continued.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Austin, Tex.	22	5	Kansas City, Mo.	3	1
Baltimore, Md.	1		La Crosse, Wis.	1	
Butte, Mont.	3		Little Rock, Ark.	5	
Cairo, Ill.	6		Madison, Wis.	2	
Chicago, Ill.	3		Minneapolis, Minn.	28	
Cincinnati, Ohio.	5		New Orleans, La.	7	
Cleveland, Ohio.	16		Oakland, Cal.	1	
Covington, Ky.	2		Ogden, Utah.	1	
Danville, Ill.	6		Oklahoma City, Okla.	9	
Davenport, Iowa.	1		Omaha, Nebr.	5	
Denver, Colo.	1		Pittsburgh, Pa.	1	
Detroit, Mich.	3		Pontiac, Mich.	13	
Dubuque, Iowa.	1		Portland, Oreg.	1	
Duluth, Minn.	3		Roanoke, Va.	1	
Evansville, Ind.	8		St. Joseph, Mo.	21	
Flint, Mich.	10		St. Louis, Mo.	15	
Fort Wayne, Ind.	6		Salt Lake City, Utah.	10	
Fort Worth, Tex.	1		San Francisco, Cal.	2	
Galveston, Tex.	1		Sioux City, Iowa.	12	
Grand Rapids, Mich.	2		Topeka, Kans.	2	
Indianapolis, Ind.	4		Wichita, Kans.	1	

TETANUS.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.		2	Omaha, Nebr.		1
Birmingham, Ala.		1	Portsmouth, Va.		1
Galveston, Tex.		1	Syracuse, N. Y.		1
New Orleans, La.		1	Worcester, Mass.	1	
New York, N. Y.	1	1			

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 670.

TYPHOID FEVER.

State Reports for March, 1917.

Place.	New cases reported.	Place.	New cases reported.
Connecticut:		Mississippi—Continued.	
Hartford County—		Panola County.....	1
Bristol.....	1	Pike County.....	1
New Britain.....	1	Pontotoc County.....	7
Middlesex County—		Scott County.....	4
Old Saybrook.....	1	Simpson County.....	1
New Haven County—		Stone County.....	2
Naugatuck.....	1	Sunflower County.....	8
New Haven.....	2	Tate County.....	1
New London County—		Tippah County.....	9
Groton.....	1	Tishomingo County.....	2
New London.....	2	Warren County.....	19
Total.....	9	Washington County.....	6
		Webster County.....	1
		Yalobusha County.....	1
		Yazoo County.....	3
		Total.....	144
Indiana:		New York:	
Cass County.....	10	Albany County.....	18
Davess County.....	3	Allegany County.....	4
Delaware County.....	3	Broome County.....	3
Elkhart County.....	1	Cattaraugus County.....	1
Hancock County.....	1	Chatauqua County.....	4
Hendricks County.....	1	Chenango County.....	1
Huntington County.....	3	Clinton County.....	2
Jennings County.....	1	Columbia County.....	4
Johnson County.....	2	Dutchess County.....	3
Lake County.....	30	Erie County.....	17
Miami County.....	1	Essex County.....	4
St. Joseph County.....	8	Franklin County.....	1
Tipton County.....	1	Genesee County.....	2
Vanderburg County.....	6	Greene County.....	9
Wabash County.....	1	Hamilton County.....	1
Warwick County.....	3	Jefferson County.....	8
White County.....	1	Lewis County.....	1
Whitley County.....	1	Niagara County.....	8
Total.....	77	Oneida County.....	11
		Onondaga County.....	18
Mississippi:		Orange County.....	2
Adams County.....	6	Orleans County.....	1
Benton County.....	4	Oswego County.....	2
Bolivar County.....	2	Otsego County.....	2
Calhoun County.....	1	Rensselaer County.....	5
Carroll County.....	2	St. Lawrence County.....	4
Chickasaw County.....	2	Saratoga County.....	8
Choctaw County.....	3	Schenectady County.....	2
Clarke County.....	1	Steuben County.....	6
Copiah County.....	6	Suffolk County.....	2
Covington County.....	2	Sullivan County.....	4
Forrest County.....	2	Tioga County.....	4
Franklin County.....	1	Tompkins County.....	1
Hancock County.....	1	Ulster County.....	3
Harrison County.....	3	Warren County.....	3
Hinds County.....	8	Wayne County.....	1
Holmes County.....	4	Westchester County.....	6
Jasper County.....	4	Wyoming County.....	1
Jones County.....	3	New York City.....	43
Lafayette County.....	1	Total.....	220
Lauderdale County.....	3		
Lawrence County.....	3	North Dakota:	
Leake County.....	1	Burleigh County.....	4
Lee County.....	3	Cass County.....	1
Lincoln County.....	1	Ramsey County.....	1
Lowndes County.....	1	Stutsman County.....	1
Madison County.....	1	Total.....	7
Marion County.....	1		
Marshall County.....	2	Wyoming:	
Monroe County.....	1	Uinta County.....	2
Montgomery County.....	2		
Neshoba County.....	1		
Noxubee County.....	1		
Oktibbeha County.....	1		

TYPHOID FEVER—Continued.

City Reports for Week Ended Apr. 14, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Albany, N. Y.	2		Lynn, Mass.	1	
Allentown, Pa.	1		Medford, Mass.	2	
Baltimore, Md.	5	3	Milwaukee, Wis.	4	
Beaver Falls, Pa.	3		Mobile, Ala.	1	1
Birmingham, Ala.	2	3	Montclair, N. J.	2	
Boston, Mass.	5		Newark, N. J.	1	
Brockton, Mass.	1		Newcastle, Pa.	1	
Buffalo, N. Y.	1		New Haven, Conn.		2
Chicago, Ill.	2		New Orleans, La.	6	1
Cincinnati, Ohio.	5		New York, N. Y.	23	1
Cleveland, Ohio.	4		Niagara Falls, N. Y.	1	
Columbus, Ohio.	1		Norristown, Pa.	1	
Covington, Ky.	3		Northampton, Mass.	1	
Dayton, Ohio.	1	1	Philadelphia, Pa.	9	
Denver, Colo.	1		Pittsburgh, Pa.	6	
Detroit, Mich.	10	2	Portland, Me.	1	
El Paso, Tex.		2	Rutland, Vt.	1	
Erie, Pa.	2		Saginaw, Mich.		1
Fall River, Mass.	2		St. Joseph, Mo.	2	
Fitchburg, Mass.	1		St. Louis, Mo.	4	
Flint, Mich.	1		Salt Lake City, Utah.	1	
Fort Wayne, Ind.	1		San Francisco, Cal.	8	1
Galveston, Tex.	1		Seattle, Wash.	1	
Indianapolis, Ind.	1		South Bend, Ind.	2	
Kansas City, Mo.	1	1	Toledo, Ohio.	3	
Kenosha, Wis.	1		Washington, D. C.	1	1
Long Beach, Cal.	1		Watertown, N. Y.	1	
Los Angeles, Cal.	2		Wheeling, W. Va.	4	1
Lowell, Mass.	2		Zanesville, Ohio.	4	1

TYPHUS FEVER.**New York, N. Y.**

During the month of March, 1917, three cases of typhus fever were reported in New York City, N. Y.

Texas.

Senior Surg. Pierce reported that during the week ended April 21 1917, one case of typhus fever was notified at El Paso, Tex., making a total of 81 cases reported to him at points along the Texas-Mexico border since July 1, 1916.

During the same week 71,630 persons were inspected. Of this number 4,455 were disinfected for destruction of vermin, 2,014 were vaccinated, and 16 persons were refused admission because of illness.

PREVENTABLE DISEASES.

Massachusetts Report for Week Ended Apr. 14, 1917.

	Cases reported.		Cases reported.
Anthrax	2	Poliomyelitis (infantile paralysis)	4
Cerebrospinal meningitis	6	Scarlet fever	142
Chicken pox	162	Septic sore throat	6
Diphtheria	162	Trachoma	3
German measles	220	Tuberculosis (pulmonary)	171
Malaria	2	Tuberculosis (other forms)	13
Measles	767	Typhoid fever	23
Mumps	238	Whooping cough	95
Ophthalmia neonatorum	49		

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

State Reports for March, 1917.

State.	Cases reported.			State.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
Connecticut.....	177	877	158	New York.....	1,685	7,690	1,606
Indiana.....	235	7,334	544	North Dakota.....	49	251	88
Iowa.....	35	.....	162	Wyoming.....	16	236	35
Mississippi.....	32	9,063	24				

City Reports for Week Ended Apr. 14, 1917.

City.	Popula- tion as of July 1, 1916 (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.	
Over 500,000 inhabitants:											
Baltimore, Md.	589,621	262	10	3	209	2	20		33	23	
Boston, Mass.	756,476	268	75	6	230	3	37	1	62	18	
Chicago, Ill.	2,497,722	873	193	29	1,091	14	476	31	210	92	
Cleveland, Ohio.	674,073	224	17		125	1	17		43	21	
Detroit, Mich.	571,784	274	92	11	135		189	10	43	27	
Los Angeles, Cal.	503,812	133	2		540		19		73	24	
New York, N. Y.	5,602,841	1,610	273	39	1,115	18	155	4	301	184	
Philadelphia, Pa.	1,709,518	626	74	6	123	5	32		115	62	
Pittsburgh, Pa.	579,090	208	16	1	158	3	17		22		
St. Louis, Mo.	757,309	274	66	4	546	6	73	4	45	14	
From 300,000 to 500,000 inhab- itants:											
Buffalo, N. Y.	468,558	110	16	2	16		12		47	21	
Cincinnati, Ohio	410,476	148	8		54	3	10		21	24	
Jersey City, N. J.	306,345	104	22	3	31		20		22	10	
Milwaukee, Wis.	436,535		13	2	16		113	3	19	8	
Minneapolis, Minn	363,454		20	13			25				
Newark, N. J.	408,994	121	26		96		15		39	26	
New Orleans, La.	371,747		13	2	21				46	21	
San Francisco, Cal.	463,516	148	15	3	215	1	23		31	15	
Seattle, Wash.	348,639	51			145	1	5		18	9	
Washington, D. C.	363,980	148	8	3	167		18		27	26	
From 200,000 to 300,000 inhab- itants:											
Columbus, Ohio.	214,878	70	6	2	35	2	3		8	5	
Denver, Colo.	260,800			1	217	4	4			15	
Indianapolis, Ind.	271,708		18		750		29		27		
Kansas City, Mo.	297,847		13	2	164	1	78		1	10	
Portland, Oreg.	295,463	43	3		29	2	12		4	3	
Providence, R. I.	254,960	77	21	1	8		12			9	
Rochester, N. Y.	256,417	91	1	1	49	2	57	2	16	7	
From 100,000 to 200,000 inhab- itants:											
Albany, N. Y.	104,199		3		27		4		6		
Birmingham, Ala.	181,762	60			217	1	2		24	11	
Bridgeport, Conn.	121,579	41	8		20	1	1		7	6	
Cambridge, Mass.	112,981	39	9		68		1		4	3	
Camden, N. J.	106,233		2		1		1		5		
Dayton, Ohio.	127,224	45	6	1	91		9		5	4	
Fall River, Mass.	128,366	39	4	1	42		2		8	3	
Fort Worth, Tex.	104,562	19	2		24		1			1	
Grand Rapids, Mich.	128,291	46	4		197	5	20		9	2	
Hartford, Conn.	110,900		7		4		4		5	5	
Lawrence, Mass.	100,560	30	2	1			2		4	4	
Lowell, Mass.	113,245	38	12		6		2		2	4	
Lynn, Mass.	102,425	36	1		3		10		5	3	
Nashville, Tenn.	117,057	40	1		32	1	2		2	5	
New Bedford, Mass.	118,158	41	1	1	19		2		11	3	
New Haven, Conn.	149,685		3	1	61	1			3	4	
Oakland, Cal.	198,604		5		32		15		3	1	
Omaha, Nebr.	165,470	71	1		90		23	1	2	4	
Reading, Pa.	109,381	25	3	1	3		4		3	2	
Richmond, Va.	156,687	57	7		90	1			5	9	
Salt Lake City, Utah.	117,399	29			11		11			4	

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

City Reports for Week Ended Apr. 14, 1917—Continued.

City.	Population as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 100,000 to 200,000 inhabitants—Continued.										
Springfield, Mass.	105,942	24	6	.....	44	.....	6	.....	8	2
Syracuse, N. Y.	155,624	54	8	.....	36	.....	26	1	5	7
Toledo, Ohio.	191,554	63	7	1	44	.....	62	.....	14	8
Trenton, N. J.	111,593	45	2	2	6	.....	.....	.....	9	3
Worcester, Mass.	163,314	.....	2	.....	8	.....	11	1	7	4
From 50,000 to 100,000 inhabitants:										
Allentown, Pa.	63,505	17	1	.....	5	.....	1	.....	4	.....
Atlantic City, N. J.	57,660	.....	2	1	54	.....	2	.....	5	.....
Bayonne, N. J.	69,893	.....	.....	.....	1	.....	3	.....	2	.....
Berkeley, Cal.	57,653	11	.....	.....	44	.....	2	.....	1	.....
Binghamton, N. Y.	53,973	32	8	.....	30	.....	5	.....	4	5
Brockton, Mass.	67,449	16	.....	.....	2	.....	1	.....	6	3
Canton, Ohio.	60,852	21	.....	.....	2	.....	5	.....	5	1
Charleston, S. C.	60,734	32	.....	.....	7	.....	.....	.....	.....	2
Covington, Ky.	57,144	17	4	1	5	.....	3	.....	1	5
Duluth, Minn.	94,495	8	1	.....	24	.....	.....	.....	5	2
Elizabeth, N. J.	86,690	19	3	.....	15	.....	3	.....	6	.....
El Paso, Tex.	63,703	62	2	.....	17	2	1	.....	.....	16
Erie, Pa.	75,195	.....	.....	.....	38	.....	3	.....	.....	22
Evansville, Ind.	76,078	28	3	.....	99	3	.....	.....	.....	.....
Flint, Mich.	54,772	.....	3	.....	15	.....	14	.....	.....	1
Fort Wayne, Ind.	76,153	23	2	.....	5	.....	1	.....	4	.....
Harrisburg, Pa.	72,015	20	1	.....	5	.....	4	.....	.....	1
Hoboken, N. J.	77,214	17	.....	.....	2	.....	4	.....	3	2
Johnstown, Pa.	68,529	28	3	1	19	.....	13	.....	4	3
Lancaster, Pa.	50,853	.....	.....	.....	33	.....	3	.....	2	.....
Little Rock, Ark.	57,343	5	.....	.....	14	.....	.....	.....	.....	.....
Malden, Mass.	51,155	8	4	.....	19	.....	5	1	1	.....
Manchester, N. H.	78,283	36	.....	.....	1	.....	1	.....	.....	.....
Mobile, Ala.	58,221	26	.....	.....	34	.....	.....	.....	1	2
New Britain, Conn.	53,794	6	3	.....	2	.....	2	.....	.....	.....
Norfolk, Va.	89,612	.....	1	.....	40	1	1	.....	.....	1
Oklahoma City, Okla.	92,943	21	.....	.....	9	.....	3	.....	.....	2
Passaic, N. J.	71,744	25	4	1	1	.....	2	.....	4	4
Pawtucket, R. I.	59,411	10	2	.....	.....	.....	.....	.....	.....	.....
Portland, Me.	63,867	28	.....	.....	1	.....	2	.....	.....	.....
Rockford, Ill.	55,185	17	1	.....	8	.....	1	.....	1	.....
Sacramento, Cal.	66,895	29	.....	.....	18	.....	2	.....	2	5
Saginaw, Mich.	55,642	23	3	.....	1	.....	6	.....	.....	.....
St. Joseph, Mo.	85,236	24	5	.....	11	.....	13	.....	1	3
San Diego, Cal.	53,330	20	2	.....	46	.....	.....	.....	.....	.....
Schenectady, N. Y.	99,519	18	.....	1	107	.....	2	.....	3	2
Sioux City, Iowa.	57,078	.....	1	.....	.....	.....	6	.....	.....	.....
Somerville, Mass.	87,039	24	2	1	8	.....	9	.....	5	2
South Bend, Ind.	68,946	18	3	.....	5	.....	12	.....	4	.....
Springfield, Ill.	61,120	22	2	.....	6	.....	.....	.....	.....	1
Troy, N. Y.	77,916	.....	1	1	69	1	2	.....	9	6
Wichita, Kans.	70,722	.....	2	1	104	1	3	.....	3	1
Wilkes-Barre, Pa.	76,776	25	3	.....	14	.....	2	.....	6	1
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,732	12	3	.....	6	.....	6	.....	1	2
Austin, Tex.	34,814	17	.....	.....	4	.....	1	.....	.....	3
Brookline, Mass.	32,730	8	1	.....	6	.....	1	.....	.....	.....
Butler, Pa.	27,632	6	4	1	.....	.....	.....	.....	.....	.....
Butte, Mont.	43,425	27	1	.....	30	.....	2	.....	.....	6
Chelsea, Mass.	46,192	14	1	.....	.....	.....	.....	.....	3	1
Chicopee, Mass.	29,319	7	.....	.....	1	.....	.....	.....	7	1
Cumberland, Md.	26,074	11	3	.....	6	.....	.....	.....	2	1
Danville, Ill.	32,261	15	1	.....	9	.....	1	.....	2	2
Davenport, Iowa.	48,811	.....	.....	.....	3	.....	.....	.....	1	.....
Dubuque, Iowa.	39,873	.....	2	.....	3	.....	.....	.....	2	2
East Chicago, Ind.	28,743	.....	.....	1	18	1	2	.....	.....	1
East Orange, N. J.	42,458	4	2	.....	3	.....	1	.....	1	.....
Elgin, Ill.	28,203	8	.....	.....	15	.....	6	.....	.....	.....
Everett, Mass.	39,233	6	2	.....	7	.....	1	.....	.....	.....
Everett, Wash.	35,496	10	.....	.....	20	.....	.....	.....	1	2
Fitchburg, Mass.	41,781	10	2	1	3	.....	.....	.....	3	1
Galveston, Tex.	41,863	12	.....	.....	1	.....	1	.....	1	.....
Haverhill, Mass.	48,477	19	2	.....	9	.....	2	.....	2	2

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

City Reports for Week Ended Apr. 14, 1917—Continued.

City.	Popula- tion as of July 1, 1916 (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.
From 25,000 to 50,000 inhabi- tants—Continued.										
Jackson, Mich.	35,363	15	2		21		4		1	
Kalamazoo, Mich.	48,886	14			3		6		1	
Kenosha, Wis.	31,576	9		1	34		3		1	
Kingston, N. Y.	26,771	7			1				1	
Knoxville, Tenn.	38,676				4					
La Crosse, Wis.	31,677	17	1				3			
Lexington, Ky.	41,037	26	1		24					
Lincoln, Nebr.	46,515	16	1	1	66		21			
Long Beach, Cal.	27,587	10								
Lorain, Ohio.	36,964		1		4		5			
Lynchburg, Va.	32,940	10	1							
Madison, Wis.	30,699	3			1		14			
McKeesport, Pa.	47,521	21	2		3					
Medford, Mass.	26,234	13	6		19		3		3	
Montclair, N. J.	26,318	4			2		1		2	
Newburgh, N. Y.	29,603	11	2		1		1		2	
New Castle, Pa.	41,133		2		10					
Newport, Ky.	31,927	11					1	1	1	
Newport, R. I.	30,108	7	1							
Newton, Mass.	43,715	16	4	1	35				1	
Niagara Falls, N. Y.	37,353	26			15					
Norristown, Pa.	31,401	16	1		2				2	
Ogden, Utah.	31,404	7			3					
Orange, N. J.	33,080	16	5				10			
Pasadena, Cal.	46,450				13				6	4
Perth Amboy, N. J.	41,185		5		1		1		5	4
Pittsfield, Mass.	38,629	10			4		3		2	
Portsmouth, Va.	39,651	16			14		6		1	
Quincy, Ill.	36,798	11	1		12					
Quincy, Mass.	38,136	12					2		1	
Racine, Wis.	46,486	12					1		4	1
Roanoke, Va.	43,284	8			47	1			1	
San Jose, Cal.	38,902		2		13					
Steubenville, Ohio	27,445	6								
Superior, Wis.	46,226	8	2				1			
Taunton, Mass.	36,283	14								1
Topeka, Kans.	48,726	11	1		52		2			1
Waltham, Mass.	30,570	7	1		1		3			
Watertown, N. Y.	29,834	10			7					
West Hoboken, N. J.	43,139		3		11		2			2
Wheeling, W. Va.	43,377	20	3		8		3			3
Williamsport, Pa.	33,809		8		34		2			
Wilmington, N. C.	29,892	13	2		17					
Winston-Salem, N. C.	31,155	17	1		8		3		1	4
Zanesville, Ohio.	39,863	14	1				2		2	1
From 10,000 to 25,000 inhabitants:										
Ann Arbor, Mich.	15,010	12	1				12		7	
Beaver Falls, Pa.	13,532				4					
Bradock, Pa.	21,685		3				1			
Cairo, Ill.	15,794	6			19					
Clinton, Mass.	13,075	3			14					
Coffeyville, Kans.	17,548				6					
Concord, N. H.	22,609	7	2		23					
Galesburg, Ill.	24,276	7	1		2					1
Harrison, N. J.	16,950		1		4					
Kearny, N. J.	23,539	7			2				2	
Kokomo, Ind.	20,930	5	1		4		1			
Long Branch, N. J.	15,395	1			17		1			
Marinette, Wis.	14,610	4								1
Melrose, Mass.	17,445	5			3		1			
Morristown, N. J.	13,284	6	2		1					2
Muscataine, Iowa	17,500				1					
Nanticoke, Pa.	23,126	4	1		1		1			
Newburyport, Mass.	15,243	6			24					
New London, Conn.	20,985	8					1			
North Adams, Mass.	22,019	10			4		3			1

¹ Population Apr. 15, 1910; no estimate made.

City Reports for Week Ended Apr. 14, 1917—Continued.

City.	Popula- tion as of July 1, 1916 (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.
From 10,000 to 25,000 inhabi- tants—Continued.										
Northampton, Mass.	19,926	7	2		18		2		2	2
Plainfield, N. J.	23,805	8	1		2				2	2
Pontiac, Mich.	17,524		1		3		23			
Portsmouth, N. H.	11,666				2		3			
Rocky Mount, N. C.	12,067	4			8				1	
Rutland, Vt.	14,831	8	1		1		1			
Sandusky, Ohio.	20,193	7			3		3			
Saratoga Springs, N. Y.	13,821	5			2		3		1	
Steelton, Pa.	15,548	6			3		1		4	1
Washington, Pa.	21,618				2		4			
Wilkinsburg, Pa.	23,228	5	1		1					
Woburn, Mass.	15,969	6			1					

FOREIGN.

ARGENTINA.

Leprosy.

The national conference on leprosy which met at Buenos Aires in 1906 gave the number of lepers then present in Argentina as 724. Of these, 272 cases were found in the Province of Corrientes, 144 in the Province of Buenos Aires, and 123 in the Federal capital. The remaining cases were distributed according to Provinces as follows: Cordoba, 60 cases; Entre Rios, 50; Salta, 2; San Juan, 1; Santa Fe, 40; Tucuman, 12. In the national territories of Formosa, del Chaco, and Misiones 20 cases of leprosy were present. From the year 1906 to December 31, 1916, 350 cases of leprosy were received in hospital in the Republic.

CHINA.

Examination of Rats—Hongkong.

During the period from February 18 to March 17, 1917, 8,610 rats were examined at Hongkong. No plague infection was found. The last plague-infected rat at Hongkong was found February 3, 1917.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	Apr. 1-10, 1917.		Remain- ing under treatment Apr. 10, 1917.	Disease.	Apr. 1-10, 1917.		Remain- ing under treatment Apr. 10, 1917.
	New cases.	Deaths.			New cases.	Deaths.	
Diphtheria.....	8	.....	6	Scarlet fever.....	.....	1	2
Leprosy.....	1	.....	10	Smallpox.....	.....	.....	11
Malaria.....	1	.....	15	Typhoid fever.....	2	.....	27
Measles.....	27	.....	39	Varicella.....	4	.....	5
Paratyphoid fever..	1	1	3				

¹ From Europe.

Preferential Treatment for Vessels of the Allied Nations.

By order of April 17, 1917, the quarantine service of the Republic of Cuba directed that in inspection and fumigation of vessels at Cuban ports preference be given to vessels of the allied belligerent nations in order to insure rapid completion of such operations.

GREAT BRITAIN.**Anthrax—Bradford District and Vicinity.**

During the year ended October 31, 1916, 19 cases of anthrax occurring among wool handlers were reported in Bradford district, England. The distribution of the cases according to periods of the year was as follows: October, November, and December, 1915, 1 case; January 22 to February 3, 1916, 6 cases; February 22 to April 4, 6 cases; May 3 to June 9, 3 cases occurring in the same factory; June 24 to 26, 3 cases. During the 10 years preceding the year under report 127 cases of anthrax were reported in Bradford district and 15 cases in adjoining districts.

JAVA.**Malaria—Cheribon District.**

During the two weeks ended February 22, 1917, 182 cases of malaria were reported among natives of Cheribon district, Island of Java.

PERU.**Plague—Year 1916.**

During the year 1916, 510 cases of plague, with 267 deaths, were notified in Peru. The cases were distributed according to departments and months as follows:

Department.	New cases.	Deaths.	Remain- ing Dec. 31, 1916.	Department.	New cases.	Deaths.	Remain- ing Dec. 31, 1916.
Ancachs.....	62	21	.....	Lima.....	85	37	12
Arequipa.....	24	19	.....	Callao Province.....	40	22	.....
Cajamarca.....	2	.....	.....	Piura.....	78	58	1
Lambayeque.....	90	34	.....	Total.....	510	267	23
Libertad.....	129	76	10				

Month.	New cases.	Deaths.	Month.	New cases.	Deaths.
January.....	44	27	August.....	7	3
February.....	113	57	September.....	19	6
March.....	71	32	October.....	8	3
April.....	65	40	November.....	39	23
May.....	46	21	December.....	57	27
June.....	21	14			
July.....	20	14	Total.....	510	267

The number of localities infected in each department and the Province of Callao was as follows: Ancachs, 2; Arequipa, 1; Cajamarca, 1; Callao, 1 (port of Callao); Lambayeque, 11; Libertad, 12, including Salaverry and Trujillo; Lima, city of Lima, Magdalena Vieja, and country estates; Piura, 4, including Catacaos and Paita.

The prevalence of the disease was confined to the maritime Provinces with the exception of the inland Province of Cajamarca.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During the Week Ended May 4, 1917.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bassein.....	Feb. 18-Mar. 3.....	.....	11	
Calcutta.....	Feb. 18-24.....	.....	15	
Henzada.....	do.....	.....	1	
Philippine Islands:				
Provinces.....				Feb. 25-Mar. 3, 1917: Cases, 189; deaths, 160.
Albay.....	Feb. 25-Mar. 3.....	3	3	
Antique.....	do.....	8	8	
Bohol.....	do.....	12	6	
Capiz.....	do.....	24	14	
Cebu.....	do.....	13	8	
Iloilo.....	do.....	9	6	
Leyte.....	do.....	50	47	
Romblon.....	do.....	12	14	
Samar.....	do.....	54	49	
Sorsogon.....	do.....	4	5	
Straits Settlements:				
Singapore.....	do.....	1	1	
Turkey in Asia:				
Aleppo.....	Jan. 15.....	2	2	From outbreak, July 14, 1916, to Jan. 18, 1917: Cases, 9,560; deaths, 4,913.
Panderma.....	Jan. 8-Mar. 13.....	2	1	
Rodosto.....	Jan. 18.....	1	1	
Turkey in Europe:				
Constantinople.....	Mar. 4.....	1	1	

PLAGUE.

Brazil:				
Pernambuco, State.....	Apr. 26.....	.....	.....	Present in interior towns.
Ceylon:				
Colombo.....	Jan. 28-Feb. 10.....	20	20	
China:				
Nanking.....	Mar. 4-24.....	.....	.....	Present.
Egypt:				
Alexandria.....	Mar. 22.....	1	1	Jan. 1-Mar. 27, 1917: Cases, 54; deaths, 32.
Port Said.....	Mar. 22-25.....	2	1	
Provinces—				
Assiout.....	Mar. 9.....	.....	1	
Fayoum.....	Mar. 14-20.....	6	2	
Girgeh.....	Mar. 27.....	6	1	
Keneh.....	Mar. 26-27.....	10	7	Pneumonic.
Minieh.....	Mar. 20-22.....	1	1	
India:				
Bassein.....	Feb. 18-Mar. 3.....	.....	38	Feb. 18-24, 1917: Cases, 23,150; deaths, 17,910.
Bombay.....	Feb. 25-Mar. 3.....	43	42	
Henzada.....	Feb. 18-Mar. 3.....	.....	8	
Karachi.....	do.....	30	18	
Madras.....	Feb. 18-24.....	1	1	
Madras Presidency.....	Feb. 18-Mar. 3.....	1,319	1,163	
Mandaly.....	do.....	.....	10	
Moulmein.....	do.....	.....	2	
Myingyan.....	Feb. 25-Mar. 3.....	.....	2	
Rangoon.....	Feb. 18-Mar. 3.....	78	74	
Toungoo.....	Feb. 18-24.....	.....	12	
Indo-China:				
Saigon.....	Feb. 19-25.....	9	7	
Java:				
Residences—				Jan. 15-28, 1917: Cases, 8; deaths, 8. Jan. 29-Feb. 11, 1917: Cases, 17; deaths, 16.
Djoejakarta.....	Jan. 15-28.....	5	5	
Samarang.....	Jan. 29-Feb. 11.....	5	5	
Surabaya.....	Jan. 15-28.....	3	3	
Do.....	Jan. 29-Feb. 11.....	10	9	
Surakarta.....	do.....	2	2	
Peru:				
Department—				Jan. 1-Dec. 31, 1916: Cases, 510 deaths, 267.
Ancachs.....	Jan. 1-Dec. 31, 1916.....	62	21	
Arequipa.....	do.....	24	19	
Cajamarca.....	do.....	2	.....
Lambayeque.....	do.....	90	34	
Libertad.....	do.....	129	76	
Lima.....	do.....	85	37	
Callao, province.....	do.....	40	22	
Piura.....	do.....	78	58	
Straits Settlements:				
Penang.....	Feb. 18-24.....	1	1	

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

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

Reports Received During the Week Ended May 4, 1917—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria—				
Vienna.....	Mar. 18-24.....	2		
Hungary—				
Budapest.....	Mar. 11-24.....	22	2	
Brazil:				
Bahia.....	Mar. 11-17.....	1		
Canada:				
British Columbia—				
Vancouver.....	Apr. 1-7.....	1	2	
Manitoba—				
Winnipeg.....	do.....	1		
China:				
Changsha.....	Mar. 11-17.....	3		
Chungking.....	Feb. 25-Mar. 10.....			Present.
Harbin.....	Jan. 2-Mar. 11.....	10		
Hongkong.....	Mar. 11-17.....	7	6	
Manchuria Station.....	Jan. 8-Feb. 25.....	4		Chinese railway.
Mukden.....	Mar. 11-17.....			Present.
Tsingtao.....	Mar. 4-29.....	18	2	
Egypt:				
Alexandria.....	Mar. 4-18.....	10	2	
Germany:				
Bremen.....	Jan. 21-27.....	1		
India:				
Bombay.....	Feb. 25-Mar. 3.....	28	2	
Calcutta.....	Feb. 18-24.....		1	
Madras.....	Feb. 18-Mar. 10.....	118	15	
Rangoon.....	Feb. 18-Mar. 3.....	19		
Indo-China:				
Saigon.....	Feb. 5-Mar. 4.....	114	26	
Italy:				
Turin.....	Mar. 12-18.....	8	1	Roumanian refugees.
Japan:				
Kobe.....	Mar. 12-25.....	20	3	
Osaka.....	Mar. 5-25.....	231	45	
Java:				
East Java.....	Jan. 27-Feb. 11.....	11	1	
Mid-Java.....	Jan. 28-Feb. 10.....	19	2	
West Java.....				Feb. 9-22, 1917: Cases, 19; deaths, 3.
Batavia.....	Feb. 9-22.....	3	1	
Russia:				
Moscow.....	Jan. 22-Feb. 11.....	87	27	
Petrograd.....	Feb. 4-17.....	81	19	
Warsaw.....	Jan. 9-Feb. 12.....	39	4	
Spain:				
Bilbao.....	Jan. 1-31.....		2	
Tunisia:				
Tunis.....	Mar. 17-30.....	3	2	
Turkey in Asia:				
Trebizond.....	Jan. 14-Feb. 10.....		5	
Venezuela:				
Maracaibo.....	Apr. 8-14.....		1	

TYPHUS FEVER.

Algeria:				
Algiers.....	Feb. 1-28.....	1	1	
Austria-Hungary:				
Austria—				
Vienna.....	Mar. 18-24.....	1		
Hungary—				
Budapest.....	Mar. 11-24.....	47	1	
Canada:				
Ontario—				
Ottawa.....	Apr. 9-15.....		1	
China:				
Tsingtao.....	Mar. 4-29.....	3		
Egypt:				
Alexandria.....	Mar. 4-18.....	173	46	
Germany:				
Bremen.....	Jan. 21-27.....		1	
Great Britain:				
Belfast.....	Mar. 18-31.....	10	1	

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

Reports Received During the Week Ended May 4, 1917—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Greece:				
Saloniki.....	Feb. 18-Mar. 10.....		6	
Java:				
East Java.....	Feb. 4-10.....	6	1	
Mid-Java.....	Jan. 25-Feb. 10.....	9	1	
West Java.....				Feb. 9-22, 1917: Cases, 6.
Batavia.....	Feb. 9-22.....	6		
Russia:				
Moscow.....	Jan. 22-Feb. 11.....	57	14	
Petrograd.....	Feb. 4-17.....	18	2	
Warsaw.....	Jan. 9-Feb. 12.....	497	27	
Switzerland:				
Zurich.....	Mar. 11-17.....	1		

Reports Received from Dec. 30, 1916, to Apr. 27, 1917.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Macao.....				Outbreak with 72 cases reported Mar. 1, 1917.
Chosen (Korea).....	Aug.-Dec. 29.....	1,998		
India:				
Bassein.....	Dec. 31-Feb. 17.....		33	
Bombay.....	Nov. 5-Dec. 23.....	13	12	
Do.....	Jan. 14-Feb. 10.....	7	6	
Calcutta.....	Oct. 15-Dec. 30.....		161	Oct. 8-14, 1916: Cases, 3.
Do.....	Dec. 31-Feb. 17.....		88	
Madras.....	Nov. 5, Dec. 16.....	5		
Do.....	Dec. 31-Feb. 10.....	6	4	Dec. 17-23, 1916: One case.
Moulmein.....	do.....		7	
Rangoon.....	Nov. 26-Dec. 30.....	5	6	
Do.....	Dec. 31-Feb. 17.....	9	8	
Indo-China.....				Apr. 1-June 30, 1916: Cases, 4,540; deaths, 2,869.
Do.....				July 1-Dec. 31, 1916: Cases, 2,984; deaths, 2,398.
Provinces—				
Anam.....	Apr. 1-June 30.....	1,381	2,309	
Do.....	July 1-Dec. 31.....	700	544	
Cambodia.....	May 1-June 30.....	47	13	
Do.....	July 1-Dec. 31.....	164	116	
Cochin-China.....	Apr. 1-June 30.....	269	111	
Do.....	July 1-Dec. 31.....	123	111	
Kwang-Tcheou-Wan.....	July 1-Nov. 30.....	271	264	
Laos.....	Apr. 1-June 30.....	102	57	
Do.....	July 1-Nov. 30.....	652	630	
Toukin.....	Apr. 1-June 30.....	2,780	1,385	
Do.....	July 1-Dec. 31.....	999	725	
Saigon.....	Dec. 25-31.....	4	3	
Do.....	Jan. 29-Feb. 4.....	3	3	
Japan:				
Fukuoka.....	Jan. 19.....	33		
Nagasaki.....	Nov. 27-Dec. 3.....	9	4	
Do.....	Feb. 19-25.....	1	1	
Osaka.....	Nov. 16-Dec. 25.....	23	57	Aug. 12-Dec. 25, 1916: Cases, 971; deaths, 754.
Do.....	Dec. 26-Jan. 25.....	19	10	Jan. 6-16, 1917: Cases, 9. Aug. 14, 1916-Jan. 25, 1917: Cases, 990; deaths, 641.
Taiwan Island—				
Keelung.....	Nov. 13-Dec. 23.....	5	7	
Do.....	Feb. 18-24.....		1	
Taihoku.....	do.....	14	5	
Tokyo.....	Jan. 23-Feb. 4.....	4		
Yokohama.....	Nov. 6-Dec. 3.....	5	3	
Districts.....	do.....	1	1	
Java:				
East Java.....	Oct. 14-17.....	5	3	
West Java.....				Nov. 17-Dec. 14, 1916: Cases, 126; deaths, 65.
Batavia.....	Nov. 17-Dec. 7.....	23	9	

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Persia:				
Enzeli.....	Mar. 21-Sept. 9....	74	37	
Kasvin.....	July 18-Sept. 19....	107	65	
Mazanderan Province—				
Amol.....	Nov. 16.....	.....	.....	Epidemic.
Perikenar.....	Nov. 30.....	8	8	
Recht.....	Mar. 21-Oct. 14....	165	60	
Taberan.....	Aug. 3-Oct. 18....	428	409	At two localities in vicinity Cases, 64; deaths, 33.
Philippine Islands:				
Manila.....	Oct. 29-Dec. 20....	201	70	Not previously reported: Cases, 54; deaths, 2.
Do.....	Dec. 31-Feb. 24....	14	7	Oct. 29-Dec. 9, 1916: Cases, 4,191; deaths, 2,030. Dec. 17-30, 1916: Cases, 282; deaths, 188. Dec. 31, 1916-Feb. 24, 1917: Cases, 1,335; deaths, 955.
Provinces:				
Albay.....	Oct. 29-Dec. 9....	246	147	
Do.....	Dec. 17-30.....	20	10	
Do.....	Dec. 31-Feb. 24....	57	43	
Antique.....	Nov. 18-25.....	8	7	
Do.....	Dec. 31-Feb. 24....	116	79	
Bataan.....	Oct. 29-Dec. 9....	93	77	
Do.....	Dec. 17-23.....	2	2	
Do.....	Oct. 31-Jan. 6....	2	3	
Batangas.....	Oct. 29-Nov. 18....	1	1	
Bohol.....	Oct. 29-Dec. 9....	46	18	
Do.....	Dec. 17-23.....	1	.....
Bulacan.....	Oct. 29-Dec. 9....	96	67	
Do.....	Dec. 17-23.....	10	6	
Camarines.....	Oct. 29-Dec. 9....	61	37	
Capiz.....	do.....	45	34	
Do.....	Dec. 17-30.....	27	23	
Do.....	Dec. 31-Feb. 24....	137	106	
Cavite.....	Oct. 29-Dec. 9....	156	113	
Do.....	Dec. 17-30.....	24	13	
Do.....	Dec. 31-Feb. 10....	45	33	
Cebu.....	Dec. 24-30.....	12	6	
Do.....	Jan. 7-Feb. 24....	87	47	
Iloilo.....	Oct. 29-Dec. 9....	237	148	
Do.....	Dec. 17-30.....	37	31	
Do.....	Dec. 31-Feb. 10....	51	44	
Laguna.....	Nov. 2-25.....	12	10	
Leyte.....	Oct. 29-Dec. 9....	127	98	
Do.....	Dec. 17-30.....	90	62	
Do.....	Dec. 31-Feb. 24....	388	313	
Masbate.....	Dec. 17-23.....	8	2	
Mindanao.....	Jan. 14-Feb. 3....	25	18	
Mindoro.....	Dec. 31-Feb. 3....	8	7	
Misamis.....	Oct. 29-Dec. 9....	126	79	
Do.....	Dec. 17-30.....	17	12	
Do.....	Dec. 31-Feb. 24....	49	36	
Negros Occidental.....	Oct. 29-Dec. 9....	910	553	
Do.....	Dec. 24-30.....	11	5	
Do.....	Jan. 7-Feb. 10....	51	46	
Pampanga.....	Dec. 3-9.....	4	3	
Do.....	Dec. 17-23.....	6	5	
Do.....	Dec. 31-Jan. 6....	1	1	
Rizal.....	Oct. 29-Dec. 9....	27	14	
Do.....	Dec. 17-30.....	4	.....
Do.....	Dec. 31-Jan. 27....	2	.....
Romblon.....	Jan. 28-Feb. 24....	19	8	
Samar.....	Nov. 5-18.....	13	10	
Do.....	Dec. 31-Feb. 3....	165	123	
Sorsogon.....	Oct. 29-Dec. 2....	131	71	
Do.....	Dec. 17-23.....	1	2	
Do.....	Jan. 21-Feb. 24....	103	64	
Tayabas.....	Nov. 5-18.....	1	1	
Zambales.....	Oct. 29-Dec. 2....	7	1	
Straits Settlements:				
Singapore.....	Oct. 22-28.....	2	2	
Do.....	Jan. 7-Feb. 17....	2	2	
Turkey in Asia:				
Aleppo.....	Dec. 9-15.....	.....	1	Sept. 22-Dec. 12, 1916: Cases, 253; deaths, 117. July 14-Dec. 25, 1916: Cases, 9, 542; deaths, 4,897.
Bagdad.....	Nov. 6-30.....	17	6	
Beirut.....	Dec. 7-12.....	2	1	
Tarsus.....	Nov. 7.....	1	1	
Turkey in Europe:				
Constantinople.....	Oct. 1-Nov. 17....	8	1	

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia.....	Nov. 5-Dec. 16.....	15	9	Jan. 1-Nov. 11, 1916: Cases, 14; deaths, 7. Nov. 5-11: Cases, 4; deaths, 2.
Do.....	Jan. 7-Feb. 24.....	4	3	June 1-Nov. 6, 1916: Cases, 67; deaths, 51.
Joazeiro.....				Present in interior cities.
Pernambuco, State.....	Jan. 16-Feb. 16.....			
Ceylon:				
Colombo.....	Oct. 28-Dec. 30.....	50	30	July 23-29, 1916: Cases, 9; deaths, 8.
Do.....	Dec. 31-Jan. 27.....	18	16	
Chile:				
Antofagasta.....	Mar. 12.....	2		
Tacna.....	do.....	1		
Tocopilla.....	Sept. 12.....	1	1	
China:				
Amoy, vicinity.....	Nov. 19-Dec. 2.....			Present.
Do.....	Feb. 18-Mar. 3.....			Present in vicinity.
Chaowfu.....	Feb. 24.....			Present; 26 miles from Swatow.
Hongkong.....	Dec. 24-30.....	1	1	
Do.....	Jan. 21-Feb. 3.....	24	12	Present in vicinity.
Kansu Province— Taohow.....	Oct. 1-24.....		20	Pneumonic. Reported present in other localities in Province.
Ecuador				Sept. 1-Dec. 31, 1916: Cases, 353; deaths, 119.
Duran.....	Oct. 1-Dec. 31.....	2		
Guayaquil.....	Sept. 1-Dec. 31.....	347	116	
Do.....	Jan. 1-31.....	104	43	Jan. 1-31, 1917: Cases, 106; deaths, 43.
Milagro.....	Nov. 1-Dec. 31.....	2	1	
Naranjal.....	Jan. 1-31.....	1		
Nobol.....	Oct. 1-31.....	1	1	
Santa Rosa.....	Sept. 1-30.....	1	1	
Taura.....	Jan. 1-31.....	1		
Egypt				Jan. 1-Dec. 30, 1916: Cases, 1,702; deaths, 828. Jan. 1-Mar. 8, 1917: Cases, 28; deaths, 18.
Alexandria.....	Nov. 12-Dec. 25.....	4	3	1 case on s. s. Proton, arrived Nov. 16, 1916, from Sidi Barani and Sollum.
Do.....	Feb. 21.....	1		
Port Said.....	Dec. 11.....	1		
Do.....	Jan. 18-Mar. 7.....	8	4	
Provinces—				
Assiout.....	Mar. 8.....	8	7	
Beni-Souef.....	Feb. 1.....	1		
Fayoum.....	Jan. 24-Mar. 3.....	5	3	
Minieh.....	Jan. 25-Feb. 9.....	2	2	
Gold Coast:				
Akra.....	Apr. 4.....			Present.
Greece:				
Athens.....	Apr. 23.....	2		In military hospital.
Hawaii:				
Pasaulo.....	Mar. 7.....	1	1	
India				Oct. 15-Dec. 23, 1916: Cases, 89,512; deaths, 67,068. Dec. 31, 1916-Feb. 17, 1917: Cases, 134,728; deaths, 108,629.
Bassein.....	Oct. 22-Dec. 30.....		7	
Do.....	Dec. 31-Feb. 17.....		36	Oct. 8-14, 1916: Cases, 13; deaths, 7. Received out of date. Original report lost on s. s. Arabia.
Bombay.....	Nov. 5-Dec. 30.....	73	59	
Do.....	Dec. 31-Feb. 24.....	157	134	
Karachi.....	Oct. 28-Dec. 30.....	4	3	
Do.....	Dec. 31-Feb. 17.....	8	5	
Madras.....	Nov. 19-Dec. 30.....	7	5	Oct. 8-14, 1916: Case, 1; death, 1.
Do.....	Dec. 31-Feb. 10.....	6	4	
Madras Presidency.....	Nov. 5-Dec. 30.....	5,854	3,932	Oct. 8-14, 1916: Cases, 534; deaths, 353. Sept. 17-23, 1916: Cases, 429; deaths, 280.
Do.....	Dec. 31-Feb. 17.....	5,146	3,377	
Mandalay.....	Oct. 28-Dec. 30.....		3	
Do.....	Feb. 4-17.....		6	
Moulmein.....	Dec. 3-9.....		1	
Do.....	Feb. 4-17.....		7	
Myingyan.....	Feb. 4-10.....		1	
Prome.....	Oct. 22-Dec. 30.....		177	
Do.....	Dec. 31-Feb. 17.....		101	
Rangoon.....	Oct. 28-Dec. 30.....	43	39	
Do.....	Dec. 31-Feb. 17.....	165	151	Oct. 1-7, 1916: Cases, 9; deaths, 9.
Toungoo.....	Oct. 22-Dec. 30.....		12	
Do.....	Dec. 31-Feb. 17.....		25	

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Indo-China				Apr. 1-June 30, 1916: Cases, 325; deaths, 148. July 1-Dec. 31, 1916: Cases, 230; deaths, 142.
Provinces—				
Anam.....	Apr. 1-June 30....	142	83	
Do.....	July 1-Dec. 31....	75	49	
Cambodia.....	Apr. 1-June 30....	43	41	
Do.....	July 1-Dec. 31....	57	54	
Cochin-China.....	Apr. 1-June 30....	135	63	
Do.....	July 1-Nov. 30....	58	22	
Kwang-Tcheou-Wan.....	.....do.....	29	8	
Tonkin.....	Oct. 1-31.....	2		
Saigon.....	Nov. 6-Dec. 17....	9	3	
Do.....	Jan. 1-Feb. 4.....	10	7	
Japan:				
Nagoya.....	Dec. 10-16.....	2		
Taiwan Island—				
Shirin.....	Feb. 18-24.....	1	1	Three miles from Taihoku.
Tansui.....	Feb. 15-21.....	3	3	
Yokkaichi.....	Nov. 12-Dec. 16....	32	12	
Java:				
East Java.....				Aug. 26-Dec. 31, 1916: Cases, 133; deaths, 116.
Djoejakarta Residency.....	Nov. 4-Dec. 31....	2	2	
Kediri Residency.....	Aug. 26-Dec. 31....	20	18	
Madloen Residency.....	.....do.....	8	8	
Paseroean Residency.....	.....do.....	3	3	
Samarang Residency.....	Dec. 2-31.....	6	6	
Surabaya Residency.....	Aug. 26-Dec. 31....	49	49	
Surakarta Residency.....	.....do.....	28	28	
Mid-Java—				
Samarang.....	.....do.....	1	1	
Mauritius.	Dec. 9-Feb. 3.....	20	11	District of Port Louis.
Peru				Jan. 1-Feb. 15, 1917: 101 cases.
Department—				
Ancachs—				
Casma.....	Jan. 1-Feb. 15....	3		
Callao.....	.....do.....	3		
Callao.....	.....do.....	3		
Lambayeque—				
Chiclayo.....	.....do.....	2		
Libertad.....	.....do.....	60		Occurring in Guadalupe, Pacasmayo, Salaverry, San Pedro, Trujillo (city and country), and Viru.
Lima—				
Lima.....	.....do.....	22		City and country.
Piura—				
Catacaos.....	.....do.....	11		
Siam:				
Bangkok.....	Oct. 22-Dec. 30....	12	10	
Do.....	Jan. 14-Feb. 17....	9	7	
Straits Settlements:				
Penang.....	Jan. 28-Feb. 3.....	2	1	
Singapore.....	Oct. 22-Dec. 30....	7	7	
Do.....	Dec. 31-Feb. 24....	9	8	
Union of South Africa:				
Cape of Good Hope State—				
Uitenhage district.....	Oct. 31-Nov. 12....	2	2	Total, Oct. 23-Nov. 12, 1916: Cases, 24; deaths, 13.
Orange Free State—				
Winburg district.....	Feb. 5-11.....	6	2	On a farm.
Transvaal—				
Potchefstroom district..	Dec. 21-Jan. 21....	12	12	On 2 adjoining farms.

SMALLPOX.

Australia:				
New South Wales—				
Coomamble.....	Dec. 8.....	1		
Queensland—				
Thursday Island, quarantine station.	Feb. 8.....	1		On steamship St. Albans from Kobe via Hongkong. Vessel proceeded in quarantine to Townsville, Brisbane, and Sydney, arriving Feb. 16. Released Feb. 23.

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Austria-Hungary:				
Austria—				
Prague.....	Jan. 21-27.....	1	.....
Vienna.....	Nov. 12-Dec. 9.....	8	1	
Do.....	Feb. 11-Mar. 10.....	2	.....
Hungary—				
Budapest.....	Nov. 5-Dec. 23.....	73	2	
Do.....	Dec. 31-Mar. 4.....	59	9	
Brazil:				
Bahia.....	Nov. 12-Dec. 23.....	5	.....
Do.....	Jan. 7-Mar. 3.....	8	.....
Rio de Janeiro.....	Nov. 12-Dec. 30.....	50	12	
Do.....	Dec. 31-Mar. 10.....	106	31	
Canada:				
Alberta—				
Lethbridge.....	Feb. 1-28.....	2	.....
British Columbia—				
Vancouver.....	Feb. 18-24.....	1	.....
Victoria.....	Feb. 11-17.....	1	.....
Manitoba—				
Winnipeg.....	Feb. 11-Mar. 31.....	5	.....
Ontario—				
Kingston.....	Mar. 11-17.....	1	.....
Sarnia.....	Jan. 28-Feb. 10.....	3	.....
Toronto.....	Jan. 28-Mar. 31.....	6	.....
Canary Islands:				
Las Palmas.....	Feb. 25-Mar. 3.....	1	.....	On American vessel.
Ceylon:				
Colombo.....	Dec. 31-Jan. 6.....	1	.....
China:				
Amoy.....	Oct. 31-Dec. 9.....	.....	.....	Present. Dec. 10-16, 1916: Cases, 3.
Do.....	Feb. 11-Mar. 3.....	.....	.....	Present in vicinity.
Antung.....	Jan. 8-14.....	2	1	
Canton.....	Nov. 1-Dec. 20.....	.....	14	
Chungking.....	Oct. 28-Dec. 30.....	.....	.....	Present.
Do.....	Dec. 31-Feb. 17.....	.....	.....	Do.
Dairen.....	Nov. 5-Dec. 30.....	63	8	
Do.....	Dec. 31-Mar. 3.....	46	17	In vicinity, Jan. 14-20, 1917, 1 case.
Foochow.....	Oct. 29-Dec. 16.....	.....	.....	Present.
Harbin.....	Nov. 6-Dec. 17.....	3	.....
Hongkong.....	Oct. 28-Dec. 30.....	349	243	
Do.....	Dec. 31-Mar. 10.....	489	403	Present in vicinity.
Kwangtung Province—				
Chaoyang district.....	Jan. 21-27.....	.....	.....	Present. Vicinity of Swatow.
Mukden.....	Dec. 9-30.....	.....	.....	Do.
Do.....	Dec. 31-Mar. 18.....	.....	.....	Do.
Nanking.....	Nov. 12-25.....	.....	.....	Do.
Shanghai.....	Jan. 28-Feb. 3.....	1	.....
Tientsin.....	Dec. 17-30.....	1	1	
Do.....	Jan. 28-Feb. 3.....	2	.....
Tsingtao.....	Dec. 1-9.....	3	.....
Do.....	Dec. 28-Feb. 24.....	58	2	
Colombia:				
Espinal.....	Feb. 17.....	.....	.....	Present. Suburb of Cartagena.
Cuba:				
Casa Blanca.....	Jan. 12.....	1	.....	Vicinity of Habana. Case landed Jan. 1, 1917, from s. s. Alfonso XII, from Santander, Spain.
Encrucijada.....	Jan. 10.....	1	.....	In Santa Clara Province. Case landed from s. s. Montevideo, from Barcelona, via Las Palmas, Canary Islands, and Porto Rico, arrived at Habana Jan. 6, 1917.
Guanabacoa.....	Jan. 9.....	1	.....	Vicinity of Habana. Case landed from s. s. Montevideo.
Habana.....	Jan. 10-20.....	2	.....	At Mariel quarantine station. From s. s. Montevideo.
Ecuador:				
Guayaquil.....	Nov. 1-30.....	10	1	

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Dec. 25-31.....	.....	3	
Do.....	Jan. 8-Mar. 4.....	7	5	
Cairo.....	June 11-July 1.....	50	20	
Do.....	July 2-Oct. 21.....	60	20	
Port Said.....	June 11-17.....	1	1	
Do.....	Aug. 20-Sept. 9.....	2	1	
France:				
Marseille.....	Oct. 1-Dec. 31.....	.....	16	
Do.....	Feb. 1-28.....	.....	2	
Paris.....	Dec. 17-23.....	1	.....
Do.....	Jan. 14-20.....	.....	1	
Germany:				
Barnitz.....	Jan. 7-13.....	1	.....
Bevensen.....	do.....	1	.....
Bomlitz.....	do.....	2	.....
Bremen.....	Dec. 31-Jan. 20.....	2	.....
Celle.....	Jan. 7-13.....	1	.....
Danenberg.....	do.....	1	.....
Dendorf.....	do.....	1	.....
Egestorf.....	do.....	1	.....
Gaesthacht.....	do.....	2	.....
Gosewerder.....	do.....	2	.....
Hamburg district.....	Dec. 31-Jan. 20.....	71	.....
Harburg.....	Jan. 7-13.....	1	.....
Husum.....	do.....	1	.....
Lübeck.....	do.....	8	.....
Reinfeld.....	do.....	1	.....
Soltau.....	do.....	1	.....
Undelos.....	do.....	1	.....
Winsen.....	do.....	1	.....
Great Britain:				
Liverpool.....	Feb. 4-Mar. 3.....	3	1	
Greece:				
Athens.....	Jan. 1-Mar. 5.....	.....	6	
Hawaii:				
Honolulu.....	Jan. 9.....	1	.....	From s. s. Tenyo Maru from oriental ports.
Do.....	Jan. 24.....	1	.....	From s. s. Ecuador from Hong-kong.
India:				
Bombay.....	Dec. 10-30.....	5	1	Oct. 8-14, 1916: Cases, 3; deaths, 3. Received out of date. Original report lost on s. s. Arabia.
Do.....	Dec. 31-Feb. 24.....	45	19	
Calcutta.....	Nov. 5-Dec. 2.....	.....	2	
Karachi.....	Dec. 31-Jan. 13.....	2	.....
Madras.....	Nov. 5-Dec. 30.....	35	19	
Do.....	Dec. 31-Feb. 24.....	141	27	
Moulmein.....	Oct. 28-Nov. 14.....	.....	4	
Rangoon.....	Oct. 28-Dec. 30.....	17	1	
Do.....	Dec. 31-Feb. 17.....	25	2	
Indo-China:				
Provinces.....				
Anam.....	Apr. 1-June 30.....	45	8	Apr. 1-June 30, 1916: Cases, 331; deaths, 28. July 1-Dec. 31, 1916: Cases, 503; deaths, 194.
Do.....	July 1-Dec. 31.....	114	43	
Cambodia.....	Apr. 1-June 30.....	30	11	
Do.....	July 1-Dec. 31.....	24	10	
Cochin-China.....	Apr. 1-June 30.....	44	5	
Do.....	July 1-Dec. 31.....	336	99	
Laos.....	Aug. 1-Oct. 31.....	39	16	
Tonkin.....	Apr. 1-June 30.....	215	4	
Do.....	July 1-Dec. 31.....	69	25	
Saigon.....	Nov. 6-Dec. 31.....	28	7	
Do.....	Jan. 1-Feb. 4.....	48	14	
Italy:				
Turin.....	Feb. 19-Mar. 4.....	8	2	Roumanian refugees.
Japan:				
Ehime.....	Jan.-Feb.....	.....	.....	Present.
Hyogo.....	do.....	.....	.....	Do.
Kagawa.....	do.....	.....	.....	Do.
Kobe.....	Nov. 28-Dec. 10.....	4	1	
Do.....	Jan. 1-Mar. 11.....	65	15	
Kochi.....	Jan.-Feb.....	.....	.....	Present.
Osaka.....	Jan. 22-Mar. 5.....	225	42	

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java:				
East Java.....				Sept. 16-Dec. 31, 1916: Cases, 92; deaths, 2.
Surabaya.....	Nov. 4-10.....	1		
Mid-Java.....				Sept. 16-Dec. 29, 1916: Cases, 227; deaths, 24.
Samarang.....	Nov. 4-10.....	3		
West Java.....				Sept. 29-Dec. 28, 1916: Cases, 408; deaths, 63.
Batavia.....	Sept. 29-Dec. 28.....	54	9	
Do.....	Dec. 29-Jan. 11.....	22	1	
Mexico:				
Durango.....	Feb. 17.....			Present; also in vicinity.
Mexico City.....	Dec. 10-30.....	20		
Do.....	Dec. 31-Mar. 3.....	72		
Monterey.....	Mar. 12-25.....		2	
Nuevo Laredo.....	Dec. 10-30.....	1		
Progreso.....	Apr. 7.....	1		
Vera Cruz.....	Feb. 18-24.....		1	
New Zealand:				
Auckland.....	Feb. 4-10.....	4		
Norway:				
Trondhjem.....	Jan. 1-31.....	2		
Philippine Islands:				
Manila.....	Jan. 21-Feb. 17.....	15		July 30-Dec. 30, 1916: Cases, 10.
Portugal:				
Lisbon.....	Nov. 19-Dec. 2.....	6		
Portuguese East Africa:				
Lorenzo Marques.....	Sept. 1-30.....		1	
Russia:				
Archangel.....	Nov. 25-Dec. 29.....	6	1	
Do.....	Jan. 1-Feb. 13.....	44	8	
Moscow.....	Oct. 16-Dec. 31.....	139	49	Nov. 13-25, 1916: Cases, 35; deaths 8.
Petrograd.....	Oct. 8-Dec. 30.....	180	65	
Do.....	Dec. 31-Jan. 13.....	31	9	
Poland:				
Warsaw.....	Oct. 1-Dec. 2.....	25		Oct. 1-Dec. 2, 1916: Cases, 38.
Riga.....	Dec. 31-Jan. 27.....	4		Mar. 4-20, 1916: Cases, 65; deaths, 7.
Vladivostok.....	Jan. 22-Feb. 4.....	8	2	
Spain:				
Cadiz.....	Nov. 1-Dec. 31.....		3	
Madrid.....	do.....	144		Jan. 1-Dec. 31, 1916: Deaths, 405.
Do.....	Jan. 1-31.....	35		
Malaga.....	Sept. 1-Nov. 30.....	15		
Seville.....	Nov. 1-30.....	22		
Do.....	Jan. 1-Feb. 28.....	16		
Valencia.....	Nov. 19-Dec. 23.....	5	1	
Do.....	Jan. 14-Mar. 10.....	7		
Straits Settlements:				
Penang.....	Oct. 28-Dec. 30.....	16	3	
Do.....	Dec. 31-Mar. 3.....	32	4	
Singapore.....	Nov. 19-Dec. 30.....	3	2	
Do.....	Jan. 7-Feb. 17.....	2	1	
Sweden:				
Gothenburg.....	Jan. 28-Feb. 3.....		1	
Switzerland:				
Basel.....	Nov. 5-11.....	1		
Do.....	Dec. 31-Mar. 10.....	28		
Tunisia:				
Tunis.....	Nov. 25-Dec. 15.....	51	27	
Do.....	Dec. 30-Mar. 9.....	68	23	
Turkey in Asia:				
Trebizond.....	Nov. 11-Dec. 30.....	1	1	
Do.....	Dec. 31-Feb. 3.....	5	4	
Union of South Africa:				
Johannesburg.....	Sept. 10-Dec. 30.....	45		
Do.....	Dec. 31-Jan. 27.....	6		
Venezuela:				
Maracaibo.....	Mar. 3-24.....		18	
On vessel:				
S. S. Nippon Maru.....	Jan. 22.....	2		Landed at Yokohama quarantine.
Do.....	Jan. 24-Feb. 3.....	9	3	En route to Honolulu. Vessel from oriental ports.

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Argentina:				
Rosario.....	Nov. 1-30.....		1	
Austria-Hungary:				
Austria—				
Prague.....	Jan. 28-Mar. 10....	5		
Vienna.....	Nov. 5-Dec. 30....	21	2	
Do.....	Dec. 31-Mar. 17....	37	1	
Hungary—				
Budapest.....	Nov. 5-Dec. 30....	3	1	
Do.....	Jan. 14-Mar. 4....	47	6	
Belgium:				
Ghent.....	Oct. 29-Nov. 4....		1	
Liege.....	do.....		1	
Do.....	Jan. 28-Feb. 3....		1	
China:				
Antung.....	Nov. 27-Dec. 10....	6		
Do.....	Jan. 15-21.....	2		
Hankow.....	Nov. 12-18.....	1		
Tientsin.....	Oct. 29-Nov. 4....	1		
Tsingtao.....	Dec. 28-Feb. 24....	4		
Cuba:				
Santiago.....	Dec. 7-13.....	1	1	
Egypt:				
Alexandria.....	Nov. 12-Dec. 31....	28	12	Nov. 19-25, 1916: 1 case. Dec. 17-23, 1916: Cases, 4.
Do.....	Jan. 1-Mar. 4....	391	76	
Cairo.....	June 11-July 1....	275	142	
Do.....	July 2-Oct. 28....	285	149	
Port Said.....	June 11-17.....	20	9	
Do.....	July 2-Oct. 14....	10	8	
Germany:				
Berlin.....	Oct. 15-Dec. 23....		7	
Bremen.....	Oct. 22-Dec. 30....	1	3	
Do.....	Dec. 31-Jan. 13....	1	2	
Frankfort-on-Main.....	Nov. 12-18.....		1	
Königsberg.....	Nov. 12-Dec. 23....	5	5	
Do.....	Dec. 31-Jan. 20....	5	2	
Marienwerder district.....	Dec. 3-9.....	1		Prison camp.
Neidenburg.....	Oct. 29-Nov. 18....	7		
Nürnberg.....	Oct. 29-Nov. 11....	3		
Stettin.....	Jan. 21-27.....		1	
Great Britain:				
Belfast.....	Mar. 11-17.....	10		
Cork.....	Jan. 7-Feb. 3....	1	1	
Glasgow.....	Dec. 3-30.....	4		
Do.....	Jan. 7-13.....		1	
Greece:				
Saloniki.....	Nov. 7-Dec. 25....		36	
Do.....	Dec. 26-Feb. 17....		22	
Italy:				
Bari, Province—				
Corato.....	Mar. 5-11.....	5		
Java:				
East Java.....				Sept. 16-Dec. 16, 1916: Cases, 10.
Mid-Java.....				Sept. 16-Dec. 29, 1916: Cases, 87;
Samarang.....	Nov. 4-Dec. 1....	10		deaths, 7.
West Java.....				Sept. 29-Dec. 28, 1916: Cases, 185;
Batavia.....	Sept. 29-Dec. 28....	139	12	deaths, 13. Dec. 29, 1916-Jan.
Do.....	Dec. 29-Jan. 18....	42	1	18, 1917: Cases, 53; deaths, 2.
Mexico:				
Aguascalientes.....	Dec. 22.....			Epidemic.
Ciudad Juárez.....				July, 1916-Feb. 5, 1917: Cases, 100 (estimated).
Durango.....	Dec. 12.....			Present.
Do.....	Jan.-Feb.....			Present. Estimated deaths
Mexico City.....	Dec. 3-30.....	835		daily, about 25. Present
Do.....	Dec. 31-Mar. 3....	1,028		throughout year 1916.
Monterey.....	Apr. 2-8.....		1	
Nuevo Laredo.....	Dec. 10-16.....	4		July 1-Dec. 16, 1916: Cases, 28.
Netherlands:				
Amsterdam.....	Feb. 25-Mar. 3....	2		
Rotterdam.....	Nov. 26-Dec. 30....	8		
Do.....	Feb. 4-10.....	1		

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

Reports Received from Dec. 30, 1916, to Apr. 27, 1917—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Russia:				
Archangel.....	Nov. 25-Dec. 29...	29	9	
Do.....	Jan. 1-Feb. 10.....	32	15	
Moscow.....	Oct. 16-Dec. 31.....	127	17	
Petrograd.....	Oct. 8-Dec. 30.....	155	44	
Do.....	Dec. 31-Jan. 13.....	8	1	
Poland.....				
Lodz.....	Oct. 1-Dec. 2.....	201	20	
Warsaw.....	do.....	611	36	Oct. 1-Dec. 2, 1916: Cases, 1,538; deaths, 119. In invaded regions.
Vladivostok.....	Jan. 22-Feb. 4.....	2		Mar. 4-May 20, 1916: Cases, 830; deaths, 80.
Spain:				
Madrid.....	Nov. 1-Dec. 31.....		3	Jan. 1-Dec. 31, 1916: Deaths, 35.
Do.....	Jan. 1-Feb. 28.....		3	
Straits Settlements:				
Penang.....	Feb. 25-Mar. 3.....	1		
Sweden:				
Stockholm.....	Nov. 28-Dec. 4.....	1		
Do.....	Dec. 31-Jan. 6.....	3		
Switzerland:				
Basel.....	Feb. 18-24.....	1		
Zurich.....	Dec. 3-9.....	1		
Do.....	Jan. 1-31.....	3		
Tunisia:				
Tunis.....	Dec. 16-22.....	1		
Turkey in Asia.....				
Haifa.....	Oct. 16-22.....	1		Feb. 7, 1917: 54 cases reported in Army of the Orient.
Trebizond.....	Dec. 17-30.....	3	3	
Do.....	Dec. 31-Feb. 3.....		5	

YELLOW FEVER.

Brazil:				
Espirito, Santo, State.....	Jan. 27-Feb. 26....	18	4	
Ecuador:				
Babahoyo.....	Nov. 1-30.....	1	1	
Chobo.....	do.....	1		
Duran.....	Oct. 1-31.....	1		
Guayaquil.....	Sept. 1-Dec. 31....	46	24	
Do.....	Jan. 1-30.....	17	7	
Milagro.....	Sept. 1-31.....	1		
Do.....	Oct. 1-31.....	2	1	
Do.....	Jan. 1-31.....	1		
Gold coast.....				In 1915: Cases, 2; deaths, 2. European and native.