

PUBLIC HEALTH REPORTS

VOL. 34

MARCH 28, 1919

NO. 13

IS YOUR WATER SUPPLY SAFE?

Experience has shown that a large proportion of the public water supplies in this country are so inadequately safeguarded that they constitute, at least potentially, serious sources of water-borne disease. No wonder, therefore, that in many communities the prevalence of typhoid fever is so high as to be a disgrace. The attention of our readers is invited to the interesting and instructive article describing an outbreak of typhoid fever in Herkimer, N. Y. This shows the spectacular, epidemic type of outbreak associated with a high degree of pollution. Health officers and local government officials should remember, however, that constant high typhoid prevalence, even though not in the form of an epidemic outbreak, is very often traceable to a polluted public water supply.

If you are in doubt as to your own community's supply, why not consult the State health officer? As may be seen from the list printed on pages 622 and 623, the Public Health Service has published a number of instructive bulletins dealing with typhoid fever and water supplies. Copies of these may be had on request to the Surgeon General, United States Public Health Service, Washington, D. C.

WATER-BORNE TYPHOID FEVER OUTBREAK IN HERKIMER, N. Y.¹

By THEODORE HORTON, Chief Engineer, New York State Department of Health.

The following report of a water-borne outbreak of typhoid fever in Herkimer, N. Y. is particularly instructive because it illustrates the disastrous results which may follow the temporary failure, because of lack of expert supervision, to chlorinate a seriously contaminated water supply. It may also be of interest as showing the measures adopted by the State department of health in controlling the outbreak.

Briefly reviewed, the history of the outbreak is as follows: Between September 1, 1918, and January 1, 1919, some 155 cases of typhoid

¹ In the compilation of this material the author desires to acknowledge his indebtedness to Mr. E. S. Chase, Assistant Engineer, Dr. J. E. Clark, and Dr. R. W. E. Cole, Sanitary Supervisors; F. W. Jones and Earl Devendorf, Assistant Engineers; Dr. A. L. Fagin, Health Officer, Eva M. Schied, County Nurse; Mary B. Hofmeister, Village Nurse; and William Ownes, Milk Inspector.

fever were reported from Herkimer. Upon the discovery of an undue prevalence of typhoid in the village, an epidemiological investigation was started in October, 1918, by the Division of Communicable Diseases, and an investigation of the water supply was made by the Engineering Division. The information secured by these two investigations pointed conclusively to an infection of the public water supply as the primary source of the outbreak.

It appears that on August 28, 1918, it was considered necessary by the municipal authorities to augment the regular well supply of the village by pumping directly from the hydraulic canal by means of the fire pump at the Herkimer Fiber Co. While an attempt was made to sterilize this emergency supply by means of liquid chlorine, the arrangement of the apparatus was such that the chlorine was not properly applied. Again on September 5, 6, and 7 unchlorinated canal water was pumped into the distribution system, and, furthermore, the regular well supply was unchlorinated on September 1, 2, 5, 6, and 7. The use of the canal was discontinued on September 29, and about this time the suction of one of the pumps at the village pumping station was rearranged so as to permit direct pumping from West Canada Creek with chlorination. Subsequent to the 7th of September the entire supply of the village was treated more or less continuously with chlorine, although from the records of operation there would appear to be some doubt as to the adequacy of the treatment until about November 25 when supervision of the chlorination was assumed by the Engineering Division.

On September 23, October 8, and October 22 the water supply was visited by engineers from this department. Each time the chlorination apparatus was found to be properly operating and the samples collected at these times were free from active contamination. Records, however, of operation of the chlorination apparatus and the results of analyses made for the village by Prof. Hodges, of Utica, indicate that there were times when adequate sterilization of the supply was not being obtained even after the visits of our engineers and after the admonitions of the department with respect to the extreme importance of proper sterilization. It was accordingly considered advisable, particularly in view of the continuation of reported cases of typhoid subsequent to our report of October 25, for this division to maintain temporary supervision of the chlorination of the water supply. This supervision was begun on November 25, and from that date until December 20 an engineer from the department was detailed to remain in Herkimer in constant touch with the situation. During this period the pumping station was visited several times daily and even during the night. Frequent chemical tests were made to determine the presence of excess chlorine in the treated water, it being planned to apply sufficient amounts of

chlorine to permit the existence of a marked excess in the treated water at the end of 5 minutes. The chlorine was applied to the water from the infiltration gallery at a rate of about 0.5 parts per million and to the creek water at a rate of about 1.5. These rates were varied somewhat from time to time as was found necessary. Samples for laboratory examination were collected about twice each week, and the results of the analyses of these samples, made by the Division of Laboratories and Research, will be found appended in Table 3.

In addition to the supervision of the chlorination, numerous conferences were held with and communications sent to the municipal authorities urging the necessity of the greatest care and efficiency in the operation of the chlorination apparatus. Upon our urgent recommendation two men were appointed by the village to observe and record the operation of the chlorine apparatus. These men were appointed and went on duty on December 15 and were carefully instructed by our engineer as to the proper operation of the chlorine apparatus. Tests for excess chlorine are made at two-hour intervals by these men, and strict orders have been issued to stop pumping should any trouble develop with the operation of the chlorination apparatus. Records of operation are kept on specially prepared forms and are checked over by our engineers who now visit Herkimer at weekly intervals. In view of the fact that practically no cases of typhoid have been reported recently, it appears very probable that the outbreak has been definitely checked and that little danger of its recurrence is to be expected, provided the chlorination of the supply is carried on as efficiently as it has been since November 25, 1918.

Two sets of six wells each have been drilled several hundred feet southwest of the pumping station, and it is expected that as soon as these wells are connected with the distribution system it will be no longer necessary to pump directly from West Canada Creek. Chlorination apparatus are to be provided for these sets of wells and the water will be chlorinated. The location of these wells on the outskirts of a thickly settled community is not satisfactory for a permanent source of supply, due to the numerous opportunities for pollution of the underground waters in this vicinity. Accordingly the use of these wells should be continued only until a new permanent supply is obtained. Studies are now under way for this purpose and should be completed at the earliest possible time.

In addition to the water from the public supply, numerous local wells scattered throughout the village have been used by the public. Many of these wells have very insanitary conditions in their vicinity. Inspections were made of, and samples collected from, several of these wells. The analyses show that the waters from practically all of these wells are derived from seriously-polluted ground-water

sources, and while certain of the wells are apparently less actively contaminated than others, it is impossible to predict that such a condition will continue at all times and under all circumstances. It was therefore recommended by us, in a letter published in the local press, that all water from these wells be boiled for drinking and culinary purposes.

In the previous report a table giving case data was appended, together with a chart, showing the curve of onset dates. This table and chart were based upon the information secured with respect to some 93 cases. Since this previous report 62 additional cases have been reported, and the data with respect to the entire 155 cases have been tabulated and studied. The data given in the table of the previous report were somewhat incomplete and in some cases incorrect, due to inherent difficulties in the rather hasty compilation of the information. It is believed, however, that the revised table is much more complete and accurate, and upon it a new curve of onsets has been based. This revised table gives no information with respect to possible sources of infection other than water, milk, and contact, it being found early in the investigation begun by the Division of Communicable Diseases that the evidence pointed so overwhelmingly toward the water supply as the source of outbreak that the tabulation of additional information with respect to food supplies would have been superfluous.

From the chart of onsets (Fig. 1) it will be seen that the larger number of onsets occurred between the middle of September and the middle of October, approximately three to four weeks subsequent to the pumping of unchlorinated canal water into the distribution system. If the average period of incubation in water-borne outbreaks of typhoid fever is taken as from one to two weeks, it would appear probable that there had first been a slight infection of the water supply, followed after a few days by a more massive one. The large group of cases with onsets on September 20 would place this infection in the week beginning September 1. Another group of cases had onsets between the first and middle of November, and while a certain proportion of these cases may have been due to contact with cases occurring in the first group, it appeared from records of operation of chlorination plants and results of analyses that insufficient application of chlorine occurred at times up to November 25, when the operation of the chlorine apparatus was taken over by the Division of Engineering. Since this time, however, only a few scattering cases have occurred, and the majority of these are probably of secondary origin.

While the great majority of cases gave evidence of having used unboiled village water for drinking purposes, and while the evidence with respect to the use of raw canal water indicated clearly the vil-

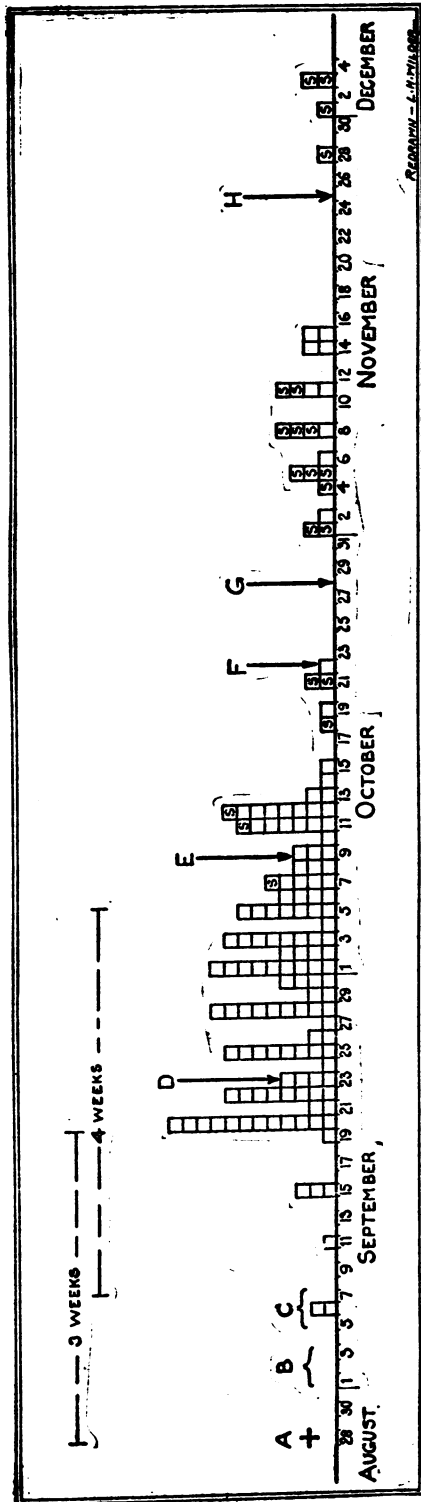


FIG. 1.—Number of cases, by dates of onset, of typhoid fever at Herkimer, N. Y., 1918.

NOTE.—Each square represents 1 case. S represents a secondary or possible contact case; A, unchlorinated canal water pumped; B, unchlorinated well water pumped; C, unchlorinated canal and well water pumped; D, use of canal water first brought to the attention of the State department of health; E, F, inspection of water supply made by the Division of Sanitary Engineering; G, second chlorination apparatus installed at pumping station; H, supervision of chlorination begun by the Division of Sanitary Engineering.

lage water supply as the principal source of the infection, yet as evidence warranting the exclusion of milk as a possible source, the case data have been summarized as follows with respect to the milk supplies used by various cases:

TABLE 1.

Milk dealers.	Quarts of milk delivered.	Per cent.	Cases.	Per cent.
Sanitary Milk Co.....	1,100	47	57	42
Lovior & Putnam.....	500	21	42	31
Ray.....	250	11	20	15
Potter.....	300	13	12	9
Guyver.....	150	6	4	3
Martindale.....				
Moore.....	50	2	2	1
Total supplied by principal dealers.....			137	
Chapman.....			1	
Own cow.....			1	
Condensed milk.....			1	
Unknown.....			15	

From this table it will be seen that the distribution of cases along milk routes is approximately in proportion to the quantity of milk delivered by the various dealers, no preponderance of cases occurring upon the route of any one dealer. It was considered advisable, however, in order to minimize the danger of the spread of the disease through milk bottles, to require that no milk bottles be delivered to houses in which typhoid occurred. This requirement was put into effect about the 1st of December and the milk inspector was instructed to follow up the matter.

With respect to age distribution the following summary has been made:

TABLE 2.

Age.	Cases.	Percentage.
0 to 10.....	46	30
10 to 20.....	44	29
20 to 30.....	28	18
30 to 40.....	15	10
40 to 50.....	13	8
50 to 70.....	7	5
Total of known ages.....	153	100
Unknown.....	2	

Although the number of cases amongst children up to 10 years of age is somewhat larger than is usually found in water-borne typhoid fever outbreaks, it should be noted that of the 46 cases within this age group some 14 are probably secondary in origin as they occurred in households having earlier cases of typhoid.

The high mortality, some 28 deaths among 155 reported cases, indicates incomplete reporting of mild cases. It should be noted, however, that this outbreak of typhoid occurred during the influenza epidemic of last fall and, accordingly, errors in diagnosis may

have been made. Furthermore, complications with influenza may have increased the fatality of the typhoid in some cases.

In order to prevent so far as possible the occurrence of additional cases, of either secondary or primary origin, a general letter of instruction and warning to the residents of the village was given to the press and also distributed throughout the village on handbills about the 1st of December. This letter contained specific directions and precautions to be followed by everyone in the village with reference to boiling water and milk, isolation of cases of typhoid fever, use of disinfectants and other essential matters. An emergency hospital established by the village was used to care for a number of cases and the village nurse, Miss Hofmeister, gave individual assistance and instructions at the homes of the majority of cases.

SUMMARY.

From the evidence presented in this report with its appended tables, it may be concluded—

(1) That the outbreak of typhoid fever in Herkimer was brought about by the pumping of unchlorinated and infected creek water into the village mains.

(2) That, at the time of this present report, it appears probable that the outbreak has been definitely checked.

(3) That, although the operation of the chlorination apparatus has apparently been efficient since the latter part of November, the character of the creek water is such that chlorination alone can not be considered as a sufficiently practical and reliable safeguard under all conditions.

(4) That, in view of the difficulty of adequately chlorinating a water of this character, the supervision of the chlorination of the water supply by men specifically detailed for this purpose is absolutely necessary.

(5) That the majority of local wells in the village are derived from polluted ground water sources and are a potential menace to health.

(6) That, although the new wells for the public supply will probably yield a supply more easily chlorinated than the creek supply, they are somewhat unsatisfactorily located with respect to possible sources of pollution of the ground water tributary to them.

(7) That the village urgently needs the development of a new source of water supply, of adequate quantity and of satisfactory quality.

It is therefore, recommended—

(1) That the temporary auxiliary water supply from the driven wells be secured as soon as possible.

(2) That the present use of creek water be abandoned as soon as the new well supply will permit.

(3) That all water admitted to the distribution system of the village, either from the wells or from any other source, be adequately and properly chlorinated.

(4) That until the use of creek water has become unnecessary and as an added safeguard in view of the difficulties of chlorination above referred to, all water for drinking and culinary purposes be boiled.

(5) That the use of local wells in the village be abandoned.

(6) That the village authorities take decisive steps at once toward the introduction at the earliest practicable time of a new permanent water supply of ample quantity and of satisfactory quality.

TABLE 3.—Results of water analyses.

Source of sample.	Date of collection.	Bacteria per c. c. gelatin, 20° 48 hours.	B. coli type, + = present, — = absent.		
			10 c. c.	1 c. c.	$\frac{1}{10}$ c. c.
Raw creek water.....	July 12, 1918	750	3+, 0—	3+, 0—	3+, 0—
Filtered creek water.....	do.	250	3+, 0—	3+, 0—	3+, 0—
Tap, Palmer House, chlorinated.....	do.	26	0+, 3—	0+, 3—	0+, 3—
Raw, hydraulic canal.....	Sept. 24, 1918	13,000	3+, 0—	3+, 0—	3+, 0—
Tap, East German Street, chlorinated.....	do.	10	0+, 3—	0+, 2—	0+, 3—
Raw creek water.....	Oct. 9, 1918	4,100	3+, 0—	3+, 0—	3+, 0—
Chlorinated creek water.....	do.	825	3+, 0—	3+, 0—	0+, 3—
Chlorinated mixed supply.....	do.	70	0+, 3—	0+, 3—	0+, 3—
Public fountain, chlorinated.....	do.	36	2+, 1—	0+, 3—	0+, 3—
Raw creek water.....	Oct. 22, 1918	5,900	3+, 0—	3+, 0—	3+, 0—
Chlorinated creek water.....	do.	16	3+, 0—	0+, 3—	0+, 3—
Raw well water.....	do.	30	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	71	0+, 2—	0+, 3—	0+, 3—
Tap, Palmer House, chlorinated.....	do.	18	1+, 2—	0+, 3—	0+, 2—
Raw creek water.....	Nov. 26, 1918	750	3+, 0—	3+, 0—	2+, 1—
Chlorinated creek water.....	do.	10	0+, 3—	0+, 3—	0+, 3—
Raw well water.....	do.	75,000	2+, 0—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	20	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	15	0+, 3—	0+, 3—	0+, 2—
Raw creek water.....	Dec. 3, 1918	300	3+, 0—	3+, 0—	2+, 1—
Chlorinated creek water.....	Dec. 2, 1918	2	0+, 3—	0+, 3—	0+, 3—
Raw well water.....	do.	300	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	0	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	1	0+, 3—	0+, 3—	0+, 3—
Tap, Main Street, chlorinated, mixed, a. m.....	Dec. 3, 1918	5	0+, 3—	0+, 3—	0+, 3—
Tap, Mohawk Street, chlorinated, mixed.....	do.	450	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated mixed, p. m.....	do.	4	0+, 3—	0+, 3—	0+, 3—
Raw creek water.....	Dec. 5, 1918	325	3+, 0—	3+, 0—	1+, 2—
Chlorinated creek water.....	do.	3	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	36	0+, 3—	0+, 3—	0+, 3—
Tap, Palmer House, chlorinated mixed.....	do.	2	0+, 3—	0+, 3—	0+, 3—
Chlorinated creek water.....	Dec. 6, 1918	16	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	2	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	200	0+, 3—	0+, 3—	0+, 3—
Raw creek water.....	Dec. 10, 1918	1,300	3+, 0—	3+, 0—	2+, 0—
Chlorinated creek.....	do.	8	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	550	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	20	0+, 3—	0+, 3—	0+, 3—
Raw creek water.....	Dec. 12, 1918	450	3+, 0—	3+, 0—	0+, 3—
Chlorinated creek water.....	do.	5	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	30	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	12	0+, 3—	0+, 3—	0+, 3—
Chlorinated creek water.....	Dec. 16, 1918	5	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	1	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed, 3.30 p. m.....	do.	2	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed, 4.30 p. m.....	do.	5	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed, 2 p. m.....	do.	2	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed, 10 a. m.....	Dec. 18, 1918	5	0+, 3—	0+, 3—	0+, 3—
Raw creek water.....	Dec. 20, 1918	3	0+, 3—	0+, 3—	0+, 3—
Chlorinated creek water.....	Dec. 24, 1918	2,000	3+, 0—	2+, 0—	2+, 1—
Chlorinated well water.....	do.	19	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	2	0+, 2—	0+, 3—	0+, 3—
Do.....	do.	11	0+, 3—	0+, 3—	0+, 3—
Raw creek water.....	Dec. 27, 1918	450	3+, 0—	3+, 0—	0+, 3—
Chlorinated creek water.....	do.	7	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	5	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed.....	do.	3	0+, 3—	0+, 3—	0+, 2—
Raw creek water.....	Dec. 30, 1918	200	3+, 0—	3+, 0—	1+, 2—
Chlorinated creek water.....	do.	1	0+, 3—	0+, 3—	0+, 3—
Chlorinated well water.....	do.	2	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed, 10.10 a. m.....	do.	2	0+, 3—	0+, 3—	0+, 3—
Tap, chlorinated, mixed, 3 p. m.....	do.	2	0+, 3—	0+, 3—	0+, 3—

TYPHOID VACCINATION NO SUBSTITUTE FOR SANITARY PRECAUTIONS.

Although the protective value of antityphoid vaccination is no longer open to question, the practice of this procedure should under no circumstances be regarded as a substitute for the observance of sanitary precautions. The necessity for maintaining the highest possible standards of sanitation and hygiene has just led to the publication of an instructive circular by the chief surgeon, American Expeditionary Forces. The lessons which this circular teaches are so thoroughly applicable to health officers generally that we reproduce it here in full.

TYPHOID-PARATYPHOID FEVERS.

I.—Introduction.

In view of the appearance and continued incidence of fevers of the typhoid-paratyphoid group in many units of the American Expeditionary Forces during the past five months, it is deemed essential to review this subject at the present time, particularly from the viewpoint of early diagnosis, prevention, and control.

The occurrence and distribution of typhoid-paratyphoid in our troops has constantly and continuously been brought to the attention of all medical officers serving with the American Expeditionary Forces through the medium of the weekly bulletin of diseases. It would appear, however, that many officers have utterly failed to grasp the significance of these reports and warnings, a fact which may be due to a false sense of security under the popular belief that vaccination against typhoid and paratyphoid gives a complete immunity even in the midst of gross insanitary conditions.

Notwithstanding the fact that typhoid and paratyphoid fevers are endemic in the United States, and in spite of our extensive experience with these diseases during the Spanish-American War and later during the period of mobilization on the Mexican border, it is evident that many medical officers have gained but little knowledge of the fundamental principles underlying prevention and control. It is also quite evident that some medical officers are grossly careless and neglectful of their duties and responsibilities as medical officers and sanitarians.

This office realizes fully that the United States has raised within a short period of time an army of several millions of men who have been poorly instructed in personal hygiene and sanitation; it realizes that 2,000,000 of these men have been brought to France, where they have encountered environmental conditions differing entirely from those existing in the United States; it is fully recognized that military necessity has at times rendered sanitary control extremely difficult, especially during the stress of active combat.

To our regret, be it said, the high standards of sanitation and personal hygiene set by the Medical Department during the past 10 to 15 years have not been lived up to during the past one and one-half years. This has been due to a combination of factors, the more important of which have been the lack of facilities and materials, transportation difficulties, and insufficient training and personnel. However, many medical officers serving with combatant and S. O. S. units have been able to overcome all handicaps, and have by wise counsel and by eternal vigilance succeeded in keeping their units in excellent fighting trim.

The actual physical fighting is now at an end, and the time-worn excuse that "there is a war on" will no longer be tolerated. But the fight against disease still continues.

The greater part of the American Expeditionary Forces is now relatively stationary in training areas or with the armies of occupation, where definite sanitary measures can be instituted and enforced, where instruction of the line troops can be carried out, and where opportunity is presented to initiate rules of personal hygiene. Medical officers will therefore be held responsible for the proper supervision of the health of troops.

Carbon copies of all general recommendations of medical officers covering sanitation and personal hygiene, promulgated officially as orders and memoranda by superior authority, will be mailed to this office.

II.—Summary of Typhoid-Paratyphoid Incidence in the American Expeditionary Forces.

In order that all medical officers in the American Expeditionary Forces may have a somewhat comprehensive view of the occurrence of these fevers in the American Expeditionary Forces, the following brief review is presented:

(a) From June 1, 1917, to June 1, 1918, but few cases occurred. The rate was well within the limits to be expected in view of the sanitary conditions under which the troops were of necessity living. The cases were sporadic and only occasionally did secondary cases develop.

(b) In July, 1918, a replacement unit consisting of 248 men from Camp Cody, N. Mex., reached England with typhoid prevailing extensively; 98 men, or 39.5 per cent, had typhoid, and the case death rate was 8.42 per cent.

It was evident from the investigation that the men were exposed to infection through contaminated drinking water while en route to the port of embarkation in the United States. The unit had been vaccinated a few months prior to the occurrence of the epidemic. Most of the patients presented the typical clinical features of typhoid.

The percentage of positive bacteriological findings from the blood, feces, and urine was low, as no laboratory work could be done until late in the course of the disease.

(c) In August, 1916, a small but severe epidemic occurred in a detachment of Engineer troops stationed at Bazoilles. In this unit 15 cases of typhoid occurred, with a death rate approximating 10 per cent. Typhoid was endemic in the civil population, and the epidemic was very definitely traced to a cook in the mess of this Engineer detachment, who remained on duty as a cook for five days after the onset of the symptoms. The epidemic was recognized in its early stages, and in all patients the disease was confirmed bacteriologically by positive cultures from the blood and feces.

(d) During the Chateau-Thierry offensive diarrheal diseases were very prevalent in the troops engaged—approximately 75 per cent. It was demonstrated bacteriologically in this area that the prevailing intestinal diseases were simple diarrhea, bacillary dysentery, typhoid, paratyphoid A and B. The sick and wounded from this sector were evacuated to base hospitals in various parts of France. Very soon thereafter this office began to receive reports of cases of typhoid, paratyphoid, and bacillary dysentery from base hospitals. In practically all instances the patients had been evacuated from the Chateau-Thierry sector. The high incidence of intestinal diseases in this sector was due to the entire disregard of the rules of sanitation. "Military necessity" and the impossibility of supplying auxiliary labor troops at that time prevented immediate police of the battle fields. In some of the cases involved in this series the diagnosis of dysentery or typhoid was made by the pathologist at autopsy. The percentage of positive bacteriological findings was low, as the correct diagnosis, if made, was not usually arrived at until late in the course of the disease.

(e) Both dysentery and typhoid-paratyphoid fevers were demonstrated to have prevailed to some extent in our troops after the St. Mihiel offensive, but the epidemics of influenza and pneumonia prevailing at that time overshadowed all other medical admissions.

(f) Following the offensive in the Argonne sector, typhoid and paratyphoid began to be reported from practically all divisions engaged in that offensive. It is quite evident that the initial cases were due in large part to drinking infected water. The initial cases, however, in large part were not, in most instances, promptly diagnosed, and secondary cases from contact began to occur. In some divisions either the initial exposure was not great, the organizations were under good discipline, or the medical officers had a proper conception of their duties and responsibilities and but few cases occurred. In other instances the contrary was true and many cases have occurred. As examples of the two extremes, may be cited the —

Division, in which 5 cases occurred between October 1, 1918, and February 1, 1919, and the — Division, in which 115 cases occurred in the same period.

More than 300 cases of typhoid-paratyphoid may be attributed to the Argonne offensive. Eight hundred and seventy-four typhoids and paratyphoids have been reported in the American Expeditionary Forces since October 1, 1918. The percentage of confirmatory laboratory diagnoses has been low on account of the fact that the clinicians frequently failed to suspect the disease in its early stages.

(g) A small but severe epidemic occurred in the Joinville concentration area in December and January. In a group of Medical Department units (evacuation and mobile hospitals and sanitary trains) concentrated there 75 cases occurred, with a case death rate of approximately 20 per cent. The cases were suspected in the early stages of the disease and the percentage of positive findings by culture of urine or feces has been greater than 75 per cent. The cause of this epidemic has not been completely analyzed as yet, but there is but little question that it was due to the use of infected drinking water.

III.—Reports of Cases.

If epidemics are to be recognized in their incipency and measures initiated to control and prevent further extension, it is manifestly of the utmost importance that reports of suspects and proven cases be transmitted to the medical officers of organizations directly concerned at the very earliest possible moment. The large number of troops involved, methods of evacuation, delays in transmission of reports, necessary censorship regulations, frequency of troop movements, laxity in making reports, unwarranted delay in making diagnoses, and other factors have tended to hamper this most important instrument for the control of transmissible diseases. The medical officers charged with the supervision of the health of all organizations must know at the earliest possible moment of the diagnosis or provisional diagnosis of typhoid or paratyphoid in a member of his organization, and for this diagnosis he must depend on the ward surgeon in the camp, evacuation, mobile, base, or other hospital unit to which the patient has been evacuated. Ward surgeons and chiefs of medical service in hospitals charged with the care of these patients do not appear to comprehend their responsibility in this matter. As a matter of fact, they are jointly responsible with the medical officer of the organization for any epidemics occurring in a command if they delay, in the least, in making diagnoses or in reporting suspects or positive cases. The records of this office show that patients with typhoid have passed successively through camp, field, evacuation, and base hospitals without any documentary evidence that typhoid or paratyphoid was even suspected. There are records of a stay of

two weeks or more in a single base hospital without diagnosis, and not a few records are on file showing that it remained for the pathologist to make the diagnosis at the autopsy table. If a tentative or positive diagnosis of typhoid or paratyphoid does not reach the medical officer of an organization until two to three weeks after the evacuation of the individual from the command, the damage already is done, additional individuals already are infected, and the problem of control becomes all the more difficult. If, on the contrary, ward surgeons in hospitals are keenly alive to their duties and responsibilities, will suspect typhoid and paratyphoid in all fevers of undetermined origin, will endeavor to confirm their suspicions by early blood culture, will promptly report all clinical cases as such and positive cases as such, the necessary information can be transmitted immediately to the medical officer of the organization concerned, who can in turn institute measures for the prevention of secondary cases.

In order that reports of cases of typhoid and paratyphoid may be transmitted more promptly to the medical officer attached to organizations, the following procedure will be adopted:

(a) Commanding officers of Medical Department units caring for the sick will be held responsible for reporting promptly by telegraph, as already provided for in Section XII, Sick and Wounded Reports, all suspected, clinical, and proved cases of typhoid and paratyphoid. The commanding officers of such hospitals will hold the chiefs of their medical services directly responsible for the prompt submission of diagnoses in these cases. Any laxity or incompetency in this respect will be immediately reported to this office for necessary action.

(b) When reporting these cases, in addition to the data now required by telegraph, the word "onset" followed by the date of appearance of the initial symptoms of the disease will be included in each case. The "onset" or appearance of the initial symptoms will be obtained by careful inquiry into the history. In securing these data it must be understood that the date of "onset" is not necessarily the day on which the patient first reported sick or the date on which he was admitted to hospital, but rather should be regarded as the day when the patient first had any symptoms indicative of the disease.

(c) In reporting cases of typhoid or paratyphoid, in compliance with paragraph (a) above, the following classification will be observed:

1. All suspected cases of typhoid and paratyphoid will be reported as "Typhoid or paratyphoid suspect."
2. All cases which present a clinical picture of these diseases will be reported as clinical typhoid or paratyphoid, using the term "Clinical typhoid or paratyphoid."

3. All cases in which the diagnosis of typhoid or paratyphoid has been confirmed by bacteriological methods or autopsy will be reported as "Proved typhoid or paratyphoid."

4. Individuals who are found to be excreting typhoid or paratyphoid bacilli in their stools or urine and who have recently had a febrile disease presenting the clinical symptoms of typhoid or paratyphoid, will be reported as "Convalescent typhoid or paratyphoid carriers."

5. Individuals who are found to be excreting typhoid or paratyphoid bacilli in their stools or urine but who have not been sick recently with a disease resembling typhoid or paratyphoid will be reported as "Typhoid or paratyphoid carriers."

6. Cases originally reported as suspects or clinical cases of typhoid or paratyphoid and which have subsequently been proved, by laboratory methods or autopsy, to be one of these diseases will be again reported, stating that they are now proved cases. The telegram reporting such proved cases will indicate clearly that they have formerly been reported as suspects or clinical cases.

7. If cases originally reported as suspects or clinical typhoid or paratyphoid are subsequently found not to have been one of these diseases, these cases will be reported by telegraph, showing change of diagnosis. In all telegrams reporting such change of diagnosis definite information will be submitted indicating that they have been reported previously as suspects or clinical cases.

(d) All reports outlined above will be sent by telegraph to the chief surgeon, American Expeditionary Forces. If the hospital unit reporting such cases is attached to one of the armies a duplicate of this report will be submitted to the chief surgeon of the army concerned, in such manner as he may indicate. If the hospital unit is under the orders of a section surgeon, surgeon of the District of Paris, or surgeon of the American embarkation center at Le Mans, a duplicate of this report will be submitted to the section, district, or embarkation center surgeon, in such manner as he may indicate.

Chief surgeons of the armies will establish close liaison with base, evacuation, and camp hospitals in the immediate vicinity of their commands, but not a part of their commands, to which patients from their commands are to be evacuated. If cases of typhoid or paratyphoid from armies are diagnosed in such camp, evacuation, base, or other hospitals, the commanding officers of such units will, in addition to the reports called for above, make immediate report of such cases by telephone, telegraph, or courier to the chief surgeon of the army concerned.

8. The special attention of all medical officers is invited to section 189, Article III, Manual Medical Department, quoted below, which will be strictly complied with:

"189. A report will be furnished in every case of typhoid fever or paratyphoid fever occurring in an officer, enlisted man, or civilian employee who has received the typhoid vaccine, describing in detail the method of arriving at diagnosis."

Special blank forms covering the information to be submitted will be obtained on request to this office.

IV.—Clinical Diagnosis of Typhoid and Paratyphoid Fevers.

In view of the fact that the ordinary clinical picture of typhoid-paratyphoid is very frequently profoundly modified in vaccinated individuals, it is considered essential to enumerate briefly the usual clinical manifestations of these fevers, atypical modes of onset, differential diagnosis, and modifications of the usual clinical manifestations in vaccinated individuals.

1. *Clinical manifestations of typhoid and paratyphoid.*—Typhoid fever in the unvaccinated is commonly characterized clinically by symptoms due to the gradual development of a general bodily infection. The onset is insidious, with lassitude, malaise, gradual steplike rise in temperature with slight morning remissions until at the end of the first week a continuous fever of from 103° to 105° F. has been attained. The beginning of the attack is usually associated with anorexia, headache, and frequently with diarrhea, abdominal distress, and epistaxis. The pulse is not increased in proportion to the temperature, is of low tension and dicrotic. The tongue is coated and white and the abdomen distended and tender. From the seventh to the tenth day the rash appears in the form of slightly raised, flattened papules of from 2 to 4 mm. in diameter, which can be distinctly felt, are of a rose-red color, and fade on pressure. These rose spots, characteristic of typhoid and paratyphoid, appear singly or in crops, usually first on the skin of the abdomen and lower thoracic region, but may occur only on the back or extremities. The individual rose spot persists for from two to three days, after which it fades, leaving a brownish stain which persists for some time. Toward the end of the first week the spleen enlarges and its edge can be distinctly felt below the costal margin.

At the end of 10 days the symptom complex clinically characteristic of typhoid—continuous fever, rose spots, and enlarged spleen—is usually established. To this should have been added laboratory findings of absence of leucocytosis and in the majority of instances a positive blood culture, which occurs most frequently during the early stage of the disease. One negative blood culture will not suffice, but repeated examinations at 48-hour intervals will be made in suspicious cases.

During the second week there is continued high fever with slight morning remissions. The pulse becomes rapid and loses its dicrotic

character, the patient becomes dull and stupid, the lips are dry, the tongue is dry and covered with a dirty brownish coat and tremulous. Abdominal symptoms when present—tympanites and diarrhea—are more pronounced and the clinical picture becomes one of intense toxemia. In the third week, in favorable cases, the morning remissions in temperature become more marked, the fever becomes distinctly remittent in type and toward the end of this period a gradual fall in temperature by lysis is noted. Rose spots cease to appear. In severe cases the pulse is weak, ranging from 110 to 130, and pulmonary complications, especially pneumonia and hypostatic congestion, may occur. The patient is dull and apathetic, and low-muttering delirium and subsultus tendinum are common. During the fourth week convalescence begins, the temperature gradually reaches normal, the abdominal symptoms subside, the tongue becomes clear, and the desire for food returns. In severe cases convalescence may be delayed until the fifth or even the sixth week, in which case the fever continues high during the fourth week and it is only toward the end of this period that marked daily remissions make their appearance.

In individuals previously vaccinated against typhoid but who have completely lost their immunity, infection similar to that found in the unvaccinated occurs, giving rise to the symptom complex described above as characteristic of typhoid fever.

Infections occurring in the vaccinated individual who still possesses a certain degree of resistance to infection result in the appearance of atypical clinical pictures, such as abortive types of typhoid and paratyphoid in which the constitutional symptoms are mild, with but slight febrile reaction of atypical type and few if any rose spots. The onset may be either insidious with headache, loss of appetite, and fatigue, or acute and associated with chills, vomiting, intestinal cramps, and diarrhea. Fever may be wholly absent or evanescent in character and determined only if observations are made within the first 48 to 72 hours. A low type of temperature, with daily fluctuations of from 98.6 to 100.4 suggestive of the presence of tuberculous disease may persist for a week to 10 days. It is in this class of cases that blood cultures taken early in the course of the disease, and repeated if negative, frequently give definite information concerning the nature of the infection. Ambulatory types of typhoid are not uncommon and the first indication of the existence of the disease may be furnished by the occurrence of intestinal hemorrhage or perforation.

The vaccinated individual protected against general systemic infection may still act as a carrier of typhoid infection, and frequently shows clinical manifestations of local disease of some portion of the gastrointestinal tract, while the characteristic symptom complex of

typhoid fever due to general infection, namely, continued fever, rose spots, and enlarged spleen, may be wholly absent.

2. *Distinctive complications.*—Intestinal hemorrhage occurs usually during the third or fourth week. The onset is marked by a sudden and frequently pronounced fall in temperature associated with increased gravity of the general condition and a rise in pulse rate.

Intestinal perforation occurs usually during the third or fourth week. Patients whose sensorium is not too clouded complain of sudden paroxysmal abdominal pain, usually referred to the right hypogastric region. Signs of peritoneal irritation rapidly become manifest. Vomiting is common. Hiccough and irritability of the bladder with frequent micturition may be noted. Physical examination of the abdomen reveals tenderness and muscle rigidity, most marked in the right hypogastric or iliac region. Obliteration of liver dullness is frequently present and constitutes an important sign. Acute abdominal symptoms associated with a suddenly appearing leucocytosis are indicative of perforation. The occurrence of intestinal hemorrhage or signs of intestinal perforation in an individual giving a history of previous ill health should always lead to the suspicion of the existence of typhoid.

3. *Atypical modes of onset.*—(a) Acute onset with symptoms simulating meningitis. Lumbar puncture differentiates.

(b) Acute onset with intense, usually generalized bronchitis or symptoms suggestive of lobar or broncho-pneumonia.

(c) With chills, fever, vomiting, cramplike pain in abdomen, sometimes localized in right iliac fossa and suggesting appendicitis.

(d) With symptoms of acute nephritis. Attack begins suddenly with nausea, vomiting, pain in lumbar region, diminution in secretion of urine, which is highly colored, and contains albumin and casts.

(e) Special mention should be made of the ambulatory type of typhoid, in which the symptoms are slight, consisting simply of headache and lassitude associated with mild gastrointestinal disturbances. The patient is at no time confined to his bed and intestinal hemorrhage or perforation may furnish the first clue with regard to the existence of typhoid.

(f) In the above atypical modes of onset early blood cultures are of importance in differentiation.

4. *Paratyphoid fevers.*—The paratyphoid fevers due to infection with A or B organisms are evidenced clinically by the same general symptomatology as that of typhoid. They, however, as a rule run a much milder course and the intense toxemia of typhoid, evidenced by marked apathy, muttering delirium, and subsultus tendinum, is seldom present. The onset of paratyphoid is frequently more abrupt, with acute gastrointestinal symptoms resembling food

poisoning. The intestinal symptoms are as a rule more marked in cases of infection with paratyphoid B than in cases in which paratyphoid A is the causative factor. The fever in paratyphoid is not of as long duration, nor is it as continuous as in typhoid, but is more distinctly remittent in type. Enlargement of the spleen, rose spots, and absence of leucocytosis are, as a rule, present in all three infections. Attempts have been made by some authorities to distinguish between the eruptions of paratyphoid A, paratyphoid B, and typhoid. Thus the spots in paratyphoid A are said to be larger, more macular in type, of a darker reddish hue, and to correspond more closely to the eruption of measles. However, histologically the rash is the same in all three instances, and it is doubtful if a clinical distinction in type of eruption can be maintained. Rose spots may be wholly lacking or may be profuse and widely distributed over the body surface. The occurrence of relapses is more frequent in paratyphoid than in typhoid proper, and particularly is that true in connection with type A infections. In contradistinction to the relapse of typhoid, that of paratyphoid is frequently more severe than the original attack. The distinction between mild typhoid, paratyphoid A and paratyphoid B can be made definitely only by the isolation of the infecting organism from cultures of the blood, urine, or stools.

5. *Differential diagnosis.*—Influenza: Many cases originally diagnosed as influenza in the American Expeditionary Forces have subsequently proven to be typhoid. The symptoms which the two diseases have in common are continuous fever without localizing symptoms and slow pulse associated with absence of leucocytosis. The more abrupt onset, the intensity of the headache, the severe pain in the back and eyeballs, and the early prostration occurring in influenza are distinctive. Supposed influenza in which the fever persists for more than four days and which is not associated with signs of respiratory involvement, such as a bronchitis, usually most extensive in the lower lobes, a broncho or lobar pneumonia, should be viewed with suspicion. It should be remembered that a general bronchitis is not uncommon in typhoid. The appearance of rose spots should determine typhoid. Intestinal types of supposed influenza should always be considered as possible typhoid until proven otherwise.

Acute miliary tuberculosis.—A family history of association with tuberculosis individuals, a personal history of previous attack of pleurisy or pulmonary hemorrhages, physical signs of old tuberculous pulmonary lesions, cyanosis appearing early in the disease associated with increased rate of respiration, a greater irregularity of temperature curve, and a more rapid pulse with absence of dicrotism suggest acute miliary tuberculosis. Röntgenograms of the chest and blood cultures frequently give valuable differentiation.

Septicemia: In cases of late typhoid admitted to the hospitals during or after three weeks of profound toxemia, together with the, by this time, distinctly remittent temperature, may suggest septicemia. The slight daily fluctuation in the general condition of the patient, together with the absence of chill and leucocytosis, suggest typhoid. Blood cultures will always be made in such cases, and, if negative, cultures of the stools will be made for the presence of typhoidlike organisms.

6. Local and unexplained gastrointestinal derangements, gastritis acute or chronic, diarrhea, dysentery, gastroenteritis, enterocolitis, colitis, appendicitis, cholecystitis, and acute catarrhal jaundice all occurring with or without fever should be regarded with suspicion when admitted from commands in which cases of typhoid or paratyphoid have occurred, and examination of the stools for the presence of typhoidlike organisms should be made.

Medical officers will see that all cases of gastrointestinal derangement enumerated above as well as all fevers of undetermined origin are subjected to careful clinical and laboratory supervision. They will under no conditions be left in quarters but will be sent at once to camp, evacuation, mobile, or base hospitals where accurate observation of temperature at four-hour intervals will be recorded for a period of at least four days. Blood cultures will be taken in every case of fever of undetermined origin in which the temperature has persisted for a period of 48 hours and if negative will be repeated provided unexplained fever persists from the second to the fourth day.

Daily physical examinations of such cases will be made, special attention being paid to physical examination of the abdomen for enlarged spleen, distention, and tenderness, either general or localized. A careful survey of the entire surface of the body will be made for the possible appearance of rose spots.

The precautions appropriate for a case of typical proved typhoid or paratyphoid fever must be observed in all instances where atypical or undetermined fevers are held under observation, awaiting clinical or bacteriological diagnosis of specific enteric infections. The frequency with which atypical, mild, unrecognized cases of typhoid and paratyphoid fever have occurred in the American Expeditionary Forces among vaccinated men makes it absolutely essential to surround all such cases of undetermined fever with the same precautions which it is found necessary to apply to established typhoid or paratyphoid patients, to avoid contact infections in the wards among other patients and hospital personnel.

7. Temperature records, clinical notes, and the original reports of laboratory findings in all cases of typhoid, paratyphoid, fevers of undetermined origin, and the above mentioned list of gastrointestinal

disorders will accompany the patient if transferred to another medical unit and will be preserved and forwarded to the office of the chief surgeon as per instructions contained in Section VI, paragraphs 6-7, Sick and Wounded Reports, for American Expeditionary Forces, September 15, 1918. In no instance will the clinical notes, temperature, and laboratory records of these cases be destroyed upon the completion of the case.

V.—Laboratory Diagnosis of Typhoid and Paratyphoid Fevers.

Bacteriological procedures are of great value (1) for the certain and early diagnosis of suspected cases, (2) to determine carrier state in convalescent positive cases, (3) to detect carriers in otherwise normal individuals.

Blood cultures offer the most certain method for early diagnosis of undetermined fevers, and it should be kept in mind that the earlier in the disease the blood culture is taken the more likely is the result to be positive; thus, in positive typhoid fever, the chance of successful blood culture declines from 90 per cent during the first week to 40 per cent during the third week. In paratyphoid A fever, because of the frequently short and mild febrile period, the prompt and early blood culture is all the more necessary. Relapses are more common in paratyphoid than in typhoid, and taken at such a time, blood culture yields positive results in every case.

The following method of blood culture is recommended as being suitable in all cases of fever of undetermined etiology.

(a) When laboratory facilities are at hand, take 10 c. c. of blood from a vein at the elbow. Place 3 c. c. in each of two flasks containing 100 c. c. of plain broth. Place one c. c. in tube of agar (melted and cooled to 45° C.), immediately mix and pour plate. Place remainder of the blood in dry sterile test tube to separate serum for such serological tests as may be suggested.

The two flasks and plate are incubated and examined the following day. Transplants are made to plain agar slants, or better, Russell's double sugar agar. In case of development of gram-negative motile bacilli or agar slants, emulsions should be made and agglutination tests done with immune sera for final identification.

Frequency of nonagglutinability of recently isolated typhoid cultures should be kept in mind.¹ Negative blood culture in suspected typhoid fever means little. Repeat if clinical conditions indicate.

(a) If the blood culture specimen can not be taken directly to the laboratory, filtered sterile ox bile is most useful, 5 c. c. in a tube. To such sterile ox bile 5 c. c. of blood is added, the tube closed with a sterile paraffin cork, carefully packed and sent for examination to

¹ All strains of organisms of the typhoid paratyphoid group are of special interest and should be sent to the Central Medical Department Laboratory, A. P. O. 721.

the nearest laboratory. Bile medium is furnished in chest No. 1 transportable laboratory, United States Army Expeditionary Force model. Additional supply of this medium may be obtained as needed from Central Medical Department Laboratory A. P. O. 721.

Bacteriological examination of the feces is second only to blood culture as an important means of positive diagnosis. It is especially important in paratyphoid B fever.

Typhoid or paratyphoid carriers.—Typhoid and paratyphoid patients excrete the bacilli, frequently with their urine and practically always in their feces. This is most likely to occur during the third and fourth week of the disease, the condition may persist throughout convalescence and not infrequently longer. It is, therefore, important not to release the convalescent typhoid or paratyphoid fever patient until he ceases to excrete these bacilli.

Three negative cultures of the urine and feces at six-day intervals should be required before release of patient, the first not earlier than one week after temperature curve has become normal.

Some persons who have never had a clinical history of the disease may excrete typhoid or paratyphoid bacilli. It is important to detect such carriers in any occupation, but especially among cooks and handlers of foodstuffs. In such a carrier survey two examinations should be done on each individual.

For release of patients therefore, and detection of carriers, the examination of feces is of especial importance. It is a procedure that properly requires the most careful attention of the bacteriologist. A bit of fresh feces the size of a pea (or better, when feasible, 1 c. c. of liquid stool, obtained, if diarrhea is not already present, by administration of a saline cathartic) is mixed with 10 c. c. of plain broth or sterile salt solution, then allowed to stand and sediment for 15 minutes. One or more loopfuls are taken from the top and placed on the surface of one plate of hardened Endo medium. This droplet is carefully carried over the surface by means of a glass elbow rod or similar spreader and without further inoculation, the same rod is used to seed a second Endo plate. In this way a satisfactory separation of the colonies may be secured. After incubation over night suspicious colonies are fished to plain agar, agar slants, or better, Russell's double sugar, and the identification completed by agglutination tests.

Evacuation of typhoid carriers.—Whenever it becomes necessary or desirable to evacuate a carrier of typhoid or paratyphoid fever to the United States, the carrier shall be evacuated as a patient on sick report.

The Widal test, in view of previous vaccination with T. A. B. vaccine, has been generally held of little or no value; however, it should be stated that the determination of agglutinin titer of patient's

serum at intervals of one week and the demonstration of progressive and marked increase of agglutinin content of the blood offers, especially in the absence of positive blood culture, excellent evidence as to the etiology of the disease. Thus, in typhoid fever an agglutinin titer (Widal tes) of 1 to 40 during the first week of the disease may advance to 1 to 1,280 during convalescence. In paratyphoid B fever the titer frequently advances to 1 to 2,560; however, in paratyphoid A fever it may not reach 1 to 640. Formalinized and standardized bacterial suspensions of *B. typhosus*, *B. paratyphosus* A, and *B. paratyphosus* B. may be obtained on request from the Central Medical Department Laboratory, A. P. O. 721.

Post mortem bacteriology.—At autopsy, on suspected cases, cultures should be made from the mesenteric lymph glands and from the spleen.

VI.—Pathology.

1. The significant gross pathology of typhoid fever can be briefly summarized as an acute process found in the lymphoid elements of the intestine (chiefly the ileum) and in the enlargement and softening of the lymph nodes in the mesentery and mesocolon. These nodes in the immediate neighborhood of the lower end of the ileum, the appendix, and cæcum usually show the most marked change. The opened intestinal tract reveals hyperplasia of all the lymphoid elements such as Peyer's patches and the solitary follicles. There may be in most unusual cases only hyperplasia of these elements, but, as a rule they show injection, exudation, and rather extensive ulceration particularly in the lower end of the ileum. The lower third of the ileum is frequently the location of an ulcerated Peyer's patch or solitary follicle that may have perforated or may have become the source of considerable hemorrhage. The mucosa of the appendix and the cæcum are, in about one-third of the cases, also the seat of typhoid ulcers.

The spleen is usually enlarged and the pulp is semidiffuent. The parenchymatous organs are somewhat enlarged and have a cooked appearance suggesting cloudy swelling of a moderate or extreme degree. Broncho-pneumonia is frequently present as a terminal lesion. This represents the usual list of anatomical findings disclosed to gross examination; therefore, on opening the abdomen, the first important gross features that attract attention are the size of the lymph-nodes in the mesentery and the upper part of the mesocolon and the size and consistence of the spleen.

In children these structures may be misleading and in adults afflicted with tuberculosis a confusing gross picture can be offered, but in the Army of the American Expeditionary Forces composed of young adults any such picture found at autopsy should be thoroughly investigated. Such investigation calls for the removal of the in-

testine and an examination of the intestinal mucosa for lesions related to the lymphoid elements. Any change noted should be followed with supporting evidence gained by bacteriological examination.

It should be kept in mind that the American Army has been vaccinated against typhoid, and as a result, the gross pathological picture may not be as clear as in unprotected individuals. Indeed, several protocols received indicate that there are fewer gross lesions in the intestine and that they are prone to appear in the ileum at points very near the ileo-cæcal valve and even in the appendix and cæcum. Other records indicate that death probably occurred during a relapse, since there was evidence of a few almost healed ulcers near the location of one or more acute ulcers, one of which had perforated.

Cases of typhoid may escape attention at autopsy if early and complete regional examinations are not conducted and recorded in a methodical manner, and it is imperative that the pathologist support any suspicion of typhoid fever gained on gross examination by a well-conducted post mortem bacteriological examination. Cultures taken from the gall bladder and from the lumen of the bowel may offer the only positive findings of a "carrier" of the disease. Cultures offering the pathologist the best support may be taken from the spleen and lymph nodes in the drainage path of actual intestinal lesions.

Cases possessing the pathology and bacteriology of typhoid should be entered under the cause of death, at the close of protocol as typhoid fever, and then, if desired, follow in parenthetical manner with any important sequel present, such as "perforation." Several protocols have been received in which the complete pathological and bacteriological pictures of typhoid fever were recorded but the cause of death was entered as "peritonitis," "perforation of the intestine," "broncho-pneumonia," "acute enterocolitis."

Attention is directed to Section XVII of the pamphlet Sick and Wounded Reports (effective Sept. 15, 1918). All diagnoses should conform to these instructions if a proper record of disease is to be made.

VII.—Prevention and Control of Typhoid and Paratyphoid Fevers.

Typhoid fever is increasing in the American Expeditionary Forces—so are the paratyphoid fevers.

Vaccination is a partial protection only and must be reenforced by sanitary measures.

Faulty conditions of sanitation that may not be dangerous now will become serious menaces when the warm weather sets in. There is still time to correct many of these conditions. If this is not done

many soldiers will not get back to the United States after completion of their arduous service and it will be in part your fault and our responsibility.

The means of conveyance are water and food. Water may be contaminated by drainage from latrines and indiscriminately deposited defecations. Food may be contaminated by hands of carriers; by flies that come to it from latrines and uncovered feces; therefore,

Remember: That all water in France is regarded as contaminated unless it is under constant supervision of water supply personnel. See that General Order 131, general headquarters, 1918, is carried out. Don't give orders only—personally assure yourself that chlorination is properly carried out. The responsibility ultimately falls upon those charged with sanitary control and not upon the enlisted man who mixes the hypochlorite of lime with the water. Study the means of prevention of drinking at unauthorized sources. The best way to do this is to see that an adequate supply of supervised water is conveniently available wherever men work or live. Other means are the marking of water points, the removal of faucets, the placing of guards, and last but most important, the education of the men.

Remember: That the most dangerous carriers are the ones that work in the kitchens. Enforce the washing of hands by kitchen personnel before the preparation and serving of food. Do not leave this to orders alone. Have a reliable officer or National Guard officer supervise this, and see that the means of washing are on hand. Also remember that many cooks who have been found to be carriers have often given histories of recent intestinal disturbance; therefore inspect your kitchen personnel at least twice a week and remove all those who are suffering or have recently suffered from diarrhea. Repeated attacks of diarrhea are particularly suspicious.

Remember: That flies breed in manure, feces, and offal of many kinds. Policing of camp and the proper disposal of all such filth will keep down the number of flies. A campaign of such policing if now undertaken should go far to yield results by spring. Flies alone can not spread these diseases if latrines are covered and access to feces prevented. Look at the lids on your latrines. Correct the conditions which lead to uncovered feces in camps. Keep the food covered, so that any flies that get through this cordon can not get at it.

Remember: That an outbreak of diarrhea may mean typhoid fever. At any rate the occurrence of epidemic diarrhea shows that there is a hole in your sanitary plan.

Remember: That even though your camp is a model one the neighboring civilian population may be a source of danger. Try to keep informed of typhoid-like disease in the civilian population where you are stationed.

Remember: That from the sanitary point of view the first case is the most important one. If you evacuate a suspicious case and don't hear what it has turned out to be, make inquiry through the available channels.

Control.

1. Upon the occurrence of a single case of typhoid or paratyphoid fever in a command, reinvestigate all the above conditions and correct any deficiencies discovered in the barrier of protection above described.

Examine all vaccination records and administer a single dose of triple lipo-vaccine to all in whom there is the slightest doubt concerning completion of required vaccination.

Request bacteriological carrier examination of your kitchen personnel from the nearest available laboratory. This had best be done through the responsible sanitary authorities.

Before this has been done reinspect your kitchen personnel and remove all who give a history of recent diarrhea or other intestinal disturbance.

Prohibit the use of all uncooked vegetables and unboiled milk.

Investigate the conditions of the neighboring civilian population as to prevalence of typhoid or typhoid-like fevers.

2. When two or more cases occur in the same command within the same two weeks, revaccinate the entire command in addition to the above precautions.¹ If the outbreak takes on epidemic proportions, add to these precautions the handwashing of all men after defecation.

Further measures of control must be determined after epidemiologic study of the individual situation.

Whenever typhoid or paratyphoid fever occurs in any command, the medical officer will address the officers and the men, at either roll call or retreat, instructing them in the mode of spread of intestinal diseases, in the seriousness of the situation and in the simple methods of personal hygiene, the importance of cleanliness, and the purposes of the sanitary regulations instituted for control of these diseases.

3. The special attention of all officers of the Medical Department is invited to sections 184 and 185, Article III, Manual of the Medical Department. Compliance is enjoined.

4. All previous instructions from this office in conflict with regulations prescribed herein are rescinded.

WALTER D. McCaw,
Colonel, Medical Corps, Chief Surgeon.

¹ Directions for vaccination with Triple T. A. B. lipo-vaccine are being issued with the vaccine.

[A copy of these instructions will accompany each shipment of Vaccine.]

Directions for Vaccination with Triple T. A. B. Lipo-Vaccine.

1. *Records.*—(a) Prepare a list in duplicate of the officers and men of the organization, giving name, serial number and rank. Inspect all those appearing on the list, taking the temperature of any individual who looks sick. No person will be vaccinated who is not in perfect health and free from fever (99.6° F. or over). Keep a record of those who are not vaccinated because of temporary unfitness, and when they are in good physical condition, vaccinate them.

(b) Enter upon the service record and upon the individual pay book the date of vaccination and the type and dose of vaccine given.

2. *Dose.*—A single dose of 1 c. c. of the Triple T. A. B. lipo-vaccine fulfills the vaccination requirements.

3. *Procedure.*—(a) Sterilize the skin with tincture of iodine; warm the vaccine to body temperature to facilitate the flow of the oil; do not overheat (when the vaccine stands in the cold a precipitate may appear, which will disappear on warming).

(b) Shake the ampoule well before loading the syringe.

(c) It is necessary to use a large bore needle (with a well sharpened point, the large bore needle causes no more pain than a small bore needle).

(d) *The injection is to be given subcutaneously*, not intramuscularly or intracutaneously; special care must be taken to avoid introduction of the vaccine into a vein; raise a fold of the skin between the thumb and finger, pass the needle at least one-half inch through the skin into the subcutaneous tissue and then inject the vaccine into the subcutaneous tissue of the fold.

(e) The puncture opening in the skin made by the large size injecting needle tends to permit escape of the oil; to prevent this, press a small iodine swab firmly against the puncture hole for a few minutes or until exudation from the hole has ceased; this procedure will prevent the occurrence of superficial infections which are apt to follow if the puncture hole is permitted to remain open and the clothing is immediately pulled down over it.

4. *Aftercare.*—(a) Avoid rubbing or massaging the site of the injection.

(b) Abstinence from alcoholic drinks must be enforced for two days after the inoculation.

(c) It is advisable to give the vaccine in the afternoon, and to relieve those vaccinated from duty for at least 24 hours, and if local or systemic reaction persists, for a longer period.

PUBLICATIONS RELATING TO TYPHOID FEVER AND WATER SUPPLY.

PUBLIC HEALTH BULLETINS.

51. The Causation and Prevention of Typhoid Fever. By L. L. Lumsden. November, 1911.
68. Safe Disposal of Human Excreta at Unsewered Homes. By L. L. Lumsden, C. W. Stiles, and A. W. Freeman. April, 1915.
69. Typhoid Fever: Its Causation and Prevention. By L. L. Lumsden. May, 1915.
70. Good Water for Farm Homes. By A. W. Freeman. May, 1915.
89. A Sanitary Privy System for Unsewered Towns and Villages. By L. L. Lumsden. August, 1917.
94. Rural Sanitation. A Report on Special Studies Made in 15 Counties in 1914, 1915, and 1916. By L. L. Lumsden. October, 1918.

REPRINTS FROM PUBLIC HEALTH REPORTS.

46. What the Local Health Officer Can Do In the Prevention of Typhoid Fever. By L. L. Lumsden. 1912.
76. The Necessity for Safe Water Supplies in the Control of Typhoid Fever. By Allen J. McLaughlin. 1912.
80. Examination of the Excreta for Typhoid Bacilli. By L. L. Lumsden and A. M. Stimson. 1912.
Report on an Outbreak of Typhoid Fever at Lincoln, Nebr., in 1911. By L. L. Lumsden. 1912.
204. What is a Safe Drinking Water? By Allen J. McLaughlin. June 26, 1914.
232. Bacteriological Standard for Drinking Water. The Standard Adopted by the Treasury Department for Drinking Water Supplied the Public by Common Carriers in Interstate Commerce. November 6, 1914.
362. The Sewage Pollution of Streams. By W. H. Frost. September. 15, 1916.
380. Relation of Milk Supplies to Typhoid Fever. By W. H. Frost. December 1, 1916.
395. Typhoid Fever and Municipal Administration. By A. W. Freeman. May 4, 1917.
453. Effect of Freezing on the Organisms of Typhoid Fever and Diphtheria. By Joseph Bolten. February 8, 1918.

SUPPLEMENTS TO PUBLIC HEALTH REPORTS.

23. Typhoid Fever. A Report of a Water-Borne Outbreak in Decatur and New Decatur, Ala. By Paul Preble. March 7, 1915.
29. The Transmission of Disease by Flies. By Ernest A. Sweet. May, 1916.

Copies of any of these publications may be obtained by addressing the United States Public Health Service, Washington, D. C.

TYPHUS EXANTHEMATICUS.

Rotterdam.

Immediately after the signing of the armistice, when it was apparent that soldiers, crews of vessels, and prospective immigrants would be arriving in the United States, the Public Health Service took steps to make certain that these would not be the means of bringing dangerous communicable diseases into the country. Several experienced commissioned medical officers were sent abroad to confer with the military and naval authorities in charge of the return of the soldiers, and to take such other steps as would make certain that dangerous communicable diseases would not be carried into the United States.

Early in February an officer of the Public Health Service reported the occurrence of a considerable number of cases of typhus fever in Rotterdam, the disease having apparently been introduced by prisoners of war. As a result of this discovery, steps were at once taken to establish and enforce quarantine restrictions on all vessels bound for the United States or its dependencies. These restrictions will

affect about 90 to 100 vessels a month, almost all of them being "Belgian relief" vessels. The following rules and regulations have been issued:

"First. Personnel and crew must be inspected by a medical officer of the United States Public Health Service attached to the consulate general of the United States at this port before a bill of health will be delivered.

"Second. Application for the bill of health should be made upon the proper form at least 24 hours before the intended departure of the vessel in order to avoid delay.

"Third. Crews of all vessels and such other persons on board as may be deemed necessary must be bathed, examined for the presence of vermin and disease, and their clothing properly disinfected. After such bathing and disinfection no such person shall leave the vessel.

"Fourth. Steerage and other passengers arriving from localities infected with typhus or other quarantinable disease will not be allowed on board until they have been bathed, their clothing disinfected, and then shall have been held under observation in a place acceptable to the medical officer of the Public Health Service for a period of 12 days.

"Fifth. Shipment of merchandise in general will not be interfered with; shipment of rags and second-hand clothing will not be accepted until written approval of the medical officer has been obtained and until such measures as he may deem necessary and advisable have been complied with."

Macedonia.

In connection with the above, attention is called to a cable from the Red Cross representative in Greece, according to which there is still considerable typhus in eastern Macedonia, traceable entirely to Greek refugees returning from Bulgaria. (See Public Health Reports, Mar. 21, p. 589.)

THE NATION'S PHYSICAL FITNESS.

ABSTRACT FROM SECOND REPORT OF THE PROVOST MARSHAL GENERAL.

In an instructive chapter of some 19 pages the Second Report of the Provost Marshal General summarizes the data relating to the physical qualifications of the men examined for military service under the selective-draft law during the period December 15, 1917, to September 11, 1918. Inasmuch as the data pertain to 3,208,446 men physically examined it is evident that they furnish an unparalleled source of information regarding the physical condition of the Nation's manhood.

For this reason, and in order to make this material conveniently available for public-health officers, the following rather full abstract has been prepared. It is earnestly hoped that health officers will

carefully study the data here presented and cooperate with Federal, State, and local health authorities in making effective use of the lessons they teach.

Physical Examination System.

Before passing to the interesting results disclosed by the examinations, it may be well to mention the composition of the physical examination system established under authority of the selective-draft act. Briefly, this was composed as follows:

- (a) A medical division in the Provost Marshal General's office.
- (b) An Army medical officer detailed to the staff of the governor of each State.
- (c) An examining physician for each local board.
- (d) A medical advisory board of specialists to assist examining physicians for the local board.
- (e) Each district board numbered among its membership a physician who acted as expert advisor upon medical evidence.
- (f) Camp surgeons for the examination upon arrival at camps.

Standards of Physical Qualifications.

The examinations covered in this report were made according to a new standard of physical qualifications according to which the men were classified into four groups as follows:

Group A was composed of men who were vigorous and without any physical defect which might interfere with the full performance of military duties. (In order to include many thousands of vigorous individuals who were physically competent for military duty the minimum for height and weight was from time to time lowered after April, 1917, until it reached its minimum of 5 feet for height and 110 pounds for weight.)

Group B was made up of individuals who possessed certain physical defects, diseases, or abnormalities which rendered them unfit for service, but which conditions were susceptible of cure by treatment, surgical or otherwise, whereby the registrants might be fitted for general military service. Group B is therefore known as the "deferred remediable" group.

Group C contained those men who were physically substandard for full military duties, but who were capable of rendering services of value to the Military Establishment in vocations which did not impose too great strain.

Group D contained those who were found to have defects which unfitted them for military service.

The results of the physical examinations were as follows, by groups:

Physical groups compared.

		Number.	Per cent of registrants.	Per cent of examined.
1	Total registrants Dec. 15, 1917, to Sept. 11, 1918, due to be classified.	9,952,735	100.00	.....
2	Not physically examined.....	6,744,289	67.76	
3	Examined physically Dec. 15, 1917, to Sept. 11, 1918.....	3,208,446	32.24	100.00
4	Fully qualified (Group A).....	2,259,027		70.41
5	Disqualified partly or totally.....	949,419		29.59
6	Placed in Group B.....	88,436		2.76
7	Placed in Group C.....	339,377		10.58
8	Placed in Group D (Class V-G).....	521,606		16.25

Physical groups, by States.

	Total examined physically.	Physically qualified, Group A.	Per cent of examined.	Remediable, Group B.	Per cent of examined.	Limited service, Group C.	Per cent of examined.	Physically disqualified, Group D.	Per cent of examined.
United States.....	3,208,446	2,259,027	70.41	88,436	2.76	339,377	10.58	521,606	16.25
Alabama.....	69,284	53,717	77.53	1,363	1.97	4,814	6.95	9,390	13.55
Arizona.....	8,979	4,941	55.03	166	1.85	738	8.22	3,134	34.90
Arkansas.....	58,928	46,560	79.02	929	1.57	3,732	6.33	7,707	13.08
California.....	67,772	41,135	60.70	1,375	2.03	10,578	15.61	14,684	21.66
Colorado.....	30,087	17,769	59.06	587	1.95	5,131	17.05	6,600	21.94
Connecticut.....	38,631	22,721	58.82	1,700	4.40	6,411	16.00	7,799	20.79
Delaware.....	7,003	4,599	65.67	25	.36	1,473	21.03	906	12.94
District of Columbia.....	12,538	9,069	72.32	490	3.91	1,530	12.21	1,449	11.56
Florida.....	32,780	24,659	75.23	573	1.75	2,794	8.52	4,754	14.50
Georgia.....	84,191	61,527	73.08	1,705	2.02	7,362	8.74	13,597	16.16
Idaho.....	15,871	11,250	70.89	762	4.80	1,566	9.87	2,293	14.44
Illinois.....	225,127	163,507	72.63	5,727	2.54	21,334	9.48	34,559	15.35
Indiana.....	74,356	53,811	72.37	1,604	2.15	7,576	10.19	11,365	15.29
Iowa.....	78,272	60,364	77.13	1,797	2.29	5,181	6.62	10,930	13.96
Kansas.....	48,669	38,148	78.38	1,215	2.50	3,287	6.75	6,019	12.37
Kentucky.....	75,024	58,356	77.78	1,208	1.61	4,478	5.97	10,982	14.64
Louisiana.....	66,142	50,571	76.46	1,464	2.21	4,888	7.39	9,219	13.94
Maine.....	22,646	14,765	65.19	617	2.73	3,378	14.92	3,888	17.16
Maryland.....	38,392	26,237	68.35	943	2.45	4,197	10.93	7,015	18.27
Massachusetts.....	108,356	62,216	57.42	3,747	3.46	22,192	20.48	23,201	18.64
Michigan.....	115,412	70,726	61.28	4,089	3.54	13,844	12.00	26,753	23.18
Minnesota.....	81,862	62,199	75.98	1,155	1.41	5,930	7.24	12,578	15.37
Mississippi.....	55,615	43,376	77.99	951	1.71	3,467	6.24	7,821	14.06
Missouri.....	115,030	83,949	72.99	2,742	2.38	9,319	8.10	19,020	16.53
Montana.....	31,547	23,159	73.40	727	2.33	3,657	11.59	4,004	12.68
Nebraska.....	41,046	32,555	78.18	850	2.04	2,864	6.87	5,377	12.91
Nevada.....	3,482	2,407	69.13	143	4.11	435	12.49	497	14.27
New Hampshire.....	12,258	7,793	63.57	247	2.02	2,552	20.82	1,666	13.59
New Jersey.....	93,964	62,489	66.50	2,458	2.62	14,151	15.06	14,866	15.82
New Mexico.....	11,883	9,286	77.59	239	1.99	723	6.03	1,725	14.39
New York.....	315,536	192,311	60.95	12,631	4.00	49,670	15.74	60,924	19.31
North Carolina.....	75,498	55,215	73.14	1,393	1.84	7,051	9.34	11,839	15.68
North Dakota.....	25,151	19,498	77.52	256	1.02	1,648	6.55	3,749	14.91
Ohio.....	166,177	120,142	72.29	4,925	2.96	18,176	10.94	22,934	13.81
Oklahoma.....	65,374	54,145	82.82	1,249	1.91	3,588	5.49	6,392	9.78
Oregon.....	23,966	16,552	69.10	657	2.74	3,243	13.51	3,514	14.65
Pennsylvania.....	246,884	171,101	69.30	10,833	4.39	27,632	11.19	37,318	15.12
Rhode Island.....	15,395	8,264	53.68	574	3.73	2,143	13.92	4,414	28.67
South Carolina.....	40,197	28,091	69.88	1,478	3.68	3,696	9.20	6,932	17.24
South Dakota.....	25,806	19,718	76.41	1,183	4.58	1,775	6.88	3,130	12.13
Tennessee.....	70,367	51,319	72.93	1,459	2.07	5,826	8.28	11,763	16.72
Texas.....	131,586	101,862	77.41	2,276	1.73	7,334	5.57	20,114	15.29
Utah.....	13,844	9,752	70.45	375	2.71	1,721	12.42	1,996	14.42
Vermont.....	10,761	6,056	56.28	364	3.38	1,914	17.79	2,427	22.55
Virginia.....	68,177	49,146	72.08	1,160	1.70	5,390	7.91	12,481	18.31
Washington.....	37,581	20,800	55.35	1,022	2.72	7,179	19.10	8,580	22.83
West Virginia.....	51,473	40,047	77.81	710	1.37	3,242	6.30	7,474	14.52
Wisconsin.....	90,517	64,579	71.35	4,158	4.59	7,974	8.81	13,806	15.25
Wyoming.....	8,279	6,528	78.85	135	1.63	593	7.16	1,023	12.38

The number found disqualified for any military service, i. e., those belonging to Group D, by the local boards, averaged 16.25 per cent and varied considerably according to States. This is graphically shown on the shaded map on page 627.

It appears that the examinations by the local board physicians were everywhere too liberal, i. e., many more men should have been put into Group D. However, there was considerable variation according to States as to the acceptances in Group A. For example the camp surgeons rejected less than 5 per cent of the men sent to camp from Maryland whereas more than 14 per cent of those sent from Alabama were rejected. The following table gives the results of the physical rejections at camps compared by States:

Physical rejections at camp, compared by States, Feb. 10 to Nov. 1, 1918.

States.	Total inducted.	Total rejected.	Per cent rejected.	States.	Total inducted.	Total rejected.	Per cent rejected.
United States....	2, 124, 293	172, 000	8. 10	Montana.....	19, 671	1, 445	7. 35
Alabama.....	50, 779	7, 189	14. 16	Nebraska.....	24, 130	1, 471	6. 10
Arizona.....	4, 799	272	5. 67	Nevada.....	1, 928	134	6. 95
Arkansas.....	41, 178	3, 056	7. 42	New Hampshire.....	6, 755	494	7. 31
California.....	43, 147	2, 842	6. 59	New Jersey.....	58, 864	4, 563	7. 75
Colorado.....	17, 732	1, 092	6. 15	New Mexico.....	6, 900	463	6. 71
Connecticut.....	23, 031	1, 178	5. 11	New York.....	193, 237	17, 194	8. 90
Delaware.....	3, 815	342	8. 96	North Carolina.....	51, 690	4, 517	8. 74
District of Columbia.....	8, 430	480	5. 69	North Dakota.....	16, 114	1, 028	6. 38
Florida.....	23, 729	2, 068	8. 72	Ohio.....	112, 114	6, 551	5. 84
Georgia.....	56, 534	7, 041	12. 45	Oklahoma.....	50, 636	3, 520	6. 95
Idaho.....	9, 592	855	8. 91	Oregon.....	15, 184	1, 451	9. 56
Illinois.....	145, 063	9, 368	6. 46	Pennsylvania.....	154, 930	14, 996	9. 68
Indiana.....	58, 418	3, 047	5. 22	Rhode Island.....	9, 086	673	7. 41
Iowa.....	61, 889	3, 346	5. 41	South Carolina.....	37, 104	3, 653	9. 85
Kansas.....	37, 572	2, 844	7. 57	South Dakota.....	18, 715	1, 269	6. 78
Kentucky.....	49, 350	3, 235	6. 56	Tennessee.....	45, 861	4, 825	10. 52
Louisiana.....	43, 116	4, 476	10. 38	Texas.....	94, 084	4, 851	5. 12
Maine.....	14, 114	1, 336	9. 47	Utah.....	8, 095	525	6. 53
Maryland.....	26, 678	1, 318	4. 94	Vermont.....	5, 291	492	9. 30
Massachusetts.....	60, 178	4, 953	8. 23	Virginia.....	43, 791	5, 667	12. 94
Michigan.....	72, 899	6, 287	8. 62	Washington.....	20, 202	1, 425	7. 05
Minnesota.....	61, 109	3, 566	5. 84	West Virginia.....	37, 079	3, 755	10. 13
Mississippi.....	38, 546	4, 060	10. 53	Wisconsin.....	58, 852	4, 273	7. 26
Missouri.....	74, 595	8, 055	10. 80	Wyoming.....	7, 117	459	6. 45

Urban and rural physical rejections compared.—The report shows that there was considerable difference in the number of rejections (Group D men) between urban and rural areas.

Rural and urban physical rejections compared.

	Number.	Per cent of ex- amined.
Total examined in 100 selected urban and rural regions.....	200, 000	.....
Rejected in 100 selected urban and rural regions.....	38, 569	19. 28
Examined in urban regions.....	100, 000	.....
Rejected in urban regions.....	21, 675	21. 68
Examined in rural regions.....	100, 000	.....
Rejected in rural regions.....	16, 894	16. 89

Colored and white physical rejections compared.—The report also gives the following table comparing the rejections among colored and white registrants:

Colored and white physical rejections compared.

		Number.	Per cent of ex- amined.	Per cent of partial disquali- fications.
1	Total, colored and white examined Dec. 15, 1917, to Sept. 11, 1918..	3,208,446	100.00	.....
2	Group A.....	2,259,027	70.41	
3	Disqualified partly or totally.....	949,419		100.00
4	Group B.....	88,436	2.76	9.31
5	Group C.....	339,377	10.58	35.75
6	Group D.....	521,606	16.25	54.94
7	Total, colored examined.....	454,833	100.00	.....
8	Group A.....	342,277	74.60	
9	Disqualified partly or totally.....	116,561		100.00
10	Group B.....	9,605	2.09	8.24
11	Group C.....	27,474	5.99	23.57
12	Group D.....	79,482	17.32	68.19
13	Total, white examined.....	2,749,608	100.00	.....
14	Group A.....	1,916,759	69.71	
15	Disqualified partly or totally.....	832,858		100.00
16	Group B.....	78,831	2.87	9.47
17	Group C.....	311,903	11.34	37.45
18	Group D.....	442,124	16.08	53.08

Alien and native physical rejections compared.—There is also contained in the report the following table, comparing the number of rejections in communities predominantly alien with that in communities predominantly native:

Physical rejections in alien and native communities compared.

		Number.	Per cent of ex- amined.
1	Total number of records of examination compared in dominant alien and native communities.....	184,854	.....
2	Rejected (Group D).....	26,184	15.25
3	Total compared, alien communities.....	84,723	.....
4	Rejected (Group D).....	14,525	17.14
5	Total compared, native communities.....	100,131	.....
6	Rejected (Group D).....	13,659	13.64

In order to give an important clue as to the differences as to physical fitness, according to age, there is published a table which compares the age 21 group with the ages 21-30 group.

Age 21 physical rejections, compared with ages 21-30.

		Ages 21-30, examined Dec. 15, 1917-June 5, 1918.		Age 21, examined June 5-Sept. 11, 1918.	
		Number.	Per cent.	Number.	Per cent.
1	Total registrants physically examined.....	2,693,448	100.00	514,998	100.00
2	Fully qualified (Group A).....	1,863,047	69.17	395,980	76.89
3	Disqualified partly or totally.....	830,401	30.83	119,018	23.11
4	Group B.....	75,120	2.79	13,316	2.59
5	Group C.....	284,824	10.57	54,553	10.59
6	Group D.....	470,457	17.47	51,149	9.93

Percentages for causes of rejections by local boards and camp surgeons, and for discharges from the Army of recently inducted men, Feb. 10 to Nov. 1, 1918. (Heavy face type indicate rates 25 per cent or more above the rate for the United States.)

State.	Total.	Alcohol and drugs.	Bones and joints.	Developmental facts.	Digestive system, diseases of.	Ears, discharge of.	Eyes, discharge of.	Flat foot (pathological).	Genitourinary (venereal).	Genitourinary (non-venereal).	Heart and blood vessels.	Hernia.	Mental deficiency.	Nervous and mental disorders.	Respiratory (tuberculous).	Respiratory (non-tuberculous).	Skin, disease of.	Teeth.	Discharge of thyroid.	Tuberculosis (non-respiratory).	All other defects.	Cause not given.
United States.	467,694	0.4	12.3	8.4	0.5	4.4	10.6	3.8	1.3	1.3	13.1	6.0	5.2	5.1	8.7	1.7	2.7	3.1	1.8	0.9	3.1	5.4
Alabama.	13,372	.1	12.5	8.0	.3	1.7	7.2	4.0	1.0	1.3	14.5	6.0	8.7	4.5	6.9	1.3	1.2	2.8	.4	.6	2.6	14.5
Arizona.	1,703	.3	10.0	3.4	.7	4.0	7.9	2.1	1.8	1.3	9.9	1.8	1.0	3.0	34.8	1.3	2.1	1.3	.4	1.3	8.2	4.2
Arkansas.	9,933	.2	13.9	8.4	.4	3.2	10.4	5.8	1.7	.7	13.3	6.6	7.4	4.7	8.9	1.9	4.9	1.3	.9	2.9	2.9	2.6
California.	4,196	1.5	8.6	2.9	.3	3.2	5.7	6.8	2.0	.6	11.1	5.7	2.3	5.5	11.4	2.8	4.4	3.8	.8	.2	3.4	25.2
Colorado.	5,132	.4	11.3	8.7	.4	5.2	8.5	3.4	.8	1.2	12.2	5.3	3.5	4.9	20.2	2.8	2.2	1.6	1.4	1.5	3.4	1.3
Connecticut.	9,427	.3	9.1	9.6	.5	6.9	17.1	2.4	.4	1.5	14.8	3.1	4.4	5.4	10.1	1.9	3.3	1.6	.8	1.5	3.0	2.4
Delaware.	435	5.0	12.2	7.1	.6	5.3	8.3	9.7	2.1	1.8	12.0	6.6	3.2	3.9	6.4	2.6	.....	5.5	4.6	.....	1.2	6.9
Dist. Columbia.	6,780	.....	9.7	6.4	.4	5.0	7.9	4.0	1.0	1.1	10.3	7.4	3.4	4.1	7.6	1.7	.....	5.9	.2	.1	1.4	3.0
Florida.	4,780	.2	12.0	7.8	.4	1.8	8.3	3.0	1.5	.8	14.4	5.0	5.1	4.0	7.3	1.1	4.3	4.6	.2	1.1	4.3	16.4
Georgia.	19,140	.2	15.6	14.6	.4	3.4	9.4	3.5	1.3	1.1	12.2	7.7	5.5	5.0	9.8	2.5	7.5	2.3	.6	.6	2.6	2.5
Idaho.	1,124	.....	13.4	4.6	.5	5.0	8.2	10.9	.9	.8	12.4	8.1	2.5	3.6	4.3	.5	1.5	5.7	4.0	.4	3.4	9.8
Illinois.	28,990	.7	11.3	6.6	.6	5.7	13.6	4.0	2.1	1.4	12.1	6.1	4.2	5.7	9.0	1.3	1.1	2.1	2.7	.9	2.9	5.6
Indiana.	1,495	.1	12.3	9.3	.7	4.4	9.6	2.3	1.3	1.2	11.7	7.0	5.4	5.4	10.9	1.8	6.0	2.1	1.7	1.4	2.7	3.7
Iowa.	13,671	.2	13.0	9.7	.9	4.6	10.5	3.8	.4	.8	14.2	6.0	8.9	3.9	6.8	1.5	5.0	3.1	1.7	.9	5.0	2.1
Kansas.	8,155	.3	12.9	2.3	.7	3.4	9.4	3.5	1.3	1.1	12.2	7.7	5.5	5.0	9.8	2.5	7.5	1.3	2.1	.5	9.0	2.1
Kentucky.	9,628	.4	10.5	9.4	.6	3.6	10.4	1.3	1.4	.9	8.5	7.0	8.4	5.2	15.2	2.0	6.8	2.6	.8	1.1	2.1	2.6
Louisiana.	10,314	.1	13.7	7.2	.6	3.6	9.1	2.9	6.9	1.3	12.8	5.2	7.0	5.1	10.9	1.9	1.8	5.6	.5	.6	2.6	2.9
Maine.	1,911	.3	10.3	9.2	.5	3.5	5.1	13.1	1.3	2.2	14.1	8.3	7.3	4.9	3.6	2.5	1.3	5.5	.4	1.1	2.6	5.8
Maryland.	6,025	.2	8.1	6.7	.5	5.8	15.2	2.4	.8	1.8	16.3	2.5	8.9	6.3	11.5	1.5	1.8	1.7	1.4	1.2	4.0	3.1
Massachusetts.	22,425	.5	13.7	8.7	.5	5.8	14.0	3.3	.4	1.3	14.9	3.6	3.7	4.0	7.8	1.6	3.2	4.2	.3	1.0	4.4	3.0
Michigan.	20,045	.2	11.4	5.6	.5	5.0	10.4	3.2	.9	1.0	22.8	7.1	5.1	4.7	7.6	1.2	1.0	4.2	3.1	.7	3.0	1.4
Minnesota.	16,008	.2	13.9	7.8	.5	4.5	4.1	3.3	.7	1.7	13.8	6.5	5.6	4.6	7.1	1.1	5.4	4.8	2.2	1.4	3.9	2.9
Mississippi.	11,146	.2	16.1	5.9	.9	2.1	6.9	4.8	5.0	1.9	11.5	7.5	7.5	4.9	9.3	1.1	4.3	3.2	2.5	.9	3.4	2.1
Missouri.	14,595	1.1	10.9	4.7	.5	4.5	11.8	6.7	2.1	1.5	11.1	8.7	5.4	5.9	11.2	1.9	1.7	1.4	3.9	.5	1.4	4.0
Montana.	3,456	.5	13.0	5.5	.5	4.9	11.4	5.4	.5	.9	17.1	7.2	2.0	3.4	5.6	1.0	1.1	6.4	2.2	1.1	3.6	6.9
Nebraska.	4,835	.4	13.9	6.6	.8	3.5	12.1	4.7	1.1	1.5	13.3	6.8	3.9	5.1	7.7	1.4	2.0	2.3	1.2	.9	6.6	4.5
Nevada.	638	.3	11.4	7.2	.3	5.2	10.3	2.8	.9	.2	11.7	6.9	1.6	3.8	10.7	1.3	6.1	3.1	.2	.3	7.2	8.2
New Hampshire.	1,384	.1	10.0	11.9	.4	5.6	11.8	5.8	.5	2.3	12.7	4.9	4.3	5.5	7.3	2.0	5.5	5.5	.3	1.7	2.2	4.6
New Jersey.	6,050	1.2	10.6	12.6	.4	7.1	9.4	5.6	.4	2.0	7.3	9.1	2.7	4.7	3.3	1.4	4.4	9.6	1.7	1.0	1.0	9.4
New Mexico.	1,499	.2	9.9	7.4	.3	3.8	10.9	2.1	1.1	1.4	9.0	4.1	3.3	3.9	29.8	2.1	2.5	1.0	.9	.9	2.3	2.5

Percentages for causes of rejections by local boards and camp surgeons, and for discharges from the Army of recently inducted men, Feb. 10 to Nov. 1, 1918. (Heavy face type indicate rates 25 per cent or more above the rate for the United States)—Continued.

State.	Total.	Alcohol and drugs.	Bones and joints.	Developmental defects.	Digestive system, diseases of.	Ears, discharge of.	Eyes, discharge of.	Flat foot (pathological).	Genito-urinary (venereal).	Genito-urinary (non-venereal).	Heart and blood vessels.	Hernia.	Menstrual deficiency.	Nervous system (disorders).	Respiratory (tuberculous).	Skin, discharge of.	Teeth.	Discharge of thyroïd.	Tuberculosis (non-respiratory).	All other defects.	Cause not given.
New York.....	24,970	1.7	8.7	8.4	.3	5.9	11.7	7.8	1.0	1.6	10.1	7.9	2.6	6.5	5.5	1.4	1.0	5.2	1.8	.3	9.0
North Carolina.....	15,708	.03	12.5	8.4	.8	1.7	8.1	2.0	1.2	1.4	11.3	3.3	7.1	4.5	10.4	1.5	1.8	.7	1.0	1.5	15.6
North Dakota.....	14,088	.02	13.2	6.4	.8	6.7	13.6	3.1	1.2	1.1	14.6	5.4	6.0	4.7	6.0	1.8	2.8	1.6	1.2	3.4	3.7
Ohio.....	19,562	.5	14.4	7.8	.5	4.1	8.1	3.7	1.0	4.3	9.4	4.9	5.2	7.4	8.7	2.2	1.1	2.3	2.7	2.4	6.5
Oklahoma.....	9,706	.6	14.2	7.0	.6	4.5	12.8	3.0	1.6	.9	10.5	7.7	5.8	4.8	8.0	1.5	4.7	1.0	.6	2.2	7.2
Oregon.....	3,842	.2	12.1	8.7	.6	9.8	6.4	4.1	.8	1.4	15.2	4.6	2.7	4.4	8.0	1.6	2.0	4.0	2.7	1.0	6.9
Pennsylvania.....	29,374	.4	12.5	7.6	.4	6.9	11.4	3.6	.9	1.0	14.2	6.2	4.6	5.6	6.8	2.5	1.0	4.1	3.0	.6	1.9
Rhode Island.....	2,833	.9	7.5	15.2	.4	5.6	13.4	6.8	.4	.7	10.0	5.4	3.5	4.2	7.9	1.5	1.9	4.9	.5	.9	5.2
South Carolina.....	9,023	.1	12.2	11.6	.5	2.2	7.4	2.6	1.0	.7	9.7	3.4	5.6	4.7	5.8	1.2	.8	1.7	.7	.6	24.1
South Dakota.....	1,488	.2	18.3	1.5	.7	2.0	10.2	7.7	.7	1.0	12.8	8.1	3.8	4.5	7.4	.3	.3	6.5	3.5	.3	6.7
Tennessee.....	13,310	.3	13.5	10.7	.7	2.4	9.0	5.3	1.0	1.0	11.0	5.2	7.8	4.7	9.2	1.5	4.9	1.9	1.0	1.1	5.0
Texas.....	21,114	.2	14.1	10.6	.8	4.1	15.3	2.0	1.3	1.0	11.3	7.0	4.6	5.0	10.3	1.6	2.2	1.7	.3	.9	2.8
Utah.....	2,614	.4	14.0	7.8	.5	4.9	9.6	4.5	.5	1.3	21.7	4.9	2.8	4.2	4.9	.9	1.1	4.4	2.2	1.4	4.3
Vermont.....	966	.1	11.0	3.7	.5	2.4	11.3	8.3	1.0	3.4	11.0	8.5	3.3	8.6	2.1	3.0	2.6	5.8	1.9	3.3	8.1
Virginia.....	11,624	.1	14.0	6.2	.3	2.5	10.6	3.5	1.8	1.3	16.6	5.8	7.5	5.2	8.8	3.0	1.1	3.1	2.8	1.0	2.4
Washington.....	4,983	.3	13.1	7.6	.6	5.5	8.7	5.4	.4	1.0	21.4	4.4	2.9	4.0	7.7	1.1	.4	3.3	3.2	1.2	5.0
West Virginia.....	9,082	.2	16.6	5.6	.4	4.2	11.5	2.5	1.3	1.1	13.0	7.1	6.0	4.7	6.8	.3	4.5	2.5	3.6	.8	2.2
Wisconsin.....	14,883	.2	11.8	7.5	.6	5.0	10.1	2.7	.7	2.0	14.1	6.5	5.2	5.3	8.4	1.4	2.9	3.0	4.6	1.2	2.3
Wyoming.....	1,132	.8	12.0	6.4	.4	4.7	7.7	5.2	1.7	1.0	11.0	8.7	3.1	4.2	6.1	1.2	4.6	3.3	1.8	.7	11.5
State not specified.....	726	.1	14.3	14.5	.7	3.0	11.8	1.5	.4	1.0	12.1	2.6	5.5	4.1	9.8	1.9	7.0	.8	1.5	1.9	4.0

Specific causes of rejection.—In order to present the causes for rejection the records of 467,694 registrants were examined and compilations made of the causes of rejection under 22 general titles. The results are given in the following table:

Varieties of defects disqualifying for military service, from Feb. 10 to Oct. 15, 1918.

	Cause for rejection.	Total rejections by local boards and camp surgeons.		Rejected by local boards and placed in Group D (Series X).		Accepted by local boards for Groups A or C, but rejected by camp surgeons (Series Y).		Discharged from Army after acceptance by local boards and camp surgeons (Series Z).	
		Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
1	Total for all causes.....	467,694	100.00	255,312	100.00	172,000	100.00	40,382	100.00
2	Alcohol and drugs.....	2,007	.43	231	.09	1,238	.72	538	1.33
3	Bones and joints.....	57,744	12.35	33,283	13.04	19,623	11.41	4,838	11.96
4	Developmental defects (height, weight, chest measurements, muscles).....	39,166	8.37	27,266	10.69	11,538	6.71	335	.83
5	Digestive system.....	2,478	.53	1,586	.62	448	.26	442	1.09
6	Ears.....	20,465	4.38	12,100	4.74	6,465	3.75	1,910	4.73
7	Eyes.....	49,801	10.65	32,775	12.83	15,367	8.93	1,659	4.11
8	Flat foot (pathological).....	18,087	3.87	3,342	1.31	13,234	7.69	1,511	3.74
9	Genito-urinary (venereal).....	6,235	1.33	2,042	.81	2,744	1.60	1,449	3.59
10	Genito-urinary (nonvenere- al).....	6,309	1.35	3,054	1.21	2,226	1.30	1,029	2.55
11	Heart and blood vessels.....	61,142	13.07	36,470	14.28	19,268	11.20	5,404	13.38
12	Hernia.....	26,268	6.04	8,473	3.32	18,353	10.67	1,442	3.57
13	Mental deficiency.....	24,514	5.24	14,417	5.65	6,293	3.66	3,804	9.42
14	Nervous and mental dis- orders.....	28,728	5.07	10,945	4.29	7,319	4.26	5,464	13.53
15	Respiratory (tuberculosis).....	40,533	8.67	27,569	10.77	10,792	6.27	2,182	5.40
16	Respiratory (nontubercu- lous).....	7,823	1.67	3,081	1.21	3,483	2.02	1,259	3.12
17	Skin.....	12,519	2.68	12,207	4.78	213	.12	96	.25
18	Teeth.....	14,793	3.16	4,314	1.69	9,952	5.79	527	1.31
19	Thyroid.....	8,215	1.76	3,151	1.23	3,697	2.15	1,367	3.38
20	Tuberculosis of parts other than respiratory.....	4,136	.88	3,853	1.51	159	.09	124	.31
21	All other defects.....	14,314	3.06	12,671	4.96	1,373	.80	270	.67
22	Cause not given.....	25,419	5.44	2,465	.97	18,225	10.60	4,729	11.71

The results of these findings are also arranged according to causes and States. The percentages of rejection are given in the table on pages 630 and 631, those 25 per cent or more above the rate for the United States as a whole being indicated in heavy-face type.

From the report as published it is interesting to note that out of 3,208,446 registrants physically examined by the local boards during the period December 15, 1917, to September 11, 1918, 70.41 per cent were found fully qualified (Group A) for all military duty. These men were reexamined by the camp surgeons for induction into military service and an average of 8.1 per cent of them were rejected. These physical examinations and reexaminations therefore revealed the fact that only 64.71 per cent of the registrants in the age group 21-31 were fully qualified for all military duty. It is further noted in the report that there were rejected (Group D) in—

	Per cent.
Urban regions.....	21. 68
Rural regions.....	16. 89
Total colored.....	17. 32
Total white.....	16. 08
Alien communities.....	17. 14
Native communities.....	13. 64

This would appear to indicate that the rural registrants were in better physical condition than the urban, the white better than the colored, and the native born better than the foreign born. But this conclusion may not be altogether justified by the final figures, for in the tables as given for colored and white comparisons the figures show that 74.6 per cent of the colored were in Class A, whereas only 69.71 of the whites were in that group. The tables of comparisons between the urban and rural regions and between native and foreign born do not give the percentages found in Group A, and it may be that if these percentages were given the conclusions indicated in the report might be different.

Undoubtedly the physical examinations of so many men in this age group taken evenly from all sections of the country constitute a fair index of the health of the general population. This is especially true since the local board examinations were checked up by the examinations of the camp surgeons. In considering these findings and before applying the ratios to the general population the age of the registrants examined must not be forgotten. Physical unfitness undoubtedly increases with age. The report gives an important clue as to the increasing ratio of physical unfitness in the table comparing the men in the age 21 group with those in the age 21-30 group. Those in the younger age group gave 76.89 per cent physically fit for all military duty (Group A) as compared with 69.17 per cent given by the older age group, and only 9.93 per cent of the younger men were found in Group D as compared with 17.47 per cent of the older age group.

Making due allowances for all possibilities of error and all differences according to age, sex, and sections of the country, when the results of the findings of the Provost Marshal General are applied to

the country as a whole we are forced to the conclusion that the health of the country is far below what it ought to be. This is especially true when one considers and weighs the fact that only 65 per cent of our young men are found physically fit for military duty by physical examinations by draft board and camp surgeons and over 21 per cent physically disqualified for any kind of military service, even of the limited or unlimited class. These conditions are not confined to any one section of the country. There is no great difference in the ratios for the North, South, East, or West, urban or rural, native or foreign born. In fact, some of our previously formed conclusions, generally accepted as facts, as to the healthfulness of the several sections of the United States may have to be revised somewhat. Thus we face the striking fact that when the rejections made by the camp surgeons are included less than 52 per cent of the registrants in the State of Washington are in Group A as compared with over 73 per cent in Group A for the State of Arkansas, and this despite the fact that Washington enjoys the lowest death rate of any State in the Union. Again, taking some of the findings from New England, usually considered one of the most healthful sections of the country, we observe that in Massachusetts less than 53 per cent of the registrants are in Group A, in Vermont less than 52 per cent, and in Maine less than 62 per cent, whereas the southern section of the United States shows that Oklahoma furnished over 77 per cent in Group A, Arkansas over 73 per cent, and Alabama over 66 per cent.

The figures from all sections of the country are sufficiently appalling to show that it is of the greatest importance for the whole Nation to realize that it is high time to search out the causes of this physical unfitness and find the proper remedies. It is the supreme duty of all agencies, national, State, and local, to work together to these ends.

EPIDEMIC INFLUENZA.

PREVALENCE IN THE UNITED STATES.

A slight reduction in the number of cases of influenza in the United States is indicated by telegraphic reports from State health officers and from officers of the Public Health Service in charge of civil zones around army camps. (See pp. 642 and 647.)

The number of cases reported is not large. For the week ended March 22, 1919, slight increases in the number of cases were reported from Arkansas, California, Connecticut, Kansas, Louisiana, Maine, Oregon, Vermont and Washington. Decreases were reported from Alabama, Georgia, Illinois, Iowa, New Jersey, North Carolina, Ohio, and Virginia.

DEATHS DURING WEEK ENDED MARCH 15, 1919, IN CITIES.

The following table shows the registered deaths from all causes, and from pneumonia (all forms) and influenza combined, in certain large cities of the United States during the week ended March 15, 1919. The annual death rates per 1,000 population for the week and for the corresponding week of previous years are also shown.

The data are taken from the "Weekly Health Index," March 18, 1919, issued by the Bureau of the Census, Department of Commerce. The populations used in computing the rates are estimated by the Bureau of the Census as of July 1, 1918.

Registered deaths and annual death rates per 1,000 population in certain large cities of the United States, week ended Mar. 15, 1919—Deaths from all causes, and from pneumonia (all forms) and influenza combined.

City.	Population July 1, 1918, estimated.	Total deaths, all causes.	Annual death rate per 1,000.	Annual death rate for preceding years. ¹	Influenza and pneumonia (all forms).	
					Number of deaths.	Annual death rate per 1,000.
Albany, N. Y.	112,565	47	21.8	C 23.6	12	5.6
Atlanta, Ga.	201,732	71	18.4	C 15.5		
Baltimore, Md.	669,981	251	19.5	A 22.5	61	4.7
Birmingham, Ala.	197,670	61	16.1	A 17.9		
Boston, Mass.	785,245	275	18.3	A 18.9	45	3.0
Buffalo, N. Y.	473,229	158	17.4	C 14.8	23	2.5
Cambridge, Mass.	111,432	24	11.2	A 16.4	4	1.9
Chicago, Ill.	2,596,681	917	18.4	A 17.5	232	4.7
Cincinnati, Ohio.	418,022	218	27.2	C 20.3	101	12.6
Cleveland, Ohio.	810,306	318	20.5	C 12.8	132	8.5
Columbus, Ohio.	225,296	120	27.8	C 15.3	60	13.9
Dayton, Ohio.	130,655	38	15.2	C 15.2		
Denver, Colo.		104				
Fall River, Mass.	128,392	43	17.5	C 17.9	14	5.7
Grand Rapids, Mich.	135,450	44	16.9	C 11.9		
Indianapolis, Ind.	289,577	133	23.9	C 14.2		
Jersey City, N. J.	318,770	132	21.6	C 19.6		
Kansas City, Mo.	313,785	118	19.6	C 16.6	43	7.1
Los Angeles, Calif.	568,495	158	14.5	A 14.9	13	1.2
Louisville, Ky.	242,707	206	44.3	C 23.8	112	24.1
Lowell, Mass.	109,081	32	15.3	A 20.8	5	2.4
Memphis, Tenn.	154,759	75	25.3	C 23.2	14	4.7
Milwaukee, Wis.	453,481	131	15.1	A 15.0		
Minneapolis, Minn.	383,442	122	16.6	C 11.0		
Nashville, Tenn.	119,215	52	22.7	C 21.0	11	4.8
Newark, N. J.	428,684	134	16.3	C 15.7	45	5.5
New Haven, Conn.	154,865	46	15.5	C 21.2		
New Orleans, La.	382,273	150	20.5	A 20.2	30	4.1
New York, N. Y.	5,215,879	1,954	19.5	C 19.4	695	6.9
Oakland, Calif.	214,206	63	15.3	A 12.3		
Omaha, Nebr.	180,264	45	13.0	C 9.3		
Philadelphia, Pa.	1,761,371	642	19.0	A 19.4	164	4.9
Pittsburgh, Pa.	593,303	240	21.1	C 17.2	118	10.4
Portland, Oreg.		59			9	
Providence, R. I.	263,613	76	15.0	C 15.8	22	4.4
Richmond, Va.	160,719	49	15.9	C 21.4	10	3.2
Rochester, N. Y.	264,856	91	17.9	C 14.8	15	3.0
St. Louis, Mo.	779,951	319	21.3	C 17.7	119	8.0
St. Paul, Minn.	257,699	58	11.7	C 10.7		
San Francisco, Calif.	478,530	154	16.8	C 17.1	17	1.9
Seattle, Wash.		71			8	
Spokane, Wash.		36				
Syracuse, N. Y.	161,404	45	14.5	C 17.1	9	2.9
Toledo, Ohio.	262,234	72	14.3	A 16.4	28	5.6
Washington, D. C.	401,681	140	18.2	A 19.4	34	4.4
Worcester, Mass.	173,650	60	18.0	C 16.5		

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

² Population estimated as of July 1, 1919.

³ Rate is based on statistics of 1915, 1916, and 1917.

PREVALENCE OF DISEASE.

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

UNITED STATES.

EXTRA-CANTONMENT ZONES—CASES REPORTED WEEK ENDED MAR. 22.

CHARLESTON SANITARY DISTRICT, S. C.		CAMP FUNSTON ZONE, KANS.	
Charleston:	Cases.	Diphtheria:	Cases.
Diphtheria.....	1	Junction City.....	1
Influenza.....	10	German measles:	
Mumps.....	2	Junction City.....	1
CAMP DEVENS ZONE, MASS.		Influenza:	
Erysipelas:		Junction City.....	3
Lancaster.....	1	Manhattan.....	6
Measles:		Stockdale.....	1
Lunenburg.....	6	Mumps:	
Mumps:		Junction City.....	1
Lancaster.....	1	Manhattan.....	4
Scarlet fever:		Pneumonia:	
Lancaster.....	1	Manhattan.....	1
Tuberculosis:		Pneumonia, broncho:	
Lunenburg.....	1	Junction City.....	2
Tuberculosis, pulmonary:		Scarlet fever:	
Ayer.....	1	Junction City.....	1
Shirley.....	1	Manhattan.....	6
Whooping cough:		Army City.....	1
Lancaster.....	3	GAS AND FLAME SCHOOL ZONE, GA. AND ALA.	
CAMP DIX ZONE, N. J.		Columbus:	
Diphtheria:		Influenza.....	3
Springfield Township.....	1	Gonorrhea.....	9
Measles:		Measles.....	7
New Hanover Township.....	5	Pellagra.....	1
North Hanover Township.....	1	Pneumonia.....	2
CAMP DODGE ZONE, IOWA.		Scarlet fever.....	1
Des Moines:		Smallpox.....	4
Chicken pox.....	1	Syphilis.....	2
Diphtheria.....	1	Muskegon County:	
Gonorrhea.....	2	Influenza.....	1
Measles.....	3	Pellagra.....	1
Scarlet fever.....	12	Smallpox.....	5
Smallpox.....	3	Tuberculosis.....	1
Syphilis.....	1	CAMP GORDON ZONE, GA.	
FAYETTEVILLE SANITARY DISTRICT, N. C.		Atlanta:	
Chicken pox.....	1	Chancroid.....	6
Diphtheria.....	1	Chicken pox.....	24
Measles.....	25	Diphtheria.....	4
Mumps.....	2	Gonorrhea.....	50
Pneumonia, broncho.....	2	Influenza.....	18
Pneumonia, lobar.....	1	Malaria.....	1
Smallpox.....	2	Measles.....	23
		Mumps.....	10

CAMP GORDON ZONE, GA.—continued.

Atlanta—Continued.	Cases.
Pneumonia.....	2
Scarlet fever.....	7
Septic sore throat.....	2
Smallpox.....	48
Syphilis.....	43
Tuberculosis.....	4

GULFPORT HEALTH DISTRICT, MISS.

Chicken pox:	
De Lisle.....	1
Gulfport.....	1
Lyman.....	1
Diphtheria:	
Biloxi.....	1
Gonorrhea:	
Biloxi.....	1
Moss Point.....	2
Pascagoula.....	3
Vancleave.....	1
Influenza:	
Biloxi.....	2
Escatawpa.....	1
Gulfport.....	1
Moss Point.....	2
Ocean Springs.....	2
Malaria:	
Ansley.....	1
Caesar.....	2
De Lisle.....	3
Escatawpa.....	1
Kiln.....	1
Kreole.....	1
Moss Point.....	4
Pascagoula.....	4
Pass Christian.....	1
Wiehe.....	2
Measles:	
Biloxi.....	1
Lyman.....	4
Pascagoula.....	1
Mumps:	
Biloxi.....	6
Gulfport.....	2
Lyman.....	1
Mississippi City.....	19
Moss Point.....	3
Syphilis:	
Moss Point.....	1
Tuberculosis:	
Gulfport.....	1
Whooping cough:	
Gulfport.....	2
Moss Point.....	1
Pass Christian.....	1
CAMP A. A. HUMPHREYS ZONE, VA.	
Alexandria:	
Chicken pox.....	2
Gonorrhea.....	2
Influenza.....	8
Mumps.....	1
Pneumonia.....	1
Tonsillitis.....	9
Tuberculosis.....	1
Typhoid fever.....	2

CAMP A. A. HUMPHREYS ZONE, VA.—continued.

Fairfax County:	Cases.
Mumps.....	1
Fredericksburg:	
Influenza.....	6
Mumps.....	3
Syphilis.....	1
Whooping cough.....	2

CAMP JACKSON ZONE, S. C.

Columbia:	
Diphtheria.....	2
Influenza.....	1
Measles.....	1
Mumps.....	2
Tuberculosis.....	2
Whooping cough.....	10
Government clinic:	
Chancroid.....	1
Gonorrhea.....	5
Syphilis.....	25

CAMP LEE ZONE, VA.

Petersburg:	
Diphtheria.....	1
Gonorrhea.....	2
Influenza.....	4
Measles.....	3
Scarlet fever.....	1
Syphilis.....	6
Tuberculosis.....	1

CAMP LEWIS ZONE, WASH.

Measles:	
Lake City.....	2
Mumps:	
American Lake.....	3
Lake City.....	2
Pneumonia:	
Lake City.....	1

CAMP MERRITT ZONE, N. J.

Cerebrospinal meningitis:	
Fairview.....	1
Chicken pox:	
Englewood.....	1
Influenza:	
Englewood.....	5
Haworth.....	1
Tenafly.....	9
Measles:	
Haworth.....	1
Mumps:	
Englewood.....	3
Pneumonia:	
Englewood.....	3
Edgewater.....	1
Scarlet fever:	
Englewood.....	1

MUSCLE SHOALS SANITARY DISTRICT, ALA.

Colbert County:	
Erysipelas.....	1
Mumps.....	1
Smallpox.....	1
Tonsillitis.....	2
Tuberculosis.....	2

MUSCLE SHOALS SANITARY DISTRICT, ALA.—
continued.

Florence:	Cases.
Chicken pox.....	1
Measles.....	1
Mumps.....	1
Smallpox.....	1
Nitrate Plant No. 2:	
Chancroid.....	15
Gonorrhea.....	24
Influenza.....	5
Mumps.....	2
Syphilis.....	7

PICRIC ACID PLANT ZONE, GA.

Brunswick:	
Gonorrhea.....	2
Influenza.....	2
Malaria.....	1
Measles.....	8
Mumps.....	3
Pellagra.....	1
Pneumonia.....	4
Syphilis.....	3
Tuberculosis.....	1

CAMP PIKE ZONE, ARK.

Little Rock:	
Chancroid.....	3
Chicken pox.....	3
Erysipelas.....	2
Gonorrhea.....	11
Influenza.....	4
Malaria.....	1
Measles.....	1
Mumps.....	15
Pneumonia.....	7
Scarlet fever.....	4
Smallpox.....	3
Syphilis.....	21
Tonsillitis.....	2
Tuberculosis.....	1
Typhoid fever.....	1
North Little Rock:	
Chicken pox.....	2
Gonorrhea.....	3
Mumps.....	4
Pneumonia.....	1

CAMP POLK ZONE, N. C.

Chicken pox:	
Durham.....	6
Durham Township.....	2
Raleigh.....	7
Raleigh Township.....	3
Diphtheria:	
Middle Creek Township.....	1
Measles:	
Durham.....	3
Durham Township.....	2
Raleigh.....	1
St. Matthews Township.....	1
Mumps:	
Durham.....	5
Lew Light Township.....	1
Raleigh Township.....	1
Pneumonia:	
House Creek Township.....	1

CAMP POLK ZONE, N. C.—continued.

Poliomyelitis:	Cases.
Cary Township.....	1
Smallpox:	
Durham.....	1
Durham Township.....	1
Syphilis:	
Durham.....	4
Tuberculosis:	
Durham.....	1
Whooping cough:	
Durham.....	1
Wake Forest Township.....	2

PORTSMOUTH AND NORFOLK COUNTY HEALTH
DISTRICT, VA.

Chicken pox:	
Portsmouth.....	1
Norfolk.....	2
Diphtheria:	
Norfolk.....	1
Influenza:	
Norfolk.....	15
Lethargic encephalitis:	
Norfolk County.....	1
Measles:	
Portsmouth.....	5
Norfolk.....	4
Norfolk County.....	2
Scarlet fever:	
Norfolk.....	6
Smallpox:	
Portsmouth.....	1
Norfolk.....	8
Norfolk County.....	4
Tuberculosis:	
Portsmouth.....	1

CAMP SHERIDAN ZONE, ALA.

Government clinic:	
Chancroid.....	2
Gonorrhea.....	7
Syphilis.....	16

CAMP SHERMAN ZONE, OHIO.

Gonorrhea:	
Government clinic.....	7
Influenza:	
Chillicothe.....	4
Ross County.....	20
Pneumonia:	
Ross County.....	5
Syphilis:	
Government clinic.....	2

SOUTHER FIELD ZONE, GA.

Lethargic encephalitis.....	1
Rabies in animal.....	1

CAMP ZACHARY TAYLOR ZONE, KY. AND IND.

Chicken pox:	
Louisville.....	1
Diphtheria:	
Jefferson County.....	2
Gonorrhea:	
Government clinic.....	18
County jail.....	6
Jefferson County.....	1
Louisville.....	1

CAMP ZACHARY TAYLOR ZONE, KY. AND IND.—con.

Influenza:	Cases.
Clark County.....	21
Jefferson County.....	69
Louisville.....	180
New Albany.....	6
Measles:	
Jefferson County.....	3
Louisville.....	17
Pneumonia, lobar:	
Jefferson County.....	1
Louisville.....	9
Rabies in animal:	
Jefferson County.....	1
Scarlet fever:	
Jefferson County.....	10
Louisville.....	5
Smallpox:	
Jefferson County.....	4
Syphilis:	
County jail.....	4
Government clinic.....	28
Louisville.....	1
Tuberculosis, pulmonary:	
Jefferson County.....	2
Louisville.....	5
Typhoid fever:	
New Albany.....	3

TIDEWATER HEALTH DISTRICT, VA.

Chancroid:	
Government clinic.....	1
Newport News.....	1
Chicken pox:	
Riverview.....	1
Newport News.....	2
Diphtheria:	
Newport News.....	2
German measles:	
Newport News.....	3
Gonorrhea:	
Government clinic.....	25
Newport News.....	3
Measles:	
Newport News.....	1
Meningitis, tubercular:	
Newport News.....	1
Mumps:	
Newport News.....	8
Pneumonia:	
Newport News.....	1

TIDEWATER HEALTH DISTRICT, VA.—contd.

Scarlet fever:	Cases.
Hampton.....	2
Riverview.....	2
Smallpox:	
Newport News.....	1
Syphilis:	
Government clinic.....	2
Newport News.....	1
Tuberculosis:	
Newport News.....	1
Venereal:	
Government clinic.....	2
Whooping cough:	
Newport News.....	1

CAMP TRAVIS ZONE, TEX.

San Antonio:	
Chancroid.....	1
Chicken pox.....	1
Diphtheria.....	2
Gonorrhea.....	15
Influenza.....	4
Mumps.....	2
Scarlet fever.....	2
Smallpox.....	2
Syphilis.....	5
Tuberculosis.....	1

CAMP UPTON ZONE, N. Y.

Chicken pox:	
Riverhead.....	1
Diphtheria:	
Brook Haven.....	1
German measles:	
Riverhead.....	2
Measles:	
Patchogue.....	1
Pneumonia:	
Patchogue.....	2
Riverhead.....	2
Septic sore throat:	
Brook Haven.....	3

WILMINGTON SANITARY DISTRICT, N. C.

Wilmington:	
Lethargic encephalitis.....	2
Measles.....	1
Meningitis, tubercular.....	1
Pneumonia.....	1
Scarlet fever.....	1
Typhoid fever.....	2

DISEASE CONDITIONS AMONG TROOPS IN THE UNITED STATES.

The following data are taken from telegraphic reports received in the office of the Surgeon General of the United States Army for the week ended March 14, 1919. Reports from the American Expeditionary Forces are delayed in transmission, and the "current week" for troops in the American Expeditionary Forces is not the same period as "current week" for troops in the United States.

	Current week.	Last week.
Annual admission rate per 1,000 (all causes).....	1,138.36	1,342.11
All troops in United States.....	1,302.84	1,226.74
American Expeditionary Forces.....	1,082.22	1,380.52
Annual admission rate per 1,000 (disease only)....	924.76	1,178.48
All troops in United States.....	1,094.57	1,070.69
American Expeditionary Forces.....	866.09	1,214.48
Noneffective rate per 1,000 on day of report.....	53.58	55.19
All troops in United States ¹	62.93	64.25
American Expeditionary Forces.....	50.39	52.10
Annual death rate per 1,000 (all causes).....	13.81	17.18
All troops in United States ¹	9.71	12.12
American Expeditionary Forces.....	15.21	18.87
Annual death rate per 1,000 (disease only).....	11.86	15.39
All troops in United States ¹ (disease only).....	9.22	11.45
American Expeditionary Forces.....	12.76	16.70

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

Cases of special diseases reported during the week ended Mar. 14, 1919.

Camp.	Pneumonia.	Dysentery.	Malaria.	Venereal diseases.		Influenza.	Measles.	Meningitis.	Scarlet fever.	Annual admission rate per 1,000 (disease only).	Noneffective rate per 1,000 on day of report.
				Total.	New infections.						
Beauregard.....	1			20						1,680.53	75.40
Bowie.....	7			19	8	9	3			2,018.64	121.73
Bragg.....										416.00	19.20
Fremont.....				1						657.70	306.71
Greene.....	1			2	2					555.62	21.99
Hancock.....				18						715.84	54.41
Kearny.....	1			9	5					882.58	64.27
Logan.....	1									404.54	
MacArthur.....				5						1,058.52	21.20
McClellan.....				6	3					607.36	118.59
Sevier.....				10	2	2				308.26	15.92
Shelby.....	2			17	8	1				2,494.51	59.65
Sheridan.....				1	1					732.39	20.71
Wadsworth.....				15	12					1,573.61	181.23
Wheeler.....							1			89.88	5.18
Custer.....	4			13	12				2	1,279.02	89.53
Devens.....	9			13		5				1,915.24	93.74
Dix.....	3	1		28	15			1		521.63	89.90
Dodge.....	5			14	9	4	1	1	6	117.35	124.51
Eustis.....				2		1	1			1,070.00	49.42
Funston.....	2			14		2	2		2	964.12	68.58
Gordon.....	2		1	53		10				2,558.26	93.27
Grant.....	9			3		13	3			1,103.14	76.28
Humphreys.....	2			15		1	1		2	666.15	23.99
Jackson.....	2		2	48			2	1		982.39	65.13
J. E. Johnston.....											9.00
Henry Knox.....	12			1				1	1	1,600.00	61.63
Las Casas.....				1						856.47	74.11
Lee.....	7			5	3				1	1,120.88	79.86
Lewis.....	9			19	3	2	1		4	1,232.84	89.94
Mende.....	6			17	6		1			600.57	112.22
Pike.....	4		1	26	1				1	1,291.46	114.74
Sherman.....	3			8		9	2	1		1,412.12	120.32
Taylor.....	9			12	5	21	4	4	4	894.35	118.55
Travis.....	7			29		11	2	1		1,731.75	118.84
Upton.....	16			29	6	9				958.02	55.27
Northeastern Department.....			1	5		3				900.20	29.32
Eastern Department.....	5			27	4	22			2	768.72	21.71
Southeastern Department.....				15	8	3				1,165.43	31.14
Central Department.....				2		2			3	1,269.10	32.06
Southern Department.....	7			54	5	60	1			879.95	51.61
Western Department.....				11	4	7				512.05	15.19
Aviation camps.....	2		1	36		20	1			929.90	35.96
Port of embarkation:											
Hoboken.....	15			13	13	105	6		1	1,726.08	94.65
Newport News.....	9			73	10	10	6	4	5	3,092.49	98.80
Alcatraz Disciplinary Barracks.....				1						993.63	22.29

Cases of special diseases reported during the week ended Mar. 14, 1919—Continued.

Camp.	Pneumonia.	Dysentery.	Malaria.	Venereal diseases.		Influenza.	Measles.	Meningitis.	Scarlet fever.	Annual admission rate per 1,000 (disease only).	Noneffective rate per 1,000 on day of report.
				Total.	New infections.						
Leavenworth Disciplinary Barracks.....	2								1	1,394.54	42.95
Columbus Barracks.....				2					1	1,352.11	55.25
Jefferson Barracks.....	6			1	1	4			1	4,788.08	142.18
Fort Logan.....										1,048.38	34.27
Fort McDowell.....				8						965.94	32.50
Fort Sill.....	2			7	7	2	4			850.68	49.56
Fort Slocum.....				1						183.09	52.86
Fort Thomas.....										1,004.83	53.14
West Point.....										926.50	20.60
Arsenals.....				14	4	1			1	486.18	28.35
Miscellaneous small stations.....	2			11		3	1			714.47	29.89
Total.....	174	1	6	754	157	342	45	14	41	1,094.57	62.93

Number of deaths and annual rates per 1,000 at large camps in United States, week ended Mar. 14, 1919.

Camp.	Strength.	Deaths.		Annual death rate per 1,000.	
		All causes.	Disease only.	All causes.	Disease only.
Beauregard.....	2,602				
Bowie.....	5,235	1	1	9.89	9.89
Bragg.....	625				
Fremont.....	1,265				
Greene.....	1,551				
Hancock.....	4,867	2	2	21.36	21.36
Kearny.....	3,594	4	4	57.87	57.87
Logan.....	1,671				
MacArthur.....	2,358				
McClellan.....	1,113				
Sevier.....	2,099	1	1	19.26	19.26
Shelby.....	5,314				
Sheridan.....	1,207				
Wadsworth.....	2,941	1	1	17.68	17.68
Wheeler.....	1,157				
Custer.....	7,684	1	1	6.76	6.76
Devens.....	9,014	2	2	11.53	11.53
Dix.....	15,948	3	3	9.78	9.78
Dodge.....	10,894	1	1	4.77	4.77
Eustis.....	5,200	1	1	10.00	10.00
Funston.....	8,252	1	1	6.30	6.30
Gordon.....	8,598				
Grant.....	14,001				
Humphreys.....	9,211	1	1	5.64	5.64
Jackson.....	10,112	1	1	5.14	5.14
J. E. Johnston.....	777				
Henry Knox.....	2,145	3	3	72.72	72.72
Las Casas.....	850				
Lee.....	13,495	2	2	7.70	7.70
Lewis.....	9,195				
Meade.....	10,386	1	1	5.00	5.00
Pike.....	8,375	3	3	18.62	18.62
Sherman.....	11,711	1	1	4.44	4.44
Taylor.....	14,710	4	4	14.14	14.14
Travis.....	8,768	2	2	11.86	11.86
Upton.....	21,817	7	7	16.68	16.68
Northeastern Department.....	4,910				
Eastern Department.....	26,989	2	2	3.85	3.85
Southeastern Department.....	5,265				
Central Department.....	6,269				
Southern Department.....	39,118	4	4	5.31	5.31
Western Department.....	11,783	1	1	4.41	4.41
Aviation camps.....	35,173	1		1.47	
Port of embarkation:					
Hoboken.....	45,428	5	4	5.72	4.57
Newport News.....	23,443	3	3	6.65	6.65
All others.....	92,681	40	38	22.44	21.32
Total.....	529,775	69	94	9.71	9.22

Annual admission rate per 1,000 for certain diseases.

Disease.	Troops in United States.		American Expeditionary Forces.	
	Current week.	Last week.	Current week.	Last week.
Pneumonia.....	17.07	18.18	44.91	62.87
Dysentery.....	.09	.28	.80	1.06
Malaria.....	.58	1.34	.03	.12
Venereal.....	74.00	64.36	46.02	54.65
Paratyphoid.....			.10	.22
Typhoid.....	.19	.48	1.81	2.16
Measles.....	4.41	6.06	2.21	2.91
Meningitis.....	1.37	.96	2.72	3.91
Scarlet fever.....	4.02	5.19	1.20	1.84
Influenza.....	33.56	37.42		

RECIPROCAL NOTIFICATION.**Minnesota.**

Cases of communicable diseases referred during February, 1919, to other State health departments by Department of Health of the State of Minnesota.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Diphtheria: Minneapolis health department, Hennepin County.	New York City, New York County, N. Y.	Left quarantined house in Minneapolis and went to New York.
Scarlet fever: Minneapolis health department, Hennepin County. Austin, Mower County.....	Fargo, Cass County, N. Dak..... Patch Grove, Grant County, Wis.	2 Minneapolis girls exposed to scarlet fever went to North Dakota. Broke quarantine and went to his home in Wisconsin.
Smallpox: Fergus Falls, Ottertail County. Minneapolis health department, Hennepin County.	Academy, Charles Mix County, S. Dak. Elrod, Clark County, S. Dak.....	Father and 4 of family visited son in South Dakota, from whom they all contracted smallpox. Man and wife possibly contracted smallpox in South Dakota and then came to Minnesota.
Tuberculosis: Mayo Clinic, Rochester, Olmsted County.	Chicago, Cook County, Ill.; South Bend, St. Joseph County, Ind.; Coin, Page County, Iowa; Butte, Silver Bow County, Mont.; Pittsburgh, Allegheny County, Pa.; Ellsworth, Washington County, Pa.; Letcher, Sanborn County, S. Dak. Baraboo, Sauk County, Wis.; Saxon, Iron County, Wis.; Gladstone, Manitoba, Canada; Rossburn, Manitoba, Canada.	1 incipient, 1 apparently arrested, 3 advanced, and 6 moderately advanced cases left Mayo Clinic for homes.
Pokegama Sanatorium, Pine County. Buena Vista Sanatorium, Wabasha County.	Lorimore, Grand Forks County, N. Dak. Havre, Hill County, Mont..... Cavalier, Pembina County, N. Dak.	Open case; left sanatorium for home. 1 open case; left sanatorium for home. 1 fatal case removed to home.

CURRENT STATE SUMMARIES.**Telegraphic Reports for the Week Ended March 22, 1919.**

Alabama.—State totals: Typhoid fever 6, smallpox 19, measles 64, scarlet fever 7, diphtheria 14, cerebrospinal meningitis 6, influenza 41.

Arkansas.—State totals: Influenza 54, malaria 29, smallpox 20, whooping cough 18, tuberculosis 11, chicken pox 10, measles 8,

typhoid fever 4, diphtheria 3, pellagra 3, trachoma 3, scarlet fever 3, ophthalmia 1.

California.—Influenza: Cases reported 570. Smallpox: Los Angeles city 8, San Francisco 7, Marysville 3, Fresno County 3, El Centro 2, Humboldt County 1. Typhoid fever: Los Angeles city 2, one each in Napa County, San Francisco, San Leandro, Oakland, and Antioch. Cerebrospinal meningitis: San Francisco 2, Naval Training Station 1, Los Angeles city 1.

Connecticut.—State totals: Cerebrospinal meningitis 1, smallpox 1. Influenza, total for State, 233 cases.

Florida.—State totals: Typhoid 11, epidemic meningitis 1.

Georgia.—State totals: Acute infectious conjunctivitis 1, cerebrospinal meningitis 1, chicken pox 24, diphtheria 6, dysentery (amebic) 1, dysentery (bacillary) 1, German measles 8, gonorrhea 67, influenza 115, malaria 7, measles 44, mumps 39, pneumonia (acute lobar) 23, rabies 1, scarlet fever 7, septic sore throat 7, smallpox 50, syphilis 34, trachoma 1, tuberculosis (pulmonary) 16, tuberculosis (other than pulmonary) 1, whooping cough 12.

Illinois.—State totals: Diphtheria 141; of which in Chicago 113. Scarlet fever 124; of which in Chicago 60, Quincy 7, Oglesby 7. Smallpox 70, of which in Pekin 12, Canton 8, Chicago 8, Alton 7, Peoria 7. Meningitis: Chicago, 4. Poliomyelitis: Dalzel 1, Springfield 1. Gonorrhea 141, syphilis 79, influenza 1,168; of which in Chicago 324. Lethargic encephalitis 20; of which Chicago 13, Middletown 2, one each in Quincy, Cairo, Kansas, Bowling Township (Rock Island County), Dorchester Township (Macoupin County). Recrudescence of influenza noted in the following Illinois communities: Ashland 22, Pana 23, Eagle Creek Township (Gallatin County) 97, Sunbury Township (Livingston County) 27, Easton 18, Forest City 23, Prairie City 39, Mount Hope Township (McLean County) 30, Cisco 22, Strasburg 26, Hoopeston 16.

Indiana.—Scarlet fever: Columbia City, South Bend, South Whitley. Smallpox: Anderson, Goshen, Elkhart, South Bend. Diphtheria: Kosciusko County 1, Tippecanoe County 2, Miami County 2, Delaware County 1, Howard County 2, Fort Wayne (Allen County) several. Syphilis: Cases reported 18. Gonorrhea: Cases reported 48. One death rabies (human) Vigo County.

Iowa.—Chancroid: Davenport 1. Diphtheria: Boone 1, Dubuque 1, Mason City 1. Gonorrhea: Charles City 1, Council Bluffs 6, Davenport 5, Des Moines 9, Dubuque 1, Hawarden 1, Maquoketa 2, Marshalltown 1, Mason City 2, Muscatine 1, Oskaloosa 1, Sioux City 6, Strawberry Point 1. Measles: Council Bluffs 2. Scarlet fever: Albion 1, Burlington 3, Cedar Rapids 1, Council Bluffs 1, Des Moines 9, Dubuque 1, Mason City 1, Newton 1, Prairie City 1, Seymour 1, Sibley 1. Smallpox: Boone 5, Burlington 1, Cedar Rapids 8, Council

Bluffs 3, Davenport 3, Des Moines 2, Dubuque 1, Mason City 1, Ottumwa 6, Strawberry Point 1. Syphilis: Des Moines 8, Dubuque 1, Greene 1, Iowa City 1, Oskaloosa 1, Sioux City 1. In rural districts of the following counties: Cerebrospinal meningitis: Jasper 1. Diphtheria: Allamakee 4, Poweshick 1, Wayne 1. Measles: Louisa 1. Scarlet fever: Des Moines 2, Kossuth 1, Madison 1, Marshall 1, Taylor 1, Warren 2, Washington 1. Smallpox: Allamakee 1, Carroll 5, Crawford 1, Jones 1, Lyon 1, Mills 1, Monona 1, Story 1. Influenza cases reported in State 121.

Kansas.—Meningitis: Soldier 1, Marion 1, Beattie 1, Kansas City 1. State totals: Smallpox 67, typhoid fever 1, diphtheria 19, scarlet fever 68, influenza 3,507.

Louisiana.—State totals: Influenza 67, smallpox 41, typhoid fever 6, scarlet fever 5, diphtheria 8, meningitis 2.

Maine.—Chancroid: Belfast 1. Chicken pox: Portland 3. Diphtheria: Bangor 1, Presque Isle 1, Augusta 1, Gardiner 1, South Portland 1. Gonorrhea: New Portland 1, Sanford 1, Augusta 1, Bath 1, Lewiston 4, Portland 21, Belfast 1, Waterville 2, Bangor 3, Dover 1. Mumps: Milo 1, Milbridge 5, Portland 3. Scarlet fever: Bath 1, Oldtown 2, Portland 5, Cumberland 1, Hallowell 1, Sherman 12. Smallpox: Hartland 1, Frenchville 5, Guerette 10. Syphilis: Lewiston 1, Bangor 6, Portland 6, Calais 2, Augusta 2, Bar Harbor 1. Tuberculosis: 15 cases. Typhoid fever: Milo 1, Camden 1, Mapleton 1, Fairfield 1. Whooping cough: Baileyville 30, Portland 1. Influenza: 181 cases.

Massachusetts.—Unusual prevalence: Measles, Fall River 61; diphtheria, Somerville 9; scarlet fever, Lowell 9.

Minnesota.—Smallpox (new foci): Becker County, Lake Park village 1; Clearwater County, Copely Township 3; Pine County, Pokegama Township 1; Polk County, Angus Township 1; Traverse County, Wheaton village 2; Winona County, Rolling Stone Township 1. State totals: Cerebrospinal meningitis 2, syphilis 30, gonorrhea 71, chancroid 2.

New Jersey.—State totals: Influenza 720 cases reported and 210 cases pneumonia. Six cases smallpox reported in Hamilton Township (Atlantic County). No unusual prevalence of other diseases.

New York.—Outside of New York City. State totals: Typhoid fever 12, measles 227, scarlet fever 235, whooping cough 85, diphtheria 172. Smallpox: Olean 1, Rochester 1. Cerebrospinal meningitis: Rochester 1, Mexico 1, North Castle, 4. Pneumonia 208. Voluntary reports: Syphilis 193, gonorrhea 35.

North Carolina.—State totals: Whooping cough 111, measles 363, diphtheria 24, scarlet fever 9, septic sore throat 3, smallpox 94, chicken pox 45, infantile paralysis 1, typhoid fever 4, epidemic meningitis 3, broncho-pneumonia 54, lobar pneumonia 33, ophthalmia

neonatorum 1, syphilis 39, gonorrhea 49, chancroid 6. Influenza cases reported by counties: Alamance 56, Cleveland 138, Cumberland 7, Davidson 23, city of Charlotte 20.

Ohio.—Smallpox: New foci in Fulton, Champaign, and Knox Counties with a slight increase in the number of cases throughout the State. Scarlet fever: Adams Township (Darke County) 8, Mantua Township (Portage County) 5. Influenza: Material increase during the past week.

Oregon.—Influenza: Portland 21 cases (6 deaths), Benton 10, Clackamas 4, Lane 4.

Vermont.—Eleven towns report 205 cases influenza. No other unusual prevalence.

Virginia.—Smallpox: Scott County 1, Lee 1, Montgomery 1, Norfolk 13. Lethargic encephalitis: Augusta County 1, Loudoun 1, Halifax 1, Dinwiddie 1, Norfolk 1, Franklin 1, Albemarle 4, Accomac 1, Amelia 1. Influenza: Cases reported 45.

Washington.—Wenatchee 1, Camas 2, Castlerock 1, Seattle 18, Puyallup 9, Tacoma 18, Pierce County 2, Spokane County 1, Walla Walla 1, Yakima County 16, Yakima city 17. Outbreak of influenza in Pend Oreille County (100 cases reported within last 10 days). Adams County, 29 cases influenza.

ANTHRAX.

City Report for Week Ended Mar. 8, 1919.

There were 2 deaths from anthrax reported in New York, N. Y., during the week ended March 8, 1919.

CEREBROSPINAL MENINGITIS.

State Reports for January and February, 1919.

Place.	New cases reported.	Place.	New cases reported.
California (January):		Illinois (February):	
Alameda County—		Clay County—	
Oakland.....	1	Flora.....	2
Butte County—		Cook County—	
Gridley.....	1	Chicago.....	10
Lassen County.....	1	Wilmette.....	1
Los Angeles County—		McLean County—	
Long Beach.....	1	Normal township.....	1
Los Angeles.....	1	St. Clair County—	
San Diego County—		Fairmount City.....	1
Camp Kearny.....	1	Total.....	15
San Francisco.....	6		
San Joaquin County.....	1	Louisiana (February):	
Santa Clara County.....	1	Avoyelles Parish.....	1
Palo Alto.....	1	Caddo Parish.....	1
Total.....	15	Grant Parish.....	1
		La Salle Parish.....	1
Connecticut (February):		Orleans Parish.....	1
Fairfield County—		Rapides Parish.....	1
New Canaan.....	1	St. Tammany Parish.....	1
New Haven County—		Terrebonne Parish.....	1
New Haven.....	1	Vermilion Parish.....	1
Waterbury.....	1	Washington Parish.....	1
Total.....	3	Total.....	10

CEREBROSPINAL MENINGITIS—Continued.

State Reports for January and February, 1919—Continued.

Place.	New cases reported.	Place.	New cases reported.
Maine (February):		North Carolina (February)—Continued.	
Franklin County—		Rowan County.....	1
Coplin (plantation).....	1	Surry County.....	1
		Total.....	3
Minnesota (February):		Ohio (February):	
Lake County—		Athens County.....	1
Two Harbors.....	1	Cuyahoga County.....	1
St. Louis County—		Gallia County.....	1
Duluth.....	1	Hamilton County.....	2
Total.....	2	Miami County.....	2
		Summit County.....	1
Mississippi (February):		Total.....	8
Bolivar County.....	1	Oregon (February):	
Panola County.....	1	Portland.....	3
Union County.....	1	Rhode Island (February):	
Total.....	3	Providence.....	1
New Jersey (February):		West Warwick (town).....	1
Atlantic County.....	1	Total.....	2
Burlington County.....	2	Washington (January):	
Essex County.....	6	Pierce County—	
Hudson County.....	5	Tacoma.....	1
Middlesex County.....	1	West Virginia (February):	
Union County.....	1	Fayette County.....	1
Total.....	16	Jackson County.....	1
North Carolina (February):		Kanawha County.....	1
Cumberland County.....	1	Webster County.....	1
Davidson County.....	1	Wyoming County.....	2
Durham County.....	1	Total.....	6
New Hanover County.....	1		
Pitt County.....	2		

City Reports for Week Ended Mar. 8, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1	—	New Haven, Conn.....	1	—
Atlanta, Ga.....	1	1	New York, N. Y.....	3	2
Baltimore, Md.....	2	2	Norfolk, Va.....	1	—
Birmingham, Ala.....	—	1	Philadelphia, Pa.....	—	1
Boston, Mass.....	3	—	Phillipsburg, N. J.....	1	1
Canton, Ill.....	—	1	Piqua, Ohio.....	—	1
Chicago, Ill.....	1	—	Portsmouth, Va.....	1	—
Columbia, S. C.....	1	—	Racine, Wis.....	—	1
Des Moines, Iowa.....	1	—	St. Louis, Mo.....	1	—
Dubuque, Iowa.....	1	—	San Antonio, Tex.....	2	1
Durham, N. C.....	1	—	San Francisco, Calif.....	2	2
Flint, Mich.....	—	1	Seattle, Wash.....	1	—
Joplin, Mo.....	1	—	Tacoma, Wash.....	1	—
Lancaster, Ohio.....	—	1	Washington, D. C.....	1	—
Lynn, Mass.....	2	1	Wilmington, N. C.....	1	—
Milwaukee, Wis.....	1	1			

CHANCROID.

Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.

	Cases.		Cases.
Camp Gordon zone, Ga.....	6	Camp Sheridan zone, Ala.....	2
Camp Jackson zone, S. C.....	1	Tidewater health district, Va.....	2
Muscle Shoals sanitary district, Ala.....	15	Camp Travis zone, Tex.....	1
Camp Pike zone, Ark.....	3		

DIPHTHERIA.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

Cases.	Cases.
Charleston sanitary district, S. C..... 1	Camp Polk zone, N. C..... 1
Camp Dodge zone, Iowa..... 1	Portsmouth and Norfolk County health district, Va..... 1
Fayetteville sanitary district, N. C..... 1	Camp Zachary Taylor zone, Ky. and Ind..... 2
Camp Funston zone, Kans..... 1	Tidewater health district, Va..... 2
Camp Gordon zone, Ga..... 4	Camp Travis zone, Tex..... 2
Gulfport health district, Miss..... 1	Camp Upton zone, N. Y..... 1
Camp Jackson zone, S. C..... 2	
Camp Lee zone, Va..... 1	

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 661.

GONORRHEA.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

Cases.	Cases.
Camp Dodge zone, Iowa..... 2	Pieric acid plant zone, Ga..... 2
Gas and Flame School zone, Ga. and Ala..... 9	Camp Pike zone, Ark..... 14
Camp Gordon zone, Ga..... 50	Camp Sheridan zone, Ala..... 7
Gulfport health district, Miss..... 7	Camp Sherman zone, Ohio..... 7
Camp A. A. Humphreys zone, Va..... 2	Camp Zachary Taylor zone, Ky. and Ind..... 26
Camp Jackson zone, S. C..... 5	Tidewater health district, Va..... 28
Camp Lee zone, Va..... 2	Camp Travis zone, Tex..... 15
Muscle Shoals sanitary district, Ala..... 24	

INFLUENZA.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

Cases.	Cases.
Charleston sanitary district, S. C..... 10	Muscle Shoals sanitary district, Ala..... 5
Camp Funston zone, Kans..... 10	Pieric acid plant zone, Ga..... 2
Gas and Flame School zone, Ga. and Ala..... 4	Camp Pike zone, Ark..... 4
Camp Gordon zone, Ga..... 18	Portsmouth and Norfolk County health district, Va..... 15
Gulfport health district, Miss..... 8	Camp Sherman zone, Ohio..... 24
Camp A. A. Humphreys zone, Va..... 14	Camp Zachary Taylor zone, Ky. and Ind..... 276
Camp Jackson zone, S. C..... 1	Camp Travis zone, Tex..... 4
Camp Lee zone, Va..... 4	
Camp Merritt zone, N. J..... 15	

LEPROSY.**City Reports for Week Ended Mar. 8, 1919.**

During the week ended March 8, 1919, 1 case of leprosy was reported at New Orleans, La., and 1 at San Francisco, Cal.

MALARIA.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

Cases.	Cases.
Camp Gordon zone, Ga..... 1	Pieric acid plant zone, Ga..... 1
Gulfport health district, Miss..... 20	Camp Pike zone, Ark..... 1

MALARIA—Continued.

State Reports for January and February, 1919.

Place.	New cases reported.	Place	New cases reported.
California (January):		Mississippi (February)—Continued.	
Glenn County.....	2	Leake County.....	11
Los Angeles County.....	1	Lee County.....	31
San Diego County.....	1	Leflore County.....	87
Total.....	4	Lincoln County.....	34
Louisiana (February):		Lowndes County.....	32
Acadia Parish.....	4	Madison County.....	26
Avoyelles Parish.....	1	Marion County.....	35
Concordia Parish.....	1	Marshall County.....	31
De Soto Parish.....	3	Mourree County.....	9
Evangeline Parish.....	1	Montgomery County.....	14
Rapides Parish.....	20	Neshoba County.....	25
Total.....	30	Newton County.....	1
Mississippi (February):		Noxubee County.....	18
Adams County.....	28	Oktibbeha County.....	24
Alcorn County.....	47	Panola County.....	49
Amite County.....	51	Pearl River County.....	29
Attala County.....	23	Perry County.....	25
Benton County.....	5	Pike County.....	28
Bolivar County.....	184	Pontotoc County.....	35
Calhoun County.....	21	Prentiss County.....	42
Carroll County.....	12	Quitman County.....	212
Chickasaw County.....	4	Rankin County.....	26
Choctaw County.....	9	Scott County.....	11
Claiborne County.....	41	Sharkey County.....	51
Clarke County.....	12	Simpson County.....	9
Clay County.....	4	Smith County.....	24
Coahoma County.....	172	Stone County.....	22
Copiah County.....	17	Sunflower County.....	157
Covington County.....	49	Tallahatchie County.....	92
Do Soto County.....	15	Tate County.....	75
Forrest County.....	13	Tippah County.....	19
Franklin County.....	50	Tishomingo County.....	11
George County.....	10	Tunica County.....	72
Greene County.....	2	Union County.....	8
Grenada County.....	14	Walthall County.....	11
Hancock County.....	28	Warren County.....	111
Harrison County.....	18	Washington County.....	80
Hinds County.....	114	Wayne County.....	3
Holmes County.....	111	Webster County.....	1
Humphreys County.....	128	Wilkinson County.....	2
Issaquena County.....	29	Winston County.....	51
Itawamba County.....	16	Yalobusha County.....	13
Jackson County.....	10	Yaloo County.....	131
Jasper County.....	48	Total.....	3,326
Jefferson County.....	36	New Jersey (February):	
Jefferson Davis County.....	11	Essex County.....	2
Jones County.....	34	Monmouth County.....	4
Kemper County.....	11	Morris County.....	1
Lafayette County.....	18	Total.....	7
Lamar County.....	36	Ohio (February):	
Lauderdale County.....	32	Butler County.....	1
Lawrence County.....	86		

City Reports for Week Ended Mar. 8, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baton Rouge, La.....	1	1	New Orleans, La.....	1	.....
Jersey City, N. J.....	1	.....	Tuscaloosa, Ala.....	1	.....
Joplin, Mo.....	1	.....	Washington, D. C.....	.....	1

MEASLES.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

	Cases.		Cases.
Camp Devens zone, Mass.....	6	Muscle Shoals sanitary district, Ala.....	1
Camp Dix zone, N. J.....	6	Pieric acid plant zone, Ga.....	8
Camp Dodge zone, Iowa.....	3	Camp Pike zone, Ark.....	1
Fayetteville sanitary district, N. C.....	25	Camp Polk zone, N. C.....	7
Gas and flame school zone, Ga. and Ala.....	7	Portsmouth and Norfolk County health district, Va.....	11
Camp Gordon zone, Ga.....	23	Camp Zachary Taylor zone, Ky. and Ind.....	20
Gulfport health district, Miss.....	6	Tidewater health district, Va.....	1
Camp Jackson zone, S. C.....	1	Camp Upton zone, N. Y.....	1
Camp Lee zone, Va.....	3	Wilmington sanitary district, N. C.....	1
Camp Lewis zone, Wash.....	2		
Camp Merritt zone, N. J.....	1		

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 661.

PELLAGRA.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

	Cases.		Cases.
Gas and flame school zone, Ga. and Ala.....	2	Pieric acid plant zone, Ga.....	1

State Reports for January and February, 1919.

Place.	New cases reported.	Place.	New cases reported.
California (January):		Mississippi (February)—Continued.	
Orange County.....	1	Lee County.....	9
Minnesota (February):		Lefflore County.....	1
Hennepin County—		Lincoln County.....	9
Minneapolis.....	1	Lowndes County.....	3
Mississippi (February):		Madison County.....	10
Adams County.....	6	Marion County.....	4
Alcorn County.....	3	Marshall County.....	8
Amite County.....	2	Monroe County.....	12
Polk County.....	19	Montgomery County.....	4
Calhoun County.....	2	Oktibbeha County.....	8
Carroll County.....	5	Panola County.....	2
Chickasaw County.....	4	Pearl River County.....	17
Choctaw County.....	2	Pontotoc County.....	2
Claiborne County.....	2	Prentiss County.....	3
Clarke County.....	2	Quitman County.....	3
Clay County.....	3	Sharkey County.....	4
Coahoma County.....	15	Simpson County.....	3
Copiah County.....	3	Smith County.....	3
Covington County.....	2	Stone County.....	1
De Soto County.....	3	Sunflower County.....	1
Forrest County.....	6	Tallahatchie County.....	5
George County.....	4	Tate County.....	1
Hinds County.....	31	Tippah County.....	2
Holmes County.....	10	Tishomingo County.....	1
Humphreys County.....	6	Tunica County.....	9
Itawamba County.....	2	Union County.....	4
Jasper County.....	4	Walthall County.....	5
Jefferson Davis County.....	2	Warren County.....	3
Jones County.....	11	Washington County.....	9
Kemper County.....	1	Wayne County.....	2
Lamar County.....	2	Winston County.....	1
Lauderdale County.....	1	Yazoo County.....	7
Lawrence County.....	4	Total.....	313

City Reports for Week Ended Mar. 8, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.....	2	3	Mobile, Ala.....		1
Dallas, Tex.....	1	1	Nashville, Tenn.....		1
Galveston, Tex.....		1	New Orleans, La.....	1	1
Melrose, Mass.....	1	1	Raleigh, N. C.....		1
Memphis, Tenn.....		1			

PNEUMONIA.

Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.

	Cases.		Cases.
Fayetteville sanitary district, N. C.....	3	Camp Pike zone, Ark.....	8
Camp Funston zone, Kans.....	3	Camp Polk zone, N. C.....	1
Gas and flame school zone, Ga. and Ala.....	2	Camp Sherman zone, Ohio.....	5
Camp Gordon zone, Ga.....	2	Camp Zachary Taylor zone, Ky. and Ind.....	10
Camp A. A. Humphreys zone, Va.....	1	Tidewater health district, Va.....	1
Camp Lewis zone, Wash.....	1	Camp Upton zone, N. Y.....	4
Camp Merritt zone, N. J.....	4	Wilmington sanitary district, N. C.....	1
Picric acid plant zone, Ga.....	4		

City Reports for Week Ended Mar. 8, 1919.

Place.	Lobar.		All forms.	
	Cases.	Deaths.	Cases.	Deaths.
Adrian, Mich.....	1	1		
Akron, Ohio.....	2			
Ann Arbor, Mich.....	6			
Asbury Park, N. J.....	2	1		
Atlanta, Ga.....			1	13
Baltimore, Md.....	31	19		
Baton Rouge, La.....			4	1
Belleville, N. J.....	4			
Bloomfield, N. J.....	6	2		
Bluefield, W. Va.....	7			
Boston, Mass.....	55	22		
Brookline, Mass.....	2	1		
Brunswick, Ga.....	1	1		
Burlington, Vt.....	1			
Cambridge, Mass.....	1			
Camden, N. J.....	17			
Cape Girardeau, Mo.....	3	1		
Charleston, W. Va.....			7	4
Chelsea, Mass.....	1			
Chicago, Ill.....			434	125
Chillicothe, Ohio.....			4	3
Cleveland, Ohio.....	56	61		
Coffeyville, Kans.....	1			
Colorado Springs, Colo.....			4	
Cranston, R. I.....	1	1	2	2
Cumberland, Md.....	4	3		
Danville, Ill.....			8	6
Dayton, Ohio.....	6	6		
Detroit, Mich.....	6	34	22	62
Dover, N. H.....			1	1
Duluth, Minn.....	5	3		
Durham, N. C.....	2			
East Orange, N. J.....			7	1
Elizabeth, N. J.....	4	6		
Elmira, N. Y.....	3	7		
El Paso, Tex.....	11	11		
Englewood, N. J.....	4	1		
Everett, Mass.....	2	1		
Fall River, Mass.....	10	6		
Findlay, Ohio.....	11	1		
Fitchburg, Mass.....	2	1		
Flint, Mich.....	1	6		
Fort Worth, Tex.....	6			
Fremont, Nebr.....			1	
Fresno, Calif.....			12	1
Grand Rapids, Mich.....	9	2		
Greenfield, Mass.....	2	1		
Greenwich, Conn.....	1	1		
Hackensack, N. J.....	1	3		
Haverhill, Mass.....	3	2		
Highland Park, Mich.....	3			
Holyoke, Mass.....	3	2		
Jamestown, N. Y.....			8	1
Jersey City, N. J.....	4			
Joplin, Mo.....	2			
Kalamazoo, Mich.....	1			
Kansas City, Kans.....			4	
Kansas City, Mo.....	26	32		
Kearny, N. J.....	5	1		
Lackawanna, N. Y.....	8			
Lakewood, Ohio.....	2	2		

PNEUMONIA—Continued.

City Reports for Week Ended Mar. 8, 1919—Continued.

Place.	Lobar.		All forms.	
	Cases.	Deaths.	Cases.	Deaths.
Lawrence, Mass.	2			
Los Angeles, Calif.	2	2		
Louisville, Ky.	22	45		
Lowell, Mass.	1	2		
Ludington, Mich.	1			
Lynn, Mass.	2	3		
Manitowoc, Wis.			3	2
Mason City, Iowa			4	
Melrose, Mass.	1	1		
Montclair, N. J.			4	
Morgantown, W. Va.	3	2		
Morristown, N. J.			2	1
Mount Vernon, N. Y.	1	2		
Natick, Mass.	1			
Newark, N. J.	57	17		
New Bedford, Mass.	5	2		
New Britain, Conn.	3			
Newburgh, N. Y.	1	1		
Newburyport, Mass.	1	2		
New Orleans, La.	1	9		
Newton, Mass.	1	1		
New York, N. Y.		237	443	492
Northampton, Mass.	1			
North Tonawanda, N. Y.	5			
Norwood, Ohio.	3	4		
Oakland, Calif.			1	4
Orange, N. J.	2	2		
Ossining, N. Y.	1	1		
Palestine, Tex.	4	4		
Passaic, N. J.	4			
Paterson, N. J.	47			
Philadelphia, Pa.	130	66		
Phillipsburg, N. J.	1	1		
Pontiac, Mich.	2			
Port Chester, N. Y.	1	3		
Reno, Nev.	4	3		
Richmond, Va.	1	6		
Roanoke, Va.	2	1		
Rochester, N. Y.	11	7		
Sacramento, Calif.	1		2	
Saginaw, Mich.	2	4		
Salem, Mass.	6	5		
San Antonio, Tex.	11	6		
San Diego, Calif.	1	1		
Sandusky, Ohio.			5	
San Francisco, Calif.	9	9		
Santa Cruz, Calif.	1			
Schenectady, N. Y.	3			
Somerville, Mass.	1			
Springfield, Mass.	16	2		
Steubenville, Ohio.	1			
Toledo, Ohio.	2	8		
Trenton, N. J.	2	2		
Tuscaloosa, Ala.	1			
Westfield, Mass.	2			
West Orange, N. J.	2			
Winston-Salem, N. C.	4	2		
Worcester, Mass.			6	
Yonkers, N. Y.	7	7		

POLIOMYELITIS (INFANTILE PARALYSIS).**State Reports for January and February, 1919.**

Place.	New cases reported.	Place.	New cases reported.
California (January):		Michigan (February):	
Alameda County—		Wayne County—	
Oakland.....	1	Detroit.....	3
San Francisco.....	1		
Total.....	2	Mississippi (February):	
Connecticut (February):		Adams County.....	4
Fairfield County—		Lee County.....	3
Bridgeport.....	1	Total.....	7
Illinois (February):		New Jersey (February):	
Cook County—		Hudson County.....	1
Chicago.....	3		
Will County—		Ohio (February):	
Crete.....	1	Carroll County.....	1
Total.....	4	Franklin County.....	2
Louisiana (February):		Hamilton County.....	1
Claiborne Parish.....	1	Montgomery County.....	2
		Portage County.....	1
		Total.....	7

City Reports for Week Ended Mar. 8, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Boston, Mass.....	1	1	Oakland, Calif.....	1	1
Covington, Ky.....	1	1	Passaic, N. J.....	1	1
Minneapolis, Minn.....	1	1			

RABIES IN ANIMALS.**City Reports for Week Ended Mar. 8, 1919.**

During the week ended March 8, 1919, rabies in animals was reported in cities as follows: Colorado Springs, Colo., 1 case; Kansas City, Mo., 1 case; Memphis, Tenn., 2 cases; Rochester, N. Y., 1 case.

SCARLET FEVER.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

Cases.	Cases.
Camp Devens zone, Mass.....	1
Camp Dodge zone, Iowa.....	12
Camp Funston zone, Kans.....	8
Gas and Flame School zone, Ga. and Ala.....	1
Camp Gordon zone, Ga.....	7
Camp Lee zone, Va.....	1
Camp Merritt zone, N. J.....	1
Camp Pike zone, Ark.....	4
Portsmouth and Norfolk County health district, Va.....	6
Camp Zachary Taylor zone, Ky. and Ind.....	15
Tidewater health district, Va.....	4
Camp Travis zone, Tex.....	2
Wilmington sanitary district, N. C.....	1

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 661.

SMALLPOX.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

Cases.	Cases.
Camp Dodge zone, Iowa.....	3
Fayetteville sanitary district, N. C.....	2
Gas and Flame School zone, Ga. and Ala.....	9
Camp Gordon zone, Ga.....	48
Muscle Shoals sanitary district, Ala.....	2
Camp Pike zone, Ark.....	3
Camp Polk zone, N. C.....	2
Portsmouth and Norfolk County health district, Va.....	13
Camp Zachary Taylor zone, Ky. and Ind.....	4
Tidewater health district, Va.....	1
Camp Travis zone, Tex.....	2

SMALLPOX—Continued.

State Reports for January and February, 1919—Vaccination Histories.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
California (January):						
Alameda County—						
Berkeley.....	2					2
Alameda.....	1			1		
Oakland.....	1				1	
Butte County.....	3				3	
Chico.....	2				2	
Fresno County.....	5				5	
Imperial County.....	1				1	
Kern County.....	1			1		
Los Angeles County.....	1				1	
Long Beach.....	13		1	1	11	
Los Angeles.....	8		1	2	5	
Monterey County.....	5			1	1	3
Orange County.....	1				1	
Santa Ana.....	1				1	
Riverside County.....	1				1	
San Bernardino County.....	1			1		
San Bernardino.....	3				3	
San Benito County.....	3				3	2
San Diego County.....	3				3	
San Francisco.....	15		2		13	
San Mateo County—						
Daly City.....	1			1		
Santa Clara County.....	6				6	
San Jose.....	1				1	
Santa Cruz County.....	4		1		3	
Watsonville.....	23				23	
Siskiyou County—						
Sisson.....	1				1	
Tehama County—						
Red Bluff.....	1				1	
Tulare County.....	1				1	
Visalia.....	3				1	2
Total.....	109		5	8	87	9
Michigan (February):						
Allegan County—						
Casco Township.....	5				5	
Berrien County—						
New Buffalo.....	1				1	
Weesaw Township.....	1					1
Calhoun County—						
Battle Creek.....	1				1	
Clare County—						
Harrison.....	4				4	
Eaton County—						
Walton Township.....	1				1	
Genesee County—						
Flint.....	1					1
Gogebic County—						
Ironwood.....	5		1		4	
Houghton County—						
South Range.....	4		1		3	
Ingham County—						
East Lansing.....	2		2			
Lansing.....	33				27	6
Ionia County—						
Odessa Township.....	1				1	
Jackson County—						
Blackman Township.....	1					1
Jackson.....	1					1
Kalamazoo County—						
Alamo Township.....	1				1	
Cooper Township.....	1				1	
Kalamazoo Township.....	3				3	
Kalamazoo.....	7				6	1
Kent County—						
Grand Rapids.....	2					2

SMALLPOX—Continued.

State Reports for January and February, 1919—Vaccination Histories—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases			
			Number vaccinated, within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Michigan (February)—Continued.						
Keweenaw County—						
Allouez Township.....	7				7	
Ahmeek.....	7				5	2
Lenawee County—						
Adrian Township.....	2				2	
Fairfield Township.....	4				4	
Palmyra Township.....	1				1	
Rome Township.....	2			1	1	
Mason County—						
Pere Marquette Township.....	1			1		
Ludington.....	2				2	
Menominee County—						
Menominee.....	5				3	2
Midland County—						
Ingersoll Township.....	5				5	
Lincoln Township.....	1					1
Coleman.....	2				2	
Montcalm County—						
Fairplains Township.....	2				2	
Oakland County—						
Holly Township.....	2		1		1	
Holly.....	3				3	
Pontiac.....	1				1	
Oceana County—						
Golden Township.....	1		1			
Ogemaw County—						
Edwards Township.....	3				3	
Van Buren County—						
Paw Paw Township.....	1					1
Wayne County—						
Highland Park.....	1				1	
Detroit.....	15					15
Total.....	143		6	2	101	34
Minnesota (February):						
Anoka County—						
Columbia Heights.....	5				5	
Beltrami County—						
Bemidji.....	1				1	
Blue Earth County—						
Mankato.....	1					1
Cass County—						
Pine River.....	2				1	1
Faribault County—						
Blue Earth.....	4					4
Freeborn County—						
Bath Township.....	1				1	
Hennepin County—						
Minneapolis.....	29			8	21	
Kanabec County—						
Comfort Township.....	8			2	5	1
Peace Township.....	1				1	
McLeod County—						
Hutchinson.....	1		1			
Norman County—						
Twin Valley.....	7		5	2		
Hendrum Township.....	2			1	1	
Waukon Township.....	1				1	
Olmsted County—						
Rochester.....	1					1
Ottertail County—						
Fergus Falls.....	1				1	
Perham.....	1					1
Richville.....	13			1	12	
Pennington County—						
Rocksbury Township.....	1				1	
Folk County—						
Crookston Township.....	5				5	

SMALLPOX—Continued.

State Reports for January and February, 1919—Vaccination Histories—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within seven years preceding attack.	Number last vaccinated more than seven years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
Minnesota—(February)—Continued.						
Ramsey County—						
St. Paul.....	87				87	
Rice County—						
Webster Township.....	4				4	
Rock County—						
Luverne.....	5				5	
Luverne Township.....	1				1	
Springwater Township.....	1				1	
St. Louis County—						
Duluth.....	14				14	
Scott County—						
Shakopee.....	13				13	
Sherburne County—						
Haven Township.....	2				2	
Stearns County—						
St. Cloud.....	1				1	
Todd County—						
Staples.....	1				1	
Wabasha County—						
Watopa Township.....	3				3	
Waseca County—						
Janesville Township.....	1				1	
Wilkin County—						
Breckenridge.....	2				2	
Wright County—						
Cokato.....	1				1	
Total.....	221		6	14	192	9
New Jersey (February):						
Burlington County.....	2				2	
Ohio (February):						
Belmont County.....	3		2			1
Butler County.....	103			2	59	42
Champaign County.....	1					1
Clermont County.....	1				1	
Clinton County.....	1					1
Coshocton County.....	19				4	6
Crawford County.....	2				2	
Cuyahoga County.....	26					26
Darke County.....	1			1		
Fayette County.....	1				1	
Franklin County.....	6		1		4	1
Fulton County.....	4					4
Guernsey County.....	2					2
Hamilton County.....	20				5	15
Harrison County.....	1					1
Highland County.....	3					3
Holmes County.....	1					1
Jefferson County.....	5				5	
Knox County.....	1			1		
Lorain County.....	9				3	6
Lucas County.....	4					3
Mahoning County.....	17				1	16
Miami County.....	17		1		9	7
Montgomery County.....	37			1	30	6
Muskingum County.....	6				5	1
Sandusky County.....	8				5	3
Scioto County.....	4				4	
Seneca County.....	7				2	5
Stark County.....	7					7
Summit County.....	2					2
Trumbull County.....	3				3	
Tuscarawas County.....	33			3	26	4
Warren County.....	11			1	8	2
Wood County.....	3					3
Wyandot County.....	1					1
Total.....	361		4	9	178	170

SMALLPOX—Continued.

State Reports for January and February, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Illinois (February):			Illinois (February)—Continued.		
Bond County—			Will County—		
Shoal Creek Township..	2	.....	Joliet.....	2	.....
Brown County—			Winnebago County—		
Mount Sterling.....	7	.....	Rockford.....	10	.....
Pea Ridge Township..	1	.....	State institutions—		
Bureau County—			Soldiers' Orphan Home		
Spring Valley.....	1	.....	Normal.....	3	.....
Champaign County—			Total.....	244	.....
Urbana.....	5	.....			
Christian County—			Louisiana (February):		
Greenwood Township..	2	.....	Acadia Parish.....	2	.....
Palmer.....	1	.....	Allen Parish.....	6	.....
Taylorville.....	1	.....	Avoyelles Parish.....	2	.....
Clark County—			Beauregard Parish.....	34	.....
Marshall.....	1	.....	Caddo Parish.....	8	.....
Cook County—			Calcasieu Parish.....	31	.....
Arlington Heights.....	17	.....	Evangeline Parish.....	3	.....
Chicago.....	5	.....	Iberia Parish.....	1	.....
Elk Grove Township..	1	.....	Jefferson Parish.....	1	.....
Evanston.....	2	.....	Jefferson Davis Parish.....	14	.....
Maine Township.....	2	.....	Lafayette Parish.....	7	.....
Wheeling Township..	3	.....	Livingston Parish.....	11	.....
Fayette County—			Morehouse Parish.....	4	.....
St. Elmo.....	2	.....	Natchitoches Parish.....	24	.....
Fulton County—			Ouachita Parish.....	1	.....
Canton.....	1	.....	Orleans Parish.....	9	.....
Kane County—			Rapides Parish.....	1	.....
Elgin.....	15	.....	Richland Parish.....	12	.....
Elgin Township.....	1	.....	St. Landry Parish.....	6	.....
Hanover Township..	1	.....	Vermilion Parish.....	39	.....
Knox County—			Winn Parish.....	1	.....
Galesburg.....	2	.....	Total.....	217	.....
Knox Township.....	1	.....			
Knoxville.....	1	.....	Maine (February):		
La Salle County—			Androscoggin County—		
Earlville.....	1	.....	Lewiston.....	1	.....
Lee County—			Aroostook County—		
Amboy.....	1	.....	Frenchville (town).....	14	.....
Logan County—			Madawaska (town).....	8	.....
Atlanta.....	1	.....	Fort Kent (town).....	7	.....
Mount Pulaski Town-			Guerette.....	24	.....
ship.....	1	.....	Piscataquis County—		
Madison County—			Katahdin Iron Works..	2	.....
Alton.....	3	.....	Total.....	56	.....
Madison.....	1	.....			
Marion County—			Mississippi (February):		
Odin.....	4	.....	Alcorn County.....	1	.....
Salem.....	22	.....	Attala County.....	8	.....
Stevenson Township..	1	.....	Bolivar County.....	40	.....
Mason County—			Carroll County.....	2	.....
Havana.....	2	.....	Chickasaw County.....	5	.....
McLean County—			Clarke County.....	20	.....
Bloomington.....	4	.....	Clay County.....	4	.....
Normal.....	6	.....	Coahoma County.....	1	.....
Montgomery County—			Holmes County.....	7	.....
Hillsboro.....	20	.....	Humphreys County.....	2	.....
Schram City.....	9	.....	Jones County.....	5	.....
Morgan County—			Lauderdale County.....	15	.....
Jacksonville.....	1	.....	Lawrence County.....	3	.....
Peoria County—			Leake County.....	7	.....
Kingston Mines.....	1	.....	Lefflore County.....	8	.....
Peoria.....	13	.....	Madison County.....	15	.....
Perry County—			Neshoba County.....	7	.....
Du Quoin precinct.....	1	.....	Pearl River County.....	3	.....
Pulaski County—			Perry County.....	15	.....
America Township.....	9	.....	Pike County.....	4	.....
Rock Island County—			Rankin County.....	1	.....
Milan.....	1	.....	Sharkey County.....	5	.....
Saugamon County—			Simpson County.....	2	.....
Springfield.....	7	.....	Stone County.....	1	.....
St. Clair County—			Sunflower County.....	2	.....
O'Fallon.....	1	.....	Tallahatchie County.....	8	.....
O'Fallon Township.....	1	.....	Tippah County.....	15	.....
Tazewell County—					
Pekin.....	40	.....			
South Pekin.....	1	.....			
Tremont Township.....	2	.....			

SMALLPOX—Continued.

State Reports for January and February, 1919—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Mississippi (February)—Contd.			Oregon (February):		
Tishomingo County.....	2		Clackamas County.....	4	
Tunica County.....	1		Jackson County.....	2	
Warren County.....	3		Lane County.....	1	
Wayne County.....	1		Linn County.....	1	
Yalobusha County.....	7		Marion County.....	18	
Total.....	220		Morrow County.....	1	
			Umatilla County.....	1	
Montana (February):			Portland.....	39	
Beaverhead County.....	3		Total.....	67	
Cascade County.....	1				
Great Falls.....	2		Washington (January):		
Custer County.....	1		Adams County—		
Dawson County.....	3		Ritzville.....	1	
Deerlodge County—			Grant County—		
Anaconda.....	2		Quincy.....	4	
Fergus County.....	1		Grays Harbor—		
Lewistown.....	6		Hoquiam.....	2	
Flathead County.....	1		King County.....	3	
Kalispell.....	1		Kirkland.....	3	
Granite County.....	29		Seattle.....	27	
Lewis and Clark County—			Kittitas County.....	10	
Helena.....	1		Ellensburg.....	2	
Missoula County—			Okanogan County.....	1	
Missoula.....	1		Pierce County.....	2	
Ravalli County.....	1		Puyallup.....	4	
Sheridan County.....	3		Tacoma.....	10	
Silver Bow County—			Skamania County.....	1	
Butte.....	6		Spokane County.....	1	
Stillwater County.....	7		Hillyard.....	1	
Teton County.....	1		Rockford.....	6	
Toole County.....	1		Spokane.....	19	
Wheatland County.....	5		Stevens County—		
Yellowstone County—			Colville.....	1	
Billings.....	3		Thurston County.....	4	
Total.....	79		Olympia.....	3	
			Whitman County—		
North Carolina (February):			Palouse.....	1	
Alamance County.....	1		Yakima County.....	21	
Anson County.....	5		Grant.....	1	
Ashe County.....	3		Yakima.....	39	
Beaufort County.....	6		Total.....	158	
Bertie County.....	2				
Cabarrus County.....	8		West Virginia (February):		
Cherokee County.....	1		Braxton County.....	3	
Durham County.....	1		Brooke County.....	3	
Forsyth County.....	64		Cabell County.....	2	
Gaston County.....	11		Fayette County.....	1	
Graham County.....	2		Greenbrier County.....	12	
Guilford County.....	28		Jefferson County.....	1	
Harnett County.....	1		Kanawha County.....	17	
Hertford County.....	1		Logan County.....	1	
Iredell County.....	1		McDowell County.....	7	
Lenoir County.....	1		Marion County.....	3	
Lincoln County.....	1		Mason County.....	13	
Mecklenburg County.....	2		Mercer County.....	10	
Montgomery County.....	4		Mingo County.....	4	
Perquimans County.....	8		Putnam County.....	13	
Pitt County.....	6		Raleigh County.....	15	
Randolph County.....	9		Randolph County.....	2	
Rockingham County.....	5		Wayne County.....	1	
Rowan County.....	3		Wyoming County.....	31	
Rutherford County.....	4		Total.....	130	
Stanly County.....	7				
Surry County.....	3				
Wake County.....	10				
Washington County.....	1				
Wilkes County.....	1				
Yadkin County.....	2				
Total.....	202				

SMALLPOX—Continued.

City Reports for Week Ended Mar. 8, 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Adrian, Mich.	5	.....	Louisville, Ky.	2	.....
Alameda, Calif.	1	.....	Madison, Wis.	1	.....
Ann Arbor, Mich.	1	.....	Marinette, Wis.	1	.....
Atchison, Kans.	12	.....	Memphis, Tenn.	8	.....
Atlanta, Ga.	31	.....	Middletown, Ohio.	2	.....
Baltimore, Md.	6	.....	Milwaukee, Wis.	4	.....
Bangor, Me.	1	.....	Minneapolis, Minn.	11	.....
Bedford, Ind.	2	.....	Mobile, Ala.	1	.....
Beloit, Wis.	5	.....	Moline, Ill.	1	.....
Billings, Mont.	1	.....	Muskogee, Okla.	2	.....
Birmingham, Ala.	3	.....	Nashville, Tenn.	1	.....
Bluefield, W. Va.	2	.....	New Orleans, La.	1	.....
Brunswick, Ga.	2	.....	Norfolk, Va.	4	.....
Camden, N. J.	1	.....	Oakland, Calif.	1	.....
Cape Girardeau, Mo.	3	.....	Ogden, Utah.	13	.....
Cedar Rapids, Iowa.	11	.....	Oklahoma City, Okla.	14	.....
Centralia, Ill.	4	.....	Omaha, Nebr.	21	.....
Chanute, Kans.	7	.....	Palatine, Tex.	10	.....
Charleston, W. Va.	2	.....	Pekin, Ill.	7	.....
Chicago, Ill.	2	.....	Peoria, Ill.	8	.....
Cincinnati, Ohio.	4	.....	Portland, Oreg.	12	.....
Cleveland, Ohio.	2	.....	Racine, Wis.	4	.....
Council Bluffs, Iowa.	4	.....	Raleigh, N. C.	1	.....
Covington, Ky.	1	.....	Redlands, Calif.	2	.....
Dallas, Tex.	8	.....	Roanoke, Va.	2	.....
Davenport, Iowa.	16	.....	Rockford, Ill.	1	.....
Denver, Colo.	7	.....	Sacramento, Calif.	1	.....
Des Moines, Iowa.	3	.....	St. Cloud, Minn.	1	.....
Dubuque, Iowa.	1	.....	St. Joseph, Mo.	6	.....
Duluth, Minn.	2	.....	St. Louis, Mo.	3	.....
Durham, N. C.	2	.....	St. Paul, Minn.	20	.....
Eau Claire, Wis.	4	.....	Salt Lake City, Utah.	3	.....
Elgin, Ill.	3	.....	San Antonio, Tex.	3	.....
Fort Worth, Tex.	6	.....	San Francisco, Calif.	20	.....
Grand Forks, N. Dak.	1	.....	Seattle, Wash.	13	.....
Grand Rapids, Mich.	2	.....	Sioux City, Iowa.	4	.....
Greeley, Colo.	3	.....	South Bend, Ind.	3	.....
Greenville, S. C.	1	.....	Steubenville, Ohio.	3	.....
Houston, Tex.	1	.....	Superior, Wis.	3	.....
Hutchinson, Kans.	1	.....	Tacoma, Wash.	7	.....
Indianapolis, Ind.	1	.....	Toledo, Ohio.	7	.....
Joplin, Mo.	1	.....	Washington, D. C.	1	.....
Kalamazoo, Mich.	2	.....	Wheeling, W. Va.	1	.....
Kansas City, Kans.	7	.....	Winston-Salem, N. C.	26	.....
La Fayette, Ind.	1	.....	Yakima, Wash.	14	.....
Lincoln, Nebr.	12	.....	Younestown, Ohio.	11	.....
Logansport, Ind.	1	.....	Zanesville, Ohio.	3	.....
Los Angeles, Calif.	1	.....			

SYPHILIS.

Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.

Cases.	Cases.
Camp Dodge zone, Iowa.	1
Gas and Flame school zone, Ga. and Ala.	2
Camp Gordon zone, Ga.	43
Gulfport health district, Miss.	1
Camp A. A. Humphreys zone, Va.	1
Camp Jackson zone, S. C.	25
Camp Lee zone, Va.	6
Muscle Shoals sanitary district, Ala.	7
Picric Acid plant zone, Ga.	3
Camp Pike zone, Ark.	21
Camp Polk zone, N. C.	4
Camp Sheridan zone, Ala.	16
Camp Sherman zone, Ohio.	2
Camp Zachary Taylor zone, Ky. and Ind.	33
Tidewater health district, Va.	3
Camp Travis zone, Tex.	5

TETANUS.

City Reports for Week Ended Mar. 8, 1919.

During the week ended March 8, 1919, tetanus was reported as follows: Mobile, Ala., 2 deaths; San Diego, Cal., 1 case and 1 death; Trenton, N. J., 1 death.

TUBERCULOSIS.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

	Cases.		Cases.
Camp Devens zone, Mass.....	3	Picric Acid plant zone, Ga.....	1
Gas and Flame school zone, Ga. and Ala.....	1	Camp Pike zone, Ark.....	1
Camp Gordon zone, Ga.....	4	Camp Polk zone, N. C.....	1
Gulfport health district, Miss.....	1	Portsmouth and Norfolk County health district, Va.....	1
Camp A. A. Humphreys zone, Va.....	1	Camp Zachary Taylor zone, Ky. and Ind.....	7
Camp Jackson zone, S. C.....	2	Tidewater health district, Va.....	1
Camp Lee zone, Va.....	1	Camp Travis zone, Tex.....	1
Muscle Shoals sanitary district, Ala.....	2		

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 661.

TYPHOID FEVER.**Cases Reported in Extra-Cantonment Zones, Week Ended Mar. 22, 1919.**

	Cases.		Cases.
Camp A. A. Humphreys zone, Va.....	2	Camp Zachary Taylor zone, Ky. and Ind.....	3
Camp Pike zone, Ark.....	1	Wilmington sanitary district, N. C.....	2

State Reports for January and February, 1919.

Place.	New cases reported.	Place.	New cases reported.
California (January):		Illinois (February)—Continued.	
Alameda County—		Washington County—	
Berkeley.....	5	Nashville.....	1
Oakland.....	3	Williamson County—	
Los Angeles County.....	3	Johnson City.....	1
Long Beach.....	1	Winnebago County—	
Los Angeles.....	12	Rockford.....	2
Riverside County—		State Institutions—	
Corona.....	1	Jacksonville School for Deaf.....	4
Riverside.....	1	Total.....	27
Sacramento County—		Louisiana (February):	
Sacramento.....	1	Beauregard Parish.....	2
San Francisco.....	5	Caddo Parish.....	2
San Bernardino County—		Jefferson Parish.....	3
San Bernardino.....	1	Natchitoches Parish.....	1
Total.....	33	Orleans Parish.....	2
Connecticut (February):		Rapides Parish.....	1
Fairfield County—		Vermillion Parish.....	1
Danbury.....	1	Webster Parish.....	1
New Haven County—		Total.....	13
Meriden.....	1	Maine (February):	
New Haven.....	3	Cumberland County—	
New London County—		Portland.....	2
Groton.....	1	Piscataquis County—	
Total.....	6	Dover (town).....	2
Illinois (February):		Foxcroft (town).....	3
Brown County—		Sagadahoc County—	
Buckhorn township.....	1	Bath.....	1
Cook County—		Total.....	8
Chicago.....	7	Michigan (February):	
DeKalb County—		Clinton County—	
Sandwich.....	2	Bingham Township.....	1
Knox County—		Eaton County—	
Galesburg.....	2	Grand Ledge.....	2
Lake County—		Grand Traverse County—	
North Chicago.....	1	Traverse City.....	3
La Salle County—		Gratiot County—	
Oglesby.....	1	Alma.....	1
Peru.....	1	Ingham County—	
Macon County—		Lansing.....	1
Decatur.....	1	Leelanau County—	
Randolph County—		Elmwood Township.....	1
Sparta.....	1	Lenawee County—	
Shelby County—		Macon Township.....	4
Moweaqua.....	1		
St. Clair County—			
Summerfield.....	1		

TYPHOID FEVER—Continued.

State Reports for January and February, 1919—Continued.

Place.	New cases reported.	Place.	New cases reported.
Michigan (February)—Continued.		New York (February)—Continued.	
Livingston County—		Camden County.....	1
Cohoctah Township.....	1	Cumberland County.....	1
Monroe County—		Essex County.....	4
Bedford Township.....	1	Middlesex County.....	1
Tuscola County—		Monmouth County.....	1
Novesta Township.....	2	Ocean County.....	1
Total.....	17	Passaic County.....	1
		Union County.....	2
		Warren County.....	1
		Total.....	16
Minnesota (February):		North Carolina (February):	
Carlton County—		Cabarrus County.....	1
Carlton.....	1	Clay County.....	1
Hennepin County—		Cleveland County.....	1
Minneapolis.....	2	Columbus County.....	1
Itasca County—		Craven County.....	1
Coleraine.....	1	Durham County.....	1
Koochiching County—		Halifax County.....	1
International Falls.....	2	Jackson County.....	2
Marshall County—		Johnston County.....	1
Warren.....	1	Lenoir County.....	1
Ramsey County—		Mecklenburg County.....	1
St. Paul.....	1	Mitchell County.....	1
Rice County—		Pamlico County.....	6
Faribault.....	2	Pitt County.....	3
St. Louis County—		Rockingham County.....	2
Hibbing.....	1	Sampson County.....	1
Kinney.....	8	Stanley County.....	5
Soudan.....	1	Total.....	30
Tower.....	1		
Scott County—		Ohio (February):	
Shakopee.....	1	Allen County.....	2
Watonwan County—		Ashtabula County.....	1
Madelia.....	1	Athens County.....	1
Total.....	23	Belmont County.....	3
		Butler County.....	1
Mississippi (February):		Clinton County.....	1
Alcorn County.....	1	Coshocton County.....	2
Amite County.....	1	Crawford County.....	1
Attala County.....	1	Cuyahoga County.....	5
Bolivar County.....	3	Fairfield County.....	1
Calhoun County.....	1	Franklin County.....	1
Carroll County.....	1	Fulton County.....	5
Chickasaw County.....	4	Gallia County.....	1
Choctaw County.....	12	Guernsey County.....	2
Forrest County.....	1	Hamilton County.....	4
Franklin County.....	11	Highland County.....	1
Hancock County.....	1	Lawrence County.....	8
Harrison County.....	6	Licking County.....	1
Hinds County.....	5	Lorain County.....	1
Jefferson County.....	1	Lucas County.....	4
Kemper County.....	2	Meigs County.....	1
Lafayette County.....	1	Montgomery County.....	1
Lawrence County.....	1	Pickaway County.....	3
Leake County.....	3	Portage County.....	6
Lincoln County.....	3	Sandusky County.....	1
Madison County.....	4	Seneca County.....	1
Marion County.....	1	Shelby County.....	1
Marshall County.....	3	Summit County.....	6
Montgomery County.....	3	Trumbull County.....	1
Panola County.....	2	Tuscarawas County.....	7
Sunflower County.....	2	Union County.....	2
Tate County.....	1	Warren County.....	2
Tishomingo County.....	1	Washington County.....	1
Tunica County.....	1	Wood County.....	1
Warren County.....	2	Total.....	80
Washington County.....	4		
Webster County.....	2	Oregon (February):	
Winston County.....	3	Lanc County.....	1
Yalobusha County.....	2	Portland.....	2
Yazoo County.....	1	Total.....	3
Total.....	91		
New Jersey (February):			
Atlantic County.....	1		
Burlington County.....	2		

TYPHOID FEVER—Continued.**State Reports for January and February, 1919—Continued.**

Place.	New cases reported.	Place.	New cases reported.
Washington (January):		West Virginia (February)—Continued.	
Ferry County—		Gilmer County.....	1
Republic.....	1	Greenbrier County.....	4
Pierce County.....	3	Jackson County.....	1
Walla Walla County—		Kanawha County.....	8
Walla Walla.....	1	Logan County.....	1
Wattsburg.....	2	Monongalia County.....	1
Yakima County—		Monroe County.....	2
Yakima.....	5	Ritchie County.....	1
Total.....	12	Summers County.....	2
		Upshur County.....	2
West Virginia (February):		Wirt County.....	1
Braxton County.....	4	Total.....	30
Fayette County.....	2		

City Reports for Week Ended Mar. 8; 1919.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Austin, Tex.....	1		Malden, Mass.....	1	
Baltimore, Md.....	3	1	Memphis, Tenn.....		1
Birmingham, Ala.....		1	Middle town, Ohio.....		1
Bluefield, W. Va.....	1		Moline, Ill.....		1
Boston, Mass.....	2	1	Montgomery, Ala.....	1	1
Charleston, W. Va.....	1		Newark, N. J.....	1	
Chelsea, Mass.....	1		New Orleans, La.....	1	1
Chicago, Ill.....	2		New York, N. Y.....	5	2
Clarksburg, W. Va.....	1		Oakland, Calif.....	4	
Covington, Ky.....	1		Philadelphia, Pa.....	3	
Dayton, Ohio.....	1	1	Portland, Oreg.....	2	
Detroit, Mich.....	1		Richmond, Va.....	1	
Fall River, Mass.....	2		Riverside, Calif.....	1	
Galveston, Tex.....	2	1	St. Louis, Mo.....	1	
Independence, Mo.....	2		San Antonio, Tex.....	2	1
Ironton, Ohio.....	2		San Francisco, Calif.....	2	
Jamestown, N. Y.....	1		Syracuse, N. Y.....	5	
Kansas City, Mo.....		1	Toledo, Ohio.....	2	
La Crosse, Wis.....	1		Watertown, N. Y.....		1
Lawrence, Mass.....	5		Wausau, Wis.....	5	
Long Beach, Calif.....	1		Wilmington, Del.....		1
Louisville, Ky.....	1	1			

TYPHUS FEVER.**City Report for Week Ended Mar. 8, 1919.**

One case of typhus fever was reported at New Orleans, La., during the week ended March 8, 1919.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.**State Reports for January and February, 1919.**

State.	Cases reported.			State.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
California (January).....	208	81	218	New Jersey (February).....	649	191	388
Connecticut (February).....	258	671	242	North Carolina (February).....	72	543	46
Illinois (February).....	687	692	499	Ohio (February).....	380	692	547
Louisiana (February).....	38	32	12	Oregon (February).....	24	12	25
Maine (February).....	11	18	35	Rhode Island (February).....	120	5	41
Michigan (February).....	646	197	438	Washington (January).....	85	57	168
Minnesota (February).....	334	135	330	West Virginia (February).....	57	68	52
Mississippi (February).....	63	432	76				
Montana (February).....	36	29	167				

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

City Reports for Week Ended Mar. 8, 1919.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Abilene, Tex.	14,954	1	3	1			2			
Adams, Mass.	14,406	2								1
Adrian, Mich.	11,570	4					2			
Akron, Ohio.	93,604	32	2		36		3			
Alameda, Cal.	28,433	6	3							
Alton, Ill.	23,783	12								
Anderson, Ind.	24,230	8								1
Ann Arbor, Mich.	15,041	15	1	1			1			
Ansonia, Conn.	16,954	10								
Appleton, Wis.	18,005	1	1				1			
Arlington, Mass.	13,073	9							1	
Asbury Park, N. J.	14,629	1	1							
Ashtabula, Ohio.	22,608	6								
Atchison, Kans.	16,785		1							
Atlanta, Ga.	196,144	60			7		4			6
Atlantic City, N. J.	59,515	15			1		2		1	
Attleboro, Mass.	19,776	2	1							
Auburn, N. Y.	37,823	6					2		2	
Austin, Tex.	35,612	8	1	1			2		1	5
Bakersfield, Cal.	17,543	6	1						1	
Baltimore, Md.	594,637	254	30	3	11		158	2	60	32
Barre, Vt.	12,401	1								
Baton Rouge, La.	17,544	9	2		4				3	1
Battle Creek, Mich.	30,159		10		1		4			
Bayonne, N. J.	72,204		4				1		1	
Beaumont, Tex.	28,851	13	4				1			1
Bedford, Ind.	10,613	1								
Bellaire, Ohio.	14,575	14							1	
Bellefonte, N. J.	12,797		1				3		1	
Beloit, Wis.	18,547	5					3			1
Benton Harbor, Mich.	11,099	1	1							
Beverly, Mass.	22,128	3							1	
Riddelford, Me.	17,760	6								
Billings, Mont.	15,123		1				7	1		
Birmingham, Ala.	189,716	72			8		3		5	3
Bloomfield, N. J.	19,013						1			
Bloomington, Ind.	11,661		2							
Bluefield, W. Va.	16,123						2			
Boston, Mass.	767,813	300	56	4	5		44	1	63	30
Brazil, Ind.	10,472	5								
Bridgeport, Conn.	124,721	51	8		7		1		2	5
Bristol, Conn.	16,318	7	2	1					1	
Brockton, Mass.	69,152	13	6						3	1
Brookline, Mass.	33,526	7	2		5		2			
Brunswick, Ga.	10,884	4			13				3	
Buffalo, N. Y.	475,781	162	45	5	35	1	22	1	23	9
Burlington, Iowa.	25,144	13								
Burlington, Vt.	21,802	16			51	1	1		1	
Cadillac, Mich.	10,158	2								
Cairo, Ill.	15,995	6		1						
Cambridge, Mass.	114,293	36	3		9		1		6	4
Camden, N. J.	108,117		5		1		6		3	
Canton, Ohio.	62,566	17			3		1		2	1
Cape Girardeau, Mo.	11,146	1					2			
Cedar Rapids, Iowa.	38,023						1			
Champaign, Ill.	15,032	2								
Charute, Kans.	12,968	4								
Charleston, S. C.	61,061	23			1					2
Charleston, W. Va.	31,060	9							1	1
Charlotte, N. C.	40,759	16			15				1	1
Chelsea, Mass.	48,405	10			2	1	2		3	
Cheyenne, Wyo.	11,320				2					
Chicago, Ill.	2,547,201	854	140	10	272	2	81	5	262	82
Chicopee, Mass.	29,950	7	2							
Chillicothe, Ohio.	15,625	6	1							1
Cincinnati, Ohio.	414,248	217	8	1	11		14		11	18
Clarkburg, W. Va.	12,969		5				1			
Cleveland, Ohio.	682,259	199	17	2	6		6		22	20
Clinton, Iowa.	27,678						1			
Clinton, Mass.	13,075	5							1	2
Coffeyville, Kans.	18,331						1		2	
Cohoes, N. Y.	25,292	16					7			

1 Population Apr. 15, 1910.

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

City Reports for Week Ended Mar. 8, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Colorado Springs, Colo.	38,965	9					3			5
Columbia, S. C.	35,165		1		3		1			
Columbus, Ohio.	220,135	87			4		6		7	9
Concord, N. H.	22,858	11							1	
Corpus Christi, Tex.	10,789	2								
Council Bluffs, Iowa	31,838	22	1	1			3			
Covington, Ky.	59,623	23	1				3		3	3
Cranston, R. I.	26,773	8								
Cumberland, Md.	26,666	9	4		48					1
Dallas, Tex.	129,738	35	4		1				1	1
Danbury, Conn.	22,931	8			1					
Danville, Ill.	32,969	15							11	
Danville, Va.	20,183	2								
Davenport, Iowa.	49,618		2				2			
Dayton, Ohio.	128,939	58	2				2			
Denver, Colo.	288,439	93	8		1		8			22
Des Moines, Iowa.	104,052		3		2		15			
Detroit, Mich.	619,648	298	79	1	17		46	2	25	15
Dover, N. H.	13,276									2
Duluth, Minn.	97,077	14	5		5				4	
Durham, N. C.	26,160	5			1				1	
East Chicago, Ind.	30,286	4								
East Liverpool, Ohio.	22,941	8								
East Orange, N. J.	43,761	1	1		3				1	
East Providence, R. I.	18,485						5			
Eau Claire, Wis.	18,887				7		1			
Elgin, Ill.	28,562	13			1		1		1	
Elizabeth, N. J.	88,830	33	9	1			3		4	5
Elmira, N. Y.	38,272	24	1		6				1	
El Paso, Tex.	69,149	35			5		6			6
Englewood, N. J.	12,603	1	1				1		2	
Escanaba, Mich.	15,854	1								
Eureka, Calif.	15,142	4								
Evansville, Ind.	29,374	10					2			
Everett, Mass.	40,160	8	2		1		3		2	
Fall River, Mass.	129,828	52	3		46	2			10	2
Fargo, N. Dak.	17,872	6					10			
Findlay, Ohio.	14,858	11	1		8		1			1
Fitchburg, Mass.	42,419	11	2		1				2	
Flint, Mich.	57,396	25	5				2			1
Fond du Lac, Wis.	21,486	10					3			
Fort Scott, Kans.	10,364	1								
Fort Wayne, Ind.	78,014	28	3							1
Fort Worth, Tex.	109,597	15			12				1	1
Fostoria, Ohio.	10,959	4								
Frederick, Md.	11,225	8					1			
Freeport, Ill.	19,844	2								
Fremont, Nebr.	10,080	7								
Fresno, Calif.	36,314	10								1
Galesburg, Ill.	24,629	8								
Galveston, Tex.	42,650	9								2
Gardner, Mass.	17,554	6								1
Gloversville, N. Y.	22,314								1	
Grand Forks, N. Dak.	16,342	4								
Grand Rapids, Mich.	132,861	35	2		3		5		11	
Great Falls, Mont.	13,948	15			13		2			
Greeley, Colo.	11,942				1					
Green Bay, Wis.	33,017	10								1
Greenfield, Mass.	12,251	7	1						1	
Greensboro, N. C.	20,171	4								
Greenville, S. C.	18,574	3								
Greenwich, Conn.	19,594						2		1	1
Hackensack, N. J.	17,412	8			1				2	
Hammond, Ind.	27,016	14	1						1	1
Harrison, N. J.	17,345						2		1	
Haverhill, Mass.	49,180	62	4		2		1		4	2
Highland Park, Mich.	33,859	1	8				1			
Hoboken, N. J.	78,524	24	7	1	2				1	2
Holland, Mich.	12,459	1								
Holyoke, Mass.	66,503	17	1	1			1		1	
Houston, Tex.	116,878	47	1		11		1			7
Hudson, N. Y.	12,898	5								3
Huntington, W. Va.	47,686						11			

1 Population Apr. 15, 1910.

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

City Reports for Week Ended Mar. 8, 1919—Continued.

City.	Population as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Hutchinson, Kans.	21,461				4					
Independence, Mo.	11,964	6	1						2	
Indianapolis, Ind.	283,622	84	9	1	33		11			3
Iowa City, Iowa	11,626						2			
Ironton, Ohio	14,079	5	1				1			
Ironwood, Mich.	15,095	4					1			3
Ithaca, N. Y.	16,017	8			1		18			2
Jamestown, N. Y.	37,431	10	4				4		1	
Jersey City, N. J.	312,557		22		22		6		12	
Johnstown, N. Y.	10,678	2								
Joplin, Mo.	33,400	7	1		2				5	
Kalamazoo, Mich.	50,408	20			1		2		1	1
Kansas City, Kans.	102,096								3	
Kansas City, Mo.	305,816	141	4	1	27	6	4	2	1	12
Kearny, N. J.	24,325	5	2				1			1
Keene, N. H.	10,725	4					1			
Kenosha, Wis.	32,833	7	1		14					
Knoxville, Tenn.	59,112				4		1			
Kokomo, Ind.	21,929	8			1		9			
Lackawanna, N. Y.	16,219	4	3						2	2
La Crosse, Wis.	31,835	9	1		6					1
La Fayette, Ind.	21,481	11	1				2			
Lakewood, Ohio	23,813	7	1							
Lancaster, Ohio	16,086	2			3	1	6			
Lawrence, Kans.	13,477				1					
Lawrence, Mass.	102,923	29	2				2		5	9
Leominster, Mass.	21,365	1	1		37				2	
Lexington, Ky.	41,997	37			5					2
Lima, Ohio	37,145	14					1			
Lincoln, Nebr.	46,957	10	3	1	1		1			
Logansport, Ind.	21,338	9								3
Long Beach, Calif.	29,163	11					4			
Long Branch, N. J.	15,733	2								
Lorain, Ohio	38,266	21	1		16		4			1
Los Angeles, Calif.	535,485	101	4	1	9		8		25	18
Louisville, Ky.	240,808	174	8		11		4		10	5
Lowell, Mass.	114,366	41	2		3		9		3	4
Lynchburg, Va.	33,497	12								
Lynn, Mass.	104,531	40	2		3		2		4	3
Madison, Wis.	31,315	17			26		4			
Malden, Mass.	52,243	16	1		2		2		5	1
Manchester, Conn.	15,659						3			
Manchester, N. H.	79,607	23	1				1		8	2
Manitowoc, Wis.	13,931	6					2			
Marinette, Wis.	14,610				13		3			
Marion, Ind.	19,923	5	1				8			
Marlboro, Mass.	15,285	3	2						1	
Marquette, Mich.	12,555	3								
Martinsburg, W. Va.	12,984		1		9					
Martins Ferry, Ohio	10,135	1	6	1						
Mason City, Iowa	14,933	10					1			2
Medford, Mass.	26,681	15	1				2		1	
Melrose, Mass.	17,724	8								
Memphis, Tenn.	151,877	57			9	1			12	6
Meriden, Conn.	29,431		4	1						
Methuen, Mass.	14,320	7					1		1	
Middletown, N. Y.	15,890								1	1
Middletown, Ohio	16,384	6			5					1
Milford, Mass.	14,280	5						1		1
Milwaukee, Wis.	445,008	123	7	1	5		29		17	10
Minneapolis, Minn.	373,448	108	17				26	2	22	9
Missoula, Mont.	19,075	2					2			
Mobile, Ala.	59,201	25	1		7	1				1
Moline, Ill.	27,976	2					2			
Montclair, N. J.	27,687								2	
Montgomery, Ala.	44,039	14								
Morgantown, W. Va.	14,444	7					1			
Morristown, N. J.	13,410	6	1				4			
Mount Vernon, N. Y.	37,991	7								
Nashville, Tenn.	118,136	62	2		19		6		4	3
Natick, Mass.	10,140	3					1			
Newark, N. J.	418,789	133	34	3	2		20	2	28	14
Newark, Ohio	30,317	5	2	1			1			

1 Population Apr. 15, 1910.

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

City Reports for Week Ended Mar. 8, 1919—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Bedford, Mass.	121,622	48	1		1				17	4
New Britain, Conn.	55,385	18	1		53		4			3
New Brunswick, N. J.	25,855				1				1	
Newburgh, N. Y.	29,893	17							1	1
Newburyport, Mass.	15,291	12							1	1
New Haven, Conn.	152,275	53	13	2	33		1		13	4
New London, Conn.	21,199	18	2	1			2		2	2
New Orleans, La.	377,010	143	5		4		1		36	28
Newport, Ky.	32,133	8								
Newport, R. I.	30,585	7								2
Newton, Mass.	44,345	10	3		1				1	
New York, N. Y.	5,737,492	2,084	359	36	55	1	148	10	329	200
Niagara Falls, N. Y.	38,466	14	2				1			
Norfolk, Va.	91,148	1	1		1				3	1
North Adams, Mass.	122,019	6					1		3	1
Northampton, Mass.	20,006	13	1				1		3	4
North Tonawanda, N. Y.	14,060	5	1		24				2	
Norwalk, Conn.	27,332	1					2			
Norwich, Conn.	21,923	2	1						4	2
Norwood, Ohio	23,269	8					1		1	1
Oakland, Calif.	206,405	47	8				4		5	3
Oak Park, Ill.	27,816	6			2					1
Ogdensburg, N. Y.	16,845	6								
Ogden, Utah.	32,343	6	2				1			
Oklahoma City, Okla.	92,588	31	1		3		1			2
Olean, N. Y.	16,927	9								
Omaha, Nebr.	177,777	41	6	1	4	1	4			2
Orange, N. J.	33,636	17			1		1			1
Oshkosh, Wis.	36,549	7								1
Ossining, N. Y.	14,064	8	3							
Palestine, Tex.	12,075						2			
Parkersburg, W. Va.	21,059	4			7		2			
Pasadena, Calif.	49,620	8								
Passaic, N. J.	74,478	20	4	1	1				2	
Paterson, N. J.	140,512	6	9		2		5			
Pekskill, N. Y.	19,034	2								
Peoria, Ill.	72,184	31								1
Perth Amboy, N. J.	42,646	10	1							1
Philadelphia, Pa.	1,735,514	631	89	11	39	2	75	2	141	69
Phillipsburg, N. J.	15,879	2	1		1					
Piqua, Ohio.	14,275	7	1							
Pittsburg, Kans.	18,340						2			
Pittsfield, Mass.	39,678	13								
Plainfield, N. J.	24,330	10	1				6	1		
Plattsburg, N. Y.	13,111	2	2							1
Plymouth, Mass.	14,001	6								1
Pontiac, Mich.	18,006	11	7							
Port Chester, N. Y.	16,727	12	1						2	
Portland, Me.	64,720	13	1				10			3
Portland, Oreg.	308,399	62	2		1		5		6	5
Portsmouth, Va.	40,693				10					
Poughkeepsie, N. Y.	30,796	12			2				3	
Providence, R. I.	239,895	105	11	2			9			11
Quincy, Ill.	36,832	12		1	1		1			1
Quincy, Mass.	39,022	10	1				2		3	1
Racine, Wis.	47,465	13					1		1	
Rahway, N. J.	10,361	4								
Raleigh, N. C.	20,274	11								1
Redlands, Calif.	14,573	1								1
Reno, Nev.	15,514	10								
Richmond, Va.	158,702	51			11		1	1	7	3
Riverside, Calif.	20,496	7							3	1
Roanoke, Va.	46,282	14			16		1			1
Rochester, N. Y.	264,714	98	14	1	2		18		8	9
Rockford, Ill.	56,739	16			20					1
Rock Island, Ill.	29,452	5	3	1						
Rocky Mount, N. C.	12,673	5							1	1
Rome, N. Y.	24,259								2	
Rutland, Vt.	15,038	7								
Sacramento, Calif.	68,984	22					4		1	3
Saginaw, Mich.	56,469	24					3		1	2
St. Cloud, Minn.	12,013						1			
St. Joseph, Mo.	86,498	25	1				4			2

¹ Population Apr. 15, 1919.

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

City Reports for Week Ended Mar. 8, 1919—Continued.

City.	Popula- tion as of July 1, 1917 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
St. Louis, Mo.	768,630	275	30	1	7	—	16	—	47	13
St. Paul, Minn.	252,465	73	19	—	31	—	—	1	20	5
Salem, Mass.	49,346	22	1	—	1	—	7	—	2	1
Salem, Oreg.	21,274	12	1	—	—	—	2	—	—	2
Salt Lake City, Utah.	121,623	41	3	—	1	—	—	—	—	2
San Angelo, Tex.	10,321	1	—	—	—	—	—	—	—	1
San Antonio, Tex.	128,515	12	4	—	4	—	—	—	6	4
San Bernardino, Calif.	17,616	9	—	—	—	—	—	—	—	1
San Diego, Calif.	56,412	25	4	1	2	—	3	—	9	5
Sandusky, Ohio.	20,226	5	—	—	—	—	—	—	1	—
Sanford, Me.	11,217	8	—	—	—	—	—	—	—	—
San Francisco, Calif.	471,023	168	16	3	3	—	10	—	28	28
Santa Barbara, Calif.	15,360	3	2	—	—	—	—	—	—	1
Santa Cruz, Calif.	15,150	4	—	—	—	—	—	—	—	1
Saratoga Springs, N. Y.	13,839	6	—	—	—	—	—	—	—	—
Saugus, Mass.	10,210	1	—	—	—	—	1	—	1	—
Sault Ste. Marie, Mich.	14,130	1	—	—	—	—	—	—	—	—
Schenectady, N. Y.	103,774	19	—	—	1	—	1	—	4	3
Seattle, Wash.	366,445	—	4	—	19	—	10	—	—	—
Sioux City, Iowa.	58,588	—	1	—	—	—	1	—	—	—
Somerville, Mass.	88,618	31	4	—	2	—	11	—	3	3
South Bend, Ind.	70,967	15	—	—	56	—	5	1	—	2
Southbridge, Mass.	14,465	6	—	—	—	—	—	—	—	1
Spartanburg, S. C.	21,985	4	—	—	1	—	—	—	—	—
Spokane, Wash.	157,656	—	2	—	—	—	—	—	—	—
Springfield, Ill.	62,023	21	—	—	—	—	—	—	—	3
Springfield, Mass.	108,668	34	2	1	—	—	5	—	7	1
Springfield, Mo.	41,169	13	—	—	—	—	—	—	—	1
Springfield, Ohio.	52,296	23	—	—	14	—	—	—	2	2
Steubenville, Ohio.	28,259	27	2	—	—	—	—	—	—	—
Stockton, Calif.	36,209	9	2	—	—	—	—	—	1	1
Streator, Ill.	14,313	4	—	—	—	—	—	—	—	—
Superior, Wis.	47,167	10	3	—	—	—	1	—	—	1
Syracuse, N. Y.	158,559	46	8	2	5	—	7	—	6	3
Tacoma, Wash.	117,446	—	4	—	10	—	2	—	—	—
Taunton, Mass.	36,610	20	1	—	4	2	1	—	2	3
Terre Haute, Ind.	67,361	33	—	—	—	—	—	—	—	2
Toledo, Ohio.	202,010	77	4	—	2	—	10	—	10	10
Topeka, Kans.	49,538	19	—	—	—	—	3	—	—	2
Trenton, N. J.	113,974	50	1	—	—	—	—	—	5	6
Troy, N. Y.	78,094	31	3	—	3	—	6	—	2	2
Tuscaloosa, Ala.	10,824	4	1	—	—	—	—	—	1	—
Utica, N. Y.	89,272	26	5	—	2	—	3	—	2	1
Vallejo, Calif.	13,803	4	1	—	—	—	—	—	—	—
Vancouver, Wash.	13,805	—	1	—	—	—	—	—	—	—
Washington, D. C.	369,282	156	22	—	5	—	20	—	26	15
Watertown, N. Y.	30,404	3	—	—	—	—	—	—	—	1
Wausau, Wis.	19,666	8	1	—	—	—	—	—	—	—
Westfield, Mass.	18,769	3	1	—	1	—	3	—	1	—
West Hoboken, N. J.	44,386	—	1	—	1	—	1	—	—	1
West New York, N. J.	19,613	1	1	—	—	—	—	—	1	—
West Orange, N. J.	13,964	—	1	—	—	—	1	—	—	—
Wheeling, W. Va.	43,657	24	—	—	—	—	—	—	2	1
White Plains, N. Y.	23,331	3	—	—	—	—	4	—	1	—
Wichita, Kans.	73,597	—	—	—	—	—	—	—	1	—
Wilmington, Del.	95,369	32	1	—	—	—	1	—	2	2
Wilmington, N. C.	30,400	7	1	—	1	—	1	—	—	2
Winchester, Mass.	10,812	2	—	—	—	—	—	—	—	—
Winona, Minn.	18,583	5	—	—	—	—	—	—	—	—
Winston-Salem, N. C.	33,136	12	—	—	15	—	—	—	4	1
Winthrop, Mass.	13,105	—	1	—	—	—	—	—	—	—
Woburn, Mass.	16,076	6	—	—	—	—	—	—	—	—
Worcester, Mass.	166,106	57	8	—	20	—	3	—	7	5
Yakima, Wash.	22,058	—	—	—	1	—	8	—	—	—
Yonkers, N. Y.	103,066	14	2	—	2	—	2	—	2	1
Youngstown, Ohio.	112,282	45	2	—	19	1	1	—	2	1
Zanesville, Ohio.	31,320	9	—	—	—	—	—	—	1	2

¹ Population Apr. 15, 1910.

FOREIGN.

BRAZIL.

Influenza—Mortality, Nov.-Dec., 1918—State of São Paulo.

Reports have been received showing the mortality from influenza in the State of São Paulo, Brazil, as follows:

Cities.	Influenza deaths.		Population.
	Nov., 1918.	Dec., 1918.	
São Paulo (capital).....	4,580	432	470,872
Campinas.....	123	81	105,160
Ribeirão Preto.....	138	66	54,839
Santos.....	463	18	96,050

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Diseases.	Feb. 11-20, 1919.		Remaining under treatment Feb. 20, 1919.
	New cases.	Deaths.	
Diphtheria.....	1	.....	1
Leprosy.....	.....	.....	17
Malaria.....	25	.....	139
Paratyphoid fever.....	.....	.....	1
Scarlet fever.....	1	.....	2
Typhoid fever.....	8	5	21

¹ From the interior, 31.

² From the interior, 10.

Influenza—Habana—Regla.

During the period from February 11 to 20, 1919, 114 new cases of influenza were notified at Habana and 26 at Regla.

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

Reports Received During the Week Ended Mar. 28, 1919.¹

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt.....	.....	.....	.....	Jan. 1-Feb. 6, 1919: Cases, 2; deaths, 1.
Suez.....	Jan. 31.....	1	.....	.....

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

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

Reports Received During Week Ended Mar. 28, 1919—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada:				
Nova Scotia—				
Halifax.....	Mar. 2-8.....	12		
Sydney.....	do.....	1		
Quebec—				
Montreal.....	do.....	17		
China:				
Amoy.....	Jan. 29-Feb. 4.....			Present. Do.
Hongkong.....	Feb. 2-8.....	1		
Nanking.....	do.....			
Italy:				
Palermo.....	Feb. 14-20.....	1		
Japan:				
Kobe.....	Feb. 9-15.....	86	29	
Newfoundland:				
St. Johns.....	Mar. 1-7.....	5		
Outports—				
Brigus Junction.....	do.....	1		
St. Georges.....	do.....	6		
Springdale.....	do.....	6		
Spain:				
Bilbao.....	Jan. 1-31.....		1	
Seville.....	Dec. 1-31.....		6	
Do.....	Jan. 1-31.....		3	
Valencia.....	Jan. 19-25.....	28	2	

TYPHUS FEVER.

Brazil:				
São Paulo.....	Jan. 13-19.....		3	
Egypt:				
Alexandria.....	Feb. 5-11.....	17	8	

Reports Received from Dec. 28, 1918, to Mar. 21, 1919.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo.....	Nov. 17-30.....	4	5	
Germany:				
Berlin.....	To Oct. 5.....	17	11	
Bremen.....	Oct. 13-19.....	1		On a barge. 1 case in October, 1918, on a barge in canal.
Marlenwerder.....				
India:				
Bombay.....	Aug. 18-Dec. 28.....	1,351	1,031	
Do.....	Dec. 29-Jan. 18.....	1,692	1,437	
Calcutta.....	Sept. 20-Dec. 21.....		241	Report for Nov. 23, 1918, missing.
Do.....	Dec. 29-Jan. 18.....		197	
Madras.....	Oct. 5-Dec. 28.....	264	164	Oct. 27-Nov. 2, 1918: Cases, 9; deaths, 4.
Do.....	Jan. 5-18.....	288	197	
Rangoon.....	Oct. 5-Dec. 21.....	35	33	
Do.....	Dec. 29-Jan. 18.....	13	10	
Indo-China				
Anam.....	July 1-Aug. 31.....	37	30	July 1-31, 1918: Cases, 456; deaths 347.
Cambodia.....	do.....	322	169	
Cochin-China.....	do.....	357	279	
Saigon.....	Oct. 7-Dec. 22.....	75	45	
Do.....	Dec. 3-Jan. 5.....	94	47	
Kwang-Chow-Wan.....	July 1-31.....	50	34	
Tonkin.....	July 1-Aug. 31.....	4		
Java:				
East Java.....				Oct. 7-21, 1918: Cases, 109; deaths, 94.
Surabaya (district).....	Oct. 7-Nov. 18.....	636	391	
Mid-Java.....				Sept. 25-Dec. 18, 1918: Cases, 3,232; deaths, 2,014.
Samarang.....	Sept. 26-Oct. 16.....	120	111	
West Java.....				Oct. 3-Dec. 11, 1918: Cases, 412; deaths, 238. Dec. 27, 1918-Jan. 2, 1919: Cases, 2; deaths, 2.
Batavia.....	Oct. 3-Dec. 11.....	291	148	
Do.....	Dec. 27-Jan. 2.....	2	2	
Mesopotamia:				
Bagdad.....	Oct. 11-18.....	8		

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

Reports Received from Dec. 28, 1918, to Mar. 21, 1919—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Manila.....	Sept. 22-Dec. 28....	181	121	Nov. 2-9, 1918: Cases, 511; deaths, 417. Nov. 17-Dec. 23, 1918: Cases, 1,203; deaths, 858. Dec. 29, 1918-Feb. 1, 1919: Cases, 539, deaths, 398.
Do.....	Dec. 29-Feb. 1.....	16	7	
Provinces:				
Albay.....	Dec. 15-21.....	1	1	
Bataan.....	Nov. 17-Dec. 23....	38	32	
Do.....	Jan. 5-11.....	2	2	
Batangas.....	Nov. 2-9.....	156	141	
Do.....	Nov. 17-Dec. 23....	79	65	
Do.....	Dec. 29-Feb. 1.....	20	15	
Bohol.....	Nov. 2-9.....	19	17	
Do.....	Nov. 17-Dec. 21....	12	5	
Do.....	Jan. 12-Feb. 1.....	22	15	
Bulacan.....	Oct. 27-Nov. 2.....	5	6	
Do.....	Nov. 17-Dec. 23....	44	30	
Do.....	Dec. 29-Feb. 1.....	28	17	
Capiz.....	Dec. 22-28.....	7	5	
Do.....	Jan. 5-25.....	28	14	
Cavite.....	Oct. 27-Nov. 2.....	38	28	
Do.....	Nov. 17-Dec. 21....	163	75	
Do.....	Dec. 29-Jan. 25....	17	16	
Cebu.....	Dec. 15-21.....	41	20	
Do.....	Jan. 12-18.....	13	12	
Ilocos Sur.....	Dec. 8-28.....	17	8	
Do.....	Dec. 29-Feb. 1.....	37	22	
Iloilo.....	Oct. 27-Nov. 2.....	9	6	
Do.....	Nov. 17-Dec. 21....	70	51	
Do.....	Jan. 5-Feb. 1.....	49	35	
Laguna.....	Oct. 27-Dec. 28....	18	11	
Do.....	Dec. 29-Feb. 1.....	46	38	
Lanao.....	Jan. 5-11.....	8	4	
Mindoro.....	Nov. 24-30.....	4	5	
Misamis.....	Oct. 27-Nov. 2.....	6	5	
Do.....	Nov. 17-Dec. 23....	75	48	
Do.....	Jan. 5-18.....	23	17	
Nueva Ecija.....	Jan. 12-25.....	9	6	
Oriental Negros.....	Nov. 2-9.....	20	8	
Do.....	Nov. 17-Dec. 7.....	6	6	
Do.....	Jan. 5-Feb. 1.....	22	16	
Pampanga.....	Nov. 24-Dec. 14....	4	4	
Do.....	Jan. 5-Feb. 1.....	15	12	
Pangasinan.....	Nov. 2-9.....	236	192	
Do.....	Nov. 17-Dec. 23....	428	313	
Do.....	Dec. 29-Feb. 1.....	119	91	
Rizal.....	Oct. 27-Nov. 2.....	3	1	
Do.....	Nov. 24-30.....	16	5	
Samar.....	Dec. 15-21.....	8	1	
Sorsogon.....	Nov. 17-23.....	8	4	
Do.....	Jan. 19-25.....	8	4	
Tayabas.....	Nov. 2-9.....	7	4	
Do.....	Nov. 17-Dec. 28....	54	25	
Do.....	Dec. 29-Feb. 1.....	54	47	
Union.....	Nov. 2-Dec. 23....	18	14	
Zamboanga.....	Dec. 8-28.....	27	19	
Do.....	Jan. 5-18.....	19	15	
Poland:				
Warsaw.....	Sept. 29-Oct. 5....	2		In civil and military hospitals In military hospitals, July 5-Aug. 21, 1918: Cases, 884; deaths, 783.
Russia:				
Petrograd.....	To July 16.....	3,388	1,054	
Do.....	July 17-Sept. 11...	3,479	1,455	
Ukrania—				
Ekaterinaslav.....	Sept. 1-20.....	7	6	Sept. 1-20, 1918: 11 cases on s. s. Helena.
Odessa.....	do.....	25	.....	

PLAGUE.

Ceylon:				
Colombo.....	Oct. 27-Nov. 2....	1	1	
China:				
Amoy.....	Nov. 24-Dec. 8....			Present. Do.
Chungking.....	Dec. 1-7.....			
Hongkong.....	Oct. 1-Dec. 28....	4	4	
Do.....	Jan. 1-31.....	5	4	

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

Reports Received from Dec. 28, 1918, to Mar. 21, 1919—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Ecuador:				
Guayaquil.....	July 1-Dec. 31.....	20	7	
Do.....	Jan. 1-Feb. 15.....	36	12	
Taura.....	Dec. 16-31.....	1	1	
Egypt.....				Jan. 1-Nov. 21, 1918: Cases, 357; deaths, 153.
India.....				Sept. 23-Dec. 28, 1918: Cases, 24,270; deaths, 18,360. Dec. 29, 1918-Jan. 11, 1919: Cases, 3,361; deaths, 2,470.
Bombay.....	Aug. 18-Dec. 28.....	41	29	
Do.....	Jan. 12-18.....	1	1	
Calcutta.....	Dec. 22-28.....		1	
Do.....	Jan. 12-18.....		1	
Karachi.....	Oct. 19-Dec. 28.....	17	17	
Do.....	Dec. 29-Jan. 25.....	5	5	
Madras.....	Dec. 8-28.....	26	17	
Do.....	Dec. 29-Jan. 18.....	127	56	
Madras Presidency.....	Oct. 13-Dec. 28.....	1,152	774	Oct. 27-Nov. 2, 1918: Cases, 142; deaths, 138.
Do.....	Dec. 29-Jan. 18.....	1,145	728	
Rangoon.....	Oct. 5-Dec. 21.....	84	81	
Do.....	Dec. 29-Jan. 18.....	21	19	
Indo-China.....				July 1-31, 1918: Cases, 96; deaths, 71.
Anam.....	July 1-Aug. 31.....	37	32	
Cambodia.....	do.....		49	
Cochin-China.....	do.....	57	33	
Saigon.....	Oct. 7-Nov. 24.....	5	1	
Kwang-Chow-Wan.....	July 1-31.....	1	1	
Java:				
East Java.....				Oct. 7-Nov. 18, 1918: Cases, 78; deaths, 78.
Surabaya (district).....	Oct. 7-Nov. 18.....	61	61	
Mid-Java.....				Sept. 25-Oct. 16, 1918: Cases, 14; deaths, 14.
Samarang.....	Sept. 25-Oct. 16.....	6	6	
Mesopotamia:				
Bagdad.....	Nov. 16-29.....	5	2	
Siam:				
Bangkok.....	Sept. 21-28.....	4	3	
Do.....	Oct. 5-12.....	2	2	
Venezuela:				
Caracas.....	Dec. 30.....	1		
On vessel:				
S. S. Japan.....	Jan. 14.....	1	1	At Suez quarantine station from Bombay.

SMALLPOX.

Algeria:				
Algiers.....	Oct. 1-Dec. 31.....	2	1	
Brazil:				
Rio de Janeiro.....	Dec. 30-Jan. 5.....	1		
British East Africa:				
Mombasa.....	Sept. 1-Nov. 30.....	6	1	
Canada:				
New Brunswick—				
Campbellton.....	Dec. 22-28.....	1		
Do.....	Jan. 5-18.....	2		
St. John.....	Nov. 8-14.....	3		
Do.....	Jan. 28-Feb. 22.....	6		
Nova Scotia—				
Bear River.....	Dec. 29-Jan. 4.....			Present.
Bigbee.....	Jan. 10.....			Do.
Digby.....	do.....			Do.
Halifax.....	Dec. 7-28.....	10		
Do.....	Jan. 5-Mar. 1.....	119		
Middleton.....	Dec. 29-Jan. 4.....			Do.
Sydney.....	Jan. 5-Feb. 15.....	3		
Ontario—				
North Bay.....	Jan. 19-25.....	1		
Ottawa.....	Jan. 12-Mar. 8.....	12		
Toronto.....	Feb. 2-15.....	2		
Prince Edward Island:				
Charlotte Town.....	Feb. 27-Mar. 5.....	1		
Quebec—				
Montreal.....	Jan. 24-Dec. 21.....	2		
Do.....	Jan. 12-Mar. 1.....	13		
Paspebiac.....	do.....	8		
Quebec.....	Dec. 15-21.....	1		
Do.....	Dec. 29-Feb. 15.....	13		

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

Reports Received from Dec. 28, 1918, to Mar. 21, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Ceylon:				
Colombo.....	Jan. 12-18.....	1		
China:				
Amoy.....	Oct. 13-Dec. 28.....			Present
Do.....	Jan. 5-25.....			Do.
Canton.....	Nov. 17-23.....			Do.
Chungking.....	Nov. 10-Dec. 28.....			Do.
Do.....	Jan. 5-18.....			Do.
Foochow.....	Nov. 24-Dec. 28.....			Do.
Do.....	Dec. 29-Feb. 1.....			Do.
Hongkong.....	Dec. 15-21.....	1	1	
Nanking.....	Dec. 1-28.....			Do.
Do.....	Dec. 29-Feb. 1.....			Do.
Shanghai.....	Jan. 20-26.....	1		
Chosen (Korea):				
Chemulpo.....	Nov. 1-Dec. 31.....	15	4	
Do.....	Jan. 1-31.....	6	1	
Denmark:				
Copenhagen.....	Nov. 9-Dec. 28.....	12		
Do.....	Dec. 29-Jan. 19.....	15		
Egypt:				
Alexandria.....	Dec. 17-23.....	1	1	
Do.....	Jan. 22-28.....	1		
France:				
Bordeaux.....	Feb. 8-13.....		1	
Great Britain:				
Liverpool.....	Jan. 26-Feb. 8.....	2		
India:				
Bombay.....	Aug. 18-Dec. 28.....	35	8	
Do.....	Dec. 29-Jan. 18.....	30	8	
Calcutta.....	Sept. 29-Dec. 28.....		17	Report for week ended Nov. 23, 1918, missing.
Do.....	Dec. 29-Jan. 18.....		12	
Karachi.....	Sept. 29-Dec. 28.....	13	4	
Do.....	Dec. 29-Jan. 25.....	26	7	
Madras.....	Oct. 5-Dec. 28.....	62	40	
Do.....	Dec. 29-Jan. 18.....	47	15	
Rangoon.....	Oct. 20-Dec. 21.....	32	6	
Do.....	Dec. 29-Jan. 18.....	68	18	
Indo-China:				
Anam.....	July 1-Aug. 31.....	67	51	July 1-31, 1918: Cases, 302; deaths, 104.
Cambodia.....	Aug. 1-31.....	78	40	
Cochin-China.....	July 1-Aug. 31.....	335	87	
Saigon.....	Oct. 7-Dec. 22.....	20	5	
Do.....	Dec. 30-Jan. 5.....	1	1	
Tonkin.....	July 1-Aug. 31.....	11	1	
Italy:				
Genoa.....	Jan. 9-31.....	2	1	
Palermo.....	Jan. 31-Feb. 6.....	1		
Japan:				
Kobe.....	Oct. 26-Dec. 28.....	186	46	
Do.....	Dec. 29-Jan. 18.....	145	25	
Taihoku.....	Jan. 15-21.....	22	1	Island of Formosa.
Yokohama.....	Jan. 20-26.....	1		
Java:				
East Java.....				Oct. 7-Nov. 27, 1918: Cases, 21.
Surabaya (district).....	Oct. 7-Nov. 18.....	15		
Mid-Java.....				Sept. 25-Dec. 18, 1918: Cases, 172; deaths, 3.
West Java.....				Oct. 2-Dec. 11, 1918: Cases, 809; deaths, 263. Dec. 27, 1918-Jan. 2, 1919: Cases, 39; deaths, 12.
Batavia.....	Oct. 2-Dec. 11.....	185	151	
Do.....	Dec. 27-Jan. 2.....	13	8	
Manchuria:				
Dairen.....	Jan. 15-21.....	1		
Mesopotamia:				
Bagdad.....	Oct. 11-Dec. 27.....	308	97	
Do.....	Dec. 28-Jan. 10.....	3		
Mexico:				
Ciudad Juarez.....	Nov. 24-30.....	1		
Mexico City.....	Sept. 22-Dec. 23.....	23		
Do.....	Dec. 29-Jan. 25.....	8		
Vera Cruz.....	Feb. 10-16.....	2		

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

Reports Received from Dec. 28, 1918, to Mar. 21, 1919—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Newfoundland:				
St. Johns.....	Dec. 6-20.....	4		
Do.....	Dec. 28-Feb. 28.....	12		
Outports—				
Avondale.....	do.....	4		
Blaine Harbor.....	Dec. 14-20.....	2		
Bay of Islands.....	Jan. 11-17.....	6		
Do.....	Feb. 15-21.....	10		
Bay Roberts.....	Dec. 21-27.....	1		
Bonavista.....	Jan. 26-31.....	1		
Bryants Cove.....	Dec. 7-13.....	3		
Burin.....	do.....	4		
Coleys Point.....	Dec. 14-20.....	1		
Curling.....	Jan. 26-31.....	3		
Frenchmans Cove.....	Feb. 1-7.....	1		
Kings Cove.....	Jan. 18-24.....	1		
Little Paradise.....	Feb. 9-14.....	1		
McIvers.....	Feb. 1-7.....	15		
Merashcen.....	do.....	1		Present.
Mercers Cove.....	Feb. 9-14.....	1		
Middle Arm.....	Feb. 1-7.....	40		Bay of Islands.
Musgrave Harbor.....	Dec. 7-13.....	4		
Do.....	Jan. 11-17.....	6		Feb. 7, 1919: Present.
Paradise.....	Dec. 7-13.....	60		Placentia Bay.
Petitfort.....	Feb. 15-21.....	1		
Saddle Hill.....	do.....	1		Harbor Grace.
Springdale.....	do.....	1		
St. Georges.....	Feb. 1-28.....	16		
St. Jacques.....	Jan. 18-24.....	2		
Panama:				
Colon.....	Dec. 15-21.....	1		Aug. 1-31, 1918: Cases, 133, occurring at Colon, Panama, and points in the interior. Jan. 1-25, 1919: Cases, 28.
Do.....	Dec. 29-Feb. 9.....	8		
Philippine Islands:				
Manila.....	Nov. 2-9.....	4	3	
Do.....	Dec. 29-Feb. 1.....	6	2	Variceloid, 9.
Portugal:				
Lisbon.....	Nov. 16-Dec. 28.....	843		
Portuguese East Africa:				
Lourenco Marques.....				July 1-Oct. 31, 1918: 45 fatal cases
Siberia:				
Vladivostok.....	Nov. 1-3.....	4		
Spain:				
Barcelona.....	Jan. 9-25.....		4	
Cadiz.....	Oct. 1-Dec. 31.....	18		
Madrid.....	Sept. 1-Oct. 31.....	153		
Seville.....	Nov. 1-30.....	2		
Valencia.....	Nov. 10-Dec. 21.....	40	9	
Do.....	Dec. 29-Jan. 11.....	33	4	
Straits Settlements:				
Penang.....	Oct. 6-12.....	1		
Union of South Africa:				
Cape Town.....	Aug. 1-30.....	1		
Johannesburg.....	Aug. 1-Oct. 31.....	12		Nov. 1-30, 1918: Cases, 4.

TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-30.....	1		
Austria-Hungary:				
Hungary.....	Sept. 2-8.....	2		
Brazil:				
Ceara.....	Sept. 11-21.....	1		
Bulgaria:				
Aeteven.....	Mar. 10.....			Present.
Rustchuk.....	do.....			Do.
China:				
Antung.....	Dec. 2-15.....	2		
Do.....	Jan. 6-12.....		1	
Chosen (Korea):				
Seoul.....	Jan. 1-31.....	2		
Colombia:				
Barranquilla.....	Nov. 8-Dec. 28.....		3	
Do.....	Jan. 5-25.....	2	2	

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

Reports Received from Dec. 28, 1918, to Mar. 21, 1919—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	Oct. 14-Dec. 31....	85	36	
Do.....	Jan. 1-Feb. 1.....	28	14	
Germany:				
Breslau.....	Sept. 29-Oct. 19....	12	8	
Königsberg.....	do.....	3	1	
Mostofen.....	do.....	7	2	District of Allenstein.
Great Britain:				
Glasgow.....	Dec. 22-28.....	5		
Do.....	Jan. 5-Feb. 8.....	9	1	
Greece:				
Athens.....	Mar. 8.....	2	2	
Saloniki.....	Sept. 29-Dec. 21....		34	
Do.....	Dec. 29-Jan. 18....		59	
Japan:				
Nagasaki.....	Nov. 10-Dec. 29....	13	4	
Do.....	Dec. 30-Feb. 2.....	11	3	
Java:				
East Java.....				Oct. 7-21, 1918: Cases, 5.
Surabaya.....	Oct. 7-21.....	4		
Mid-Java.....				Sept. 25-Oct. 16, 1918: Cases, 8.
West Java.....				Oct. 2-23: Cases, 31; deaths, 6.
Batavia.....	Oct. 2-23.....	15	4	
Macedonia:				
Drama.....	Mar. 17.....			Present.
Kavala.....	do.....	300		Estimated.
Mesopotamia:				
Bagdad.....	Oct. 5-Dec. 27.....	2		
Do.....	Dec. 28-Jan. 10....	3		
Mexico:				
Aguascalientes.....	Feb. 2-23.....		3	
Guadalajara.....	Nov. 1-30.....	2		
Mexico City.....	Sept. 22-Dec. 28....	434		
Do.....	Dec. 29-Jan. 25....	128		
Netherlands:				
Amsterdam.....	Dec. 8-14.....	1		
Do.....	Jan. 12-18.....	4		
Rotterdam.....				Jan. 30-Feb. 27, 1919: Cases, 462; deaths, 46.
Serbia:				
Belgrade.....	Feb. 5.....	62		Among soldiers and prisoners.
Siberia:				
Vladivostok.....	Sept. 1-Dec. 30....	43		
Spain:				
Huelva.....	Oct. 1-31.....		2	
Madrid.....	Dec. 1-31.....		1	
Union of South Africa:				
Port Elizabeth.....	Sept. 14-28.....			Present among natives in several interior towns.

YELLOW FEVER.

Brazil:				
Pernambuco.....	Oct. 1-Nov. 30....	2	1	
Ecuador:				
Babahoyo.....	Nov. 1-30.....	1		
Catarama.....	Feb. 1-15.....	1		
Chobo.....	Jan. 1-15.....	1		
Daule.....	do.....	1	1	
Duran.....	Nov. 1-Dec. 31....	3	2	
Do.....	Jan. 16-Feb. 15....	3	1	
Guayaquil.....	July 1-Dec. 31....	325	177	
Do.....	Jan. 1-Feb. 15....	104	54	
Milagro.....	Nov. 1-15.....	1		
Do.....	Feb. 1-15.....	1		
Naranjal.....	Nov. 1-15.....	1	1	
Do.....	Jan. 1-15.....	1	1	
Naranjito.....	Nov. 1-15.....	1	1	
Do.....	Jan. 1-15.....	1	1	
Payo (Hacienda).....	Nov. 1-15.....	1		
Punta de Piedra.....	Nov. 1-30.....	1		
Salvador:				
San Salvador.....	Jan. 9.....	1		
On vessel:				
S. S. Jamaica.....	Jan. 30.....	1		At quarantine station, Canal Zone, Panama.