

# PUBLIC HEALTH REPORTS

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VOL. 32

NOVEMBER 2, 1917

No. 44

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## THE DIAGNOSIS OF POLIOMYELITIS.<sup>1</sup>

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Acute poliomyelitis is a name given to a specific infectious disease which sometimes, but not usually, results in paralysis. The ability to diagnose the disease in the absence of paralysis has only recently come to us, although Caverly of America in 1894 and Wickman of Sweden in 1907 described such cases; if paralysis occurs, it is usually after the disease itself is well on its way, so that diagnosis of the non-paralytic stages and the nonparalytic cases is doubly important for the protection of contacts and for the institution of measures of treatment. Though preeminently a disease of children it is by no means rare in adults, and the less urban the community the higher the average age of those affected.

Draper and Haynes have emphasized two stages in the progress of the disease; first, that of general systemic symptoms, and, second, that of invasion of the central nervous system, by way of the meninges. They mention the interval of apparent recovery or improvement, which frequently occurs between these two stages, but that is not the whole story; the disease is very commonly one of remissions at every stage. Though we can not speak with such assurance about the systemic stage, it is probable that here also, as is repeatedly observed in the meningitic and in the paralytic stages, there are remissions and regressions.

The pathologic picture which will best convey the progress of the disease is first that of a general infection, in a sick child or an indisposed adult; second, a meningitic invasion, from a very mild to a severe meningitis; and third, in some cases an extension of the infection into the anterior horns of gray matter in the spinal cord and to a less extent into other parts of the central nervous system, with weakness, paralysis, and definite localized nervous symptoms. The stages may be clinically simultaneous, though usually meningeal signs precede an evident paralysis. Any two of these three stages may be absent, or at least so slight or transient as to pass undiscovered.

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<sup>1</sup> Read before the Augusta County Medical Society at Staunton, Va., August 17, 1917.

### Systemic Symptoms.

It must be admitted that the diagnosis in the systemic stage can be made only rarely, usually only in the presence of an epidemic. The symptoms may simulate any of the indefinite illnesses of childhood, and in the presence of an epidemic it is well for parents and physicians to treat sick children having fever without a definite proven diagnosis as possible cases of poliomyelitis. Still, there are groupings of symptoms which are very suggestive. Fever is the most common single symptom and may be of any grade. It is usually of short duration, and frequently accompanied by headache, sometimes by flushing. It is remarkable that in this acute febrile disease which occurs predominantly in the earlier years of life and which attacks the nervous system, convulsions should be so infrequent; though by no means unheard of, a history of convulsions in most epidemics inclines one against, rather than toward, the diagnosis of poliomyelitis.

The onset of this systemic stage is frequently insidious, but in many cases very acute and often accompanied with vomiting, as in scarlet fever. The vomiting, if it occurs, is not usually prolonged, and by many parents is attributable to an evident indiscretion in diet, and not to the disease. Occasionally there are pains in the stomach. Intestinal symptoms are very frequent, constipation more so than diarrhea. In reports of some epidemics, but none in which I have had personal experience, cases with diarrhea exceed those with constipation. This brings out the fact that in different epidemics, in different localities of the same epidemic, and in different periods in the same locality, there may be minor differences in symptomology, fatality, and other characteristics of the disease, just as there are evidently differences in virulence or infectivity. Thus in the Hessian epidemic of 1909 respiratory symptoms predominated, while in the neighboring Westphalian cases of the same year, and in the Stokes River Devonshire outbreak of 1911, diarrhea was prominent; the Vermont epidemic of 1894 and the Austrian of 1908 included a considerable proportion of onsets with convulsions. But the general picture throughout the world is so nearly uniform, and so different from any other known morbid condition, that even without our laboratory evidence we could not help regarding poliomyelitis as a distinct clinical entity, a specific infectious disease, just as different from other diseases as is diphtheria or tuberculosis.

One of the common symptoms which frequently aids in diagnosis at this stage is drowsiness; the child falls asleep repeatedly in the daytime. The opposite symptom, that of restlessness, or irritability, is also encountered, even in the same patient; a naturally cheerful, playful child becomes cross and resents interference, objecting sometimes to being petted by its own mother. This change in disposition,

and the stupor, are referable to the sensorium, but, even though there may be absolute delirium or coma, these do not constitute certain evidence of cerebral infection. Two other symptoms, which are very frequent and which when present tend to confirm the diagnosis, are retention of urine and sweating out of proportion to the air temperature.

Sore throat is not uncommon, but other symptoms referable to the upper respiratory tract are rather rare, considering the fact that according to the most generally accepted theory the virus enters the body by this route. The same peculiarity is observed in epidemic cerebrospinal meningitis.

This description covers the most common symptoms of this stage. Other symptoms, such as chills, cough, dizziness, or rashes may occur but are not particularly suggestive of the disease. Herpes labialis is rare, an important point in differentiation from epidemic meningitis. It may be argued that there is nothing distinctive about this clinical picture, and that the symptoms enumerated are merely those which may occur in any sick child, and which may pass off without a definite diagnosis being made. But the combination of fever, vomiting, constipation, drowsiness, and irritability, especially when combined with headache, a transient flushing of the face, abnormal sweating, or retention of urine, is enough to make a tentative diagnosis of poliomyelitis if frank cases are occurring in the vicinity.

Cases with gradual onset, malaise and indefinite symptoms, can not be diagnosed before the appearance of meningeal or paralytic signs, if such signs do appear; but an onset with one or more remissions is very suggestive of poliomyelitis. The more careful the inquiry into the histories, the more frequently will such onsets be found. The remissions are of varying length, and may be as long as one or more weeks.

#### Meningeal Symptoms.

The greater part of the symptoms which I have described as systemic might also be included as evidence of involvement of the central nervous system. But the chief definite symptoms of the slight degree of meningitis commonly met with in poliomyelitis are pain on spinal flexion, hyperesthesia, and increased reflexes. Of these, pain on anterior flexion of the spine as described by Wickman and by Peabody, Draper, and Dochez, is perhaps the most frequent and characteristic. Enough meningeal involvement to cause real opisthotonos or retraction of the head, is not the rule in poliomyelitis; but pain on forward nodding of the head, and especially pain on forward bending of the lower spine, is very frequent and characteristic. This latter sign is elicited by placing one of the examiner's arms under the flexed knees, and the other under the patient's neck. On attempting to lift the

patient in this way, a voluntary stiffness and a pain in the back are elicited. In testing for this sign, as in examining the reflexes and motor functions to be mentioned later, it is of great importance to deal with the utmost gentleness. The patient is usually a child, and unless one can obtain his good will and confidence, much of the examination is useless. It is well, therefore, to proceed first with the examination of the strength of various muscles, and the reflexes, before attempting manipulations which may cause pain. The degree of meningitis may or may not be sufficient to give a positive Kernig's sign: Inability to extend the knee fully when the thigh is flexed at right angles to the body. One of the most persistent signs of the disease, often remaining after all acute symptoms have subsided, is popliteal pain, which when investigated is found to be due to hypertonicity of the hamstrings. Other signs of meningitis and consequent increased pressure of the cerebrospinal fluid, such as MacEwen's and DeLepinay's, also more complex signs such as Brudjinski's, might be elicited. Even Babinski's sign, indicating involvement of the upper motor neurone, may rarely be present.

Definite evidence of meningeal inflammation may be obtained by lumbar puncture and examination of the spinal fluid. It goes without saying that this procedure should be followed if the meningeal symptoms are at all severe, in order to relieve the pressure and in order to rule out other forms of meningitis. The increased pressure with a clear or nearly clear fluid containing no organisms, a cell count over 10 per cubic millimeter, and increased albumen and globulin, when found, are of great diagnostic value. But unless the puncture is made by one with some skill in the technique, and under proper aseptic precautions, more harm than good may be done. Flexner and Amoss have shown that even slight hemorrhage into the subarachnoid space may possibly determine an infection which would otherwise be warded off. A thorough examination of the patient and consideration of the history will, in the usual case, enable a diagnosis to be made as positively without as with a lumbar puncture.

One symptom attributed in part to meningeal involvement is pain, or rather hyperesthesia. The tenderness may be of the skin, on deep pressure of the muscles, or on motion of the joints. It is a most characteristic symptom of the disease, yet has frequently misled physicians into the diagnosis of rheumatism or of neuritis. The hypersensitiveness may be general, or of one part of the body only. This is very suggestive of peripheral inflammation, and one would hardly look to the spinal cord for an explanation unless on the watch for poliomyelitis. But no swelling accompanies the pain of poliomyelitis. The distribution of the tenderness, moreover, is not confined to certain joints or certain nerves, but involves areas corresponding rather to segments of the spinal cord.

One other word regarding sensory disturbance deserves to be emphasized for the sake of diagnosis. While the microscopic histology of the disease shows some involvement of the sensory tracts along with the predominant motor disturbance, and while at the beginning we have this clinical evidence of sensory irritation just as we have of motor irritation to be described later, in the case of the sensory system these changes only rarely go on to a degree of degeneration which is easily demonstrable in life. The "root fields" of the skin, corresponding to different segments of the spinal cord, overlap so much that it takes a considerable cord injury to produce loss of sensation in any area, and if posterior horn lesions were severe in poliomyelitis, herpes zoster would be more frequent in this disease. To put it more plainly, anesthesia, if prominent, inclines one against the diagnosis of poliomyelitis. Local loss of sensation is found in some cases of the disease, but it is a minor feature. This is of especial help in the diagnosis of paralysis in adults; if the anesthesia approximates the motor paralysis in degree and extent, with a history dissimilar to that above outlined, the disease may indeed be anatomically poliomyelitis, that is, an inflammation of the gray matter of the spinal cord, but it is not the specific infectious disease of which we are speaking.

The motor phenomena of the meningitic stage may, like the sensory phenomena, be attributed to irritative lesions of the nerve cells rather than simply to a meningitis. One of the most noticeable of these phenomena is a tremor, brought out especially if the limbs are extended unsupported, or if muscular effort is attempted. The parents may also at times notice twitchings, but the tremor is more characteristic of the disease. Unsteadiness in action, in gait, or in standing, may amount to a pronounced ataxia and has abundant explanation in the pathological anatomy of the disease.

In these examinations in the acute stage it is to be remembered that the chief therapeutic need is rest in bed, and a sick child should not be made to walk across the room, or put through muscular exercises more than is necessary to establish the diagnosis and to ascertain indications for local treatment. Often the examination can be more successfully made by prolonging it over several visits, different portions of the body being examined each time. Physiologic rest in the proper posture often enhanced by supports or removable plaster casts to prevent the stretching of weakened or painful muscles, is indicated for the first month or two, any other treatment being subsidiary to this. Later, passive movements, massage, and especially muscle training, are to be begun; but for both these phases of treatment accurate anatomical diagnosis is essential, in addition to the mere knowledge of the existence and general distribution of the disease.

Hardly any part of the examination of the patient gives more valuable information in poliomyelitis than an examination of the reflexes, combined with which are tests of voluntary movement and tonicity of the muscles. Electricity has not proven of much value in either diagnosis or treatment. In the irritative stage we are likely to find irregular increases in the reflex response, with perhaps some spasticity, and as a rule the earliest definitive sign of degenerative changes in the peripheral motor neurone is a diminution in one or more of the reflexes. This is especially important in young children, for in the age group most commonly attacked by poliomyelitis, it is difficult to secure voluntary muscular effort at command, and one may be in doubt of anything short of an absolute flaccid paralysis, unless the break in the nerve conduction is revealed by definite absence of reflex. However, in young children, over one year of age, the reflexes are fortunately more regular, and more easily elicited, than in adults; the adults seem to have more inhibitory paths. But even here care must be taken, by repeated trials and by testing under the most favorable conditions, before a reflex is put down as absent. A unilateral increase or decrease in reflexes, present on different examinations, is of course more significant than a symmetrical absence. In this disease the deep reflexes, obtained by striking tendons, muscles, or bones, are supposedly more important than the superficial reflexes; but much valuable information can be obtained from the latter.

To obtain the deep reflexes, it is worth while to provide one's self with a proper percussion hammer. The percussion hammers sold at present are all unsuitable for this work. The rubber is usually too hard and the weight in some cases insufficient for older children and adults. The hammer which I use may be improvised from stout wire and two rubber erasers. The rubber should above all be very soft, so that one can demonstrate its pliability to the patient, and so that a sharp blow really gives no pain. Into a slot at one end of the twisted or soldered wire handle is inserted the smaller eraser, a common red or green desk eraser with beveled ends about  $2\frac{1}{2}$  by  $\frac{3}{8}$  by  $\frac{1}{4}$  inches, for percussing the tendons of very small infants. For larger children a larger eraser has been found to be more satisfactory. This may be purchased at draftsmen's or artists' supply shops and is about  $2\frac{1}{2}$  by  $\frac{3}{4}$  by  $\frac{1}{2}$  inches and very soft. To aid the precise percussion of a tendon one end and one side may be beveled with a sharp knife. It is convenient to carry this heavier eraser separate in the pocket and to insert it in the handle of the hammer, which is then reversed for use when needed.

Of the deep reflexes one of the most important is the patellar, or knee jerk. This is best elicited, not as is described in some textbooks by supporting the leg under the knee with the examiner's arm

or the edge of the bed or chair, but by allowing the quadriceps muscle to relax as completely as possible, the patient being recumbent, the heel resting on the bed, and the knee semiextended at an angle of about  $135^{\circ}$ . The knee should be hit repeatedly just above the tibial tuberosity and the response of the muscle ascertained by the examiner's hand on the thigh; true contractions are thus distinguished from mere jarring. Sometimes part of the muscle may respond more actively than the remainder. The reflexes in both knees should be accurately compared together. Significant differences in response, short of total abolition, may be obtained.

In many adults and some young children there is need to reinforce the reflexes, as it is called, by diminishing the inhibition and tonicity. A method usually successful is to distract attention and cause muscular effort to be made in another part of the body; thus if the knee jerks are being tested the patient is directed to try to pull his clasped hands apart, while looking in another direction.

The Achilles tendon reflex, or ankle jerk, is no less important than the knee jerk in this disease. Other deep reflexes which may be obtained with greater or less regularity in young children are the biceps, elicited by a blow on the arm 1 inch above the fold of the elbow; the triceps, obtained by hitting the back of the arm 1 inch above the olecranon; the scapulo-humeral, giving adduction of the arm on striking the inner side of the scapula with the hammer; the radial, giving supination of the forearm in response to a blow on the styloid process; the hamstring, giving flexion of the leg on percussion of the tendons back of the knee; the tibialis anticus, a blow on the tendon external to the lower third of the tibia causing flexion and supination of the ankle; and the peroneal, a blow on the tendon above and behind the external malleolus. It may be remarked that some of these reflexes are not always obtainable in health, but we have the two sides of the body for comparison, and even with the lesser reflexes a constant discrepancy between the two sides is significant. Increase of reflexes in the irritative stage is as important as decrease in the paralytic stage.

Of the superficial reflexes, those of the trunk are of the greatest importance in this disease, for they may give a hint of oncoming paralyses in muscles of the back and abdomen. These paralyses are often overlooked, but are of serious moment on account of resultant disability and deformity. The lumbar reflex is a contraction of the lumbar muscles in response to stroking the skin of the back below the twelfth rib. A splintered wooden tongue depressor is a good instrument for eliciting the superficial reflexes, a pin point is somewhat too sharp. The epigastric reflex is a drawing in of the epigastrium caused by stroking from either nipple downward. The upper, middle, and lower abdominal reflexes consist similarly in

localized contractions of the anterior abdominal wall on local irritation of the overlying skin surface. The gluteal reflex, a contraction of the gluteal muscles when the fold of the nates is stroked, is also of considerable importance in this disease. Other useful superficial reflexes are the scapular, elicited by stimulating the skin internal or external to the scapula; the pectoral, an adduction of the arm when the anterior axillary fold is stroked; the cremasteric in the male, obtained by stroking the inner thigh; and particularly the plantar, a flexion of the toes when the sole is stroked, usually accompanied by a drawing up of the foot, thus demonstrating activity on the part of the anterior tibial, hamstring, and hip flexor muscles.

Some of these reflexes may be found to be exaggerated in the irritative stage, and later diminished or abolished. Diminution of reflexes is probably a step in the direction of paralysis; it is likely, in fact, that if the muscular strength could be tested accurately, some weakness would be made out in those cases where there is definite reflex disturbance. One may be in doubt as to whether a reflex not obtained may be due to natural inhibition or to the disease, but we always have the corresponding reflex on the other side of the body for comparison and with this considerable list some asymmetry is likely to be made out if there is any real motor disturbance.

Even in the absence of an epidemic, a chain of general or systemic symptoms such as those previously described, combined with the spine sign, local hyperesthesia, and tremor, would be sufficient for a tentative diagnosis of poliomyelitis. An asymmetrical reflex disturbance would make this diagnosis definite, though if the meningeal signs were at all pronounced, other forms of meningitis should first be ruled out by lumbar puncture. No one of these signs or symptoms is necessary, however, and in the presence of an epidemic diagnoses can be made on much less. The more characteristic some of the symptoms are, the less is required in confirmation. Pneumonia and some other severe acute illnesses of childhood may cause meningeal symptoms; the physical examination of the patient should be thorough enough to discover these diseases if present. From post-mortem findings and from most clinical histories it may be doubted whether the paralysis of poliomyelitis ever occurs without some degree of meningitis; but the physician is frequently called to cases where history and evidence of definite meningitic symptoms are both lacking.

#### Paralytic Symptoms.

As the diminution in reflex responses is, strictly speaking, a part of the paralytic phenomena, so also is a general weakness which is often encountered. This weakness is out of proportion to the febrile



disturbance and may keep the patient from his usual activities for some time without even being definitely localizable to certain muscle groups. This is one of the reasons for the confusion, which has arisen in some quarters, of poliomyelitis with influenza. It is needless to say that poliomyelitis is a perfectly definite disease, proven by the occurrence of typical paralytic cases with characteristic pathology, while influenza is a name under which we hide many illnesses whose causation we do not know. It might well be that many of our cases called influenza are really poliomyelitis, but we can hardly say that influenza is responsible for infantile paralysis when we do not even know whether Pfeiffer's bacillus has any relation to the former disease. We do know the cause of poliomyelitis; that is, we know that it is a filterable virus with certain definite properties.

In regard to the paralysis in poliomyelitis, I desire to emphasize four points:

1. A great proportion of the cases, probably the majority, are not recognized as paralytic. These nonparalytic cases have, in the past, been reported in considerable numbers only where epidemics have been very carefully studied. In many instances, in fact, paralysis has been the criterion for diagnosis.

2. Even in the paralytic cases, weakness is the rule, absolute paralysis occurring in less than 20 per cent of the muscle groups affected. If in the field we could apply to the transitory cases delicate tests such as Lovett's spring-balance test for muscle function, and Martin's electrical sensory test, it is likely that we should find slight degrees of impairment of motion and of sensation much more common than at present.

3. The paralysis, when it occurs, is typically flaccid. There may be increased tonicity in the early stages, but in poliomyelitis, permanent spastic paralysis is rarer than anesthesia.

4. Though examples are on record of involvement of the nucleus of every cervical and spinal nerve, the distribution of the paralysis is to some extent typical. Certain muscles are much more commonly affected than others, and at times a slight impairment of a single muscle determines the diagnosis.

The legs are more often paralyzed than any other region, the occurrence of toe drop testifying to the frequent involvement of the lower leg muscles. The toe muscles themselves are usually spared. Weight bearing appears to have a deleterious influence on recovery, so that in the old cases, especially, leg paralyses are greatly in excess. Arm paralyses follow next in frequency, particularly those involving the deltoid muscle. In regard to paralyses in other parts of the body, statistics vary in different epidemics and with different observers, not only on account of variations in the degree of delicacy in

tests for muscle function, but also because in some series the observations are made early in the acute stage and in others later, when muscle training or other orthopedic treatment is begun; some paralyses are very transient, and clear up before the period of quarantine is past.

The commonest head muscle to be affected is the external rectus of the eye, giving convergent squint. This paralysis of the abducens muscle is often incomplete, and the attempt to obviate double vision may cause enough eye strain to produce ocular congestion. Slight degrees of facial palsies are very frequent, more so than the records would indicate, because recovery is usually prompt in these bulbar cases, and because the palsies are often so slight as to be unnoticed even by the child's parents. The paralysis may be detected only in certain positions of the face; one eyelid or one side of the mouth may droop. Forced movements, such as grinning, or whistling, or raising the eyebrows, will at times bring out the asymmetry, at other times mask it. Throat paralysis, causing difficult swallowing, aphonia, or regurgitation through the nose, is a very serious symptom. Many such cases prove fatal, but whether the fatality is usually due to paralysis of the bulbar centers of respiration, to extension of the paralysis to the neighboring centers of the phrenic nerve in the cervical cord, or to local paralysis in the throat, and pulmonary infection, is still an open question. Poliomyelitis typically affects the ganglion cell of the lower motor neurone, and not the higher centers; certainly the great majority of fatalities from poliomyelitis are due to paralysis of the muscles of respiration directly, that is, the spinal nuclei of the phrenic and intercostal nerves.

Slight pareses of the neck muscles may be detected in an asymmetrical position of the child's head when upright or in an inability to raise the head against pressure when recumbent. In the case of the abdominal and back muscles the skin reflexes previously mentioned may be of assistance, or lack of strength in certain trunk movements and postures, even local bulging of the abdominal wall.

Like the facial and abdominal paralyses, slight degrees of intercostal paralysis are frequently overlooked. A child's breathing is largely abdominal; but in poliomyelitis wards, cases of entire intercostal inactivity in ordinary respiration are very common. Diaphragmatic paralysis is the most serious phase of poliomyelitis, particularly when combined with intercostal paralysis. It is easily detected in severe cases, the abdomen moving inward in inspiration instead of outward. Severe intercostal paralysis on the other hand, causes a sinking of the chest wall in inspiration. A piece of cotton may be held near the child's mouth to get the respiratory rhythm in these reversed cases. With such severe paralysis the prognosis is very bad. It usually forms a part of what was formerly called Landry's

paralysis, an ascending or descending paralysis involving other muscles as well. The respiratory difficulty, as a rule, is not like that in laryngeal diphtheria or croup; there is little stridor, or evident muscular exertion in breathing, the patient is too weak. Lesser degrees of intercostal or diaphragmatic palsy may be detected by compressing the abdomen or the chest to watch for consequent respiratory difficulty.

In some of the fatal cases death is so sudden that the cause is not apparent. Indefinite symptoms may have preceded for one or more days without the paralysis being evident to either parents or physician, especially in infants and younger children. Yawning has been frequently observed as a very serious symptom. During the prevalence or suspected prevalence of poliomyelitis it is wise to require necropsies with histological examination of the spinal cord and brain in all the acutely fatal illnesses in children, unless the cause of death can be clearly established to be other than poliomyelitis. Many histories obtainable after death are not at all suggestive of the disease, though microscopic examination demonstrates poliomyelitis changes in the cervical cord.

In the upper extremity the deltoid is the muscle most typically involved. Tests for the function of this muscle may be made in the upright position by allowing the baby to reach for the percussion hammer or some other object held above his head, first with one hand and then with the other, or by playing up and down with the arms until the tonicity and muscular strength in each may be estimated. Except the opponens pollicis, which orthopedic tests have shown to be very commonly attacked, the muscles most often impaired in this section are those of the shoulder and upper arm.

In the lower extremity the anterior tibial and lower leg muscles bear the brunt of the attack, though here no part is spared. It has long been recognized that the virus of the disease appears to have an affinity for the lumbar enlargement of the spinal cord. Trivial paralysis or paresis of leg muscles is to be searched for by stimulating the action of each group; with older children the different movements can be asked for systematically, but in infants such reflexes as the plantar must be used. Besides testing the strength of the flexors and extensors of the hip, knee, ankle, and toes, one should not neglect the abductors and adductors of the hip. Comparison of the strength of the two sides is easily made by having the patient recumbent, the knees flexed and the heels resting on the bed; slight degrees of weakness in ability to bring the knees together or to separate them against the pressure of the examiner's hands may thus be detected. One peculiar circumstance is that paralysis of the rectal and urinary sphincters is unusual except in completely paralyzed, fatal cases.

All motions of the limbs should be made by the examiner repeatedly, to detect lack of tonus and of resistive efforts which may be very definite in the youngest baby, and even in an unruly child. Gait, going up and down stairs and on the level, should be observed in ambulatory cases; also the steadiness with which the patient can stand with eyes closed. The older the patient the more complete is the examination, and the less obscured are the slight degrees of muscular impairment. It is not to be expected that all these tests and reflexes will be made on every patient at the first visit, but enough should be completed to establish the diagnosis; and the more data one has the more certain will the conclusions be. The patient should in any case be stripped, and given an examination thorough enough to exclude other diseases.

It is thus seen that the diagnosis of poliomyelitis is not a simple matter, depending on a single factor or sign, but that the whole history and physical examination must be taken into consideration; and, when that is done, there are enough idiosyncrasies and pre-delictions of the disease to enable a diagnosis to be made with as great certainty as is usual in the diagnosis of other diseases, even without what was formerly considered the essential feature of the malady, permanent paralysis.

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### **EXTRA CANTONMENT ZONE REGULATIONS.**

**ORDINANCES ENACTED BY THE CITY OF LOUISVILLE, KY., COOPERATING WITH THE UNITED STATES PUBLIC HEALTH SERVICE IN THE SANITARY CONTROL OF THE CIVIL ZONE AROUND CAMP ZACHARY TAYLOR.**

The ordinances printed below have been recently adopted by the city of Louisville, Ky., for the purpose of protecting the health of the residents of the city and of preventing the spread of communicable diseases to the troops now in training at Camp Zachary Taylor near the city.

These ordinances were passed in pursuance of the plan of cooperation by States and municipalities with the Public Health Service to protect the military and naval forces of the United States from communicable diseases which may exist or gain a footing in the zones surrounding the mobilization camps. They will also protect the inhabitants of the city.

The ordinance requiring prompt notification of cases of preventable diseases will be especially valuable at this time by giving to the officers in charge of the zone knowledge of the existence of foci of infection in time to enable them to take measures to check the spread of the diseases.

These ordinances do not comprise a complete health code, but supplement ordinances previously enacted.

### Communicable Diseases—Notification of Cases.

**SECTION 1.** It shall be the duty of every physician in the city of Louisville to report to the health department, in writing, the full name, age, and address of any person under his professional care who is afflicted with any one of the diseases in the following list, with the name of the disease, within 24 hours after the time it is diagnosed, and it shall be the duty of the manager or managers, superintendents or persons in charge of every hospital, institution, or dispensary in the city of Louisville to make a similar report to the said health department within the same period, relative to any person afflicted with any one of the said diseases, stating in each instance the name of the disease:

Acute anterior poliomyelitis (infantile paralysis).	Trachoma.
Asiatic cholera.	Trichinosis.
Diphtheria (croup).	Tuberculosis (all forms, specifying parts affected).
Dysentery (amebic and bacillary).	Typhoid fever.
Continued fever lasting seven days.	Typhus fever.
Epidemic cerebrospinal meningitis.	Varicella.
Glanders.	Whooping cough.
Suppurative conjunctivitis.	Yellow fever.
Ophthalmia neonatorum.	Occupational diseases and injuries.
Hookworm disease.	Arsenic poisoning.
Leprosy.	Brass poisoning.
Malarial fever.	Carbon monoxide poisoning.
German measles.	Lead poisoning.
Mumps.	Mercury poisoning.
Paratyphoid fever.	Caisson disease (compressed air illness).
Pellagra.	Phosphorous poisoning.
Pneumonia.	Wood alcohol poisoning.
Plague.	Naphtha poisoning.
Pulmonary tuberculosis.	Carbon bi-sulphide poisoning.
Rabies in man, dog, or cattle.	Nitrobenzene poisoning.
Scarlet fever.	Any other disease of disability contracted as a result of the nature of the person's employment.
Epidemic septic sore throat.	
Smallpox.	
Tetanus.	

**SEC. 2.** If the disease reported is typhoid fever, scarlet fever, diphtheria, or epidemic sore throat, every such report shall also show whether the patient has been, or any member of the household in which the patient resides is, engaged or employed in handling milk, butter, cream, or other dairy products for sale or preliminary to sale.

**SEC. 3.** Cases of typhus fever, smallpox, or cholera shall be reported immediately to the health office by telephone or messenger, and not later than 24 hours thereafter a written report shall be made to the health officer giving, in addition to the name of the disease, the name of the patient, age, residence and other necessary information.

**SEC. 4.** Any person or persons violating or assisting in the violation of any part or parts of this ordinance, shall, upon conviction, be fined not less than \$10 or more than \$50, and each day's continuance of the violation shall constitute a separate offense.

### Convalescent Typhoid Fever Patients—Examination of Urine and Feces.

**SECTION 1.** Every physician attending a case of typhoid fever shall at least 10 days after the patient's temperature becomes normal, submit specimens of the patient's urine and feces to the health department for bacteriological examination.

SEC. 2. If, in any case, typhoid bacilli are found to be present in such urine or feces the convalescent from whom the specimens were obtained shall not resume his or her occupation without the permission of the health department.

SEC. 3. Any person violating or assisting in the violation of any part or parts of this ordinance, shall, upon conviction, be fined not less than \$5 or more than \$50, and each day's continuance of the violation shall constitute a separate offense.

### **Mosquitoes—Prevention of Breeding.**

SECTION 1. It shall be unlawful to maintain any vacant lot or other premises within the municipality of Louisville on which the rubbish is allowed to accumulate, weeds or long grass is allowed to grow, or any water is allowed to collect and lie stagnant, in which mosquitoes breed, or are likely to breed, and any such premises or vacant lot on which such rubbish, weeds, long grass, or any stagnant water is allowed to remain is hereby declared a nuisance and dangerous to the health of the people in the city of Louisville.

SEC. 2. The collections of water referred to in section 1 of this ordinance shall be held to be those contained in ditches, ponds, pools, excavations, holes, depressions, open cesspools, privy vaults, fountains, cisterns, tanks, shallow wells, barrels, troughs, except horse troughs in frequent use, caves, troughs, urns, cans, boxes, bottles, tubs, buckets, or other similar containers.

SEC. 3. The method of treatment of the collections of water specified in section 2, so as to prevent the breeding of mosquitoes, shall be any one or more of the following: (a) Screening with wire netting of at least 16 meshes to the inch each way or any other material which would prevent the ingress or egress of mosquitoes; (b) complete emptying every seven days of the unscreened containers; (c) using a larvicide approved by and applied under the direction of the health department; (d) covering completely every seven days the surface of the water with paraffin oil, kerosene, or petroleum in sufficient quantities to remain covered at least 12 hours each time; (e) cleaning and keeping sufficiently free from vegetable growth and other obstruction, and stocking with mosquito-destroying fish, absence of half-grown or larger mosquito larvæ to be evidence of compliance with this measure; (f) filling or draining to the satisfaction of the health department; (g) the removal of tin cans, tin boxes, broken or empty bottles, and similar articles likely to hold water, at least once in seven days. If not removed, it must be so completely destroyed as not to be able to hold water.

SEC. 4. The natural presence of mosquito larvæ in standing or running water shall be evidence that mosquitoes are breeding there, and failure to prevent such breeding within 24 hours or such reasonable period as may be specified in writing by the health department shall be deemed a violation of this ordinance and regulation.

SEC. 5. Should a person or persons responsible for conditions giving rise to the breeding of mosquitoes fail or refuse to take necessary measures to prevent the same within 24 hours or such reasonable period as may be specified in writing by the health department, the health department is hereby authorized to do so, and all necessary costs incurred by the health department shall be a charge against the property owner or other person offending as the case may be.

SEC. 6. The health department shall enforce the provisions of this ordinance and for this purpose may at all reasonable times enter in and upon any premises within its jurisdiction and any person or persons charged with any of the duties imposed by this ordinance failing within the time specified by the health department, to comply with any order thereof to comply with this ordinance, shall be deemed guilty of a violation and each day after the expiration of this time that said person fails to comply with this order shall be deemed a separate offense of this ordinance.

**SEC. 7.** The owner of the premises, and in his absence the agent or occupant, shall be held under this ordinance to be responsible for the prevention or correction of conditions giving rise to the breeding of mosquitoes or likely to give rise to the breeding of mosquitoes: *Provided*, Any tenant, trespasser or other person causing said condition without the consent of the owner or agent, shall be held responsible therefor.

**SEC. 8.** Any person or persons violating or assisting in the violation of any part or parts of this ordinance shall, upon conviction, be fined not less than \$5 or not more than \$20.

#### **Fruits and Vegetables—Protection.**

**SECTION 1.** No fruits, berries, or vegetables ordinarily eaten without cooking shall be kept, offered for sale, or given away at any place or transported within the city of Louisville unless covered, screened, or otherwise protected from insects, contact with animals, and handling by the public. The placing of mosquito netting or similar material in direct contact with such fruits, berries, or vegetables shall not be considered covering, screening, or protection within the meaning of this ordinance.

**SEC. 2.** Any person or persons violating or assisting in the violation of this ordinance shall, upon conviction, be fined not less than \$5 or more than \$50, and each day's continuance of the condition shall constitute a separate offense.

#### **City Water Supply—Connections with, Required when Possible.**

**SECTION 1.** Every dwelling, business establishment, or other place within the city of Louisville in which people live or transact business, and wherever the city water supply enters the property, shall have city water piped into the premises at the expense of the owner, occupant, or agent, in order that a safe supply of drinking water may be constantly available.

**SEC. 2.** Any person or persons violating or assisting in the violation of this ordinance shall, upon conviction, be fined not less than \$5 nor more than \$50, and each day's continuance shall constitute a separate offense.

#### **Water Supplies—Chemical and Bacteriological Examinations—Condemnation when Unfit for Human Use.**

**SECTION 1.** The city chemist shall make examinations of samples of water obtained from public or private wells, cisterns, springs, or other sources of supply, whenever such water is used for human consumption.

**SEC. 2.** Upon receipt of information from the city chemist and bacteriologist, after the application of standard chemical and bacteriological tests to the samples named in section 1, that such samples show evidence of organic pollution or contamination and that such pollution and contamination is detrimental to human health, the board of public health upon notice from the health department shall at once close, fill, or otherwise prevent the further use of the water from such water sources: *Provided*, That before any private well or any other private source of water supply is condemned, a hearing shall be held in the police court.

**SEC. 3.** It shall be unlawful for anyone to use or attempt to use the water from a well, cistern, spring, or other water source for human consumption after said water source has been condemned by the health department.

**SEC. 4.** Any person or persons violating or assisting in the violation of any part or parts of this ordinance shall, upon conviction, be fined not less than \$5 and not more than \$20.

#### **Common Drinking Cups and Common Towels—Prohibited in Public Places.**

**SECTION 1.** It shall be unlawful to expose, keep, provide, or permit any drinking vessel to be used in common in any public, private, or parochial school, or Sunday

school, hotel, lodging house, boarding house, restaurant, depot station, waiting room, boat, store, factory, hall, theater, moving-picture house, library, public institution, street, park, or any other public place.

SEC. 2. No glass, dish, cup, spoon, measure, or other eating or drinking vessel or utensil, used in or at any hotel, saloon, restaurant, drug store, soda fountain, or other place of public refreshment in the city of Louisville, shall be offered or permitted to be used by any other patron unless it has been thoroughly cleansed since it was last used and is thoroughly clean at the time that it is offered for use.

SEC. 3. No person, firm, or corporation having the management or control of any factory, department store, or other business establishment, school, hotel, theater, concert hall, restaurant, café, ferryboat, ferryhouse, or river boat, public lavatory, or wash room, shall maintain therein or thereat any towel or towels for use in common.

SEC. 4. The term "common" is hereby defined as more than one person.

SEC. 5. Any person or corporation violating the provision of this ordinance shall be fined not less than \$1 nor more than \$10, and each day's violating shall constitute a separate offense.

### **Privies and Cesspools—Construction and Maintenance—Removal and Transportation of Night Soil.**

SECTION 1. It shall be unlawful for any person to dig or use, or cause to be dug or used, any privy, vault, or cesspool, or connect any plumbing with a cesspool, or build or cause to be built, any privy house within the limits of the city of Louisville, except upon the written permission of the health department. All applications for such permits must be accompanied by a certificate from the city engineer to the effect that said premises do not abut upon a public sewer.

SEC. 2. When the premises do not abut upon a public sewer and pending the establishment of such a sewer, the owner, agent, or occupant of the premises may, after securing the necessary permit, construct a sanitary privy, which prior to installation must receive the approval of the health department as to suitability, construction, and sanitary efficiency.

SEC. 3. A sanitary privy shall be one in which the human excrement is deposited in a mosquito and fly-proof receptacle, kept in proper condition at all times and from the 1st of April until the 1st of October shall be well sprinkled with lime at least twice each month.

SEC. 4. Excrement removed from sanitary privies shall be emptied only into the public sewers and in accordance with the requirements of the health department.

SEC. 5. It shall be unlawful for any one other than a person or persons who have received a permit from the health department, to empty or remove any portion of the contents of any privy, vault, cesspool or other contrivance for the collection of human excrement or transport the contents of any privy, cesspool, or other contrivance through the streets, highways, alleys, or other places in the city of Louisville.

SEC. 6. Any person or persons violating or assisting in the violation of any part or parts of this ordinance shall, upon conviction be fined not less than \$10 or more than \$50 and each day's continuance of the violation shall constitute a separate offense.

### **Manure—Care, Disposal, and Transportation—Fly-Proof Receptacles Required.**

SECTION 1. It shall be the duty of every person owning, controlling, operating, or having in charge any public or private stable, barn, or place where horses, mules, asses, cattle, sheep, goats, swine, or other live stock are kept, to have and maintain at all times upon the premises or adjacent to such stable, barn, or place, a receptacle of sufficient dimensions which shall be fly-proof from March to November of each year, for the purpose of containing the droppings of manure from such stock, which said receptacle shall have a top or lid so arranged so as to be water-tight and fly-proof; and



such owner, tenant, or occupant shall each day cause to be deposited therein all droppings from such stock and shall keep the lid thereof closed (except when necessary and briefly open for the purpose of depositing therein or removing therefrom) in such a manner as to prevent the ingress of flies thereto or therefrom.

SEC. 2. Every owner, tenant, or occupant within the city of Louisville shall cause the contents of such receptacle to be removed from the premises at least once a week and oftener if required by the health department, such requirements applying to the period between March and November of each year.

SEC. 3. No receptacle shall be constructed or used for holding manure, the bottom of which is below the surface of the surrounding earth unless it be constructed of substantial cement or masonry and connected with the public sewer. Receptacles holding manure shall be constructed so as to prevent the entrance of water.

SEC. 4. Manure shall be removed from the stables, barns, and places within the city at the expense of the owner, occupant, or agent and shall not be used as fertilizer within the city limits without the permission from the health department.

SEC. 5. No manure shall be transported along any public street, alley, or highway within the city of Louisville except in a tight vehicle, which, if not closed must be covered with canvas or other suitable material, so as to prevent the falling of the manure therefrom and the access of flies thereto.

SEC. 6. Any person or persons violating or assisting in the violation of any part or parts of this ordinance, shall, upon conviction, be fined not less than \$10 or more than \$50 and each day's continuance of the condition shall be a separate offense.

#### **Sewer Connections Required when Possible.**

SECTION 1. It shall be unlawful for any person to maintain a privy vault, cesspool, or similar contrivance for the reception of human excreta when the premises abut a public sewer.

SEC. 2. Any person or persons violating or assisting in the violation of this ordinance shall, upon conviction, be fined not less than \$10 or more than \$50.

#### **Nuisances—Definition—Abatement.**

SECTION 1. Whatever is dangerous to human health, whatever renders the ground, air, or food a hazard or injury to human health, and the following specific acts, conditions, and things are each and all of them hereby declared to constitute a nuisance:

(a) Spitting upon any sidewalk or on the floor or wall of any public building, or any street car, boat, or train.

(b) The accumulation of water in which mosquito larvæ breed.

(c) The maintenance of any but sanitary privies, and these only when the premises do not abut a public sewer or when it is impossible to reach a public sewer within a distance of 100 feet without crossing the property of other owners, or when, owing to the topography of the ground, it is found impossible to make such connections.

(d) The disposal or accumulation of any foul, decaying, or putrescent substances or other offensive materials dangerous to public health in or upon any lot, street, or highway, or the escape of any gases to such an extent that the same or any of them shall by reason of offensive odors become injurious to the health of any person in the city of Louisville.

(e) The deposit or accumulation of manure unless it be in fly-proof receptacles.

(f) The presence of polluted water in a well, cistern, spring, or other source of water supply when the water therefrom is used for human consumption.

(g) The deposit of garbage in any but fly-proof water-tight receptacles.

(h) The growth of weeds where mosquitoes may harbor or rubbish be concealed.

SEC. 2. If any person within the limits of the city of Louisville shall permit or suffer on his premises or on premises of which he may be the agent or occupant any of

the above-described nuisances, the health department shall order the owner or occupant thereof to remove same at his expense within a time not to exceed 24 hours, or such reasonable time as may be specified in a written notice issued by the health department. Said notice shall be served by a police officer or sanitary inspector by delivering a copy thereof to the owner, occupant, or agent of such property. If the owner or agent of the property is unknown or absent, with no known representative or agent upon whom the notice can be served, then the police officer or sanitary inspector shall post a written notice upon the property or premises setting forth that unless the nuisance, source of filth, or source of sickness is removed or abated within 24 hours, or within such reasonable time as may be specified by the health department, at the expense of the owner or occupant, the nuisance, source of filth, or source of sickness will be abated at the expense of the owner.

If the owner, occupant, or agent shall fail to comply with requirements of said notice, then the health department shall proceed to have the nuisance, source of filth, or source of sickness described in the written notice removed or abated from said lot or parcel of ground and report the cost thereof to the proper authority, who shall assess the sum against the property.

SEC. 3. Any person or persons violating or assisting in the violation of any part or parts of this ordinance shall, upon conviction, be fined not less than \$5 or more than \$50, and each day's continuance of the condition shall constitute a separate offense.

#### **Garbage, Refuse, and Ashes—Definition—Receptacles—Collection and Transportation.**

SECTION 1. The term "garbage" shall include all combustible matter which is liable to ferment, decay, putrefy, decompose, or become offensive or a menace to health, and the refuse matter from kitchens, dining rooms, and other parts of hotels, restaurants, boarding houses, tenement houses, dwelling houses, market houses, private hotels, and club rooms, and the refuse fruit and vegetables from fruit stands, commission houses, groceries, or any other places of business and all the refuse animal matter, excepting any portion of particle of meat or animal unfit or not intended for immediate market and to be subjected to a rendering process from slaughterhouses, butcher shops, meat shops, poultry or fish stores, or any place where meat is sold.

SEC. 2. The term "ashes" shall include cinders and all solid products of complete combustion of wood, coal, or other combustible material, provided the same has been completely burned and has not been mixed with any combustible or insanitary material.

SEC. 3. The term "manure" shall include all excreta of any domestic or other animals, live stock, or fowl, and hay, straw, or other material when mixed with excreta of any such animal, live stock, or fowl.

SEC. 4. The term "other refuse" shall include all yard screenings, dirt, rags, waste paper, and all other unsightly materials.

SEC. 5. Every housekeeper, restaurant, or hotel keeper and all other keepers of stores and places of business are hereby required to place garbage in a separate water-tight, fly-proof receptacle, and furthermore to place all ashes and other refuse in another receptacle, which shall be so constructed as to prevent the contents from spilling, flying about, or otherwise scattering.

SEC. 6. The vessels for garbage as prescribed and required by the preceding section (5) shall be water-tight and made of metal with a close-fitting metal cover. Such vessels shall be provided with handles, sufficient for the safe and convenient emptying of same.

SEC. 7. The city of Louisville shall, as soon as practicable, reorganize the present garbage collection system and provide for the separate removal of garbage in a special water-tight wagon (which vehicles shall have covers) and the disposal of the garbage in such a manner as not to endanger the public health.

Sec. 8. No person or persons shall engage in the collection or transportation of garbage, manure, ashes, or other refuse as a business, without a permit from the board of public works or otherwise in accordance with the terms of the said permit.

Sec. 9. Any person or persons violating or assisting in the violation of any part or parts of this ordinance shall, upon conviction, be fined not less than \$5 or more than \$50.

**Members of Police Department Made Sanitary Inspectors—Abatement of Nuisances.**

SECTION 1. The police department of the city of Louisville shall constitute an active adjunct to the health department. The individual members of the police department shall be and are hereby authorized to perform the duties of sanitary inspectors.

Sec. 2. Patrolmen shall abate those nuisances which have no direct bearing on the spread of communicable diseases, such as ash piles or other accumulation of rubbish, unsightly matters in general, weeds, chicken yards, slop water, bad odors, and similar conditions.

Sec. 3. Patrolmen shall also investigate, report upon, and abate such other nuisances as may be directed by the board of safety.

Sec. 4. Members of the police department shall be furnished with copies of ordinances relating to public health in the city of Louisville, for their information and guidance.

# PREVALENCE OF DISEASE.

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

## UNITED STATES.

### CURRENT STATE SUMMARIES.

#### California Report for the Week Ended Oct. 27, 1917.

The California State Board of Health reported concerning the status of preventable diseases in California for the week ended October 27, 1917, as follows: Diphtheria increased to 73 cases in the State during the week. Twenty of the cases were in rural districts. One case of anthrax in man was notified in Los Angeles County. One case of poliomyelitis occurred in Butte County, and one case of leprosy was reported in Los Angeles city. Typhoid fever cases in the State showed a reduction, 27 cases having been notified during the week. Cases of mumps increased in number, while measles, scarlet fever, and whooping cough remained stationary.

The details of notifiable disease cases reported during the week ended October 20, 1917, are as follows:

Anthrax.....	4	Mumps.....	91
Chicken pox.....	72	Pneumonia.....	27
Diphtheria.....	49	Poliomyelitis.....	1
Dysentery.....	5	Scarlet fever.....	64
Erysipelas.....	6	Smallpox.....	6
German measles.....	9	Syphilis.....	28
Gonococcus infection.....	60	Tuberculosis.....	113
Malaria.....	17	Typhoid fever.....	41
Measles.....	71	Whooping cough.....	55

#### Indiana Report for the Week Ended October 27, 1917.

The State Board of Health of Indiana reported concerning the status of preventable diseases in Indiana for the week ended October 27, 1917, as follows: Eight cases of typhoid fever were notified at Muncie. Diphtheria was reported as epidemic at West Point, Newcastle, and in Tipton County. Two cases of poliomyelitis were notified at Franklin, and one case at Fort Wayne. Five cases of scarlet fever were notified at Anderson and the disease was reported as epidemic at Romney, and in Montgomery County. Smallpox was reported as epidemic at Greenwood, Decatur, and Savah, and in Posey County.

## RECIPROCAL NOTIFICATION.

## Minnesota.

*Cases of communicable diseases referred during September, 1917, 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.
<b>Diphtheria:</b> Minneapolis Health Department, Hennepin County.	Commanding officer, Fort Crook, Nebr.	Sergeant. Truck Company 129, exposed to brother quarantined in Minneapolis left for Fort Crook, Nebr.
<b>Smallpox:</b> Minneapolis Health Department, Hennepin County.	Commanding officer, Fort Dodge, Iowa.	Drafted man exposed to smallpox in Minneapolis left for Fort Dodge, Iowa.
<b>Tuberculosis:</b> Mayo clinic, Rochester, Olmsted County.	Oak Park, Cook County, Ill.; Chicago, Cook County, Ill. (2 cases); Blairsburg, Hamilton County, Iowa; Iron Mountain, Dickinson County, Mich.; Neesaunee, Marquette County, Mich.; Baltic, Houghton County, Mich.; Lansing, Ingham County, Mich.; St. Joseph, Buchanan County, Mo.; La Grange, Lewis County, Mo.; Cairo, Hall County, Nebr.; Bethany, Lancaster County, Nebr.; Cozad, Dawson County, Nebr.; Hurley, Grant County, N. Mex.; Toledo, Lucas County, Ohio; Hominy, Osage County, Okla.; Grosse, Brule County, S. Dak.; Yankton, Yankton County, S. Dak.; Hoover, Butte County, S. Dak.; Vetat, Bennett County, S. Dak. Milwaukee, Milwaukee County, Wis.; Oshkosh, Winnebago County, Wis.; Worland, Washakie County, Wyo.; Battle Bend, Alberta, Canada; Fort Francis, Ontario, Canada; Birch Hills, Saskatchewan, Canada; Tugaskie, Saskatchewan, Canada. Chicago, Cook County, Ill. (2 cases); Estherville, Emmet County, Iowa; Kildeer, Dunn County, N. Dak.; Vienna, Clark County, S. Dak.	7 advanced cases, 8 moderately advanced, 2 incipient, 2 no diagnosis given, 1 apparently arrested—cases left Mayo clinic for homes.
Pokagama Sanatorium, Pine County.	Chicago, Cook County, Ill. (2 cases); Estherville, Emmet County, Iowa; Kildeer, Dunn County, N. Dak.; Vienna, Clark County, S. Dak.	4 moderately advanced, 1 no diagnosis given, 2 advanced cases—left Mayo clinic for homes.
<b>Typhoid fever:</b> Mayo clinic, Rochester, Olmsted County.	Bedford, Lawrence County, Ind.....	Engaged as stone draftsman in Bedford 3 weeks previous to first symptoms.
Minneapolis Health Department, Hennepin County.	Indianapolis, Marion County, Ind.....	Patient sick a few days before he left home in Indiana for Minnesota.
Mayo clinic, Rochester, Olmsted County.	Miles City, Custer County, Mont.....	Engaged as a concrete worker in Montana 3 weeks previous to first symptom.
McIntyre Hospital, Virginia, St. Louis County.	Wolfepoint, Sheridan County, Mont...	Worked as a laborer at a camp at Wolfepoint, Mont., 3 weeks previous to first symptoms.
Fort Snelling, Minn., Hennepin County.	Lincoln, Lancaster County, Nebr.....	Infection undoubtedly originated at patient's home in Lincoln, Nebr.
Marble, Itasca County.....	Kimberly, White Pine County, Nev..	Patient feeling ill when he left Nevada for Minnesota.
Benson Hospital, Benson, Swift County.	Farm near Noonan, Divide County, N. Dak.	Employed on farm near Noonan, N. Dak., 3 weeks previous to first symptoms.
Wadena, Wadena County.....	Fullerton, Dickey County, N. Dak...	Employed as teamster at Fullerton, N. Dak., 3 weeks previous to first symptoms.
St. Luke's Hospital, St. Paul, Ramsey County.	Omaha Ry. between Hudson and Knapp, St. Croix and Dunn Counties, Wis.	Working with bridge crew on Omaha Ry. between Hudson and Knapp, Wis., 3 weeks previous to first symptoms.

## CEREBROSPINAL MENINGITIS.

## Arkansas—Eldorado.

During the week ended October 26, 1917, 4 cases of cerebrospinal meningitis, with 3 deaths, were notified at Eldorado, Ark.

## State Reports for September, 1917.

Place.	New cases reported.	Place.	New cases reported.
<b>California:</b>		<b>Minnesota—Continued.</b>	
San Diego County—		Martin County—	
San Diego.....	1	Manyaska Township.....	1
San Mateo County.....	1	Ramsey County—	
San Francisco.....	1	St. Paul.....	1
<b>Total.....</b>	<b>3</b>	<b>Total.....</b>	<b>4</b>
<b>Iowa:</b>		<b>Mississippi:</b>	
Dallas County.....	1	Jasper County.....	1
Humboldt County.....	1	Pike County.....	4
Linn County.....	1	<b>Total.....</b>	<b>5</b>
Scott County.....	1	<b>Montana:</b>	
Shelby County.....	1	Cascade County.....	1
<b>Total.....</b>	<b>5</b>	<b>New Jersey:</b>	
<b>Maine:</b>		Hudson County.....	3
York County—		<b>Rhode Island:</b>	
Biddeford.....	1	Providence County—	
<b>Minnesota:</b>		Providence.....	1
Anoka County—		<b>South Carolina:</b>	
Columbia Heights.....	1	Spartanburg County.....	2
Hennepin County—			
Minneapolis.....	1		

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Baltimore, Md.....	1	1	New York, N. Y.....	2	
Buffalo, N. Y.....	1	1	Norfolk, Va.....		1
Chicago, Ill.....	9	3	Norristown, Pa.....		1
Cleveland, Ohio.....	3	2	Omaha, Nebr.....		1
Columbus, Ohio.....	1		Pittsburgh, Pa.....	3	2
Dayton, Ohio.....	1		St. Louis, Mo.....	3	
Detroit, Mich.....	1		San Francisco, Cal.....	1	
Fort Wayne, Ind.....	1		Stockton, Cal.....	1	1
Hartford, Conn.....	1		Troy, N. Y.....	1	1
Milwaukee, Wis.....	2	1	York, Pa.....	1	
New Castle, Pa.....	1				

## DIPHTHERIA.

## Illinois—Joliet and Peoria.

During the week ended October 26, 1917, 9 cases of diphtheria were notified at Joliet and 23 cases at Peoria, Ill.

## Massachusetts.

During the week ended October 27, 1917, outbreaks of diphtheria, with numbers of cases notified, were reported in Massachusetts as follows: Danvers 13, Great Barrington 17, North Attleboro 31.

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1867.

**ERYSIPELAS.****City Reports for Week Ended Oct. 13, 1917.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1	.....	Milwaukee, Wis.....	2	3
Buffalo, N. Y.....	2	1	Newark, N. J.....	1	1
Chicago, Ill.....	8	1	Philadelphia, Pa.....	8	1
Cincinnati, Ohio.....	2	.....	Pittsburgh, Pa.....	14	2
Cleveland, Ohio.....	1	.....	Providence, R. I.....	.....	1
Dayton, Ohio.....	1	.....	Reading, Pa.....	1	.....
Denver, Colo.....	1	1	St. Louis, Mo.....	4	1
Detroit, Mich.....	.....	1	St. Paul, Minn.....	1	.....
Duluth, Minn.....	1	.....	San Diego, Cal.....	1	.....
Johnstown, Pa.....	1	.....	Wheeling, W. Va.....	.....	1
Los Angeles, Cal.....	1	.....	York, Pa.....	1	1
Memphis, Tenn.....	.....	1			

**LEPROSY.****City Report for Week Ended Oct. 13, 1917.**

During the week ended October 13, 1917, one case of leprosy was reported in San Francisco, Cal.

**MALARIA.****State Reports for September, 1917.**

Place.	New cases reported.	Place.	New cases reported.
California:		California—Continued.	
Alameda County—		Ventura County—	
Alameda.....	1	Oxnard.....	1
Berkeley.....	1	Yolo County.....	5
Hayward.....	1	San Francisco.....	1
Butte County.....	24	Total.....	156
Chico.....	10		
Gridley.....	4		
Calaveras County.....	18	Louisiana:	
Angels Camp.....	3	Acadia Parish.....	15
Colusa County.....	6	Allen Parish.....	5
Colusa.....	2	Bienville Parish.....	1
Fresno County—		Caddo Parish.....	9
Clovis.....	3	Calcasieu Parish.....	3
Firebaugh.....	2	Concordia Parish.....	4
Reedley.....	2	DeSoto Parish.....	13
Kern County.....	1	East Feliciana Parish.....	12
Kings County.....	2	Evangeline Parish.....	1
Los Angeles County—		Iberia Parish.....	3
Los Angeles.....	3	Iberville Parish.....	1
Watts.....	2	Jefferson Parish.....	1
Merced County.....	2	Jefferson Davis Parish.....	3
Modoc County.....	1	Lafayette Parish.....	1
Placer County—		La Salle Parish.....	4
Rocklin.....	2	Lincoln Parish.....	1
Sacramento County.....	2	Livingston Parish.....	40
Sacramento.....	1	Madison Parish.....	2
San Joaquin County.....	13	Natchitoches Parish.....	15
Stockton.....	6	Ouachita Parish.....	10
Santa Clara County—		Poincane Coupee Parish.....	2
Santa Clara.....	1	Rapides Parish.....	9
Shasta County—		Red River Parish.....	2
Redding.....	10	St. Charles Parish.....	4
Solano County.....	6	St. Helena Parish.....	1
Rio Vista.....	2	St. John Parish.....	1
Stanislaus County—		St. Landry Parish.....	10
Oakdale.....	6	St. Martin Parish.....	20
Tehama County.....	1	St. Mary Parish.....	20
Red Bluff.....	4	St. Tammany Parish.....	7
Tulare County.....	6	Tangipahoa Parish.....	14
Tuolumne County.....	1	Union Parish.....	2

## MALARIA—Continued.

## State Reports for September, 1917—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Louisiana—Continued.</b>		<b>Mississippi—Continued.</b>	
Vermilion Parish.....	29	Panola County.....	578
Webster Parish.....	1	Oktibbeha County.....	164
Winn Parish.....	2	Pearl River County.....	128
Total.....	266	Perry County.....	329
<b>Mississippi:</b>		Pike County.....	256
Adams County.....	130	Pontotoc County.....	217
Alcorn County.....	164	Prentiss County.....	119
Amite County.....	206	Quitman County.....	509
Attala County.....	85	Rankin County.....	251
Bolivar County.....	1,565	Scott County.....	219
Calhoun County.....	319	Sharkey County.....	102
Carroll County.....	150	Simpson County.....	396
Chickasaw County.....	202	Smith County.....	165
Choctaw County.....	168	Stone County.....	60
Claiborne County.....	145	Sunflower County.....	1,382
Clarke County.....	82	Tallahatchie County.....	763
Clay County.....	80	Tate County.....	440
Coahoma County.....	1,801	Tippah County.....	213
Copiah County.....	491	Tishomingo County.....	198
Covington County.....	367	Tunica County.....	742
De Soto County.....	479	Union County.....	147
Forrest County.....	347	Walthall County.....	128
Franklin County.....	309	Warren County.....	641
George County.....	60	Washington County.....	528
Greene County.....	211	Wayne County.....	138
Grenada County.....	110	Webster County.....	40
Hancock County.....	202	Wilkinson County.....	118
Harrison County.....	279	Winston County.....	322
Hinds County.....	609	Yalocousha County.....	188
Holmes County.....	733	Yazoo County.....	901
Issaquena County.....	159	Total.....	25,435
Itawamba County.....	71	<b>New Jersey:</b>	
Jackson County.....	156	Essex County.....	5
Jasper County.....	208	Mercer County.....	2
Jefferson County.....	281	Passaic County.....	1
Jefferson Davis County.....	123	Somerset County.....	4
Jones County.....	643	Sussex County.....	7
Kemper County.....	179	Total.....	19
Lafayette County.....	157	<b>South Carolina:</b>	
Lamar County.....	232	Beaufort County.....	18
Lauderdale County.....	152	Charleston County.....	140
Lawrence County.....	187	Chester County.....	16
Lee County.....	417	Greenville County.....	1
Leflore County.....	989	Laurens County.....	3
Lincoln County.....	182	Marion County.....	82
Lowndes County.....	112	Richland County.....	3
Marion County.....	371	Spartanburg County.....	6
Marshall County.....	286	Williamsburg County.....	7
Monroe County.....	213	York County.....	14
Montgomery County.....	135	Total.....	290
Neshoba County.....	193		
Newton County.....	178		
Noxubee County.....	194		

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Birmingham, Ala.....	15	1	New Orleans, La.....	1	1
Boston, Mass.....	1	.....	New York, N. Y.....	.....	1
Galveston, Tex.....	.....	1	Norfolk, Va.....	.....	1
Los Angeles, Cal.....	3	.....	Richmond, Va.....	1	.....
Memphis, Tenn.....	13	3	Sacramento, Cal.....	1	.....
Mobile, Ala.....	1	1	Stockton, Cal.....	2	.....

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



**MEASLES.**

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1867.

**PELLAGRA.****State Reports for September, 1917.**

Place.	New cases reported.	Place.	New cases reported.
District of Columbia.....	1	Mississippi—Continued.	
Louisiana:		Monroe County.....	13
Caddo Parish.....	1	Neshoba County.....	17
De Soto Parish.....	3	Newton County.....	4
East Feliciana Parish.....	1	Noxubee County.....	4
Evangeline Parish.....	2	Oktibbeha County.....	6
La Salle Parish.....	1	Panola County.....	10
Orleans Parish.....	4	Pearl River County.....	4
Ouachita Parish.....	1	Perry County.....	9
St. Mary Parish.....	1	Pike County.....	18
Total.....	14	Pontotoc County.....	8
Mississippi:		Prentiss County.....	3
Adams County.....	3	Quitman County.....	27
Alcorn County.....	8	Rankin County.....	5
Amite County.....	2	Scott County.....	5
Attala County.....	6	Simpson County.....	11
Bo' var County.....	57	Smith County.....	2
Calhoun County.....	5	Stone County.....	2
Carroll County.....	4	Sunflower County.....	18
Chickasaw County.....	13	Tallahatchie County.....	12
Claiborne County.....	2	Tate County.....	13
Clarke County.....	9	Tippah County.....	4
Clay County.....	6	Tishomingo County.....	17
Coahoma County.....	67	Tunica County.....	23
Copiah County.....	23	Union County.....	7
Covington County.....	6	Walthall County.....	6
De Soto County.....	18	Warren County.....	10
Forrest County.....	16	Washington County.....	11
Franklin County.....	1	Wayne County.....	9
George County.....	1	Webster County.....	2
Greene County.....	12	Winston County.....	5
Grenada County.....	2	Yalobusha County.....	3
Harrison County.....	14	Yazoo County.....	28
Hinds County.....	20	Total.....	821
Holmes County.....	11	South Carolina:	
Issaquena County.....	1	Abbeville County.....	1
Itawamba County.....	9	Beaufort County.....	1
Jackson County.....	2	Charleston County.....	21
Jasper County.....	16	Chester County.....	2
Jefferson County.....	8	Greenville County.....	1
Jefferson Davis County.....	4	Lancaster County.....	1
Jones County.....	40	Laurens County.....	2
Kemper County.....	5	Marion County.....	1
Lafayette County.....	8	Marlboro County.....	1
Lamar County.....	1	Newberry County.....	1
Lauderdale County.....	9	Oconee County.....	1
Lawrence County.....	3	Pickens County.....	1
Lee County.....	31	Richland County.....	1
Leflore County.....	10	Spartanburg County.....	14
Lincoln County.....	16	Union County.....	1
Lowndes County.....	15	York County.....	2
Marion County.....	8	Total.....	54
Marshall County.....	10		

**City Reports for Week Ended Oct. 13, 1917.**

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Austin, Tex.....	1	.....	Memphis, Tenn.....	4	.....
Baltimore, Md.....	.....	1	New Orleans, La.....	1	.....
Birmingham, Ala.....	15	2	New York, N. Y.....	.....	1
Charleston, S. C.....	.....	1	Norfolk, Va.....	.....	1
Kansas City, Mo.....	1	.....			

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

## PLAGUE.

## Hawaii—Kukaiu—Plague-Infected Rats Found.

At Kukaiu, Hawaii, one plague-infected rat each was found on October 18, 19, and 21, 1917.

## Hawaii—Paauhau—Plague-Infected Rat Found.

On October 22, 1917, a plague-infected rat was found at Paauhau, Hawaii.

## PNEUMONIA.

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Ann Arbor, Mich.....	1	1	New Bedford, Mass.....	1	1
Binghamton, N. Y.....	3	3	New Castle, Pa.....	1	.....
Boston, Mass.....	8	13	Newton, Mass.....	3	.....
Braddock, Pa.....	2	.....	Pasadena, Cal.....	1	.....
Cambridge, Mass.....	1	1	Philadelphia, Pa.....	46	22
Chicago, Ill.....	112	66	Pittsburgh, Pa.....	21	32
Cleveland, Ohio.....	16	21	Reading, Pa.....	1	.....
Dayton, Ohio.....	2	3	Rochester, N. Y.....	8	2
Detroit, Mich.....	3	24	Rutland, Vt.....	1	1
Erie, Pa.....	1	.....	Sacramento, Cal.....	2	.....
Fall River, Mass.....	5	3	San Diego, Cal.....	2	2
Grand Rapids, Mich.....	3	.....	San Francisco, Cal.....	7	.....
Jackson, Mich.....	1	.....	Schenectady, N. Y.....	1	.....
Kalamazoo, Mich.....	2	2	Springfield, Mass.....	1	.....
Lancaster, Pa.....	1	.....	Stockton, Cal.....	3	1
Lexington, Ky.....	1	1	Wilkesburg, Pa.....	1	.....
Los Angeles, Cal.....	5	1	Worcester, Mass.....	3	3
Lowell, Mass.....	1	3	York, Pa.....	1	.....
Newark, N. J.....	13	3			

## POLIOMYELITIS (INFANTILE PARALYSIS).

## Illinois.

During the week ended October 26, 1917, cases of poliomyelitis were notified in Illinois as follows: One case each in Dewitt, Iroquois, Morgan, and Will Counties; 3 cases in Lake County, and 30 cases in Cook County. Twenty of the Cook County cases occurred in the city of Chicago.

## State Reports for September, 1917.

Place.	New cases reported.	Place.	New cases reported.
California:		Colorado:	
Alameda County—		Denver County—	
Oakland.....	1	Denver.....	2
Los Angeles County—			
Los Angeles.....	1	Iowa:	
Pomona.....	1	Audubon County.....	1
Mendocino County—		Black Hawk County.....	1
Petter Valley.....	1	Buchanan County.....	2
Placer County—		Cass County.....	1
Colfax.....	1	Clinton County.....	3
San Diego County—		Crawford County.....	2
San Diego.....	2	Dallas County.....	1
San Mateo County—		Fayette County.....	1
Burlingame.....	1	Guthrie County.....	2
Sonoma County.....	1	Hamilton County.....	6
		Ida County.....	1
Total.....	9	Jasper County.....	1
		Johnson County.....	1

## POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

## State Reports for September, 1917—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Iowa—Continued.</b>		<b>Minnesota—Continued.</b>	
Keokuk County.....	3	Mahnomen County—	
Linn County.....	1	Le Garde Township.....	1
Lucas County.....	3	Martin County—	
Marion County.....	4	Manyaska Township.....	1
Monona County.....	3	Ramsey County—	
Monroe County.....	1	St. Paul.....	1
O'Brien County.....	3	St. Louis County—	
Osceola County.....	1	Duluth.....	1
Plymouth County.....	3	Linden Grove Township.....	1
Scott County.....	38	Todd County—	
Sioux County.....	1	Wykeham Township.....	1
Tama County.....	2	Winona County—	
Warren County.....	1	Winona.....	1
Washington County.....	1	Total.....	12
Winnebago County.....	1		
Wright County.....	1		
Total.....	90	<b>Mississippi:</b>	
		Yazoo County.....	1
<b>Louisiana:</b>			
De Soto Parish.....	1	<b>Montana:</b>	
Orleans Parish.....	1	Cascade County.....	1
Total.....	2	Great Falls.....	1
		Fallon County.....	1
		Total.....	3
<b>Michigan:</b>			
Barry County—		<b>New Jersey:</b>	
Baltimore Township.....	1	Burlington County.....	1
Berrien County—		Camden County.....	1
Sodus Township.....	1	Essex County.....	5
Calhoun County—		Morris County.....	1
Battle Creek.....	1	Total.....	8
Genesee County—			
Grand Rapids Township.....	1	<b>North Dakota:</b>	
Marquette County—		Burleigh County.....	3
Negaunee Township.....	1	Emmons County.....	1
Ontonagon County—		Ramsey County.....	1
Stanwood Township.....	1	Total.....	5
Sanilac County—			
Port Sanilac.....	1	<b>Rhode Island:</b>	
Washtenaw County—		Providence County—	
Ann Arbor.....	1	Providence.....	3
Wexford County—			
Antioch Township.....	1	<b>South Carolina:</b>	
Total.....	9	Greenville County.....	1
<b>Minnesota:</b>		<b>South Dakota:</b>	
Cottonwood County—		Fall River County.....	1
Storden.....	1	Lawrence County.....	1
Westbrook.....	2	Turner County.....	2
Jackson County—		Union County.....	1
Alpha.....	1	Yankton County.....	2
Lyon County—		Total.....	7
Amiret Township.....	1		

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	2	.....	Evansville, Ind.....	.....	1
Berkeley, Cal.....	1	.....	Kansas City, Mo.....	1	1
Boston, Mass.....	1	.....	Lincoln, Nebr.....	1	.....
Canton, Ohio.....	1	.....	Los Angeles, Cal.....	1	.....
Chicago, Ill.....	56	20	Milwaukee, Wis.....	1	1
Cincinnati, Ohio.....	1	.....	New York, N. Y.....	1	2
Cleveland, Ohio.....	5	.....	Oakland, Cal.....	1	.....
Columbus, Ohio.....	1	.....	Pittsburgh, Pa.....	2	.....
Davenport, Iowa.....	5	2	Portland, Oreg.....	3	.....
Denver, Colo.....	1	.....	Providence, R. I.....	1	.....

### **RABIES IN ANIMALS.**

#### **City Reports for Week Ended Oct. 13, 1917.**

During the week ended October 13, 1917, 3 cases of rabies in animals were reported in Detroit, Mich., and 3 cases were reported in St. Paul, Minn.

### **RABIES IN MAN.**

#### **City Report for Week Ended Oct. 13, 1917.**

During the week ended October 13, 1917, 1 fatal case of rabies in man was reported in Ann Arbor, Mich.

### **SCARLET FEVER.**

#### **Illinois—Carbondale.**

During the week ended October 26, 1917, 13 cases of scarlet fever were notified at Carbondale, Ill.

#### **Montana—Helena and East Helena.**

On October 26, 1917, 35 cases of scarlet fever were reported present in Helena, and 18 cases in East Helena, Mont.

See also Diphtheria, measles, scarlet fever, and tuberculosis, page 1867.

### **SMALLPOX.**

#### **Arkansas—Truman.**

During the week ended October 26, 1917, 20 cases of smallpox were notified at Truman, Ark.

#### **Illinois—Caseyville and Galatia.**

During the week ended October 26, 1917, outbreaks of smallpox were reported at Caseyville and Galatia, Ill., 19 cases of the disease having been notified at each place.

#### **Minnesota.**

During the week ended October 26, 1917, a new focus of smallpox infection was reported in Minnesota, 2 cases of the disease having been notified in Preble Township, Fillmore County.

## SMALLPOX—Continued.

## State Reports for September, 1917.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never or successfully vaccinated.	Vaccination history not obtained or uncertain.
<b>California:</b>						
Alameda County.....	1	.....	.....	.....	1	.....
Fresno County.....	1	.....	.....	.....	.....	1
Los Angeles County—						
Los Angeles.....	1	.....	.....	.....	1	.....
San Marino.....	1	.....	.....	.....	1	.....
Nevada County.....	18	.....	.....	.....	15	3
Grass Valley.....	1	.....	.....	.....	1	.....
San Francisco.....	3	.....	.....	.....	3	.....
Total.....	26	.....	.....	.....	22	4
<b>Colorado:</b>						
Denver County—						
Denver.....	2	.....	1	.....	1	.....
El Paso County—						
Colorado Springs.....	2	.....	.....	.....	1	1
Garfield County—						
Glenwood Springs.....	2	.....	1	.....	1	.....
Larimer County.....	2	.....	.....	.....	2	.....
Morgan County.....	2	.....	.....	.....	.....	2
Summit County.....	1	.....	.....	.....	1	.....
Total.....	11	.....	2	.....	6	3
<b>Michigan:</b>						
Alcona County—						
Harrisville Township.....	1	.....	.....	.....	1	.....
Alpena County—						
Alpena.....	2	.....	.....	.....	2	.....
Bay County—						
Pinconning.....	5	.....	.....	.....	5	.....
Clinton County—						
Watertown Township.....	3	.....	.....	.....	3	.....
Genesee County—						
Flint.....	1	.....	.....	.....	.....	1
Forest Township.....	1	.....	.....	.....	1	.....
Richfield Township.....	1	.....	.....	.....	1	.....
Huron County—						
Chandler Township.....	1	.....	.....	.....	.....	1
Harbor Beach.....	2	.....	.....	.....	2	.....
Pointe aux Barques Township.....	4	.....	.....	.....	4	.....
Port Austin Township.....	4	.....	.....	.....	4	.....
Ingham County—						
Lansing.....	1	.....	.....	.....	1	.....
Kent County—						
Courtland Township.....	5	.....	.....	.....	.....	5
Macomb County—						
Mount Clemens.....	1	.....	.....	.....	1	.....
Muskegon County—						
Ravenna Township.....	1	.....	.....	.....	1	.....
Montcalm County—						
Howard City.....	3	.....	.....	.....	3	.....
Oakland County—						
Waterford Township.....	2	.....	.....	.....	2	.....
Presque Isle County—						
Bismark Township.....	6	.....	1	.....	5	.....
St. Clair County—						
Marine City.....	1	.....	.....	.....	.....	1
Sanilac County—						
Bridgehampton Township.....	1	.....	.....	.....	1	.....
Deckerville.....	2	.....	.....	.....	2	.....
Delaware Township.....	1	.....	.....	.....	1	.....
Marion Township.....	8	.....	.....	.....	8	.....
Wheatland Township.....	3	.....	.....	.....	3	.....
Shiawassee County—						
Owosso Township.....	1	.....	.....	.....	1	.....
Owosso.....	1	.....	.....	.....	1	.....
Wayne County—						
Highland Park.....	1	.....	.....	.....	.....	1
Detroit.....	3	.....	.....	.....	.....	3
Total.....	66	.....	1	.....	53	12

## SMALLPOX—Continued.

## State Reports for September, 1917—Continued.

Place.	New cases reported.	Deaths.	Vaccination history of cases.			
			Number vaccinated within 7 years preceding attack.	Number last vaccinated more than 7 years preceding attack.	Number never successfully vaccinated.	Vaccination history not obtained or uncertain.
<b>Minnesota:</b>						
Crow Wing County—						
Brainerd.....	3				3	
Ironton.....	1				1	
Douglas County—						
Alexandria.....	1				1	
Hennepin County—						
Minneapolis.....	36			7	29	
Orono Township.....	3				3	
Itasca County—						
Grand Rapids.....	1				1	
Kittson County—						
Norway Township.....	1				1	
Marshall County—						
Stephen.....	3				3	
Meeker County—						
Kinrston Township.....	4				4	
Morrison County—						
Little Falls.....	1				1	
Mower County—						
Grand Meadow.....	2				2	
Pleasant Valley Town-						
ship.....	4				4	
Pine County—						
Brook Park Township....	2				2	
Ramsey County—						
St. Paul.....	8				8	
Rice County—						
Faribault.....	1				1	
Roseau County—						
Roseau.....	1				1	
Scott County—						
Glendale Township.....	1				1	
Total.....	73			7	66	
<b>Montana:</b>						
Cascade County—						
Great Falls.....	1					1
Chouteau County.....	1				1	
Custer County.....	1				1	
Gallatin County.....	1				1	
Bozeman.....	1				1	
Hill County.....	5				5	
Park County—						
Livingston.....	15		1		14	
Ravalli County.....	1				1	
Silver Bow County—						
Butte.....	35				35	
Silver Bow.....	14				4	10
Yellowstone County—						
Billings.....	1					1
Total.....	76		1		63	12

## Miscellaneous State Reports.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
<b>Iowa (Sept. 1-30):</b>			<b>Iowa (Sept. 1-30)—Contd.</b>		
Blackhawk County.....	1		Johnson County.....	2	
Cerro Gordo County.....	1		Mills County.....	1	
Decatur County.....	7		Monona County.....	1	
Guthrie County.....	1		Muscatine County.....	2	
Jasper County.....	1		Page County.....	3	

## SMALLPOX—Continued.

## Miscellaneous State Reports—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Iowa (Sept. 1-30)—Contd.			Mississippi (Sept. 1-30)—Con.		
Plymouth County.....	1	.....	Smith County.....	1	.....
Polk County.....	1	.....	Total.....	22	.....
Pottawattamie County.....	1	.....			
Shelby County.....	2	.....	North Dakota (Sept. 1-30):		
Total.....	25	.....	Burleigh County.....	1	.....
Louisiana (Sept. 1-30):			Grant County.....	1	.....
Ascension Parish.....	4	.....	McKenzie County.....	2	.....
Natchitoches Parish.....	2	.....	Morton County.....	3	.....
Orleans Parish.....	1	.....	Nelson County.....	10	.....
Terrebonne Parish.....	1	.....	Rolette County.....	5	.....
Total.....	8	.....	Ward County.....	2	.....
Maine (Sept. 1-30):			Williams County.....	6	.....
Aroostook County—			Total.....	30	.....
Hodgdon (town).....	1	.....			
Linneus (town).....	1	.....	South Carolina (Sept. 1-30):		
Letter A.....	3	.....	Aiken County.....	1	.....
Piscataquis County—					
Township 5, range 10.....	2	.....	South Dakota (Sept. 1-30):		
Total.....	7	.....	Charles Mix County.....	1	.....
Mississippi (Sept. 1-30):			Davison County.....	1	.....
Calhoun County.....	1	.....	Day County.....	2	.....
Harrison County.....	1	.....	Faulk County.....	4	.....
Jones County.....	1	.....	Minnehaha County.....	3	.....
Lafayette County.....	5	.....	Ziebach County.....	2	.....
Lauderdale County.....	1	.....	Total.....	13	.....
Monroe County.....	1	.....			
Newton County.....	8	.....	Wyoming (Sept. 1-30):		
Pike County.....	2	.....	Sheridan County.....	1	.....
Simpson County.....	1	.....	Washakie County.....	1	.....
			Total.....	2	.....

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1	.....	Leavenworth, Kans.....	3	.....
Alton, Ill.....	4	.....	Lincoln, Nebr.....	1	.....
Buffalo, N. Y.....	4	.....	Minneapolis, Minn.....	9	.....
Butte, Mont.....	6	.....	Muscatine, Iowa.....	1	.....
Chicago, Ill.....	1	.....	Oklahoma City, Okla.....	2	.....
Cleveland, Ohio.....	1	.....	Omaha, Nebr.....	3	.....
Columbus, Ohio.....	6	.....	Rocky Mount, N. C.....	2	.....
Denver, Colo.....	2	.....	St. Joseph, Mo.....	2	.....
Detroit, Mich.....	14	.....	St. Louis, Mo.....	2	.....
Evansville, Ind.....	1	.....	St. Paul, Minn.....	7	.....
Fort Wayne, Ind.....	13	.....	Salt Lake City, Utah.....	3	.....
Indianapolis, Ind.....	5	.....	Seattle, Wash.....	1	.....
Kansas City, Kans.....	9	.....	Sioux City, Iowa.....	3	.....
Kansas City, Mo.....	24	.....	Tacoma, Wash.....	2	.....
La Crosse, Wis.....	1	.....			

## TETANUS.

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Charleston, S. C.....		1	New York, N. Y.....		2
Chicago, Ill.....	2	1	St. Louis, Mo.....	1	.....
Cincinnati, Ohio.....	1	.....	San Diego, Cal.....	1	.....
Detroit, Mich.....		1	Toledo, Ohio.....		1
Galveston, Tex.....		1	Wheeling, W. Va.....		1

## TUBERCULOSIS.

See Diphtheria, measles, scarlet fever, and tuberculosis, page 1867.

## TYPHOID FEVER.

## State Reports for September, 1917.

Place.	New cases reported.	Place.	New cases reported.
California:		Colorado—Continued.	
Alameda County—		El Paso County—	
Alameda.....	1	Manitou.....	2
Berkeley.....	3	Jefferson County.....	1
Oakland.....	10	Kit Carson County.....	9
Butte County.....	1	Flagler.....	1
Calaveras County.....	3	Stratton.....	3
El Dorado County.....	4	Lake County.....	4
Fresno County.....	4	Larimer County—	
Fowler.....	3	Fort Collins.....	3
Fresno.....	5	Lincoln County.....	1
Glenn County.....	2	Montrose County.....	3
Humboldt County.....	3	Morgan County.....	2
Imperial County—		Otero County—	
Brawley.....	1	Rocky Ford.....	3
Kings County—		Pueblo County—	
Hanford.....	1	Pueblo.....	10
Lassen County.....	3	Weld County.....	2
Susanville.....	1	Greeley.....	11
Los Angeles County.....	6	Plattsville.....	1
Burbank.....	2	Total.....	87
Compt. n.....	1		
Lang Beach.....	3	District of Columbia.....	81
Los Angeles.....	36		
Pasadena.....	1		
San Fernando.....	1		
Madera County.....	2	Louisiana:	
Mendocino County—		Acadia Parish.....	6
Willits.....	1	Allen Parish.....	3
Nevada County.....	1	Ascension Parish.....	3
Nevada City.....	1	Assumption Parish.....	1
Orange County.....	1	Avoyelles Parish.....	1
Placer County.....	1	Beauregard Parish.....	1
Riverside County.....	3	Bienville Parish.....	3
Corona.....	1	Caddo Parish.....	8
Perris.....	2	Calcasieu Parish.....	2
Riverside.....	3	Claiborne Parish.....	1
Blythe.....	2	Concordia Parish.....	3
Sacramento County—		De Soto Parish.....	1
Sacramento.....	7	East Baton Rouge Parish.....	1
San Bernardino County.....	1	East Feliciana Parish.....	1
Chino.....	2	Evangeline Parish.....	1
Ontario.....	1	Iberia Parish.....	2
San Bernardino.....	1	Iberville Parish.....	5
San Diego County.....	2	Jefferson Davis Parish.....	4
Coronado.....	2	Lafayette Parish.....	2
San Joaquin County.....	1	Lafourche Parish.....	4
San Luis Obispo County—		Lincoln Parish.....	1
Paso Robles.....	1	Livingston Parish.....	5
San Mateo County—		Orleans Parish.....	34
San Bruno.....	1	Rapides Parish.....	16
Santa Clara County.....	1	Red River Parish.....	1
San Jose.....	3	St. Charles Parish.....	6
Stanislaus County.....	1	St. John Parish.....	1
Modesto.....	1	St. Mary Parish.....	2
Turlock.....	2	St. Martin Parish.....	1
Sutter County.....	9	St. Tammany Parish.....	1
Tehama County.....	1	Tangipahoa Parish.....	6
Tulare County—		Terrebonne Parish.....	2
Exeter.....	1	Vermilion Parish.....	1
Visalia.....	1	Vernon Parish.....	1
San Francisco.....	20	Washington Parish.....	2
Total.....	173	West Baton Rouge Parish.....	1
		Total.....	134
Colorado:		Maine:	
Boulder County—		Androscoggin County—	
Louisville.....	2	Durham (Town).....	1
Clear Creek County—		Aroostook County—	
Idaho Springs.....	1	Houlton (Town).....	1
Delta County.....	1	Cumberland County—	
Denver County—		Portland.....	5
Denver.....	27		



## TYPHOID FEVER—Continued.

## State Reports for September, 1917—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Maine—Continued.</b>		<b>Michigan—Continued.</b>	
Aennebe County—		Kent County—Continued.	
Angusta.....	2	Grand Rapids.....	17
China (Town).....	1	Sparta Township.....	1
Knox County—		Lapeer County—	
Rockland.....	4	Lapeer.....	5
Penobscot County—		Leelanau County—	
East Millinocket (Town).....	2	Empire Township.....	1
Somerset County—		Lenawee County—	
Anson (Town).....	1	Adrain Township.....	1
Starks (Town).....	1	Livingston County—	
York County—		Conway Township.....	1
Kittery.....	1	Marion Township.....	1
Total.....	19	Macomb County—	
<b>Michigan:</b>		Marie Township.....	1
Alcona County—		Mount Clemens.....	2
Harrisville Township.....	1	Manistee County—	
Alger County—		Brown Township.....	1
Munising.....	7	Marquette County—	
Allegan County—		Marquette.....	4
Heath Township.....	1	Monroe County—	
Salem Township.....	2	Bedford Township.....	1
Alpena County—		Ida Township.....	1
Alpena.....	3	Montcalm County—	
Barry County—		Howard City.....	2
Hastings.....	1	Richland Township.....	1
Benzie County—		Muskegon County—	
Blaine Township.....	2	Muskegon.....	1
Thompsonville.....	2	Oakland County—	
Berrien County—		Birmingham.....	2
Bainbridge Township.....	2	Farmington.....	1
Benton Township.....	2	Pontiac.....	1
Bertrand Township.....	1	Plochester.....	1
Oronoko Township.....	3	Oceana County—	
Branch County—		Grant Township.....	1
Bronson Township.....	1	Otto Township.....	1
Calhoun County—		Ogemaw County—	
Battle Creek.....	1	Klackling Township.....	1
Marshall Township.....	1	Saginaw County—	
Marshall.....	1	Saginaw.....	4
Cass County—		St. Clair County—	
Dowagiac.....	1	Ira Township.....	1
Cheboygan County—		St. Joseph County—	
Cheboygan.....	1	Flowerfield Township.....	1
Chippewa County—		Mottville Township.....	1
Sault Ste. Marie.....	1	Sanilac County—	
Dickinson County—		Fondusky.....	2
Iron Mountain.....	1	Washtenaw County—	
Eaton County—		Ann Arbor.....	1
Bellevue.....	1	Ypsilanti.....	3
Genesee County—		Wayne County—	
Flint.....	20	Hamtramck Township.....	1
Grafton County—		Hamtramck.....	3
Alma.....	1	Highland Park.....	3
Arcada Township.....	1	Wayne.....	1
Ithaca.....	1	Wexford County—	
St. Louis.....	2	Cadillac.....	1
Hillsdale County—		Clam Lake Township.....	1
Jefferson Township.....	1	Springville Township.....	1
Ransom Township.....	1	Total.....	157
Somerset Township.....	2	<b>Minnesota:</b>	
Woodbridge Township.....	1	Becker County—	
Ingham County—		Frazee.....	1
Lansing Township.....	1	Beltrami County—	
Lansing.....	7	Benndji.....	1
Isabella County—		Bigstone County—	
Mt. Pleasant.....	3	Ortonville.....	1
Jackson County—		Blue Earth County—	
Rives Township.....	1	Mankato.....	1
Kalamazoo County—		Chisago County—	
Kalamazoo.....	2	Fish Lake Township.....	1
Kalkaska County—		Clay County—	
Orange Township.....	1	Hitterdal.....	1
Rapid River Township.....	1	Moorhead.....	3
Kent County—		Dakota County—	
Alpine Township.....	1	South St. Paul.....	1
Casanovia Township.....	1	West St. Paul.....	3

## TYPHOID FEVER—Continued.

## State Reports for September, 1917—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Minnesota—Continued.</b>		<b>Mississippi—Continued.</b>	
Dodge County—		DeSoto County.....	2
Hayfield.....	1	Forrest County.....	7
West Concord.....	1	Franklin County.....	19
Faribault County—		Greene County.....	4
Blue Earth.....	1	Grenada County.....	4
Hennepin County—		Harrison County.....	6
Minneapolis.....	31	Hinds County.....	17
Isanti County—		Holmes County.....	2
Maple Ridge Township.....	2	Issaquena County.....	1
Kanabec County.....		Itawamba County.....	6
Arthur Township.....	1	Jackson County.....	3
Koochiching County—		Jasper County.....	21
International Falls.....	1	Jefferson County.....	2
Marshall County—		Jefferson Davis County.....	6
Stephen.....	1	Jones County.....	52
Warren.....	1	Kemper County.....	9
Meeker County—		Lafayette County.....	23
Dassel.....	1	Lamar County.....	7
Morrison County—		Lauderdale County.....	34
Little Falls.....	1	Lee County.....	14
Mower County—		Lefflore County.....	30
Austin.....	2	Lincoln County.....	17
Murray County—		Lowndes County.....	3
Fulda.....	2	Marion County.....	7
Olmsted County—		Marshall County.....	5
Rochester.....	2	Monroe County.....	21
Ottertail County—		Neshoba County.....	3
Bluffton Township.....	1	Newton County.....	6
Dane Prairie Township.....	1	Noxubee County.....	17
Polk County—		Oktibbeha County.....	22
Fisher.....	2	Panola County.....	24
Ramsey County—		Pearl River County.....	3
St. Paul.....	9	Perry County.....	1
Redwood County—		Pike County.....	26
Dedwood Falls.....	3	Pontotoc County.....	10
Rice County—		Prentiss County.....	12
Northfield.....	1	Quitman County.....	11
Walcott Township.....	1	Rankin County.....	7
St. Louis County—		Scott County.....	26
Aurora.....	1	Simpson County.....	4
Biwabik.....	1	Smith County.....	19
Chisholm.....	5	Stone County.....	1
Duluth.....	3	Sunflower County.....	24
Ely.....	1	Tallahatchie County.....	16
Eveleth.....	1	Tate County.....	18
Virginia.....	2	Tippah County.....	33
Stearns County—		Tishomingo County.....	23
St. Cloud.....	1	Tunica County.....	10
Steele County—		Union County.....	6
Owatonna.....	1	Warren County.....	6
Traverse County—		Washington County.....	5
Browns Valley.....	1	Wayne County.....	2
Tintah.....	1	Webster County.....	1
Wabasha County—		Wilkinson County.....	1
Mazeppa.....	3	Winston County.....	12
Wadena County—		Yalobusha County.....	5
Wadena.....	1	Yazoo County.....	3
Meadow Township.....	2		
Wright County—		Total.....	890
Cokato Township.....	1		
Total.....	104	<b>Montana:</b>	
<b>Mississippi:</b>		Beaverhead County.....	2
Adams County.....	5	Blaine County.....	2
Alcorn County.....	8	Carbon County.....	1
Attala County.....	5	Cascade County.....	3
Bolivar County.....	29	Great Falls.....	5
Calhoun County.....	16	Chouteau County.....	2
Carroll County.....	4	Custer County.....	7
Chickasaw County.....	21	Dawson County.....	3
Choctaw County.....	12	Fergus County.....	3
Claiborne County.....	2	Hill County.....	1
Clarke County.....	3	Lewis and Clark County—	
Clay County.....	5	Helena.....	1
Coahoma County.....	43	Missoula County—	
Copiah County.....	31	Missoula.....	1
Covington County.....	7	Musshell County.....	3
		Sheridan County.....	3
		Silver Bow County.....	2

## TYPHOID FEVER—Continued.

## State Reports for September, 1917—Continued.

Place.	New cases reported.	Place.	New cases reported.
<b>Montana—Continued.</b>		<b>Rhode Island:</b>	
Teton County.....	1	Providence County—	
Yellowstone County—		North Providence (town).....	2
Billings.....	5	Pawtucket.....	3
Total.....	45	Providence.....	16
<b>New Jersey:</b>		Washington County—	
Atlantic County.....	8	South Kingston (town).....	3
Bergen County.....	13	Total.....	24
Burlington County.....	12	<b>South Carolina:</b>	
Camden County.....	18	Abbeville County.....	2
Cape May County.....	1	Aiken County.....	1
Cumberland County.....	14	Charleston County.....	11
Essex County.....	32	Chester County.....	4
Gloster County.....	5	Chesterfield County.....	1
Hudson County.....	12	Florence County.....	16
Hunterdon County.....	1	Greenville County.....	27
Mercer County.....	6	Greenwood County.....	2
Middlesex County.....	18	Laurens County.....	6
Morrimouth County.....	18	Newberry County.....	8
Morris County.....	6	Pickens County.....	5
Ocean County.....	2	Richland County.....	2
Passaic County.....	71	Spartanburg County.....	10
Salem County.....	4	Sumter County.....	7
Somerset County.....	1	Union County.....	2
Sussex County.....	1	York County.....	1
Union County.....	12	Total.....	105
Total.....	255	<b>South Dakota:</b>	
<b>North Dakota:</b>		Day County.....	1
Burleigh County.....	5	Faulk County.....	1
Cass County.....	5	Tripp County.....	3
Golden Valley County.....	4	Total.....	5
Lamoure County.....	1	<b>Wyoming:</b>	
McHenry County.....	1	Campbell County.....	2
Morton County.....	4	Carbon County.....	5
Nelson County.....	4	Fremont County.....	2
Pierce County.....	1	Hot Springs County.....	2
Renville County.....	1	Johnson County.....	1
Roulette County.....	1	Uinta County.....	3
Stutsman County.....	7	Washakie County.....	3
Total.....	34	Total.....	18

## City Reports for Week Ended Oct. 13, 1917.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Akron, Ohio.....	1	.....	Detroit, Mich.....	13	4
Albany, N. Y.....	3	.....	Duluth, Minn.....	2	1
Alton, Ill.....	1	.....	East Chicago, Ind.....	1	.....
Altoona, Pa.....	1	.....	Elgin, Ill.....	1	.....
Ann Arbor, Mich.....	1	1	Erie, Pa.....	9	.....
Baltimore, Md.....	10	5	Evansville, Ind.....	1	1
Birmingham, Ala.....	10	3	Everett, Mass.....	1	.....
Boston, Mass.....	2	.....	Everett, Wash.....	1	.....
Buffalo, N. Y.....	8	.....	Hall River, Mass.....	10	2
Cairo, Ill.....	1	1	Galesburg, Ill.....	7	.....
Charleston, S. C.....	1	.....	Galveston, Tex.....	7	.....
Chicago, Ill.....	4	1	Grand Rapids, Mich.....	1	.....
Cincinnati, Ohio.....	1	.....	Hartford, Conn.....	5	.....
Cleveland, Ohio.....	4	1	Indianapolis, Ind.....	4	.....
Coffeyville, Kans.....	3	.....	Jersey City, N. J.....	2	.....
Columbus, Ohio.....	4	.....	Kalamazoo, Mich.....	1	.....
Covington, Ky.....	.....	1	Kansas City, Kans.....	1	.....
Cumberland, Md.....	1	.....	Kansas City, Mo.....	6	.....
Davenport, Iowa.....	2	.....	Kanawha, W. Va.....	1	.....
Dayton, Ohio.....	6	1	Kokoma, Ind.....	1	1
Denver, Colo.....	2	1	Lancaster, Pa.....	1	.....

## TYPHOID FEVER—Continued.

## City Reports for Week Ended Oct. 13, 1917—Continued.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Leavenworth, Kans.	2	1	Rock Island, Ill.	2	.....
Lexington, Ky.	2	.....	Sacramento, Cal.	2	.....
Lincoln, Nebr.	1	.....	Saginaw, Mich.	1	.....
Long Branch, N. J.	2	.....	St. Joseph, Mo.	2	2
Los Angeles, Cal.	7	.....	St. Louis, Mo.	14	3
Lynchburg, Va.	3	.....	St. Paul, Minn.	.....	1
Lynn, Mass.	1	.....	Salt Lake City, Utah	9	1
Memphis, Tenn.	3	1	San Francisco, Cal.	1	.....
Milwaukee, Wis.	1	1	San Jose, Cal.	1	.....
Minneapolis, Minn.	11	.....	Saratoga Springs, N. Y.	2	.....
Mobile, Ala.	1	.....	Savannah, Ga.	3	1
Nashville, Tenn.	3	.....	Seattle, Wash.	7	.....
Newark, N. J.	2	.....	Somerville, Mass.	1	1
New Bedford, Mass.	4	.....	South Bend, Ind.	7	3
New Castle, Pa.	1	.....	Springfield, Ill.	4	.....
New Haven, Conn.	2	.....	Springfield, Mass.	6	1
New Orleans, La.	6	.....	Tacoma, Wash.	2	.....
New York, N. Y.	40	12	Terre Haute, Ind.	.....	1
Norfolk, Va.	4	.....	Toledo, Ohio.	3	.....
Omaha, Nebr.	1	.....	Topeka, Kans.	7	1
Orange, N. J.	1	.....	Trenton, N. J.	1	.....
Perth Amboy, N. J.	1	.....	Troy, N. Y.	3	.....
Philadelphia, Pa.	32	2	Waltham, Mass.	1	.....
Pittsburgh, Pa.	5	2	Washington, D. C.	12	3
Pontiac, Mich.	1	.....	Washington, Pa.	1	.....
Portland, Me.	2	1	Wheeling, W. Va.	8	.....
Portland, Oreg.	2	.....	Wichita, Kans.	4	.....
Portsmouth, Va.	2	.....	Wilkes-Barre, Pa.	.....	1
Quincy, Mass.	1	.....	Wilmington, Del.	10	2
Reading, Pa.	3	.....	Winston-Salem, N. C.	9	.....
Richmond, Va.	7	1	York, Pa.	5	.....
Roanoke, Va.	2	.....			

## DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

## State Reports for September, 1917.

State.	Cases reported.			State.	Cases reported.		
	Diphtheria.	Measles.	Scarlet fever.		Diphtheria.	Measles.	Scarlet fever.
California	112	319	200	Mississippi	166	397	56
Colorado	28	16	27	Montana	15	7	65
District of Columbia	65	25	39	New Jersey	400	61	150
Iowa	58	.....	40	North Dakota	61	22	12
Louisiana	306	23	18	Rhode Island	69	2	29
Maine	27	52	17	South Carolina	216	13	38
Michigan	236	97	205	South Dakota	4	5	19
Minnesota	317	18	151	Wyoming	12	2	15

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

## City Reports for Week Ended Oct. 13, 1917.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Over 500,000 inhabitants:										
Baltimore, Md.	580,621	.....	12	1	1	.....	2	.....	23	24
Boston, Mass.	755,476	231	71	4	25	24	2	46	22	22
Chicago, Ill.	2,497,722	676	275	24	25	99	3	460	80	80
Cleveland, Ohio.	674,073	162	41	3	6	8	.....	26	11	11
Detroit, Mich.	571,784	187	120	12	2	32	2	70	17	17
Los Angeles, Cal.	593,812	.....	4	1	1	5	.....	15	11	11
New York, N. Y.	5,002,841	1,210	203	12	69	1	66	2	321	130
Philadelphia, Pa.	1,709,518	452	37	6	5	14	.....	87	56	56
Pittsburgh, Pa.	579,090	180	39	6	4	8	.....	21	9	9
St. Louis, Mo.	757,309	174	83	.....	3	31	.....	39	15	15
From 300,000 to 500,000 inhabit- ants:										
Buffalo, N. Y.	468,558	60	23	2	3	10	.....	36	6	6
Cincinnati, Ohio.	410,476	113	23	1	1	1	.....	15	13	13
Jersey City, N. J.	306,345	75	18	2	18	4	.....	18	7	7
Milwaukee, Wis.	436,535	80	21	2	10	31	.....	13	7	7
Minneapolis, Minn.	393,454	.....	28	.....	2	4	.....	.....	.....	.....
Newark, N. J.	498,894	89	21	.....	12	12	.....	31	16	16
New Orleans, La.	371,747	119	30	2	.....	3	.....	16	15	15
San Francisco, Cal.	463,516	108	11	.....	18	5	.....	28	.....	.....
Seattle, Wash.	348,639	52	8	.....	.....	9	.....	17	5	5
Washington, D. C.	363,080	119	114	.....	2	11	.....	9	12	12
From 200,000 to 300,000 inhabit- ants:										
Columbus, Ohio.	214,878	59	6	.....	1	26	1	9	5	5
Denver, Colo.	250,800	50	13	.....	2	21	.....	.....	11	11
Indianapolis, Ind.	271,708	.....	213	.....	3	13	.....	18	.....	.....
Kansas City, Mo.	237,847	70	20	5	4	3	.....	4	6	6
Portland, Oreg.	295,463	51	5	.....	.....	3	.....	13	10	10
Providence, R. I.	251,000	54	12	.....	.....	6	1	.....	5	5
Rochester, N. Y.	255,417	56	7	.....	1	15	1	10	5	5
St. Paul, Minn.	247,232	46	31	2	1	7	.....	8	5	5
From 100,000 to 200,000 inhabit- ants:										
Albany, N. Y.	104,199	.....	5	.....	1	1	.....	12	.....	.....
Birmingham, Ala.	181,762	61	2	.....	5	4	.....	10	8	8
Bridgeport, Conn.	121,579	26	10	.....	.....	3	.....	6	3	3
Cambridge, Mass.	112,981	22	6	.....	.....	.....	.....	8	.....	.....
Camden, N. J.	106,233	.....	5	.....	1	.....	.....	.....	.....	.....
Dayton, Ohio.	127,224	49	5	2	.....	1	.....	10	4	4
Fall River, Mass.	128,396	34	2	.....	.....	.....	.....	3	2	2
Fort Worth, Tex.	104,562	23	4	.....	.....	2	.....	.....	.....	.....
Grand Rapids, Mich.	128,291	41	6	1	.....	3	.....	7	2	2
Hartford, Conn.	110,900	.....	23	1	.....	6	.....	6	3	3
Lowell, Mass.	113,245	42	3	.....	.....	1	.....	5	2	2
Lynn, Mass.	102,425	25	4	.....	1	2	.....	3	5	5
Memphis, Tenn.	148,985	8	15	.....	.....	4	.....	19	4	4
Nashville, Tenn.	117,057	29	3	.....	1	3	.....	1	1	1
New Bedford, Mass.	118,158	35	3	.....	4	1	.....	19	2	2
New Haven, Conn.	149,685	.....	2	1	8	2	.....	6	5	5
Oakland, Cal.	198,604	35	.....	.....	3	3	.....	3	3	3
Omaha, Nebr.	165,470	32	1	.....	.....	4	.....	.....	5	5
Reading, Pa.	109,381	25	4	.....	.....	1	.....	6	2	2
Richmond, Va.	156,687	53	29	.....	.....	2	.....	5	.....	.....
Salt Lake City, Utah.	117,399	27	6	.....	4	10	.....	.....	2	2
Springfield, Mass.	105,942	32	8	.....	16	7	.....	2	1	1
Syracuse, N. Y.	155,621	44	18	2	5	3	.....	3	2	2
Tacoma, Wash.	112,770	.....	4	.....	.....	1	.....	.....	.....	.....
Toledo, Ohio.	191,554	59	7	.....	6	8	.....	1	10	10
Trenton, N. J.	111,593	37	13	.....	.....	.....	.....	8	2	2
Worcester, Mass.	163,314	48	20	.....	3	5	.....	3	6	6
From 50,000 to 100,000 inhabit- ants:										
Akron, Ohio.	85,625	.....	14	.....	1	.....	.....	2	.....	.....
Altoona, Pa.	58,659	.....	11	.....	.....	1	.....	1	.....	.....
Atlantic City, N. J.	57,660	.....	1	.....	1	.....	.....	3	.....	.....
Bayonne, N. J.	69,803	.....	2	.....	.....	.....	.....	1	.....	.....
Berkeley, Cal.	57,653	7	1	.....	1	1	.....	1	.....	.....
Binghamton, N. Y.	53,973	14	7	.....	.....	2	.....	1	.....	.....
Canton, Ohio.	60,852	17	4	1	.....	1	.....	.....	.....	.....

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

City Reports for Week Ended Oct. 13, 1917—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 50,000 to 100,000 inhab- itants—Continued.										
Charleston, S. C.	60,734	20	3				4			3
Covington, Ky.	57,144	14	4				9			1
Duluth, Minn.	94,495	18	12	1	2		1		3	1
Erie, Pa.	75,195		3				2		5	1
Evansville, Ind.	76,078	21	1				1			3
Fort Wayne, Ind.	76,183	22	3	1			1			1
Harrisburg, Pa.	72,015	17	5					1	4	
Hoboken, N. J.	77,214	21	1				6		2	1
Johnstown, Pa.	68,529	16	3				1			
Kansas City, Kans.	99,437		4							
Lanaster, Pa.	50,853				2					
Malden, Mass.	51,155	7	3	1	2		1			1
Manchester, N. H.	78,283	20	2	1	9		1		1	1
Mobile, Ala.	58,221	20	2				2			
Norfolk, Va.	89,612						2			4
Oklahoma City, Okla.	92,943	11	2		1		2			
Passaic, N. J.	71,744	24	13	2					1	1
Pawtucket, R. I.	59,411	17	2				3			
Portland, Me.	63,867	13			3		1			
Rockford, Ill.	55,185	15					1		7	1
Sacramento, Cal.	66,845	24	2		1		1		9	7
Saginaw, Mich.	55,642	14	3	1			5			
St. Joseph, Mo.	83,236	29	13	1					3	3
San Diego, Cal.	53,330	24	2	1	2		3		1	2
Savannah, Ga.	68,895	20	4						1	3
Schenectady, N. Y.	99,519	18	3				1		1	3
Sioux City, Iowa.	57,078		1				5			
Somerville, Mass.	87,039	19	4						1	2
South Bend, Ind.	68,946	20	5	2					3	
Springfield, Ill.	61,120	17								1
Springfield, Ohio.	51,550	21	2				1		3	
Terre Haute, Ind.	66,083	17		1	1					5
Troy, N. Y.	77,916		2	1			2		4	3
Wichita, Kans.	70,722		1				3			
Wilkes-Barre, Pa.	76,776	15	13	1						
Wilmington, Del.	94,265	57		2				5		3
York, Pa.	51,656		2				1		1	
From 25,000 to 50,000 inhabit- ants:										
Alameda, Cal.	27,732	6			1		5	1	1	
Auburn, N. Y.	37,385	8	3		1					2
Austin, Tex.	34,814	10								
Brookline, Mass.	22,730	5					3			
Butler, Pa.	27,632	6	4				1			
Butte, Mont.	43,425		2				6			
Chelsea, Mass.	46,192	9	6		4				1	
Chicopee, Mass.	29,319	6	1							
Cumberland, Md.	26,074	3	1						2	
Danville, Ill.	32,261	7								
Davenport, Iowa.	48,811	2	2				4			1
Dubuque, Iowa.	39,873		2				1			1
East Chicago, Ind.	28,743	9	3							2
East Orange, N. J.	42,458	5	1		12		1			
Elgin, Ill.	28,203	2							1	
Everett, Mass.	39,233	10	4	3					1	1
Everett, Wash.	35,486									
Galveston, Tex.	41,863	8	2						1	2
Green Bay, Wis.	29,353	13	1						1	
Jackson, Mich.	35,363	8					8			
Kalamazoo, Mich.	48,896	17	15	1	31				1	
Kenosha, Wis.	31,576	2					10			
Kingston, N. Y.	26,771									2
Knoxville, Tenn.	38,676		3		1		15		2	2
La Crosse, Wis.	31,677	18	12	2						1
Lexington, Ky.	41,097	13			7				17	4
Lima, Ohio.	35,384	10	4				2			1
Lipcoln, Nebr.	46,515	7								
Long Beach, Cal.	27,587	12			1					
Lorain, Ohio.	36,964		7				2			
Lynchburg, Va.	32,940	12	2	1					1	1
Madison, Wis.	30,699		1				4			

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

City Reports for Week Ended Oct. 13, 1917—Continued.

City.	Popula- tion as of July 1, 1916 (estimated by U. S. Census Bureau).	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
From 25,000 to 50,000 inhabit- ants—Continued.										
Medford, Mass.	26,234	3	3				3			
Montclair, N. J.	26,318	3	1						3	
Nashua, N. H.	27,327	13								
Newburgh, N. Y.	29,603	11	2		14					3
New Castle, Pa.	41,133		2		3		3			
Newport, Ky.	31,927	12							3	3
Newport, R. I.	30,108	4	5	1						
Newton, Mass.	43,715	12	5						1	
Niagara Falls, N. Y.	37,353	5	2				1		3	1
Norristown, Pa.	31,401	7	1							
Ogden, Utah.	31,404	5	1				7			
Orange, N. J.	33,080	15					1		5	4
Pasadena, Cal.	46,459	4								
Perth Amboy, N. J.	41,185	15	2							
Pittsfield, Mass.	38,629	12	2				2		2	
Portsmouth, Va.	39,651	9	1				2			
Quincy, Ill.	36,794	10								1
Quincy, Mass.	38,136	10	2				3		5	1
Racine, Wis.	46,485	11							1	1
Roanoke, Va.	43,284	9	1						1	1
Rock Island, Ill.	28,926	6	3							
San Jose, Cal.	38,912						1			
Steubenville, Ohio.	27,445	14								
Stockton, Cal.	35,358		3						5	3
Superior, Wis.	46,226	7	2							
Taunton, Mass.	36,283	12	1				2			2
Topeka, Kans.	48,726	11			1		1		3	1
Waltham, Mass.	30,570	4								
Watertown, N. Y.	29,894	1			1					1
West Hoboken, N. J.	43,139	3	1				1			
Wheeling, W. Va.	43,377	15	2						2	
Williamsport, Pa.	31,809		12						1	
Wilmington, N. C.	29,892	12		1						
Winston-Salem, N. C.	31,155	23	2				2		1	3
Zanesville, Ohio.	30,833	5								
From 10,000 to 25,000 inhabit- ants:										
Alton, Ill.	22,874	14	1	1	1					
Ann Arbor, Mich.	15,010	11	2							
Beaver Falls, Pa.	13,532		1				1			
Berlin, N. H.	13,599	7								1
Braddock, Pa.	21,685		6		3				1	
Cairo, Ill.	15,794	4	1							1
Clinton, Mass.	13,075	3								
Coffeyville, Kans.	17,548		1							
Concord, N. H.	22,669	6	4							
Galesburg, Ill.	24,276	10	5				2		1	
Kearny, N. J.	23,539	6			3		5			
Kokomo, Ind.	20,930	4	2							
Leavenworth, Kans.	10,363	5			1					
Long Branch, N. J.	15,395	1								1
Melrose, Mass.	17,445	7	3				1		1	
Morristown, N. J.	13,294	2								
Nanticoke, Pa.	13,126	7							1	
Newburyport, Mass.	15,243	1					1		1	
New London, Conn.	20,935	4								
North Adams, Mass.	22,019	3							3	2
Northampton, Mass.	19,926	7	3	1			1			1
Pontiac, Mich.	17,524	13	7							
Portsmouth, N. H.	11,666		1				0			
Rocky Mount, N. C.	12,067	3								
Rutland, Vt.	14,831	7					1			
Sandusky, Ohio.	20,193	5								
Saratoga Springs, N. Y.	13,821	7								
Steelton, Pa.	15,548		1	1					1	
Washington, Pa.	21,618						1			
Wilkinsburg, Pa.	23,228	6	1							
Woburn, Mass.	15,969	7								

<sup>1</sup> Population April 15, 1910; no estimate made.

# FOREIGN.

## CUBA.

### Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	Oct. 1-10, 1917.		Remain- ing un- der treat- ment Oct. 10, 1917.	Disease.	Oct. 1-10, 1917.		Remain- ing un- der treat- ment Oct. 10, 1917.
	Cases.	Deaths.			Cases.	Deaths.	
Diphtheria.....	7	.....	5	Paratyphoid fever....	.....	.....	1
Leprosy.....	.....	.....	10	Scarlet fever.....	1	.....	1
Malaria.....	20	.....	24	Typhoid fever.....	29	6	91
Measles.....	17	1	8	Varicella.....	.....	.....	2

## GREAT BRITAIN.

### Typhoid Fever—Birmingham—Comparative Statement, 1901-1916.

A decrease in the prevalence of typhoid fever was noted at Birmingham, England, during the period 1901-1916. In the first year of this period the number of cases notified was 842 and in the last year of the period the number was 19. The decrease was progressive except for the year 1907 when an increase over the prevalence during the preceding year was noted and for the year 1911, when a similar increase occurred. In 1912 and 1913 the number of cases was the same, namely, 102. The following table shows the status of the disease during the period under report:

Year.	Cases recorded.		Year.	Cases recorded.	
	Number.	Rate per 1,000 pop- ulation.		Number.	Rate per 1,000 pop- ulation.
1901.....	842	1.11	1909.....	179	0.22
1902.....	718	.92	1910.....	122	.15
1903.....	517	.67	1911.....	148	.18
1904.....	350	.45	1912.....	102	.12
1905.....	292	.37	1913.....	102	.12
1906.....	286	.36	1914.....	67	.08
1907.....	360	.45	1915.....	31	.03
1908.....	161	.32	1916.....	19	.02



**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.****Reports Received During the Week Ended Nov. 2, 1917.<sup>1</sup>****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>India:</b>				
Calcutta.....	Aug. 11-18.....	.....	6	
<b>Indo-China:</b>				
Saigon.....	June 11-July 1....	32	20	
Do.....	July 2-Sept. 9....	45	30	
<b>Philippine Islands:</b>				
Provinces.....				Aug. 9-15, 1917: Cases, 101; deaths, 57.
Bohol.....	Aug. 9-15.....	29	18	
Cebu.....	do.....	14	3	
Iloilo.....	do.....	10	7	
Leyte.....	do.....	12	9	
Mindanao.....	do.....	36	19	
Negros Oriental.....	do.....	.....	1	

**PLAGUE.**

<b>Egypt:</b>				
Alexandria.....	Aug. 24-Sept. 11..	2	.....	Jan. 1-Sept. 30, 1917: Cases, 723; deaths, 393.
Provinces—				
Minieh.....	Aug. 29-Sept. 11..	8	.....	
<b>India:</b>				
				Aug. 11-18, 1917: Cases, 2,823; deaths, 2,030.
<b>Siam:</b>				
Bangkok.....	Aug. 11-Sept. 1...	8	7	

**SMALLPOX.**

<b>Australia:</b>				
New South Wales.....				Aug. 17-30, 1917: Cases, 2.
Warren.....	Aug. 17-30.....	2	.....	
<b>Brazil:</b>				
Rio de Janeiro.....	Sept. 2-15.....	105	23	
<b>Canada:</b>				
Ontario—				
Windsor.....	Oct. 14-20.....	1	.....	
<b>China:</b>				
Chungking.....	Sept. 2-8.....	.....	.....	Present.
<b>Indo-China:</b>				
Saigon.....	June 11-July 1....	11	1	
Do.....	July 2-Sept. 9....	33	19	
<b>Russia:</b>				
Moscow.....	July 2-15.....	6	.....	
Petrograd.....	July 9-29.....	44	.....	

**TYPHUS FEVER.**

<b>Canary Islands:</b>				
Santa Cruz de Teneriffe....	Sept. 23-29.....	.....	1	
<b>China:</b>				
Antung.....	Sept. 10-23.....	4	.....	
<b>Egypt:</b>				
Alexandria.....	Sept. 4-10.....	6	3	
<b>Japan:</b>				
Nagasaki.....	Sept. 17-30.....	5	4	
<b>Russia:</b>				
Moscow.....	July 2-15.....	10	.....	
Petrograd.....	July 8-29.....	23	.....	

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

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

**Reports Received from June 30 to Oct. 26, 1917.**

## **CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>India:</b>				
Bassein.....	Apr. 1-May 5.....		8	
Bombay.....	June 24-30.....	1	1	
Do.....	July 8-Aug. 4.....	13	7	
Calcutta.....	Apr. 29-June 30.....		347	
Do.....	July 1-28.....		14	
Madras.....	Apr. 22-June 30.....	5	4	
Do.....	July 1-Aug. 21.....	93	59	
Mandalay.....	May 6-June 30.....		2	
Do.....	July 29-Aug. 11.....		1	
Moulmein.....	May 13-June 2.....		3	
Pakokku.....	Apr. 20-May 5.....		1	
Pegu.....	May 27-June 30.....		5	
Do.....	July 1-7.....		7	
Prome.....	July 29-Aug. 11.....		1	
Rangoon.....	Apr. 21-June 30.....	31	17	
Do.....	July 8-28.....	9		
<b>Indo-China:</b>				
Provinces.....				Feb. 1-June 30, 1917: Cases, 1,273; deaths, 895.
Anam.....	Feb. 1-June 30.....	230	191	
Cambodia.....	do.....	79	51	
Cochin-China.....	do.....	878	543	
Laos.....	June 1-30.....	1	1	
Tonkin.....	Feb. 1-June 30.....	36	21	
Saigon.....	Apr. 23-May 27.....	163	108	
<b>Japan.....</b>				Jan.-July, 1917: Cases, 391. Occurring in 16 provinces and districts.
Tokyo.....	Sept. 12.....	2		Sept. 12, 1917: Cases, 252. In 5 provinces and districts.
<b>Java:</b>				
East Java.....	Apr. 2-8.....	1		
Do.....	July 9-15.....	1	1	
Mid Java.....	July 16-22.....	1	1	
West Java.....				Apr. 13-July 5, 1917: Cases, 71; deaths, 31. July 6-Aug. 23, 1917: Cases, 171; deaths, 96.
Batavia.....	Apr. 13-July 5.....	7	2	
Do.....	July 6-Aug. 23.....	14	4	
<b>Persia:</b>				
Maanderan Province—				
Amir Kela.....	Feb. 3.....	1		
Barfourouche.....	Jan. 15-17.....	4		
Bamze Kela.....	Jan. 17.....	1		
Machidessar.....	Jan. 31.....	3		
<b>Philippine Islands:</b>				
Manila.....	June 17-23.....	1		Sept. 2-8, 1917: 1 case. Not previously reported.
Do.....	Aug. 19-25.....	2		May 27-June 30, 1917: Cases, 795; deaths, 595. July 1-Aug. 4, 1917: Cases, 2,064; deaths, 1,271. Aug. 19-Sept. 8, 1917: Cases, 770; deaths, 464.
<b>Provinces</b>				
Agusan.....	July 15-28.....	12	2	
Albay.....	May 20-June 30.....	113	76	
Do.....	July 1-Aug. 4.....	53	30	
Do.....	Aug. 19-Sept. 1.....	10	7	
Ambos Camarines.....	June 3-9.....	2	1	
Do.....	July 22-Aug. 4.....	20	11	
Bataan.....	July 8-14.....	1		
Batangas.....	June 17-23.....	1	1	
Bohol.....	May 20-June 30.....	368	251	
Do.....	July 1-Aug. 4.....	203	161	
Do.....	Aug. 19-Sept. 8.....	35	17	
Capiz.....	June 3-30.....	62	40	
Do.....	July 1-Aug. 4.....	64	45	
Cebu.....	June 2-30.....	231	150	
Do.....	July 1-Aug. 4.....	388	284	
Do.....	Aug. 19-Sept. 8.....	51	33	
Iloilo.....	July 1-Aug. 8.....	51	29	
Leyte.....	June 10-30.....	14	5	
Do.....	July 1-Aug. 4.....	334	223	
Do.....	Aug. 19-Sept. 8.....	227	129	
Misamis.....	July 8-Aug. 4.....	237	117	
Mindanao.....	July 20-Aug. 4.....	12	11	
Do.....	Aug. 19-Sept. 8.....	291	170	
Negros Oriental.....	July 1-Aug. 4.....	276	177	
Do.....	Aug. 19-Sept. 8.....	48	38	
Rizal.....	June 24-30.....	1		
Do.....	July 1-7.....	1		

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

**Reports Received from June 30 to Oct. 26, 1917—Continued.**

## **CHOLERA—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Philippine Islands—Continued.</b>				
<b>Provinces—Continued.</b>				
Romblon.....	July 22-28.....	1	1	
Samar.....	July 15-21.....	4	2	
Do.....	Aug. 19-Sept. 1.....	92	52	
Sorsogon.....	June 3-30.....	196	88	
Do.....	July 1-Aug. 4.....	216	114	
Do.....	Aug. 19-25.....	8	5	
Surigao.....	July 29-Aug. 4.....	4	4	
Do.....	Aug. 19-25.....	6	4	
Tayabas.....	June 3-30.....	7	7	
Do.....	July 1-Aug. 4.....	11	9	
Do.....	Aug. 19-Sept. 1.....	2	2	
Zamboanga.....	July 15-21.....	11	7	

## **PLAGUE.**

Arabia:				
Aden.....	May 3-July 4.....			43 Apr. 8-May 14, 1917: Cases, 69; deaths, 51.
Brazil:				
Bahia.....	June 10-30.....	12	8	
Do.....	July 8-Sept. 8.....	5	1	
Pernambuco.....	July 16-Aug. 15.....	4	1	
Ceylon:				
Colombo.....	Apr. 8-June 23.....	41	33	
Do.....	July 6-21.....	1	4	
China:				
Amoy.....	Apr. 29-May 5.....			Present and in vicinity.
Do.....	July 1-7.....	6	6	Present Aug. 10.
Hongkong.....	May 13-June 30.....	20	13	
Do.....	July 8-Aug. 18.....	4	3	
Kwantung Province—				
Ta-pu district.....	June 2.....			Present.
Ecuador:				
Estancia Vieja.....	Feb. 1-28.....	1		
Guayaquil.....	do.....	56	29	
Do.....	Mar. 1-Apr. 30.....	42	22	
Do.....	July 1-Aug. 31.....	4		
Milagro.....	Mar. 1-31.....	1		
Do.....	Apr. 1-30.....	1	1	
Nobol.....	Feb. 1-28.....	2		
Salitre.....	do.....	1		
Do.....	Mar. 1-31.....		1	
Taura.....	Feb. 1-28.....	3	2	
Egypt:				
Alexandria.....	June 21-27.....	6	4	Jan. 1-Aug. 2, 1917: Cases, 687; deaths, 564.
Do.....	July 31-Aug. 19.....	3	1	
Port Said government.....	Apr. 30-May 19.....	4	3	
Port Said.....	June 25.....	1		
Do.....	July 28-29.....	1	1	
Provinces—				
Fayoum.....	May 11-June 26.....	14	7	
Galioubeh.....	June 28.....	1		
Girgeh.....	May 17.....			
Minieh.....	May 12-June 28.....	4	3	
Do.....	July 29.....	1		
Siout.....	May 12.....	3	1	
Suez government.....	Apr. 30-June 2.....	23	9	
Suez.....	May 12-June 28.....	38	23	
Great Britain:				
Gravesend.....	Aug. 13-24.....	3	1	From s. s. Matiana.
London.....	May 3-8.....	2		2 in hospital at port. From s. s. Sardinia from Australian and oriental ports.
India:				Apr. 15-June 30, 1917: Cases, 43,922; deaths, 30,197. July 1-7, 1917: Cases, 1,870; deaths, 1,322. July 15-Aug. 4, 1917: Cases, 10,014; deaths, 7,821.
Bassein.....	Apr. 1-June 30.....		54	
Do.....	July 1-Aug. 11.....		23	
Bombay.....	Apr. 22-June 30.....	486	397	
Do.....	July 1-Aug. 11.....	231	188	
Calcutta.....	Apr. 29-June 2.....		38	
Do.....	July 15-21.....		1	
Benada.....	Apr. 1-June 30.....		35	

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

**Reports Received from June 30 to Oct. 26, 1917—Continued.**

## **PLAGUE—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>India—Continued.</b>				
Karachi.....	Apr. 22-June 30....	468	413	
Do.....	June 28-July 28....	11	8	
Madras Presidency.....	Apr. 22-June 30....	301	250	
Do.....	July 1-Aug. 21....	721	509	
Mandalay.....	Apr. 8-May 12....	.....	9	
Do.....	July 23-Aug. 11....	.....	2	
Moulmein.....	Apr. 1-June 30....	.....	74	
Do.....	July 1-7....	.....	16	
Myingyan.....	Apr. 1-7....	.....	1	
Pegu.....	May 27-June 2....	.....	2	
Do.....	July 29-Aug. 11....	.....	3	
Rangoon.....	Apr. 15-June 30....	183	169	
Do.....	July 1-Aug. 11....	303	286	
Toungoo.....	Apr. 8-14....	.....	2	
Do.....	July 29-Aug. 11....	.....	5	
<b>Indo-China:</b>				
Provinces.....				Feb. 1-June 30, 1917: Cases, 730; deaths, 491.
Anam.....	Feb. 1-June 30....	232	131	
Cambodia.....	do.....	132	115	
Cochin-China.....	do.....	219	133	
Kwong-Chow-Wan.....	May 1-June 30....	34	23	
Tonkin.....	Feb. 1-June 30....	113	89	
Saigon.....	Apr. 23-June 3....	47	26	
<b>Japan:</b>				
Aichi Ken.....	Jan.-July.....	22	.....	
Miye Ken.....	do.....	3	.....	
<b>Java:</b>				
East Java.....				Apr. 2-May 20, 1917: Cases, 29; deaths, 29. July 30-Aug. 5, 1917: Cases, 3; deaths, 3.
Djocjakarta Residency.....	Apr. 23-May 6....	1	1	
Kediri Residency.....	do.....	1	1	
Samarang Residency.....	Apr. 23-May 20....	3	3	
Surabaya Residency.....	Apr. 2-May 20....	18	18	
Do.....	July 8-28....	4	4	
Surakarta Residency.....	do.....	6	6	
<b>Peru.....</b>				
Departments—				May 13-31, 1917: Cases, 15.
Arequipa.....	May 16-31....	4	.....	At Mollendo.
Callao.....	do.....	1	.....	At Callao.
Lambayeque.....	do.....	2	.....	At Chiclayo.
Libertad.....	do.....	7	.....	At Salaverry, San Pedro, and Trujillo.
Lima.....	do.....	1	.....	At Lima.
<b>Siam:</b>				
Bangkok.....	Apr. 22-June 30....	13	12	
Do.....	July 3-Aug. 11....	9	8	
<b>Straits Settlements:</b>				
Singapore.....	June 3-16....	2	1	
Do.....	July 1-Aug. 18....	4	3	
<b>Union of South Africa:</b>				
Cape of Good Hope State—				Present.
Craddock.....	Aug. 23.....	.....	.....	Do.
Glengrey district.....	Aug. 13.....	.....	.....	At Summerhill Farm.
Terfa district.....	May 28.....	1	1	
Queenstown.....	June 6.....	1	.....	
Orange Free State.....				Apr. 16-22, 1917: 1 case. Apr. 9-22, 1917: Cases, 26; deaths, 17.
Winburg district.....	May 28.....	.....	1	
<b>At sea:</b>				
S. S. Matiana.....	July 14-18....	9	6	En route for port of London.

## **SMALLPOX.**

<b>Australia:</b>				
<b>New South Wales</b>				
Brewarrina.....	Apr. 27-June 21....	6	.....	Apr. 27-July 23, 1917: Cases, 75.
Cessnock.....	July 25-28....	4	.....	
Coonabarabran.....	May 25-July 5....	13	.....	
Quambyne.....	Apr. 27-June 21....	2	.....	
Warren district.....	June 22-July 17....	50	.....	
<b>Queensland—</b>				
Thursday Island Quarantine Station.....	May 9.....	1	.....	From s. s. St. Albans from Kobe via Hongkong. Vessel proceeded to Townsville, Brisbane, and Sydney, in quarantine.

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

**Reports Received from June 30 to Oct. 26, 1917—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Brazil:</b>				
Bahia.....	May 6-June 30.....	4	.....	
Do.....	July 22-Aug. 4.....	2	1	
Rio de Janeiro.....	do.....	194	31	
Do.....	July 1-Sept. 1.....	328	68	
<b>Canada:</b>				
Manitoba—				
Winnipeg.....	June 10-16.....	1	.....	
Do.....	Aug. 19-Sept. 1.....	5	.....	
Nova Scotia—				
Halifax.....	June 18-July 7.....	3	.....	
Port Hawkesbury.....	June 17-30.....	.....	.....	Present in district.
Ontario—				
Ottawa.....	July 30-Aug. 5.....	1	.....	
Windsor.....	Sept. 30-Oct. 13.....	2	.....	
<b>Ceylon:</b>				
Colombo.....	May 6-12.....	1	.....	
<b>China:</b>				
Amoy.....	Apr. 29-May 26.....	.....	.....	Present and in vicinity.
Do.....	July 1-Aug. 19.....	.....	.....	Do.
Antung.....	May 21-June 24.....	4	.....	
Do.....	Aug. 6-12.....	1	.....	
Changsha.....	May 27-June 2.....	5	.....	
Do.....	Aug. 11-17.....	.....	7	
Chungking.....	May 6-June 23.....	.....	.....	Do.
Do.....	July 1-Sept. 2.....	.....	.....	Do.
Dairen.....	May 13-June 30.....	30	4	
Do.....	July 8-28.....	6	1	July 1-7, 1917: Present.
Hankow.....	June 24-30.....	2	.....	
Harbin.....	Apr. 23-May 6.....	7	.....	On Chinese Eastern Ry.
Hongkong.....	May 6-June 16.....	8	7	
Do.....	Aug. 5-18.....	1	.....	
Manchuria Station.....	Apr. 23-29.....	1	.....	Do.
Mukden.....	May 27-June 2.....	.....	.....	Present.
Do.....	July 8-Sept. 8.....	.....	.....	Do.
Shanghai.....	May 21-July 1.....	13	32	Cases foreign; deaths among natives.
Do.....	July 2-Sept. 29.....	.....	9	Among Chinese.
Tsitsihar Station.....	Apr. 16-22.....	1	.....	On Chinese Eastern Ry.
Tsingtao.....	May 22-July 7.....	35	7	At another station on railway
Do.....	July 30-Aug. 11.....	4	1	1 case.
<b>Chosen (Korea):</b>				
Chemulpo.....	May 1-31.....	1	.....	
<b>Ecuador:</b>				
Guayaquil.....	Feb. 1-28.....	1	.....	
Do.....	Mar. 1-Apr. 30.....	8	.....	
Do.....	July 1-Aug. 31.....	12	.....	
<b>Egypt:</b>				
Alexandria.....	Apr. 30-July 1.....	39	9	
Do.....	July 2-29.....	30	4	
Cairo.....	Feb. 12-Apr. 8.....	80	1	
<b>France:</b>				
Nantes.....	July 30-Aug. 5.....	1	.....	
Paris.....	May 6-12.....	1	.....	
<b>Germany:</b>				
Berlin.....	Mar. 18-Apr. 28.....	106	.....	Mar. 18-Apr. 28, 1917: Cases, 715
Bremen.....	do.....	15	.....	in cities and 32 States and dis-
Charlottenberg.....	do.....	18	.....	tricts.
Hamburg.....	do.....	50	.....	
Leipzig.....	do.....	20	.....	
Lübeck.....	do.....	2	.....	
Munich.....	do.....	10	.....	
Stuttgart.....	do.....	1	.....	
<b>Greece:</b>				
Athens.....	July 25-30.....	.....	23	
<b>India:</b>				
Bombay.....	Apr. 22-June 30.....	186	75	
Do.....	July 1-Aug. 11.....	48	22	
Calcutta.....	Apr. 29-May 26.....	.....	12	
Karachi.....	Apr. 22-July 4.....	27	8	
Do.....	July 8-14.....	1	1	
Madras.....	Apr. 22-June 30.....	80	48	
Do.....	July 1-Aug. 21.....	3	18	
Rangoon.....	Apr. 15-June 30.....	33	5	
Do.....	July 1-28.....	7	.....	

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

**Reports Received from June 30 to Oct. 26, 1917—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Indo-China:				
Provinces:				
Anam.....	Feb. 1-June 30.....	1,630	237	Feb. 1-June 30, 1917: Cases, 617; deaths, 635.
Cambodia.....	do.....	136	26	
Cochin-China.....	do.....	1,267	377	
Kwang-Chow-Wan.....	Mar. 1-Apr. 30.....	4	1	
Laos.....	Apr. 1-30.....	5	1	
Tonkin.....	Feb. 1-June 30.....	274	30	
Saigon.....	Apr. 27-June 10.....	199	63	
Italy:				
Turin.....	May 21-June 24.....	32	12	
Do.....	July 12-Aug. 26.....	9	3	
Jamaica:				
Kingston.....	Sept. 9-15.....	1	1	
Japan:				
Kobe.....	May 27-July 22.....	65	16	Jan.-July, 1917: Cases, 4,974. In 37 provinces and districts.
Nagasaki.....	May 28-June 3.....	1	1	
Osaka.....	May 16-July 5.....	177	55	
Yokkaichi.....	July 25-31.....	1	1	
Yokohama.....	May 27-July 1.....	1	1	
Java:				
East Java.....	Apr. 2-July 1.....	38	2	
Do.....	July 2-29.....	18	7	
Mid-Java.....	Apr. 1-July 1.....	88	7	
Do.....	July 2-22.....	23	6	
West Java.....				
Batavia.....	Apr. 13-July 5.....	30	6	Apr. 13-July 5, 1917: Cases, 239; deaths, 44. July 6-Aug. 2, 1917: Cases, 68; deaths, 14.
Mexico:				
Coatepec.....	Jan. 1-June 30.....		116	Jan. 1-Aug. 14, 1916: 118 deaths.
Do.....	Aug. 1-14.....		1	
Jalapa.....	July 1-13.....		1	
Mazatlan.....	July 11-Aug. 7.....		9	
Mexico City.....	June 3-30.....	182		
Do.....	Aug. 5-Sept. 22.....	142	24	
Monterey.....	June 18-24.....		23	
Orizaba.....	Jan. 1-June 30.....		1	
Do.....	July 1-23.....		2	
Vera Cruz.....	July 1-Sept. 15.....	6	1	
Netherlands:				
Amsterdam.....	Aug. 13-18.....	1	1	
Philippine Islands:				
Manila.....	May 13-June 9.....	6		Varioloid. Do.
Do.....	July 8-Sept. 1.....	5		
Portugal:				
Lisbon.....	May 13-June 30.....	14		
Do.....	July 8-Aug. 18.....	8		
Portuguese East Africa:				
Lourenço Marques.....	Mar. 1-May 31.....		3	
Russia:				
Archangel.....	May 1-June 28.....	56	4	Jan. 1-Mar. 31, 1917: Cases, 9.
Do.....	July 2-Aug. 28.....	6		
Petrograd.....	Feb. 18-June 23.....	543		
Do.....	July 2-8.....	14		
Riga.....	Mar. 11-June 2.....	7		
Vladivostok.....	Mar. 15-24.....	23	7	
Siam:				
Bangkok.....	June 9-30.....	16	5	
Do.....	July 11-17.....	3		
Spain:				
Madrid.....	May 1-June 19.....		4	
Malaga.....	Apr. 1-June 30.....		44	
Seville.....	May 1-June 30.....		11	
Valencia.....	June 3-23.....	5		
Do.....	July 1-Sept. 15.....	13		
Straits Settlements:				
Penang.....	Mar. 18-June 23.....	6	3	
Singapore.....	June 24-30.....	1		
Sweden:				
Malmö.....	Apr. 22-28.....	1	1	
Stockholm.....	May 20-June 23.....	2		
Tunisia:				
Tunis.....	June 2-8.....	2		
Turkey in Asia:				
Trebizond.....	Feb. 25-Apr. 13.....		15	

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

**Reports Received from June 30 to Oct. 26, 1917—Continued.**

## **SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa:				
Johannesburg.....	Mar. 12-24.....	4		
Do.....	July 1-31.....	3		
Uruguay:				
Montevideo.....	May 1-31.....	2		
Venezuela:				
Maracaibo.....	June 18-July 8.....		8	
Do.....	July 9-23.....		1	

## **TYPHUS FEVER.**

Algeria:				
Algiers.....	June 1-30.....	6	3	
Do.....	July 1-Aug. 31.....	1	1	
Argentina:				
Buenos Aires.....	Aug. 12-18.....		1	
Austria-Hungary:				
Austria.....				Oct. 22-Dec. 17, 1916: Cases, 2,371.
Bohemia.....	Oct. 22-Dec. 17.....	634		
Galicia.....	do.....	809		
Lower Austria.....	do.....	47		
Moravia.....	do.....	617		
Silesia.....	do.....	16		
Styria.....	do.....	243		
Upper Austria.....	do.....	5		
Hungary.....				Feb. 19-Mar. 25, 1917: Cases, 1,381
Budapest.....	Feb. 19-Mar. 25.....	83		
Brazil:				
Rio de Janeiro.....	July 29-Aug. 11.....	2		
China:				
Antung.....	June 25-July 1.....	3		
Do.....	July 9-Sept. 9.....	11	1	
Hankow.....	June 9-15.....	1		
Do.....	July 8-14.....		1	
Tientsin.....	June 17-23.....	1		
Tsingtao.....	May 30-July 7.....	4		
Do.....	Aug. 5-11.....	1		
Egypt:				
Alexandria.....	Aug. 30-July 1.....	1,648	478	
Do.....	July 17-Sept. 2.....	306	109	
Cairo.....	Jan. 22-Apr. 8.....	188	76	
Port Said.....	Mar. 19-25.....	1		
Great Britain:				
Cork.....	June 17-23.....		1	
Greece:				
Saloniki.....	May 23-June 30.....		32	
Do.....	July 1-Aug. 4.....		19	
Japan:				
Hakodate.....	July 22-28.....	1		
Nagasaki.....	June 11-24.....	4		
Do.....	July 9-Sept. 16.....	29	2	
Java:				
East Java.....				May 6-July 1, 1917: Cases, 6
Surabaya.....	June 25-July 29.....	4		July 9-29, 1917: Cases, 6.
Mid-Java.....				Apr. 1-June 24, 1917: Cases, 38;
Samarang.....	May 5-June 10.....	14	2	deaths, 5. July 9-Aug. 23,
Do.....		5		1917: Cases, 13; deaths, 1.
West Java.....				Apr. 13-July 5, 1917: Cases, 147;
Batavia.....	Apr. 13-July 5.....	70	6	deaths, 6. July 6-Aug. 23, 1917:
Do.....	July 6-Aug. 23.....	61	8	Cases, 82; deaths, 11.
Mexico:				
Aguaascalientes.....	July 10-16.....		1	
Coatepec.....	Aug. 1-14.....		5	
Jalapa.....	Apr. 1-June 30.....		1	
Do.....	July 1-31.....		3	
Mexico City.....	June 1-31.....	431		
Do.....	July 8-Sept. 22.....	1,044		
Orizaba.....	Jan. 1-June 30.....		6	
Do.....	July 1-31.....		1	
Netherlands:				
Rotterdam.....	June 9-23.....	3	2	
Do.....	July 15-Sept. 1.....	11		

**CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.****Reports Received from June 30 to Oct. 26, 1917—Continued.****TYPHUS FEVER—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Norway:				
Bergen.....	July 8-28.....	7	.....	
Portuguese East Africa:				
Laurenço Marques.....	Mar. 1-31.....	1	.....	
Russia:				
Archangel.....	May 1-June 28.....	11	2	
Do.....	July 2-Aug. 28.....	16	5	
Petr. grad.....	Feb. 18-June 23.....	138	3	
Do.....	July 2-8.....	10	.....	
Riga.....	May 31-June 2.....	3	.....	Jan. 1-31, 1917: 1 case.
Vladivostok.....	Mar. 29-May 21.....	5	.....	
Spain:				
Almeria.....	May 1-31.....	.....	5	
Madrid.....	do.....	.....	2	
Switzerland:				
Basle.....	June 17-23.....	1	.....	
Do.....	July 8-8 pt. 22.....	7	1	
Zurich.....	July 26-8 pt. 22.....	2	.....	
Trinidad.....	June 4-9.....	2	.....	
Tunisia:				
Tunis.....	June 30-July 6.....	.....	1	
Union of South Africa:				
Cape of Good Hope State—				
East London.....	Sept. 10.....	.....	.....	Present.

**YELLOW FEVER**

Ecuador:				
Babahoyo.....	Feb. 1-28.....	1	1	
Do.....	Mar. 1-31.....	2	1	
Chobo.....	do.....	1	1	
Guayaquil.....	Feb. 1-28.....	18	7	
Do.....	Mar. 1-Apr. 30.....	34	18	
Do.....	July 1-Aug. 31.....	24	10	
Milagro.....	Feb. 1-28.....	1	.....	
Do.....	Mar. 1-Apr. 30.....	2	1	
Naranjo.....	July 1-Aug. 31.....	2	2	
Mexico:				
Campeche State—				
Campeche.....	Aug. 19-25.....	2	1	
Yucatan State—				
Merida.....	Aug. 8-Sept. 20.....	8	3	
Peto.....	June 23.....	1	1	In person recently arrived from Mexico City.
Do.....	July 1-Sept. 25.....	6	1	
Venezuela:				
Coro.....	.....	.....	.....	Present Sept. 5.