PUBLIC HEALTH REPORTS

VOL. 32 SEPTEMBER 7, 1917 No. 36

TETANUS IN COURT-PLASTER.

A report just received from the Director of the Hygienic Laboratory of the Public Health Service states that out of 13 specimens of court-plaster examined, 2 were found to be contaminated with tetanus bacilli. The specimens were secured from drug stores and were in original packages just as the product goes to the consumer. There is no ground for believing that the contamination was an intentional one. Whether contamination occurred during the process of manufacture through the use of infected ingredients, or subsequently by careless handling remains to be determined by further investigation.

It was also found that court-plaster is not "clean" in the surgical sense.

The report of the laboratory findings in the examination of the specimens of court-plaster appears elsewhere in this issue.

RODENT DESTRUCTION ON SHIPS.

A REPORT ON THE RELATIVE EFFICIENCY OF FUMIGANTS AS DETERMINED BY SUBSEQUENT INTENSIVE TRAPPING OVER A PERIOD OF ONE YEAR.

By R. H. CREEL, Assistant Surgeon General, and FRIENCH SIMPSON, Passed Assistant Surgeon, United States Public Health Service.

Much has been written of the effectiveness of various agents used in the fumigation of ships for the purpose of destroying rats, but thus far practically all definite data have been obtained from experimental studies performed under artificial conditions.

For many years arbitrary standards for the strength of sulphur dioxide as a fumigant have been provided in the United States quarantine regulations and the length of exposure has been likewise indicated. Although based on experimental investigation, the effectiveness of these standards has been supported to some extent by the general observations of quarantine officials. It has frequently been noted that a very large number of rats have been killed on ships as a

result of sulphur fumigation, but regardless of the number destroyed it has always been a matter of speculation as to how many survived.

In more recent years tentative standards have been adopted for the cyanide fumigation of vessels, both as to strength of the gas and duration of exposure. It is repeated, however, that both the standards for sulphur dioxide and cyanide gas were based on experimental studies, and, as is well known, artificial conditions rarely coincide with the natural, however painstaking the attempt may be to simulate the natural. A true test of efficiency would be that applied to the procedure as carried out in routine practice. Generally speaking, an opportunity for such practical test has been wanting until recently.

During the past year the combination of conditions at New Orleans made such a test feasible. These favorable circumstances were, first, the fumigation of a large number of vessels at the port of New Orleans and at the Service quarantine station at the mouth of the Mississippi River; second, the availability of a large and experienced force of trappers at New Orleans. The Public Health Service, in carrying out plague eradicative and preventive measures in the city of New Orleans, has maintained an adequate force of trappers throughout the entire city, and during the past year or two those men trapping along the wharves and river front have been specially selected for their efficiency and reliability, and their work has had the very closest supervision. The pattern of trap generally employed (almost exclusively so) was the snap trap, and on the various vessels trapped the number used has varied from 20 to 140, according to the size of the vessel. The number of days trapped varied from one to ten, depending on the length of the vessel's stay in port.

Accordingly, therefore, it was planned to make careful record of the intensive trapping of all vessels subsequent to their fumigation, and in this way to obtain a fairly reliable estimate of the efficiency of the fumigation. Record was maintained of the results on 214 vessels, the inclusion of a greater number of vessels fumigated being precluded by inability of trapping on account of the departure of the vessel immediately after fumigation.

The results obtained are divided into groups, according to the nature of the fumigant employed, and the part of the vessel where the rats were either destroyed by the fumigation or were subseqnently trapped. The proportion of cyanide used was 5 ounces per 1,000 cubic feet of space with duration of exposure of 1¼ hours for holds and one-half hour for superstructures. Some 10 vessels fumigated with cyanide at the New Orleans quarantine station were not taken into consideration as they varied somewhat in the proportion of cyanide and duration of exposure from those fumigated at the city of New Orleans. Throwing out of consideration these 10 vessels,

however, produced no material change in the estimate of efficiency of that gas. Sulphur when used was in the proportion of 3 pounds per 1,000 cubic feet of space, with duration of exposure of 6 hours for holds and superstructures alike.

Series 1.

VESSELS FUMIGATED EITHER WITH CYANIDE GAS OR SULPHUR DIOXIDE.

In this group the results of fumigation are considered in respect to the entire vessel, regardless of the condition of the ship (loaded or empty) or location from which rats were taken.

TABLE 1.

Nature of fumigant.	Number of vessels treated.	Number of rats killed by fumigant.	Number of rats trapped.	Percentage of efficiency of fumigant.
				Per cent.
Sulphur dioxide	62	747	223	77
Cyanide gas	182	2,811	121	95

Table 1 affords a fair estimate of the relative efficiency of cyanide gas and sulphur dioxide. It would appear that whereas cyanide fumigation of 182 vessels resulted in the destruction of 95 of each possible 100 rodent inhabitants, sulphur dioxide destroyed only 77 of a possible 100 in a series of 62 vessels treated with that fumigant, and this notwithstanding that the duration of exposure to sulphur fumes was 6 hours, in contrast to 1¼ hours or less when cyanide was used.

Series 2.

TABLE 2.

Nature of fumigant.	Number of vessels recorded.	Compartment of vessel considered.	Number of rats killed by fumigation.	Number of rats subsequently trapped.	Percentage of efficiency of fumigant.
Sulphur dioxide	32	Superstructure[1]	133	107	55
Cyanide gas	31	....do.[1]	729	45	94
Sulphur dioxide	28	Holds (empty)	702	28	96
Cyanide gas	34	....do	854	9	99
Sulphur dioxide	10	Holds (loaded)	104	59	64
Cyanide gas	10	....do	80	20	80

[1] Superstructures include storerooms, crews' quarters, cabins, poop deck, etc.

Table 2 represents the efficiency of fumigation as applied to various compartments, such as superstructures and holds, both empty and loaded. The various groups recorded in Table 2 are those taken from Table 1 in all cases where rodents were reported with reference to compartment of ship as either destroyed by fumigation or captured

by trapping. The groups in Table 2 do not represent partially fumigated vessels, since all vessels were fumigated throughout, excepting engine rooms of some vessels. The comparatively smaller number of vessels in Table 2 is due to the fact that during the first six months, reports included only total number of rats without reference to compartments from which taken, and also that on a considerable number of vessels negative results were reported both as to trapping and fumigation. The grouping was made from records where available and thus can not be considered as "selected cases."

The results obtained from the two methods of fumigation are contrasted and indicated in the table, and it will be noted that there is a very marked disparity in the efficiency of sulphur dioxide as compared with cyanide gas, in the treatment of superstructures. These compartments, such as store rooms, poop decks, crews' quarters, etc., are generally partially filled with supplies, stores, dunnage, etc., and it would appear that the greater effectiveness of cyanide gas is due to its greater penetrating powers, as well as toxicity. It may also be that sulphur dioxide, on account of its odor, may provide more of a warning to the rats and enable them to secure greater protection; whereas cyanide with less odor and without the physically irritating properties of sulphur dioxide, may result in the destruction of the animal before it can secure available covert.

In the fumigation of the empty holds of vessels there is no material difference in the results obtained, although here as elsewhere there should be considered the difference in the length of exposure. Considering the respective gases, the results on vessels fumigated with cargo-laden holds indicate a greater efficiency for cyanide gas, although the number of vessels tabulated is rather small for the establishment of any general conclusions. Conditions in storerooms, crews' quarters, poop decks, etc., are more or less similar to those of loaded holds, and on the basis of the results of the fumigation of these superstructures, it is believed that it can safely be asserted that cyanide gas is far more effective in the fumigation of loaded holds than is sulphur dioxide.

Rodent Infestation of Engine Fireroom.

The question frequently arises in the minds of quarantine officers as to the advisability or necessity of including the engine fireroom of a vessel when performing fumigation for rodent destruction. Inasmuch as there is very limited harborage in the engine fireroom, and very little in the way of food to invite rat infestation, it is generally considered that the fumigation of this compartment is of questionable value. Aside from this aspect of the case, the thorough fumigation of the engine fireroom entails a very considerable increase

in the detention of vessels undergoing fumigation, since the fires have to be either drawn or banked, and the funnels carefully covered over with tarpaulin in order to prevent the escape of the fumigating gas. Subsequent to the fumigation of these compartments there is a further delay incident to renewing the fires or raising steam.

From the records maintained during the past year opportunity has presented for estimating the amount of rodent infestation of engine firerooms. In the case of 99 vessels fumigation of these compartments was omitted. The total number of rats killed in other parts of vessels by fumigation was 2,026. The trapping of these 99 vessels resulted in the capture of 31 rats in engine fireroom, the total being taken from 11 vessels. Computed on the total number of vessels considered it would appear that the rodent infestation of the engine fireroom compartment was one-third rat per vessel. Computed on the total infestation, the number infesting the engine fireroom compartment was 1½ per cent.

The number of days each vessel was trapped varied from 1 to 13, and the average number of days trapped for each vessel was 3.6 days. The number of traps placed on the vessels ranged from 15 to 140, according to the size of the vessel. The average number of traps placed was 37 traps to each vessel. On one vessel on which 172 rats were destroyed by fumigation, and on which the engine fireroom was not fumigated, three days' trapping of this compartment failed to demonstrate any rodent infestation. The same applies to two other vessels, on one of which 109 rats were taken and on the other 140 rats. On the other hand, of the 11 vessels on which rats were trapped in the engine fireroom, one ship yielded 8 rats captured in this compartment during the 13 days of trapping, although only 3 rats were killed in the other parts of the vessel. This was a very exceptional case, as in most instances where rats were trapped in non-fumigated engine fireroom compartments the number was generally one or two.

General Conditions.

The writers have considered two sources of error in presenting these figures: First, notwithstanding the thorough search of vessels, it is probable that a certain number of rats destroyed by fumigation were not recovered by the searchers, and to this extent, therefore, the percentage of efficiency would be greater than that indicated; second, while it is believed that the trapping results were fairly dependable, and for the most part represented (with the exception of a negligible figure) the total number of rats that escaped fumigation, it is nevertheless apparent that trapping results can not be considered as perfect, and to this extent the percentage of fumigation efficiency

would be less than that indicated. After thorough consideration of both factors, knowledge of the dependability and efficiency of the trappers and fumigators, and the general conditions attending both the fumigation and trapping of vessels, the writers are of the belief that the one source of error will offset the other, and that the percentages of efficiency indicated in Table 1 and Table 2 are trustworthy.

It is apparent that sulphur fumigation is not effective for the destruction of rats on loaded vessels or in superstructures. Whether this deficiency can be remedied by an increase in the amount of sulphur used or in prolonging the exposure, or whether a change in the procedure would be justifiable in the face of results of cyanide fumigation, are problems requiring further consideration.

The effectiveness of cyanide gas when used according to the tentative standards now in practice seems sufficient for empty holds and superstructures. It would seem probable, however, that in vessels with cargo-laden holds either a greater strength of the gas is required or a more prolonged duration of exposure. It is not to be expected, however, that any method of fumigation can result in 100 per cent efficiency.

Judging from the results of our observations it would appear that the fumigation of engine and fire rooms can, under ordinary conditions, be omitted, without materially reducing the effectiveness of the destruction of rodents on vessels. The omission of the fumigation of these compartments on 99 vessels apparently resulted in the escape of 1½ per cent of the rodent inhabitants, but inasmuch as it seems probable that in ordinary practice the efficiency of fumigation can not be expected to exceed 96 per cent, the addition of 1½ per cent in effectiveness seems immaterial. In exceptional cases, such as demonstrable plague infection on board vessels, it is believed that the engine and fire rooms should be included in the procedure.

TETANUS IN COURT-PLASTER.

RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF 14 SPECIMENS.

By G. W. McCoy, Director, Hygienic Laboratory, J. P. Leake, Passed Assistant Surgeon, and H. B. Corbitt, Sanitary Bacteriologist, United States Public Health Service.

So much has appeared in the public press about alleged intentional contaminations of court-plaster with tetanus, and so many inquiries have reached this laboratory on the same subject, that the following record of our experience with the examination of court-plaster is presented.

We have no evidence whatever that any specimen we examined was deliberately contaminated. Indeed, so far as our work goes, we do

not have clear evidence that the court-plaster as it leaves the manufacturer carries the organism of tetanus; but we have proved that when the plaster reaches the user this organism may be present.

Source of Material.

The first specimen submitted for examination came from a State department of health. This specimen did not bear the name of the maker, though it did bear that of the distributor.

When work on this specimen indicated that tetanus was present, but before the results could be considered conclusive, we secured 13 other specimens by purchase from local pharmacies. Two of these specimens showed the presence of the tetanus organism.

Technique.

The medium we used for the cultivation was plain broth made from veal. The reaction was +0.5 per cent to phenolphthalein. The broth was sterilized in Smith fermentation tubes by streaming steam for 1½ hours at 100° C. Just prior to use, these were steamed for 30 minutes at 100° C. in the Arnold sterilizer and the air was removed by tilting.

The court-plaster was cut into pieces about 1 centimeter square, or a little larger, and one piece put into each fermentation tube. After incubating for three or four days, smears were made from the growth at the bottom of the bend of the tubes in which gas was present in the closed arm. When the Gram staining showed that characteristic drumstick-shaped organisms with a terminal spore were present, the culture was incubated for three days longer, at which time it was used to inoculate mice. In the majority of cases two series of animals (mice) were used, one having been given a protective dose of antitetanus serum.

A pure culture of the tetanus bacillus was isolated from one of the tubes by planting dilutions in deep tubes of melted agar and picking characteristic colonies.

Summary of Experiments.

Specimen 1. In all, 64 fermentation tubes were inoculated with small pieces of court-plaster, using three sheets. Thirty-three of these showed gas in the closed arm of the tube after three days. Smear preparations showed tetanuslike organisms in the great majority of the tubes showing gas.

A small amount of the culture, 0.01 cubic centimeter to 1 cubic centimeter from each tube, was used to inoculate each white mouse. Thirty-seven of the animals died during the ensuing night, but it was not known whether characteristic symptoms preceded death.

However, four showed distinct symptoms of tetanus in from 18 to 42 hours.

While we felt certain that the tetanus germ was present, it was realized that the evidence was not wholly convincing, and resort was had to protection tests, as is shown by the following protocol. The most promising tubes, judged by gross and microscopical appearance, were selected for the test. Each of the "protected" animals was given 10 units of commercial antitetanus serum about 30 minutes before the inoculation with cultures.

	Guinea pigs.			White mice.		
Tube No.	Volume of culture given.	Protected (10 units of antitoxin), results.	Controls (no antitoxin), symptoms, and results.	Volume of culture given.	Protected (10 units of antitoxin), results.	Controls (no antitoxin), symptoms, and results.
B 6	c. c. 0.1	No symptoms; discharged well twenty-second day.	Tetanus; died second day.	c. c. 0.1	No symptoms of tetanus; died sixth day.	Tetanus under 17 hours; died 18 hours.
	.01	.....do.....	Tetanus; died third day.	.01	.....do.....	Tetanus; died second day.
	.001	.....do.....	Remained well...	.001	Died under 17 hours; symptoms not observed.[1]	Slight symptoms 44 hours; severe later; chloroformed; moribund sixth day.
P 8[2]	.1	.....do.....	Tetanus; died second day.	.1	No symptoms of tetanus; died fourteenth day.	Died under 17 hours; symptoms not observed.
	.01	.....do.....	Tetanus; killed second day while moribund.	.01	No symptoms of tetanus; died sixth day.	Do.
	.001	.....do.....	Tetanus; died third day.	.001	No symptoms of tetanus; died seventh day.	Tetanus; died second day.
	.0001	.....do.....	Remained well...	.0001	No symptoms of tetanus; died fifteenth day.	Symptoms fourth day; marked sixth day.
P 9	.1	.....do.....	Tetanus; died second day.	.1	No symptoms of tetanus; died sixth day.	Dead under 17 hours; symptoms not observed.
	.01	.....do.....	Tetanus; killed third day while moribund.	.01	.....do.....	Tetanus under 17 hours; died second day.
	.001	.....do.....	Remained well...	.001	.....do.....	Symptoms second day; marked sixth day.

[1] Cause of death unknown. Had the cause of death been tetanus, the mouse receiving the largest dose of culture should have died, not the one on the smallest dose.
[2] Later this tube yielded a pure culture of the tetanus organism.

Specimens 2 to 14 (inclusive): These specimens were purchased at various drug stores in Washington. Culture tubes were inoculated as in the preceding experiment; however, but two fermentation tubes were inoculated from each package. On the third day after planting smears were examined, and on the sixth day the

material was used to inoculate a series of "protected" and a series of normal white mice, with results which are shown in the following table. On account of shortage of mice, fewer were used than in the preceding examination.

Mice.

Specimen.	Smears from fermentation tubes on third day.	Dose of culture (sixth day).	"Protected" (10 units of antitoxin), results.	Controls (no antitoxin), symptoms, results.
		Cc.		
2	Negative	None.		
3	Tetanuslike organisms.	None.		
4	do	0.1	Negative; discharged fifteenth day.	Negative; discharged fifteenth day.
		.01	do	Do.
5	Negative	None.		
6	Tetanuslike organisms.	.1	Negative; discharged fifteenth day.	Dead under 18 hours; symptoms not observed.
		.01	do	Symptoms of tetanus after 24 hours; died third day.
7	do	.1	do	Negative; discharged fifteenth day.
		.01	do	Died seventh day; not tetanus.
8	do	.1	do	Negative; discharged fifteenth day.
		.01	do	Do.
9	do		do	Dead under 18 hours; symptoms not observed.
			do	Do.
10	Negative	None.		
11	Suspicious	None.		
12	do	None.		
13	Negative	None.		
14	Suspicious	.1	Negative; discharged fifteenth day.	Negative; discharged fifteenth day.
		.01	do	Do.

This series demonstrated that specimen 6 was contaminated with tetanus. The symptoms in the mouse given 0.01 cubic centimeter of culture were quite characteristic.

As both of the control mice inoculated with culture No. 9 died in the night following the day of inoculation without symptoms being observed, a series was inoculated with the seven-day culture and included smaller doses than in the preceding experiment. The "protected" mice received the usual dose, 10 units of antitetanus serum.

Dose of culture 9.	Protected (10 units of antitoxin), symptoms and results.	Controls (no antitoxin), symptoms and results.
cc.		
0.1	Symptoms suggestive of tetanus 2, 3, and 4 days; recovered. Discharged well fourteenth day.	Pronounced symptoms tetanus, 18 hours; died, between 28 and 42 hours.
.01	Negative; discharged fourteenth	Pronounced symptoms tetanus, 42 hours; dead, 45 hours.
.001	do	Slight symptoms tetanus fourth to eighth day; recovered.
.0001	do	No symptoms.

It would seem that the antitoxin failed to neutralize completely the 0.1 cubic centimeter dose of culture.

This series demonstrated that culture 9 also contained tetanus, which with the positive results from culture 6 gave 2 positives among the 13 specimens. We consider it not improbable that had a larger number of pieces of plaster been planted, as was done with specimen 1, a larger number of positive results would have been secured.

NOTE.—In order to determine approximately the degree of contamination of court-plaster with aerobic organisms, four specimens were examined in the following manner: A single sheet of the size found in the package was shaken with 100 cubic centimeters of sterile 0.6 per cent sodium chloride solution, and 1 cubic centimeter of the suspension plated on plain agar. Colonies were counted after three days. The number of organisms per sheet was estimated as follows:

Specimen 1	1,300
Specimen 2	2,700
Specimen 3	1,500
Specimen 4	7,000

No attempt was made to identify the organisms.

PREVALENCE OF DISEASE.

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

UNITED STATES.

CURRENT STATE SUMMARIES.

California Report for the Week Ended September 1, 1917.

The California State Board of Health reported concerning the status of preventable diseases in California for the week ended September 1, 1917, as follows: The cases of typhoid fever showed an increase during the week, with 52 reported cases in the State. The disease was unusually prevalent in Riverside County, in Hemet and vicinity, and in Los Angeles, where 12 cases were reported. Five cases of cerebrospinal meningitis were reported, 3 of which were in San Diego and 1 each in Contra Costa County and Oakland city. Scarlet fever and pneumonia showed some increase, while other reportable diseases showed reductions.

The details of notifiable-disease cases reported during the week ended August 25, are as follows:

Chicken pox	17	Pneumonia	15
Diphtheria	23	Poliomyelitis	1
Dysentery	2	Scarlet fever	33
Erysipelas	8	Smallpox	2
German measles	28	Syphilis	30
Gonococcus infection	60	Tetanus	2
Malaria	33	Trachoma	1
Measles	38	Tuberculosis	106
Mumps	37	Typhoid fever	47
Pellagra	1	Whooping cough	29

CEREBROSPINAL MENINGITIS.

Minnesota.

During the period from January 1, to September 1, 1917, 338 cases of cerebrospinal meningitis, with 165 deaths, were reported in the State of Minnesota.

CEREBROSPINAL MENINGITIS—Continued.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Boston, Mass	1	1	Milwaukee, Wis	2	1
Buffalo, N. Y	.....	1	Minneapolis, Minn	1	.....
Chicago, Ill	8	3	Newark, N. J	3	7
Cleveland, Ohio	5	2	New York, N. Y	4	3
Columbus, Ohio	1	.....	Passaic, N. J	.....	1
Detroit, Mich	2	4	Philadelphia, Pa	4	3
Everett, Mass	1	1	Pittsburgh, Pa	1	2
Fall River, Mass	1	1	Saginaw, Mich	.....	1
Fort Wayne, Ind	1	1	St. Louis, Mo	2	.....
Hartford, Conn	1	1	Salt Lake City, Utah	1	1
Kansas City, Mo	1	1	Winston-Salem, N. C	1	1
McKeesport, Pa	1	.....			

DIPHTHERIA.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1460.

ERYSIPELAS.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Buffalo, N. Y	.....	1	Newark, N. J	2	.....
Chicago, Ill	3	1	New York, N. Y	.....	2
Cleveland, Ohio	2	.....	Philadelphia, Pa	2	1
Denver, Colo	.....	1	Pittsburgh, Pa	2	.....
Detroit, Mich	3	.....	Rochester, N. Y	1	.....
Kalamazoo, Mich	1	.....	St. Louis, Mo	3	1
Kansas City, Mo	1	.....	San Francisco, Cal	2	.....
Los Angeles, Cal	2	.....	York, Pa	1	.....
Milwaukee, Wis	1	.....			

MALARIA.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md	.....	1	Memphis, Tenn	4	2
Birmingham, Ala	[1] 47	1	Newark, N. J	1	.....
Charleston, S. C	.....	1	New Orleans, La	1	.....
Columbia, S. C	3	.....	Stockton, Cal	1	.....
Little Rock, Ark	4	.....			

[1] The reason that Birmingham had so many more cases of malaria reported than any other city is not that the disease is more prevalent in Birmingham than in other cities of Alabama and neighboring States, but undoubtedly because of the successful efforts the health department has made in securing the cooperation of the practicing physicians in reporting cases.

MEASLES.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1460.

PELLAGRA.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Austin, Tex		1	Memphis, Tenn	12	
Birmingham, Ala	[1] 14	2	Mobile, Ala		1
Boston, Mass	1	1	Nashville, Tenn	3	1
Charleston, S. C		1	Oklahoma City, Okla		1
Chicago, Ill		1	Washington, D. C	2	1
Columbia, S. C	2	1	Winston-Salem, N. C		1
Fort Worth, Tex		2			

[1] The reason that Birmingham had so many more cases of pellagra reported than any other city is not that the disease is more prevalent in Birmingham than in other cities of Alabama and neighboring States, but undoubtedly because of the successful efforts the health department has made in securing the cooperation of the practicing physicians in reporting cases.

PLAGUE.

Hawaii—Kukaiau.

On September 2, 1917, two fatal cases of plague were reported at Kukaiau, Hawaii.

POLIOMYELITIS (INFANTILE PARALYSIS).

Minnesota.

During the period from January 1 to August 31, 1917, 47 cases of poliomyelitis, with 4 deaths, were reported in the State of Minnesota.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio	5		New Castle, Pa	14	
Chicago, Il	7	1	New York, N. Y	2	2
Davenport, Iowa	2		Omaha, Nebr	2	
Detroit, Mich	2		Pittsburgh, Pa	1	
Fall River, Mass	1	1	San Francisco, Cal	1	
Haverhill, Mass	7		Sioux City, Iowa	1	
Kansas City, Kans	1		Washington, D. C	1	
Kansas City, Mo	2		Wheeling, W. Va	1	
Newark, N. J		2			

PNEUMONIA.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md	1	5	Lawrence, Mass	1	1
Boston, Mass	2	5	Los Angeles, Cal	1	1
Chicago, Ill	32	29	Lowell, Mass	1	1
Cleveland, Ohio	10	12	Manchester, N. H	1	1
Detroit, Mich	3	9	Newark, N. J	14	1
Fitchburg, Mass	2		Philadelphia, Pa	15	13
Flint, Mich	1		Pittsburgh, Pa	8	9
Jackson, Mich	1	1	Rochester, N. Y	3	2
Kansas City, Mo	1	3	San Francisco, Cal	10	3

RABIES IN ANIMALS.

City Reports for Week Ended August 18, 1917.

During the week ended August 18, 1917, one case of rabies in animals was reported in Alameda, Cal., two cases were reported in Detroit, Mich., and one case was reported in Los Angeles, Cal.

SCARLET FEVER.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1460.

SMALLPOX.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio	3		La Crosse, Wis	1	
Austin, Tex	1		Little Rock, Ark	1	
Buffalo, N. Y	1		Milwaukee, Wis	1	
Butte, Mont	5		Minneapolis, Minn	2	
Cleveland, Ohio	3		Oklahoma City, Okla	2	
Dayton, Ohio	2		Omaha, Nebr	4	
Denver, Colo	2		Rock Island, Ill	2	
Detroit, Mich		3	St. Joseph, Mo	2	
Dubuque, Iowa	1		St. Louis, Mo	1	
Flint, Mich	1		Salt Lake City, Utah	12	
Indianapolis, Ind	3		Sioux City, Iowa	3	
Kansas City, Mo	1		Terre Haute, Ind	1	

TETANUS.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Canton, Ohio		1	Los Angeles, Cal	1	1
Chicago, Ill		1	New Orleans, La		1
Detroit, Mich		1	Norfolk, Va		1
Erie, Pa	1		Oakland, Cal		1
Evansville, Ind		1	Pittsburgh, Pa		1
Kansas City, Mo		1	Springfield, Mass	1	

TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1460.

TYPHOID FEVER.

Kansas—Leavenworth.

During the week ended September 1, 1917, 16 cases of typhoid fever were reported in the city of Leavenworth, Kans., and 3 cases in Leavenworth County.

Tennessee—Chattanooga.

The outbreak of typhoid fever which prevailed at Chattanooga, Tenn., during July and the first half of August has subsided. Only 10 cases were reported between August 20 and September 1 and none since September 1.

TYPHOID FEVER—Continued.

City Reports for Week Ended Aug. 18, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio	5		Memphis, Tenn	19	1
Allentown, Pa	1	1	Milwaukee, Wis	2	
Alton, Ill	4		Minneapolis, Minn	3	
Altoona, Pa	1		Mobile, Ala	3	
Atlantic City, N. J	4		Montclair, N. J	2	
Baltimore, Md	15		Nashville, Tenn	11	2
Beaver Falls, Pa	2	1	Newark, N. J	8	1
Birmingham, Ala	33	2	New Bedford, Mass	6	
Boston, Mass	9		New Haven, Conn	4	
Bridgeport, Conn	3		New Orleans, La	15	6
Buffalo, N. Y	6		Newton, Mass	2	
Camden, N. J	2		New York, N. Y	39	8
Canton, Ohio	2	1	Norfolk, Va	8	1
Charleston, S. C	4		Oakland, Cal	2	
Chattanooga, Tenn	14	3	Oklahoma City, Okla		2
Chelsea, Mass	3		Omaha, Nebr	4	
Chicago, Ill	19	1	Philadelphia, Pa	26	4
Cincinnati, Ohio	4		Pittsburgh, Pa	11	2
Cleveland, Ohio	7	1	Plainfield, N. J	3	
Coffeyville, Kans	4		Portland, Oreg		1
Columbia, S. C	3		Portsmouth, Va	2	
Columbus, Ohio	2		Providence, R. I	1	
Cumberland, Md	2		Quincy, Mass	1	
Danville, Ill	2		Racine, Wis	1	
Dayton, Ohio	4		Reading, Pa	2	
Denver, Colo	5		Richmond, Va	5	
Detroit, Mich	14	3	Roanoke, Va	10	
Duluth, Minn	2		Rockford, Ill	1	1
East Orange, N. J	1		Rock Island, Ill	1	
Elizabeth, N. J	8	1	Rocky Mount, N. C	2	
Evansville, Ind	12		Sacramento, Cal	1	
Everett, Mass	1		St. Joseph, Mo	2	
Fall River, Mass	10	1	St. Louis, Mo	29	
Fort Wayne, Ind	1		Salt Lake City, Utah	7	
Fort Worth, Tex	2	1	San Francisco, Cal	4	1
Grand Rapids, Mich	1		Savannah, Ga	9	
Harrisburg, Pa		2	South Bend, Ind		1
Hartford, Conn	2	1	Springfield, Ill	3	1
Haverhill, Mass	1		Springfield, Mass	1	
Hoboken, N. J	1		Steelton, Pa	1	
Indianapolis, Ind	3		Stockton, Cal	2	1
Jersey City, N. J	1	2	Topeka, Kans	3	
Johnstown, Pa	5		Troy, N. Y	1	
Kansas City, Kans	1		Washington, D. C	12	3
Kansas City, Mo	7		Washington, Pa	1	
Knoxville, Tenn	14		Watertown, N. Y	7	
Lancaster, Pa	3		West Hoboken, N. J	2	
Lexington, Ky	7		Wheeling, W. Va	5	
Lima, Ohio	2		Wichita, Kans	8	
Little Rock, Ark	5		Wilkes-Barre, Pa	1	
Los Angeles, Cal	13	2	Wilmington, Del		1
Lowell, Mass	2		Wilmington, N. C	1	
Lynchburg, Va	5		Winston-Salem, N. C	16	2
Lynn, Mass	1		Worcester, Mass	3	
Manchester, N. H	1		York, Pa	1	
McKeesport, Pa	1	1			

TYPHUS FEVER.

City Report for Week Ended August 18, 1917.

During the week ended August 18, 1917, a case of typhus fever was reported in New York, N. Y.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City Reports for Week Ended Aug. 18, 1917.

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.
Over 500,000 inhabitants:										
Baltimore, Md	589,621	165	5	.....	14	.....	3	.....	18	18
Boston, Mass	756,476	173	63	4	15	.....	9	1	65	20
Chicago, Ill	2,497,722	625	95	15	46	1	46	1	223	58
Cleveland, Ohio	674,073	41	20	3	8	.....	3	.....	38	20
Detroit, Mich	571,784	.....	57	7	8	.....	35	.....	26	13
Los Angeles, Cal	503,812	.....	4	.....	3	.....	5	.....	37	15
New York, N. Y	5,602,841	1,359	178	11	101	4	19	3	403	174
Philadelphia, Pa	1,709,518	476	25	4	6	1	7	1	66	42
Pittsburgh, Pa	579,090	205	15	3	9	1	4	1	31	16
St. Louis, Mo	757,309	180	25	4	1	.....	14	.....	40	18
From 300,000 to 500,000 inhabitants:										
Buffalo, N. Y	468,558	.....	5	2	3	1	4	.....	33	17
Cincinnati, Ohio	410,476	105	7	1	.....	.....	4	.....	16	17
Jersey City, N. J	306,345	75	4	.....	7	.....	1	.....	23	7
Milwaukee, Wis	436,535	76	14	1	3	.....	11	.....	17	7
Minneapolis, Minn	383,454	.....	8	.....	.....	.....	4	.....	.....	.....
Newark, N. J	408,894	.....	7	.....	14	.....	2	.....	37	19
New Orleans, La	371,747	130	12	1	.....	.....	.....	.....	14	15
San Francisco, Cal	463,516	117	10	1	23	.....	5	1	33	7
Washington, D. C	363,980	123	2	.....	13	1	3	1	23	18
From 200,000 to 300,000 inhabitants:										
Columbus, Ohio	214,878	59	3	.....	2	.....	1	.....	7	5
Denver, Colo	260,800	58	12	.....	9	1	1	.....	.....	11
Indianapolis, Ind	271,708	.....	30	.....	1	.....	4	.....	7	.....
Kansas City, Mo	297,847	.....	4	1	.....	.....	1	.....	71	14
Portland, Oreg	295,463	42	.....	.....	.....	.....	2	.....	5	4
Providence, R. I	254,960	63	11	1	1	1	1	.....	.....	2
Rochester, N. Y	256,417	64	.....	1	8	.....	3	1	14	7
From 100,000 to 200,000 inhabitants:										
Albany, N. Y	104,199	.....	.....	.....	.....	.....	.....	.....	5	.....
Birmingham, Ala	181,762	80	3	.....	2	.....	.....	.....	17	3
Bridgeport, Conn	121,579	25	4	.....	.....	.....	.....	.....	8	2
Cambridge, Mass	112,981	.....	4	.....	5	.....	.....	.....	11	2
Camden, N. J	106,233	.....	1	.....	.....	.....	.....	.....	2	.....
Dayton, Ohio	127,224	34	2	.....	2	.....	5	.....	4	1
Fall River, Mass	128,366	49	3	.....	4	.....	.....	.....	14	1
Fort Worth, Tex	104,562	26	.....	.....	1	.....	.....	.....	.....	1
Grand Rapids, Mich	128,291	34	2	1	.....	.....	1	.....	15	1
Hartford, Conn	110,900	43	6	1	1	.....	1	.....	9	1
Lawrence, Mass	100,560	33	.....	.....	.....	.....	.....	.....	2	2
Lowell, Mass	113,245	.....	.....	.....	.....	.....	.....	.....	2	2
Lynn, Mass	102,425	14	3	.....	.....	.....	.....	.....	5	2
Memphis, Tenn	148,995	48	3	.....	1	.....	4	.....	18	6
Nashville, Tenn	117,057	.....	.....	.....	.....	.....	1	.....	6	5
New Bedford, Mass	118,158	28	4	.....	8	.....	4	.....	8	1
New Haven, Conn	149,685	.....	2	.....	4	.....	1	.....	4	2
Oakland, Cal	198,604	31	2	.....	1	.....	2	.....	4	3
Omaha, Nebr	165,470	46	1	.....	.....	.....	1	.....	.....	2
Reading, Pa	109,381	45	1	.....	1	.....	.....	.....	.....	2
Richmond, Va	156,687	52	6	1	1	.....	.....	.....	1	7
Salt Lake City, Utah	117,399	23	1	.....	.....	.....	2	.....	.....	.....
Springfield, Mass	105,942	28	3	1	.....	.....	3	.....	6	.....
Toledo, Ohio	191,554	67	4	1	.....	.....	2	2	19	9
Worcester, Mass	163,314	58	3	.....	.....	.....	3	.....	.....	3
From 50,000 to 100,000 inhabitants:										
Akron, Ohio	85,625	.....	4	.....	.....	.....	3	.....	.....	.....
Allentown, Pa	63,505	17	1	.....	.....	.....	.....	.....	3	.....
Altoona, Pa	58,659	.....	2	.....	.....	.....	.....	.....	1	.....
Atlantic City, N. J	57,660	.....	2	.....	2	.....	.....	.....	1	.....
Bayonne, N. J	69,893	.....	1	.....	.....	.....	1	.....	3	.....
Berkeley, Cal	57,653	8	1	.....	1	.....	1	.....	1	.....
Binghamton, N. Y	53,973	20	1	.....	1	.....	1	.....	4	2
Brockton, Mass	67,449	8	3	.....	.....	.....	.....	.....	3	.....
Canton, Ohio	60,852	24	.....	.....	.....	.....	1	.....	.....	.....
Charleston, S. C	60,734	24	3	.....	.....	.....	2	.....	.....	3
Chattanooga, Tenn	60,075	.....	.....	.....	.....	.....	.....	.....	.....	2
Covington, Ky	57,144	14	4	.....	.....	.....	.....	.....	.....	1
Duluth, Minn	94,495	6	2	.....	.....	.....	3	.....	4	.....
Elizabeth, N. J	86,690	18	4	.....	1	.....	.....	.....	9	3

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

City Reports for Week Ended Aug. 18, 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 50,000 to 100,000 inhabitants—Continued.										
Erie, Pa.	75,195	.....	3	.....	.....	.....	1	.....	2	26
Evansville, Ind.	76,078	32	1	1	.....	.....	.....	.....	2	2
Flint, Mich.	54,772	7	3	.....	1	.....	.....	.....	.....	.....
Fort Wayne, Ind.	76,183	17	11	1	.....	.....	.....	.....	1	.....
Harrisburg, Pa.	72,015	19	1	.....	.....	.....	2	.....	4	2
Hoboken, N. J.	77,214	24	2	.....	.....	.....	.....	.....	3	5
Johnstown, Pa.	68,529	21	1	.....	.....	.....	2	.....	4	.....
Kansas City, Kans.	99,437	.....	1	.....	.....	.....	.....	.....	4	1
Lancaster, Pa.	50,853	.....	.....	.....	.....	.....	.....	.....	1	.....
Little Rock, Ark.	57,343	12	.....	.....	.....	.....	.....	.....	.....	.....
Malden, Mass.	51,155	6	4	.....	.....	.....	.....	.....	.....	.....
Manchester, N. H.	78,283	22	.....	.....	2	.....	.....	.....	1	.....
Mobile, Ala.	58,221	21	.....	.....	.....	.....	.....	.....	.....	4
New Britain, Conn.	53,794	15	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk, Va.	89,612	.....	1	.....	.....	.....	.....	.....	.....	4
Oklahoma City, Okla.	92,943	22	.....	.....	.....	.....	1	.....	.....	2
Passaic, N. J.	71,744	22	2	.....	.....	.....	2	.....	3	1
Portland, Me.	63,867	20	1	.....	5	1	.....	.....	.....	1
Rockford, Ill.	55,185	21	1	.....	.....	.....	.....	.....	.....	1
Sacramento, Cal.	66,895	20	1	.....	.....	.....	.....	.....	2	4
Saginaw, Mich.	55,642	13	.....	.....	.....	.....	3	.....	2	.....
St. Joseph, Mo.	85,236	20	1	.....	.....	.....	.....	.....	1	4
San Diego, Cal.	53,330	18	1	.....	.....	.....	.....	.....	4	4
Savannah, Ga.	68,805	27	.....	.....	.....	.....	.....	.....	1	2
Schenectady, N. Y.	99,519	22	1	.....	.....	1	.....	.....	2	2
Sioux City, Iowa.	57,078	1	.....	.....	.....	.....	2	.....	.....	.....
Somerville, Mass.	87,039	.....	.....	.....	.....	.....	.....	.....	.....	1
South Bend, Ind.	68,946	15	.....	.....	1	.....	1	.....	2	.....
Springfield, Ill.	61,120	19	.....	.....	.....	.....	.....	.....	.....	1
Springfield, Ohio.	51,550	19	1	.....	.....	.....	.....	.....	4	1
Terre Haute, Ind.	66,083	16	.....	.....	.....	.....	.....	.....	.....	.....
Troy, N. Y.	77,916	.....	3	.....	2	.....	1	.....	3	4
Wichita, Kans.	70,722	.....	.....	.....	.....	.....	.....	.....	4	.....
Wilkes-Barre, Pa.	76,776	30	3	1	1	.....	.....	.....	.....	.....
Wilmington, Del.	94,265	54	1	.....	1	.....	.....	.....	.....	5
York, Pa.	51,656	.....	1	.....	.....	.....	.....	.....	2	.....
From 25,000 to 50,000 inhabitants:										
Alameda, Cal.	27,732	7	.....	.....	2	.....	.....	.....	2	1
Austin, Tex.	34,814	22	.....	.....	.....	.....	.....	.....	.....	2
Brookline, Mass.	32,730	5	.....	.....	2	.....	.....	.....	.....	.....
Butler, Pa.	27,632	11	.....	.....	.....	.....	1	.....	.....	.....
Butte, Mont.	43,425	.....	2	.....	.....	.....	3	.....	7	.....
Chelsea, Mass.	46,192	11	3	1	.....	.....	1	.....	.....	1
Chicopee, Mass.	29,319	12	1	.....	.....	.....	.....	.....	1	4
Columbia, S. C.	34,611	15	1	.....	.....	.....	5	.....	.....	.....
Cumberland, Md.	26,074	4	1	.....	.....	.....	.....	.....	1	.....
Danville, Ill.	32,261	12	.....	.....	.....	.....	.....	.....	.....	2
Davenport, Iowa.	48,811	.....	.....	.....	1	.....	.....	.....	1	.....
Dubuque, Iowa.	39,873	.....	.....	.....	.....	.....	.....	.....	.....	2
East Chicago, Ind.	28,743	.....	.....	.....	.....	1	1	.....	1	1
East Orange, N. J.	42,458	2	.....	.....	.....	.....	.....	.....	3	.....
Elgin, Ill.	28,203	4	.....	.....	.....	.....	.....	.....	1	1
Everett, Mass.	39,233	4	3	.....	2	.....	1	.....	3	.....
Fitchburg, Mass.	41,781	8	.....	.....	1	.....	1	.....	2	.....
Galveston, Tex.	41,863	10	1	.....	.....	.....	.....	.....	1	2
Green Bay, Wis.	29,353	7	.....	.....	.....	.....	.....	.....	.....	.....
Hagerstown, Md.	25,679	.....	.....	.....	.....	.....	1	.....	.....	.....
Hamilton, Ohio.	40,496	7	.....	.....	.....	.....	.....	.....	1	1
Haverhill, Mass.	48,477	.....	2	.....	1	.....	.....	.....	4	.....
Jackson, Mich.	35,363	8	.....	.....	1	.....	.....	.....	1	.....
Kalamazoo, Mich.	48,886	18	1	.....	4	.....	3	.....	.....	.....
Kenosha, Wis.	31,576	7	.....	.....	.....	.....	.....	.....	.....	.....
Knoxville, Tenn.	38 676	.....	1	.....	.....	.....	1	.....	4	.....
La Crosse, Wis.	31,677	9	1	.....	.....	.....	.....	.....	.....	.....
Lexington, Ky.	41,097	16	.....	.....	1	.....	.....	.....	.....	1
Lima, Ohio.	35,384	12	1	.....	.....	.....	.....	.....	.....	.....
Lincoln, Nebr.	46,515	13	.....	.....	1	.....	1	.....	.....	2
Long Beach, Cal.	27,587	12	.....	.....	1	.....	.....	.....	3	.....

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

City Report for Week Ended Aug. 18, 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 25,000 to 50,000, inhabitants—Continued.										
Lorain, Ohio	36,964		3						1	
Lynchburg, Va	32,940	7								1
McKeesport, Pa	47,521	10	8		1		1			
Medford, Mass	26,234	4								1
Montclair, N. J	26,318	2			1		1		2	
Nashua, N. H	27,327	9	2				1			
Newburgh, N. Y	29,603	13			1				1	2
New Castle, Pa	41,133						1			
Newport, Ky	31,927	8							1	1
Newton, Mass	43,715	6	2		3					
Niagara Falls, N. Y	37,353	17	1						2	1
Norristown, Pa	31,401	5	5							1
Ogden, Utah	31,404	6								
Orange, N. J	33,080	7	2				3		1	
Pasadena, Cal	46,450	8					2		2	2
Perth Amboy, N. J	41,185	13	1						3	
Pittsfield, Mass	38,629				1				2	1
Portsmouth, Va	39,651	7					1			
Quincy, Ill	36,798	16	1		1					1
Quincy, Mass	38,136	5	4		2				2	
Racine, Wis	46,486	7							1	1
Roanoke, Va	43,284	17	2						4	4
Rock Island, Ill	28,926	8	2							
San Jose, Cal	38,902								2	
Steubenville, Ohio	27,445	11								
Stockton, Cal	35,358		1						4	
Superior, Wis	46,226	5	1				1			
Taunton, Mass	36,263	18	1						3	1
Topeka, Kans	48,726	8					3			
Waltham, Mass	30,570	5	2						1	
Watertown, N. Y	29,894				3					1
West Hoboken, N. J	43,139	2			2				4	
Wheeling, W. Va	43,377				1				1	2
Williamsport, Pa	33,809		7				1			
Wilmington, N. C	29,892	15	1				1			1
Winston-Salem, N. C	31,155						1		2	1
Zanesville, Ohio	30,863	8			2				1	
From 10,000 to 25,000 inhabitants:										
Alton, Ill	22,874	4								
Beaver Falls, Pa	13,532	2	1	1						
Berlin, N. H	13,509	4							1	1
Braddock, Pa	21,685		2							
Cairo, Ill	15,794	7								1
Clinton, Mass	[1] 13,075	2								
Coffeyville, Kans	17,548						1			
Concord, N. H	22,669	7			2		1			1
Galesburg, Ill	24,276	11					1			1
Harrison, N. J	16,950		1							
Kearny, N. J	23,539	6			2					
Kokomo, Ind	20,930	5								
Long Branch, N. J	15,395	2	1							
Marinette, Wis	[1] 14,610	1					1			
Melrose, Mass	17,445	6	4						1	
Morristown, N. J	13,284	5								
Nanticoke, Pa	23,126	2	1							
Newburyport, Mass	15,243	6								
New London, Conn	20,985	5								
North Adams, Mass	[1] 22,019	5							2	1
Northampton Mass	19,926	8			1				2	1
Plainfield, N. J	23,805	10	2						2	
Pontiac, Mich	17,524		2		2				6	2
Portsmouth, N. H	11,666		1				2			
Rocky Mount, N. C	12,067	7								
Rutland, Vt	14,831	6					4			
Saratoga Springs, N. Y	13,821	5								
Steelton, Pa	15,548	3	1				1		4	
Washington, Pa	21,618				1		1			
Wilkinsburg, Pa	23,228	4								
Woburn, Mass	15,969	2								2

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

FOREIGN.

PLAGUE ON VESSEL.

Steamship "Matiana"—Gravesend.

The steamship *Matiana* arrived at Gravesend, England, August 13, 1917, with three cases of plague on board and a history of the occurrence of nine cases of plague, with six deaths, at sea during the period from July 14 to 18, 1917. The disease occurred among members of the crew.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	Aug. 1–10, 1917.		Remaining under treatment Aug. 10, 1917.
	New cases.	Deaths.	
Diphtheria	1	.....	4
Cerebrospinal meningitis	2	.....	2
Leprosy	.....	.....	10
Malaria	7	.....	22
Measles	3	.....	7
Paratyphoid fever	6	1	7
Typhoid fever	22	5	74

ECUADOR.

Plague—Yellow Fever—February, March, April, 1917.

Plague and yellow fever have been reported in Ecuador as follows:

Plague.—Month of February, 1917: Guayaquil, 56 cases; Estancia Vieja, 1 case; Nobol, 2 cases; Salitre, 1 case; Taura, 3 cases. Month of March, 1917: Guayaquil, 33 cases; Milagro, 1 case. Month of April, 1917: Guayaquil, 9 cases; Milagro, 1 case.

Yellow fever.—Month of February, 1917: Guayaquil, 18 cases; Babahoyo, 1 case; Milagro, 1 case. Month of March, 1917: Guayaquil, 17 cases; Babahoyo, 2 cases; Chobo, 1 case; Milagro, 1 case. Month of April, 1917: Guayaquil, 17 cases; Milagro, 1 case.

MADAGASCAR.

Epidemic Cerebrospinal Meningitis.

Epidemic cerebrospinal meningitis was present in Tananarive, Madagascar, during the latter part of the year 1916. The outbreak was almost wholly confined to the native population, occurring principally among native soldiers. The disease also appeared in Tamatave, on the east coast, where it is believed the infection was carried by soldiers. The total number of cases reported at Tananarive from the beginning of the outbreak, about October 1, to December 31, 1916, was 212, with 138 deaths, and from January 1 to February 4, 1917, 199 cases, with 149 deaths, the greatest number of cases reported during this period for one week being 58 and the lowest number 20 cases. No report of nonfatal cases has been made since February 4, 1917. From February 25 to March 31, 16 fatal cases were reported, and from April 1 to June 3, 23 fatalities. The native population of Tananarive is 62,410. At Tamatave, where the native population is 6,701 and the European 3,200, there were reported during the month of January, 1917, 21 cases, with 14 deaths.

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

Reports Received During the Week Ended Sept. 7, 1917.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Calcutta	June 24-30		12	
Do	July 1-7		3	
Madras	July 1-7	5	4	
Mandalay	June 24-30		1	
Pegu	June 25-30		4	
Do	July 1-7		7	
Rangoon	June 24-30	1	1	
Java:				
West Java				June 29-July 5, 1917: Cases, 52; deaths, 25. July 6-12, 1917: Cases, 2.
Batavia	June 29-July 5	1		
Do	July 6-12	2		

PLAGUE.

Brazil:				
Bahia	July 8-21	4	1	
Ecuador:				
Estancia Vieja	Feb. 1-28	1		
Guayaquil	do	56	29	
Do	Mar. 1-31	33	18	
Do	Apr. 1-30	9	4	
Milagro	Mar. 1-31	1		
Do	Apr. 1-30	1	1	
Nobol	Feb. 1-28	2		
Salitre	do	1		
Do	Mar. 1-31		1	
Taura	Feb. 1-28	3	2	

[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 Sept. 7, 1917—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Great Britain:				
Gravesend	Aug. 13–24	3	1	From S. S. Matiana.
India				June 24–30, 1917: Cases, 1,482; deaths, 1,002. July 1–7, 1917: Cases, 1,870; deaths, 1,322.
Bassein	June 24–30		12	
Do	July 1–7		6	
Bombay	do	36	25	
Henzada	June 25–30		2	
Karachi	June 28–July 4	3	2	
Madras Presidency	July 1–7	70	58	
Moulmein	June 17–30		15	
Do	July 1–7		16	
Rangoon	June 24–30	40	35	
Do	July 1–7	46	42	
Straits Settlements:				
Singapore	do	1	1	
At sea	July 14–18	9	6	S. S. Matiana en route for port of London.

SMALLPOX.

Brazil:				
Bahia	July 22–28	1		
China:				
Amoy	June 17–30			Present.
Chungking	July 8–14			Do.
Dairen	July 8–28	6	1	
Mukden	July 22–28			Present.
Shanghai	July 2–29		8	Among Chinese.
Ecuador:				
Guayaquil	Feb. 1–23	1		
Do	Mar. 1–31	1		
Do	Apr. 1–30	5		
Egypt:				
Alexandria	July 23–29	29	2	
Cairo	Feb. 12–Mar. 4	13	1	
Do	Mar. 5–18	6		
India:				
Bombay	July 1–7	14	8	
Karachi	June 28–July 4	1	1	
Madras	July 1–7	11	4	
Rangoon	June 24–30	3	1	
Do	July 1–7	2		
Java:				
East Java	June 18–July 1	9		
Mid-Java	June 11–July 1	36	4	
West Java				June 29–July 5, 1917: Cases, 33; deaths, 11. July 6–12, 1917: Cases, 9; deaths, 1.
Batavia	June 29–July 5	1		
Mexico:				
Vera Cruz	Aug. 5–11	1		
Philippine Islands:				
Manila	July 8–21	3		
Portugal:				
Lisbon	do	3		
Russia:				
Archangel	May 15–June 14	33	2	
Spain:				
Malaga	Apr. 1–30		12	
Valencia	July 2–28	2		
Venezuela:				
Maracaibo	July 17–23		1	

TYPHUS FEVER.

China:				
Hankow	July 8–14		1	
Egypt:				
Alexandria	July 16–29	75	34	
Cairo	Jan. 22–Mar. 18	96	40	

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

Reports Received During the Week Ended Sept. 7, 1917—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Japan:				
Hakodate	July 22-28	1		
Nagasaki	July 23-Aug. 5	7		
Java:				
East Java				June 25-July 1, 1917: 1 case.
Surabaya	June 25-July 1	1		
Mid-Java	June 11-24	7	1	
West Java				June 30-July 5, 1917: Cases, 4; July 6-12, 1917: Cases, 8.
Batavia	June 29-July 12	11		
Russia:				
Archangel	May 15-June 14	7	2	

YELLOW FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Ecuador:				
Babahoyo	Feb. 1-28	1	1	
Do	Mar. 1-31	2	1	
Chobo	do	1	1	
Guayaquil	Feb. 1-28	18	7	
Do	Mar. 1-31	17	9	
Do	Apr. 1-30	17	9	
Milagro	Feb. 1-28	1		
Do	Mar. 1-31	1		
Do	Apr. 1-30	1	1	

Reports Received from June 30 to Aug. 31, 1917.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bassein	Apr. 1-May 5		8	
Bombay	June 24-30	1	1	
Calcutta	Apr. 29-June 9		335	
Madras	Apr. 22-June 30	5	4	
Mandalay	May 6-12		1	
Moulmein	May 13-June 2		3	
Pakokku	Apr. 20-May 5		1	
Pegu	May 27-June 2		1	
Rangoon	Apr. 21-June 9	30	16	
Indo-China:				
Provinces				Feb. 1-Mar. 31, 1917: Cases, 61 deaths, 40.
Anam	Feb. 1-Mar. 31	6	1	
Cambodia	do	9	7	
Cochin-China	do	44	32	
Tonkin	do	2		
Saigon	Apr. 23-May 27	163	108	
Java:				
East Java	Apr. 2-8	1		
West Java				Apr. 13-June 28, 1917: Cases, 19; deaths, 6.
Batavia	Apr. 13-June 28	6	2	
Persia:				
Mazanderan Province—				
Amir Kela	Feb. 3	1		
Barfourouche	Jan. 15-17	4		
Hamze Kela	Jan. 17	1		
Machidessar	Jan. 31	3		
Philippine Islands:				
Manila	June17-23	1		
Provinces				May 20-June 30, 1917: Cases, 795; deaths, 506.
Albay	May 20-June 30	113	76	
Do	July 1-7	2	1	July 1-7, 1917: Cases, 315; deaths, 202.
Ambos Camarines	June 3-9	2	1	
Batangas	June 17-23	1	1	

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

Reports Received from June 30 to Aug. 31, 1917—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands—Continued.				
Provinces—Continued.				
Bohol	May 20–June 30	368	251	
Do	July 1–7	66	45	
Capiz	June 3–30	62	40	
Do	July 1–7	19	15	
Cebu	June 3–30	231	150	
Do	July 1–7	54	38	
Iloilo	do	7	4	
Leyte	June 10–30	14	5	
Do	July 1–7	4	4	
Negros Oriental	do	4	4	
Rizal	June 24–30	1	.....	
Do	July 1–7	1	.....	
Sorsogon	June 3–30	196	88	
Do	July 1–7	82	39	
Tayabas	do	7	7	
Do	do	1	1	

PLAGUE.

Arabia:				
Aden	May 3–June 11	.....	38	Apr. 8–May 14, 1917: Cases, 69; deaths, 51.
Brazil:				
Bahia	June 10–30	6	3	
Ceylon:				
Colombo	Apr. 8–June 9	40	33	
China:				
Amoy	Apr. 29–May 5	.....	.....	Present and in vicinity.
Hongkong	May 13–June 30	20	13	
Do	July 1–7	6	6	
Kwangtung Province—				
Pa-pu district	June 2	.....	.....	Present.
Egypt		.....	.....	Jan. 1–June 28, 1917: Cases, 564; deaths, 313.
Alexandria	June 21–27	6	4	
Port Said government	Apr. 30–May 19	4	3	
Port Said	June 25	1	.....	
Provinces—				
Fayum	May 11–June 26	14	7	
Galloubeh	June 28	1	.....	
Girgeh	May 17	.....	1	
Minieh	May 12–June 28	4	3	
Siout	May 12	3	1	
Suez government	Apr. 30–June 2	23	9	
Suez	May 12–June 28	38	23	
Great Britain:				
London	May 3–8	2	.....	2 in hospital at port. From s. s. Sardinia from Australian and oriental ports.
India		.....	.....	Apr. 15–June 30, 1917: Cases, 42,440; deaths, 29,195.
Bassein	Apr. 1–June 2	.....	42	
Bombay	Apr. 22–June 30	441	363	
Calcutta	Apr. 29–June 2	.....	38	
Henzada	Apr. 1–May 19	.....	33	
Karachi	Apr. 22–June 30	468	413	
Madras Presidency	do	301	250	
Mandalay	Apr. 8–May 12	.....	9	
Moulmein	Apr. 1–June 2	.....	59	
Myingyan	Apr. 1–7	.....	1	
Pegu	May 27–June 2	.....	2	
Rangoon	Apr. 15–June 9	143	134	
Toungoo	Apr. 8–14	.....	2	
Indo-China:				
Provinces		.....	.....	Feb. 1–Mar. 31, 1917: Cases, 198; deaths, 141.
Anam	Feb. 1–Mar. 31	72	39	
Cambodia	do	92	80	
Cochin-China	do	33	21	
Saigon	Apr. 23–June 3	47	26	

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

Reports Received from June 30 to Aug. 31, 1917—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java:				
East Java				Apr. 2–May 20, 1917: Cases, 29; deaths, 29.
Djocjakarta Residency	Apr. 23–May 6	1	1	
Kediri Residency	do	1	1	
Samarang Residency	Apr. 23–May 20	3	3	
Surabaya	Apr. 2–May 20	18	18	
Surakarta	do	6	6	
Peru				May 16–31, 1917: Cases, 15.
Departments—				
Arequipa	May 16–31	4		At Mollendo.
Callao	do	1		At Callao.
Lambayeque	do	2		At Chiclayo.
Libertad	do	7		At Salaverry, San Pedro, and Trujillo.
Lima	do	1		At Lima.
Siam:				
Bangkok	Apr. 22–June 2	12	11	
Do	July 3–23	4	3	
Straits Settlements:				
Singapore	June 3–16	2	1	
Union of South Africa:				
Cape of Good Hope State—				
Glengrey district	Aug. 13			Present.
Terka district	May 28	1	1	At Summerhill Farm.
Queenstown	June 6	1		
Orange Free State				Apr. 16–22, 1917: 1 case; Apr. 9–22, 1917: Cases, 26; deaths, 17.
Winburg district	May 28		1	

SMALLPOX.

Australia:				
New South Wales				Apr. 27–July 5, 1917: Cases, 68.
Brewarrina	Apr. 27–June 21	6		
Coonabarabran	May 25–July 5	13		
Quambone	Apr. 27–June 21	2		
Warrendi district	June 22–July 5	47		
Queensland—				
Thursday Island Quarantine Station.	May 9	1		From s. s. St. Albans from Kobe via Hongkong. Vessel proceeded to Townsville, Brisbane, and Sydney, in quarantine.
Brazil:				
Bahia	May 6–June 30	4		
Rio de Janeiro	do	126	31	
Do	July 1–14	59	9	
Canada:				
Manitoba—				
Winnipeg	June 10–16	1		
Nova Scotia—				
Halifax	June 18–July 7	3		
Port Hawkesbury	June 17–30			Present in district.
Ontario—				
Ottawa	July 30–Aug. 5	1		
Ceylon:				
Colombo	May 6–12	1		
China:				
Amoy	Apr. 29–May 26			Present and in vicinity.
Antung	May 21–June 24	4		
Chungking	May 6–June 23			Present.
Do	July 1–7			Do.
Changsha	May 27–June 2	5		
Dairen	May 13–June 30	30	4	
Do	July 1–7			Do.
Hankow	June 24–30	2		
Harbin	Apr. 23–May 6	7		On Chinese Eastern Ry.
Hongkong	May 6–June 16	8	7	
Manchuria Station	Apr. 23–29	1		Do.
Mukden	May 27–June 2			Present.
Do	July 8–21			Do.
Shanghai	May 21–July 1	13	32	Cases foreign; deaths among natives.

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

Reports Received from June 30 to Aug. 31, 1917—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
China—Continued.				
Tsitshar Station	Apr. 16–22	1		On Chinese Eastern Ry.
Tsingtao	May 22–July 7	35	7	At another station on railway, 1 case.
Chosen (Korea):				
Chemulpo	May 1–31	1		
Egypt:				
Alexandria	Apr. 30–July 1	39	9	
Do	July 2–8	1	2	
France:				
Paris	May 6–12	1		
Germany				Mar. 18–Apr. 28, 1917: Cases, 715 in cities and 32 States and districts.
Berlin	Mar. 18–Apr. 28	106		
Bremen	do	16		
Charlottenburg	do	18		
Hamburg	do	50		
Leipzig	do	20		
Lübeck	do	2		
Munich	do	10		
Stuttgart	do	1		
India:				
Bombay	Apr. 22–June 30	163	63	
Calcutta	Apr. 29–May 26		12	
Karachi	Apr. 22–June 30	26	7	
Madras	do	80	48	
Rangoon	Apr. 15–June 9	30	4	
Indo-China:				
Provinces				Feb. 1–Mar. 31, 1917: Cases, 1,616; deaths, 240.
Anam	Feb. 1–Mar. 31	788	63	
Cambodia	do	73	17	
Cochin-China	do	654	158	
Kwang-Chow-Wan	Mar. 1–31	2		
Tonkin	Feb. 1–Mar. 31	99	2	
Saigon	Apr. 27–June 10	199	63	
Italy:				
Turin	May 21–June 24	32	12	
Japan:				
Kobe	May 27–July 22	65	16	
Nagasaki	May 28–June 3	1		
Osaka	May 16–July 5	177	55	
Yokohama	May 27–July 1	1	1	
Java:				
East Java	Apr. 2–June 17	29	2	
Mid-Java	Apr. 1–June 10	52	3	
West Java				Apr. 13–June 28, 1917: Cases, 206; deaths, 33.
Batavia	Apr. 13–June 28	29	6	
Mexico:				
Mazatlan	July 11–Aug. 7		9	
Mexico City	June 3–30	162		
Do	Aug. 5–11	69		
Monterey	June 18–24		24	
Vera Cruz	July 1–7	1		
Philippine Islands:				
Manila	May 13–June 9	6		Varioloid.
Portugal:				
Lisbon	May 13–June 30	14		
Portuguese East Africa:				
Lourenço Marques	Mar. 1–Apr. 30		2	
Russia:				
Archangel	May 1–June 28	23	2	
Petrograd	Feb. 18–June 9	495		
Riga	Mar. 11–June 2	4		Jan. 1–Mar. 31, 1917: Cases, 9.
Vladivostok	Mar. 15–21	23	7	
Siam:				
Bangkok	June 9–23	6	3	
Spain:				
Madrid	May 1–June 19		4	
Seville	May 1–June 30		11	
Valencia	June 3–23	5		
Do	July 1–7	2		
Straits Settlements:				
Penang	Mar. 18–June 23	6	3	
Singapore	June 24–30	1		

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

Reports Received from June 30 to Aug. 31, 1917—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Sweden:				
Malmo	Apr. 22–28	1		
Stockholm	May 20–June 23	2	1	
Tunisia:				
Tunis	June 2–8	2		
Turkey in Asia:				
Trebizond	Feb. 25–Apr. 13		15	
Union of South Africa:				
Johannesburg	Mar. 12–24	4		
Uruguay:				
Montevideo	May 1–31	2		
Venezuela:				
Maracaibo	June 18–July 8		8	

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers	June 1–30	5	3	
Austria-Hungary:				
Austria				Oct. 22–Dec. 17, 1916: Cases, 2,371.
Bohemia	Oct. 22–Dec. 17	634		
Galicia	do	809		
Lower Austria	do	47		
Moravia	do	617		
Silesia	do	16		
Styria	do	243		
Upper Austria	do	5		
Hungary				Feb. 19–Mar. 25, 1917: Cases, 1,381.
Budapest	Feb. 19–Mar. 25	83		
China:				
Antung	June 25–July 1	3		
Do	July 9–22	4	1	
Hankow	June 9–16	1		
Tientsin	June 17–23	1		
Tsingtao	May 30–July 7	4		
Egypt:				
Alexandria	Apr. 30–July 1	1,648	478	
Do	July 17–23	145	50	
Great Britain:				
Cork	June 17–23		1	
Greece:				
Saloniki	May 13–June 30		32	
Do	July 1–14		10	
Japan:				
Nagasaki	June 11–24	4		
Do	July 9–22	12	1	
Java:				
East Java	May 6–June 17	5		
Mid-Java	Apr. 1–30	7	2	May 5–10, 1917: Cases, 24; deaths, 2.
Samarang	May 5–June 10	14	2	
West Java				Apr. 13–June 21, 1917: Cases 133; deaths, 6.
Batavia	Apr. 13–May 10	66	6	
Mexico:				
Mexico City	June 3–30	431		
Do	July 8–Aug. 11	524		
Netherlands:				
Rotterdam	June 9–23	3	2	
Do	July 15–30	3		
Norway:				
Bergen	July 8–14	6		
Portuguese East Africa:				
Lourenço Marques	Mar. 1–31	1		
Russia:				
Archangel	May 1–June 28	4		
Petrograd	Feb. 18–June 9	126	3	
Riga	May 31–June 2	2		Jan. 1–31, 1917: 1 case.
Vladivostok	Mar. 29–May 21	5		

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

Reports Received from June 30 to Aug. 31, 1917—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Spain:				
Almeria	May 1–31		5	
Madrid	do		2	
Switzerland:				
Basel	June 17-23	1		
Do	July 8–21	3	1	
Trinidad	June 4–9	2		
Tunisia:				
Tunis	June 30–July 6		1	

YELLOW FEVER.

Mexico:				
Yucatan, State—				
Peto	June 23	1	1	In person recently arrived from Mexcio City.
Do	July 29–Aug. 11	6	2	