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ON THE INFECTIVITY OF TABARDILLO OR MEXICAN TYPHUS FOR MONKEYS AND STUDIES ON ITS MODE OF TRANSMISSION.

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In two previous notes [a] we reported some results of work upon tabardillo, the typhus fever of Mexico. In the second of these notes we recorded the experimental production of fever after the inoculation with blood from cases of human tabardillo in two species of monkeys, one "Bedalia," a female *Macacus rhesus*, and the other "Jerry," a male *Cebus capuchinus*. In order to determine whether the fever thus produced was tabardillo, we decided to test the immunity of these two monkeys by again inoculating them with virulent blood.

On January 7, 26 days after the subsidence of the fever, "Jerry" was given intraperitoneally 8 cubic centimeters of defibrinated blood from case No. 19. This blood was drawn from the general circulation on the tenth day of the disease, and inoculations with it on ordinary culture media showed no visible growth. The accidental death of the control animal made it desirable to reinoculate this monkey. Accordingly, on January 11, 30 days from the subsidence of the fever, "Jerry" received 7 cubic centimeters of defibrinated blood from case No. 20. This blood was drawn from the general circulation on the eighth day of the disease and inoculations with it on ordinary culture media showed no visible growth.

On the same day 5 cubic centimeters of defibrinated blood from the same case (case No. 20) was injected intraperitoneally into "Bedalia," the female *rhesus*, whose attack of fever subsided critically 23 days before. The temperature of both monkeys was taken twice daily during a period of 14 days following the inoculations. No febrile reaction or other indication of illness was noted during this period, at the end of which we were obliged to terminate our observations. [b]

[a] Anderson, John F., and Goldberger, Joseph: On the relation of Rocky Mountain spotted fever to the typhus fever of Mexico. A preliminary note. Public Health Reports, vol. 24, Dec. 10, 1909, p. 1861.

Same: A note on the etiology of "tabardillo," the typhus fever of Mexico. Public Health Reports, vol. 24, Dec. 24, 1909, p. 1941.

[b] On account of the illness of one of us (J. G.) it was necessary to terminate the work in Mexico City. Accordingly the experimental animals, with one exception ("Adela"), were shipped to the laboratory in Washington. For a period of five days, therefore, observations on them were necessarily suspended.

PASSAGE.

The succession of events after the inoculation of the two monkeys, "Bedalia" and "Jerry," particularly well defined in the former, with blood that gave no visible growth on ordinary culture media, namely, an incubation period of not less than 5 nor more than 11 days succeeded by a fever of 13 days whose onset, course, duration, and critical defervescence presented a most striking resemblance to the fever curve of this disease in man, as may be seen by comparing charts Nos. 1 and 2, left but little doubt in our minds that the fever produced in these animals although without a discernible eruption was due to the transfer of a living virus.

In order, however, to eliminate any possible doubt, it was decided first to reproduce the fever in two or more animals by the inoculation of virulent blood from a human case and then, if successful, to attempt to transfer the infection from those monkeys to a second series. Accordingly the following experiments were performed:

"Adela," a female *rhesus*, was inoculated intraperitoneally on January 11 with 6 cubic centimeters of defibrinated blood from case No. 20, this being a portion of the same blood as was used for testing the immunity of "Bedalia" and "Jerry." This blood, as has already been stated, was drawn from the general circulation on the eighth day of the disease and on ordinary culture media gave no visible growth. On January 19, 8 days following the inoculation, the temperature of this animal began to rise, reaching a maximum of 40.6° C. on January 25.[a] Simultaneously with the rise in temperature the animal gave other indications of illness, such as diminution of the appetite, thirst, ruffled fur and attitude. On January 23, on the fifth day of illness, about 3 cubic centimeters of urine was obtained and found to contain a small percentage of albumin. The fever ended critically on January 30.

"Maria," a female *rhesus*, was inoculated intraperitoneally on January 11 with 8 cubic centimeters of defibrinated blood from case No. 20, this being another portion of the same blood as was used for the inoculation of "Adela," "Jerry," and "Bedalia." On January 19, eight days after the inoculation, the temperature of the animal began to rise, reaching 40.2° C. on the 24th. The following day the temperature was somewhat lower. After January 25 observation of this animal was suspended and not resumed until the afternoon of January 31, when the temperature was found to be normal and the animal in apparently good health. Beside the elevation of temperature this animal showed symptoms of illness similar to but not so marked as those presented by "Adela." This animal, though inoculated with a larger amount of blood than "Adela," presented the milder reaction. This seems to be worthy of note, inasmuch as Ricketts and Wilder[b] made a somewhat similar observation in their experiments.

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[a] On account of the gravity of her condition, this animal was left in Mexico on our departure for Washington. The temperatures recorded and other observations after January 25 were made and reported to us by Mr. Braulio B. Ramirez, technical assistant in the laboratory of the Superior board of health, to whom we wish here to express our obligations.

[b] Ricketts, H. T.; and Wilder, Russell M.: The typhus fever of Mexico (tabardillo). Journ. Am. Med. Assn., vol. 54, Feb. 5, 1910, p. 463.

In view of the more marked reaction in the monkey "Adela" we selected this animal from which to draw blood for passage to a second series of monkeys. Accordingly, on January 23, four days after the onset of the fever in this monkey, blood was drawn from her heart and at once defibrinated. Eight and one-half cubic centimeters of the defibrinated blood was inoculated intraperitoneally into "Faustinella," a female *rhesus*.

On January 24, five days after the onset of fever, some more blood was aspirated from her heart and immediately defibrinated. Eight cubic centimeters of this defibrinated blood was inoculated intraperitoneally into "José," a male *rhesus*.

In broth and on blood-serum slants neither the defibrinated blood used for the inoculation of "Faustinella" nor that used for the inoculation of "José," gave any visible growth.

These animals were kept under observation up to and including January 25, after which date we were obliged to suspend observations.

Observations were resumed in the afternoon of January 31, at which time (eight days after inoculation) "Faustinella" showed a slight rise in temperature. This animal continued for several days with a somewhat elevated temperature, but gave no other indication of illness.

On resuming observations "José" was found (seven days after inoculation) with a temperature of 40.4° C. In the afternoon of February 2, the temperature reached 40.7° C. Two days later the temperature had dropped 2°. During the height of its fever this animal, with the exception of a slight diminution in appetite, showed but little other indication of sickness.

On February 4 blood was aspirated from the heart, immediately defibrinated, and 6 cubic centimeters injected intraperitoneally into another *rhesus* monkey. This blood was sterile upon ordinary culture media.

It is interesting to note that neither "Faustinella" nor "José" presented marked signs of illness during the period of observation This may possibly be significant, in view of Nicolle's[a] experience indicating an attenuation of the virus by passage through the animals with which he experimented.

We have here then, first, a production of fever in two monkeys induced by a single intraperitoneal inoculation in each of defibrinated blood directly from a human case of tabardillo, after an incubation period of eight days in both animals, the blood used being sterile on ordinary culture media. The onset, course, duration, and defervescence of the fever, as observed in one of these animals ("Adela," chart No. 3) bears a close resemblance to the fever curve for "Bedalia" (chart No. 2) and that frequently observed in human cases (chart No. 1). Second, blood drawn from the heart of one of these monkeys ("Adela") four days after the onset of the fever, and again on the following day, although sterile on ordinary culture media, induced, when inoculated intraperitoneally into the monkeys "Faustinella" and "José," respectively, a fever resembling that of the animal from which the blood originated.

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[a] Nicolle, Charles; Comte, C.; and Conseil, E.: Transmission expérimentale du typhus exanthematique par le pou du corps. C. R. des Acad. Sci., tome 149, No. 10, Sept. 6, 1909, p. 486.

We believe, therefore, that this succession of events justifies the conclusion that in the inoculation of monkey from man, and in the subsequent passage from monkey to monkey, a living virus capable of multiplication was transferred.

FILTRATION.

With a view of obtaining some idea of the size of the infecting agent we performed the following experiment: Six cubic centimeters of blood serum were obtained by centrifugalization of a portion of defibrinated blood from case No. 20, this being a portion of the same blood as was used for testing the immunity of "Bedalia" and "Jerry" and for the inoculation of "Adela" and "Maria." The blood serum was diluted with 12 cubic centimeters of physiological salt solution and then filtered through a Berkefeld filter. Fifteen cubic centimeters of the filtrate, representing approximately 5 cubic centimeters of the serum, was inoculated intraperitoneally into "Esther," a female *rhesus*, on January 11.

The temperature of this animal was taken twice daily up to and including January 25, a period of 14 days, when observations were temporarily suspended. On the afternoon of January 31, when observations were resumed, no febrile reaction or other manifestations of illness were noted. It would appear, therefore, that either the infecting organism is too large to pass through this filter or that it passed through in insufficient numbers to produce a reaction in this animal. Ricketts and Wilder[a] have reported that the virus failed to pass through a Berkefeld filter in an experiment made on the same date (January 11) as the one done by us.

It may be well to note here that portions of the blood serum from case No. 20 on January 11 were used, first, to test the immunity of "Bedalia" and "Jerry;" second, to inoculate "Adela" and "Maria;" and third, for the inoculation of "Esther," after filtration through a Berkefeld filter. As has already been recorded above, the monkeys "Bedalia" and "Jerry" showed their immunity by giving no reaction to the inoculation with this blood; "Adela" and "Maria" both became sick; "Esther," the animal inoculated with the filtered serum, showed no reaction.

INSECT TRANSMISSION.

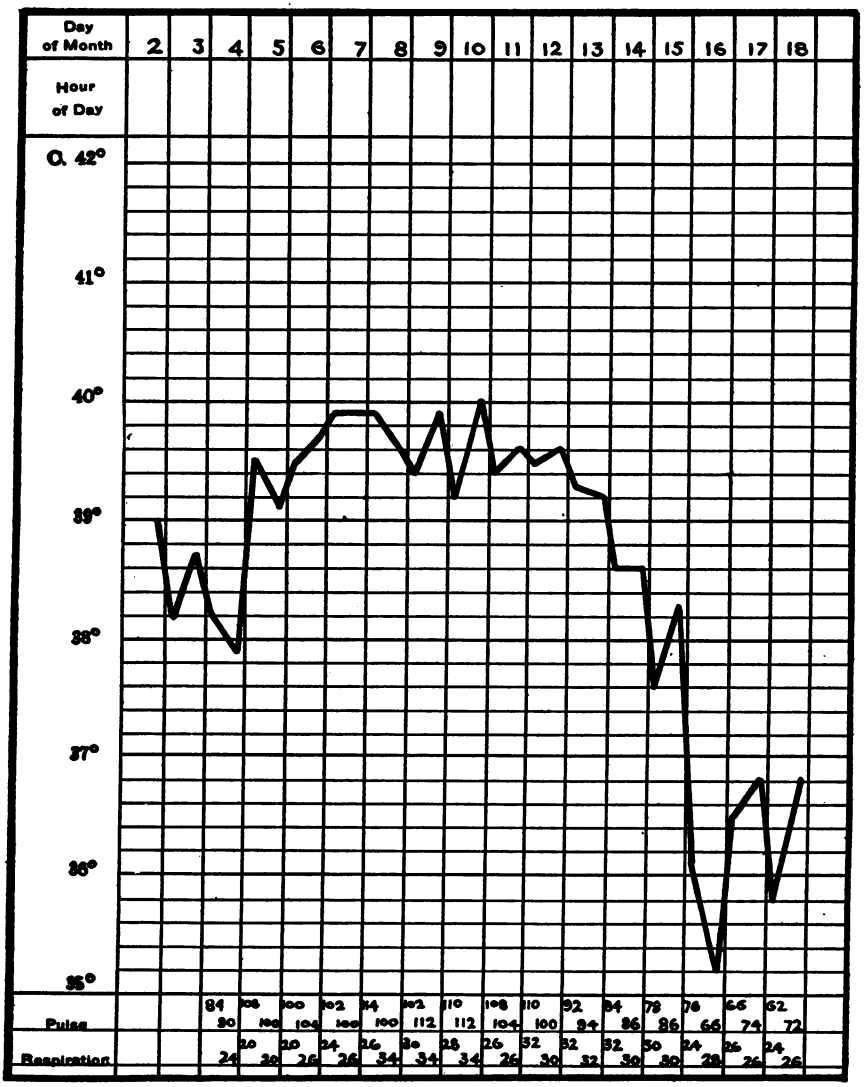
The peculiarities of the epidemiology of tabardillo must strike even the most casual reader who is familiar with the advances in our knowledge of the rôle of insects in disease transmission as highly suggestive of the existence of an intermediary host. We were very early convinced that this disease is not contagious, using this word in its ordinary sense. We could cite a long series of facts, both from the literature and from our own observations, in support of this view. We shall, however, content ourselves with citing the following:

F. J., adult, American, nonimmune. Lived at a hotel in Mexico City, but came in daily intimate contact with cases of tabardillo between November 22 and December 16, 1909. On the nights of

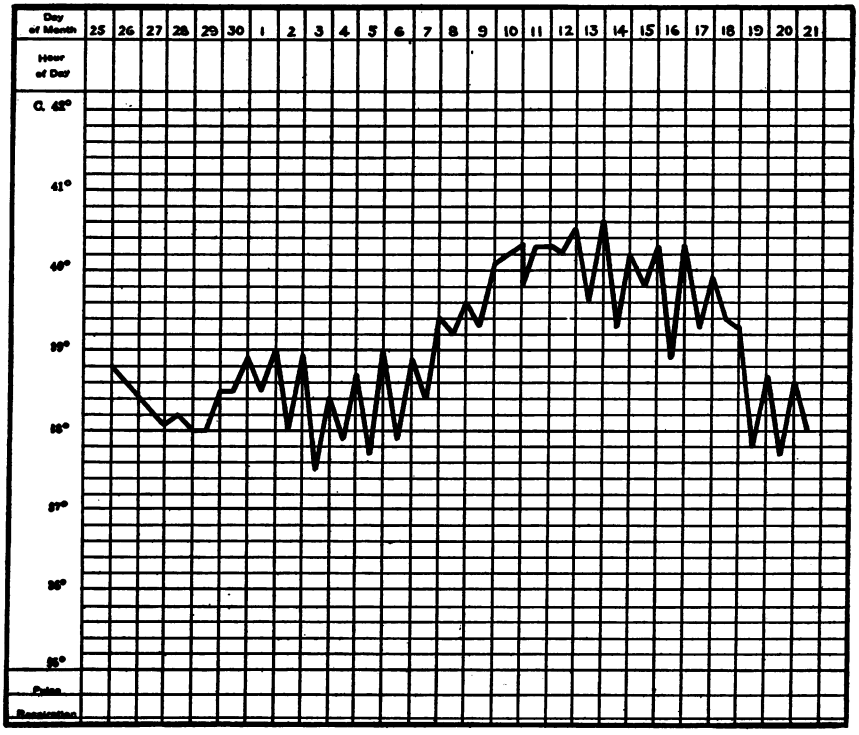
[a] Ricketts, H. T., and Wilder, Russell M.: The typhus fever of Mexico (tabardillo). Journ. Am. Med. Assn., vol. 54, Feb. 5, 1910, p. 463.

CHART NO. 1

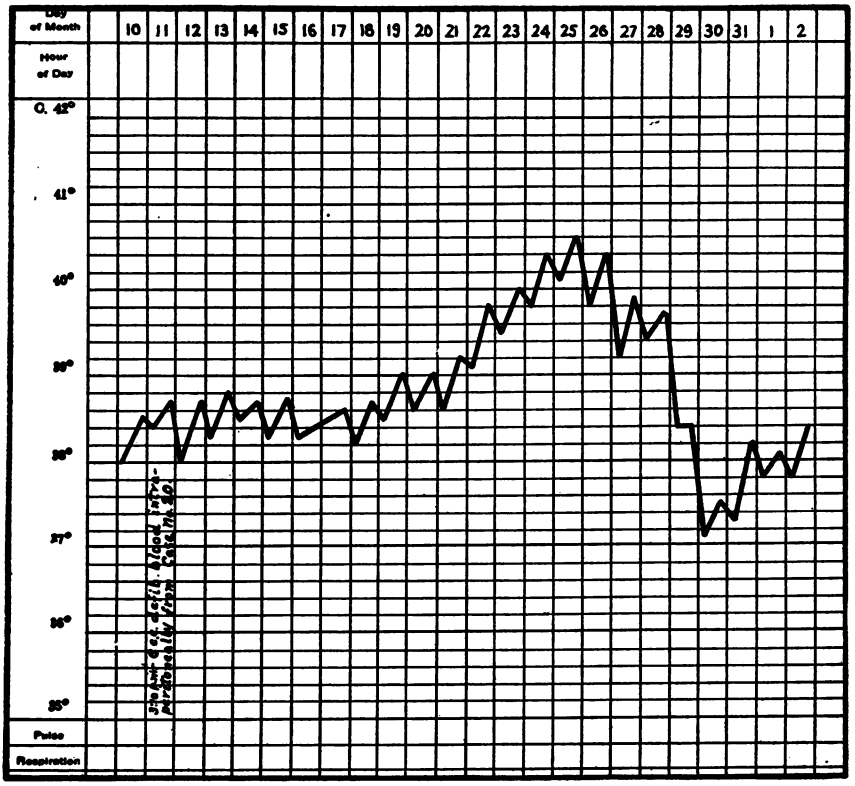
Name.....



Name BEDALIA CHART NO. 2



Name ADELA CHART NO. 3



January 5 and 6 he slept in a bed that had been occupied on January 2, 3, and 4 by a patient in the first three days of a well-marked attack of tabardillo (chart No. 1). None of the bedding or bedclothes had been in any way disturbed in the interval prior to their use by this individual. At the end of three days the bedclothes were changed, but with this exception the bed and room remained as they had been when occupied by the patient. F. J. inhabited this room for three weeks longer. On careful search no insects other than fleas were found in the room. During a period of observation of 17 days this man continued in his usual health.

The following data, for which we are indebted to Miss Ella Wilson, superintendent of the American Hospital in Mexico City, are significant in this connection. From January 9, 1908, to November 24, 1909, 30 cases of typhus fever had been treated in the typhus pavilion of that hospital. Each of these cases had had a special nurse who was an American nonimmune. None of these nurses contracted the disease.

Having satisfied ourselves that neither contagion in the ordinary sense nor that fomites as usually understood played any rôle[a] in the transmission of the disease, and with the impression strongly in our minds that some intermediary host was the probable transmitting agent of the infection, we took up a consideration of the insects which might be expected to play this rôle. The insects which immediately suggested themselves as worthy of serious attention in this connection were the flea, the bedbug, and the body louse.

The flea.—A review of certain facts enabled us very quickly to eliminate the flea from consideration. The ubiquity of the flea and the well-recognized limitation of the prevalence of the disease in the lowest social classes obviously do not harmonize with the idea that this insect is the transmitting agent. It is a well-recognized fact that in houses and families of the better classes secondary cases are rarely observed, though far from being free from infestation by fleas. Furthermore, it is a well-recognized fact that the striking distance of the infection is decidedly circumscribed, a fact with which the agility of the flea also does not harmonize.

The bedbug.—This insect is only a temporary parasite of man. As is well known, it lurks and hides in cracks and crevices and in the folds of bedding during the day, coming out at night to feed, retiring again toward morning. It is only rarely that it remains on the body of an individual. With this in mind, and assuming for the moment that the bedbug is the carrier, tabardillo should have the characteristics of a house disease, i. e., the infection should appear to be attached to houses and practically not at all to individuals, such as is the case in yellow fever. As a matter of fact, however, such is not the case. The distribution of the bedbug among the social classes is much more general than tabardillo, which, in a general way, is fairly limited to the poverty-stricken portion of the population. These facts appear to us to rule out this insect as the probable transmitter of tabardillo.

[a] As a matter of fact, we believe that both contact with individuals and fomites play a rôle in this disease, but only in the sense that by contact with individuals and fomites (lice-infested clothes or bedding) the transfer of the louse to another individual is favored.

Finally, both the bedbug and the flea seem to us to be pretty definitely ruled out of consideration by the further fact that these insects are found in the lowlands of Mexico, where the disease is unknown except as isolated imported cases.

The body louse.—Having eliminated the flea and the bedbug as the probable transmitters of the disease, there remains for consideration only the body louse (*Pediculus vestimenti*). This insect, as is well known, is parasitic on man, but may be said never to occur on persons or classes of people of cleanly habits. This fact may be seen very clearly in Mexico and is in entire harmony with the distribution of the disease among the social classes.

Students of the epidemiology of typhus fever have long observed that the disease, while apparently highly contagious, requires a fairly intimate contact for this contagiousness to manifest itself. Now, the body louse is a relatively sluggish insect. It practically makes only short excursions in the seams of the clothing of the individual and from these to the body of its host to feed. Its transfer from person to person takes place only when individuals are in close association with one another or with infested clothes, or when the insect is accidentally dislodged from the body of its host and is subsequently picked up, as it were, by another person.

Impressed by these considerations we attempted to transmit the disease by means of the body louse, *Pediculus vestimenti*, from man to monkey. For this purpose we obtained a considerable number of these insects and distributed them in small wide-mouthed bottles, carefully stoppered. Two of these bottles were kept, during the day, at a temperature of 24° to 27° C., and at night at approximately 18° to 20° C. These lice were allowed to feed repeatedly upon the monkey "Jane," to which reference will shortly be made. After 21 days three survivors were killed and preserved. Two other bottles, containing some of the same original collection of lice, were kept day and night close to the body of one of us, with the idea that this was a more suitable temperature for them. At the end of 36 hours, although having received a feeding during this interval, all the insects were found dead.

At this stage of our work, Nicolle's [a] papers first came to our attention. In one of these he reported the successful transmission of typhus fever, in Tunis, from monkey to monkey, the *Macacus sinicus*, by means of the body louse, and we noted that his lice between feedings were kept at a temperature of 16° to 20° C. This suggested to us that probably the cause of the death of the lice in the two bottles which we had kept continuously at approximately body temperature was due to too high a temperature. We decided, therefore, to repeat the experiences of keeping the lice at approximately body temperature by placing another batch of these insects in two flasks and keeping them close to the body day and night. The result of this experiment was practically identical with our first experience. Only a few of the insects survived 48 hours, although, as in our first experience, they had been fed in the interval.

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[a] Nicolle, Ch.: Reproduction experimentale du typhus exanthematique chex le singe; Compt. Rend. Acad. des Sciences, vol. 149, July 12, 1909, p. 157.

Nicolle, Ch., Comte, C., and Conseil, E.: Transmission experimentale du typhus exanthematique par le pou du corps; Compt. Rend. Acad. des Sciences, vol. 149, Sept. 6, 1909, p. 486.

Several batches of the same collection of lice as were used for this experiment were kept at a temperature of 14° to 20° C. They were allowed to feed daily, and among these the mortality was comparatively slight. This influence of temperature on the longevity of the louse seems to us strikingly significant in relation to the apparently singular limitation of the disease to the Mexican plateau, i. e., to places having an altitude of not less than 1,500 to 1,800 meters, and its complete absence from lower altitudes, and in relation to its seasonal prevalence.

The peculiar limitation of the disease to places at a considerable altitude, as just stated, had been engaging our attention, and with the idea of the possibility that the body lice in places in the lower altitudes were perhaps of a different species from those on the plateau, we endeavored to obtain specimens in Tampico through the courtesy of the Rev. Neill E. Pressly, whose duties bring him into close and confidential relations with the natives. Replying to our communication, Mr. Pressly informed us that the body louse was practically unknown in that locality. Subsequently this was confirmed by Doctor Rolph, a physician located on a large ranch near Tampico. This gentleman, in conversation with us, stated that body lice did not exist in his locality, though head lice were common. He added, further, that this was so well known among the natives that when peons from the plateau in search of work arrived infested with body lice, they declined to take any special measures for the destruction of these parasites on the ground that the lice could not live there more than a few days, and such he actually found to be the case.

As already stated, we attempted to transmit the disease from man to monkey by means of the louse *Pediculus vestimenti*. The lice used for this purpose were obtained from the clothing of persons of a class in whom the infection is common. It was, therefore, quite possible, and indeed probable, that some of these may have already been infected. Before applying them to the monkey in the course of the experiment, we permitted them to feed on cases of tabardillo.

Experiment No. 1: "Jane," a female *Macacus cynomolgus*, was repeatedly exposed to the bites of several batches of lice obtained as above described. These lice, before being applied to the monkey and at various intervals in the course of the experiment between November 28 and December 31, had bitten cases of tabardillo in the first stages of the disease. The lice were applied to this animal in all thirty times. During the first 16 days of the experiment a single batch of lice (the first) was used throughout, and was kept at a temperature during the day of 24° to 27° C. and at night at 18° to 20° C. The several batches of lice later used were kept at a temperature of 14° to 22° C. The animal was kept under observation for 25 days after being last bitten by the lice. Then, after an interval of 5 days, during which time the observation was suspended, for a further period of 12 days. Throughout the period of observation this animal showed no abnormal elevation of temperature or other indications of illness. This experiment appears to have resulted negatively.

We regret that we have been unable to test the susceptibility of this monkey to blood inoculation; but inasmuch as it is specifically more closely related to the *Macacus rhesus* than the capuchin monkey, both of which species we have shown to be susceptible to blood inocula-

tion, it seems, *a priori*, reasonable to assume the existence of such susceptibility in this species.

Experiment No. 2: "Raquel," a female *rhesus*, was exposed on 6 successive days to the bites of lice which had been twice allowed to feed upon case No. 19, and the third time upon case No. 20. Eight days after the last exposure the evening temperature of this animal rose to 39.6° C.; the following day it was 39.1° in the morning and 39.6° in the evening. These temperatures were a little above the normal range for this animal, but on the tenth day after the last exposure (January 25) the temperature of the animal had dropped back to within the limits of its normal range.

After this we were obliged to suspend observations for 5 days, when they were again resumed. The temperature of the animal was normal, and it presented no indications of illness. Whether the slight rise in temperature here recorded was the beginning of a brief reaction or not we are unable to say.

THE RELATION OF TABARDILLO TO EUROPEAN TYPHUS.

Several distinguished Mexican clinicians have raised the question as to the identity of tabardillo and European typhus, basing their doubts as to the identity on certain apparent clinical differences in the two diseases. Certain differences in the results of our work and that of Nicolle would seem to give some experimental support to this view. Nicolle has reported that he was unable to inoculate monkeys of the species *Macacus sinicus* by blood directly from the human subject, but was obliged first to pass it through a chimpanzee, whereas we have been able to infect not only a closely related species, the *Macacus rhesus*, but also a *Cebus capuchinus*, directly with blood from a human case of tabardillo.

It is interesting to note, however, that the mode of transmission of European typhus and tabardillo is probably the same. Nicolle has reported a successful experiment with the body louse, and both Ricketts and Wilder and ourselves have independently come to regard this insect with grave suspicion as playing the same rôle in the Mexican disease.

SUMMARY AND CONCLUSIONS.

1. At least two species of monkeys, *Macacus rhesus* and *Cebus capuchinus*, are susceptible to direct inoculation with the blood from human cases of tabardillo.

2. One attack of the disease in the monkey produced by blood inoculation directly from man induces a definite immunity to a subsequent inoculation with virulent blood. The reaction following blood inoculation in monkeys "Bedalia" and "Jerry," reported in our second note, was therefore the first recorded experimental production of tabardillo in monkeys.

3. The blood from human cases of tabardillo is infective on at least the eighth day of the disease. It seems probable, however, that it will be found infective throughout the active febrile stage of the disease.

4. The blood from the monkey, *Macacus rhesus*, is infective by passage to a second monkey of the same species on at least the fifth and sixth days of the disease.

5. Diluted blood serum from a human case of tabardillo, when passed through a Berkefeld filter, failed, when inoculated into a monkey, to produce the disease.

6. The blood of a monkey of the species *Macacus rhesus* is infective, though its infectivity is somewhat attenuated, to a second monkey of the same species.

7. The disease is not conveyed by fomites, as such, nor is it contagious in the ordinary sense of the word.

8. The epidemiological facts of the disease, in our opinion, point unmistakably to an insect intermediary; and we believe that our observations point strongly to the body louse (*Pediculus vestimenti*) as this insect.

9. We are of the opinion that the evidence against the body louse as transmitter of tabardillo is sufficient to demand that prophylactic sanitary measures directed against this disease should take into consideration that insect.

UNITED STATES.

REPORTS TO THE SURGEON-GENERAL, PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

PLAGUE-PREVENTION WORK.

Infected Ground Squirrels.

During the week ended January 29, 2 infected squirrels were found in Alameda County, Cal.

Significance of Degree of Susceptibility of Squirrels to Plague.

Passed Assistant Surgeon McCoy reports:

An attempt has been made by a somewhat indirect method to learn whether the squirrels in certain counties of California are or have been plague infected.

Some months ago it was found that there was a great difference in the susceptibility to plague of the squirrels in Contra Costa County and those in San Mateo County. When several of the animals from each of these counties were inoculated with the pest bacillus it was observed that nearly all of those from San Mateo County (this county is on the peninsula of San Francisco) died of acute plague, while those from Contra Costa County (this county is on what might be called "the mainland") usually either died of subacute plague or recovered. The squirrels from the two counties, it is needless to say, are members of the same species. The only thing that seems to account for the striking difference in susceptibility is the fact that the squirrels in Contra Costa County have been exposed to plague for several years, and have probably become resistant to the disease by an acquired, possibly hereditarily transmitted, immunity, while those in at least certain parts of San Mateo County, on the other hand, have never been exposed to the infection and have no great resistance to the disease. (No plague-infected squirrels have ever been found in San Mateo County.)

There are certain counties from which a considerable number of squirrels have been examined in the laboratory with no plague infection found. Before concluding that there was no plague among the rodents, it seemed wise, in view of what we had learned of the relative immunity of the squirrels in Contra Costa County, to learn the susceptibility to plague of the squirrels in these counties. As the result of tests carried out we find that the squirrels of Merced County are highly resistant to plague infection. This fact would suggest that there is plague infection present among the squirrels, although thus far no case has actually been found.

It is, of course, apparent that this evidence can not be looked upon as conclusive, but it will at least make us hesitate about declaring a

county free of infection until practically every part of it has been carefully investigated.

Doctor McCoy further reports:

SAN FRANCISCO, CAL.

Last case of human plague sickened January 30, 1908. Last plague-infected rat was trapped October 23, 1908. Total number of plague-infected rats found to date, 398.

Week ended January 29, 1910. Premises inspected, 1,155. Houses destroyed, 12. Buildings condemned, 4. Nuisances abated, 124. Poisons placed, 7,905. Rats trapped, 1,782. Gophers trapped, 1. Rats found dead, 35. Rats identified, 1,817, as follows: *Mus norvegicus*, 1,292; *Mus rattus*, 118; *Mus musculus*, 304; *Mus alexandrinus*, 103. Examined bacteriologically, 1,514 rats and 1 gopher. No plague infection found.

OAKLAND, CAL.

Last case of human plague sickened October 26, 1909. Last plague-infected rodent was found December 1, 1908.

Week ended January 29, 1910. Rats found dead, 14. Rats trapped, 768. Weasels trapped, 1. Rats identified, 782, as follows: *Munorvegicus*, 652; *Mus rattus*, 8; *Mus musculus*, 108; *Mus alexandrinus*, 14. Examined bacteriologically, 674 rats and 1 weasel. No plague infection found.

ALAMEDA COUNTY, CAL. (EXCLUSIVE OF OAKLAND).

Last case of human plague sickened 2 miles southwest of Sunol September 26, 1909. Last plague-infected rodent found January 27, 1910. To the present time there have been found infected 60 ground squirrels and 1 wood rat.

Week ended January 29. Ranches inspected, 9. Ground squirrels shot, 2. Ground squirrels found dead, 16. Ground squirrels trapped, 2. Acres covered with poison, 290. Ground squirrels examined bacteriologically, 20. Plague-infected squirrels found, 2.

The infected squirrels were found within one-half mile of the end of the North Brae car line, January 25 and 27, respectively.

CONTRA COSTA COUNTY, CAL.

Last case of human plague sickened July 21, 1908. Last plague-infected rodent found January 15, 1910. Total number of ground squirrels found infected to date, 242.

Week ended January 29. Dead inspected, 2. Ranches inspected, 4. Ground squirrels shot, 40. Ground squirrels trapped, 3. Ground squirrels examined bacteriologically, 40. No plague-infected squirrels found.

FRESNO COUNTY, CAL.

There is no record of human or rodent plague in Fresno County.

Week ended January 29. Ranches inspected, 29. Ground squirrels shot, 729. Ground squirrels trapped, 2. Ground squirrels examined bacteriologically, 725. No plague-infected squirrels found.

MARIPOSA COUNTY, CAL.

There is no record of human or rodent plague in Mariposa County.

Week ended January 29. Ranches inspected, 10. Ground squirrels shot, 117. Ground squirrels trapped, 2. Ground squirrels examined bacteriologically, 115. No plague-infected squirrels found.

MERCED COUNTY, CAL.

There is no record of human or rodent plague in Merced County.

Week ended January 29. Ranches inspected, 10. Ground squirrels shot, 173. Rabbits shot, 3. Ground squirrels trapped, 7. Examined bacteriologically, 175 ground squirrels and 3 rabbits. No plague infection found.

MONTEREY COUNTY, CAL.

There is no record of human or rodent plague in Monterey County.

Week ended January 29. Ranches inspected, 29. Ground squirrels shot, 299. Ground squirrels found dead, 3. Ground squirrels trapped, 6. Rabbits shot, 1. Examined bacteriologically, 302 ground squirrels and 1 rabbit. No plague infection found.

SAN JOAQUIN COUNTY, CAL.

There is no record of human or rodent plague in San Joaquin County.

Week ended January 29. Ranches inspected, 9. Ground squirrels shot, 38. Ground squirrels found dead, 3. Ground squirrels trapped, 4. Ground squirrels examined bacteriologically, 41. No plague-infected squirrels found.

SAN LUIS OBISPO COUNTY, CAL.

There is no record of human or rodent plague in San Luis Obispo County.

Week ended January 29. Ranches inspected, 26. Ground squirrels shot, 115. Ground squirrels found dead, 2. Ground squirrels trapped, 7. Ground squirrels examined bacteriologically, 117. No plague-infected squirrels found.

SAN MATEO COUNTY, CAL.

There is no record of human or rodent plague in San Mateo County.

Week ended January 29. Ranches inspected, 10. Ground squirrels shot, 57. Ground squirrels trapped, 1. Ground squirrels examined bacteriologically, 55. No plague-infected squirrels found.

SANTA BARBARA COUNTY, CAL.

There is no record of human or rodent plague in Santa Barbara County.

Week ended January 29. Ranches inspected, 24. Ground squirrels shot, 190. Ground squirrels trapped, 3. Ground squirrels examined bacteriologically, 189. No plague-infected squirrels found.

SANTA CLARA COUNTY, CAL.

There is no record of human plague in Santa Clara County.

Last plague-infected rodent found November 3, 1909. Total number of ground squirrels found infected to date, 9.

Week ended January 29. Ranches inspected, 3. Ground squ rels shot, 4. Ground squirrels examined bacteriologically, 4. No plague-infected squirrels found.

SANTA CRUZ COUNTY, CAL.

There is no record of human plague in Santa Cruz County.

A plague-infected ground squirrel was found November 6, 1909.

Week ended January 29. Ranches inspected, 14. Ground squirrels shot, 32. Owls shot, 1. Ground squirrels trapped, 4. Field mice trapped, 2. Examined bacteriologically, 31 ground squirrels and 2 field mice. No plague infection found.

TULARE COUNTY, CAL.

There is no record of human or rodent plague in Tulare County.

Week ended January 29. Ranches inspected, 22. Ground squirrels shot, 301. Rabbits shot, 6. Ground squirrels trapped, 2. Examined bacteriologically, 300 ground squirrels and 6 rabbits. No plague infection found.

VENTURA COUNTY, CAL.

There is no record of human or rodent plague in Ventura County.

Week ended January 29. Ranches inspected, 9. Ground squirrels shot, 170. Ground squirrels examined bacteriologically, 170. No plague infection found.

SEATTLE, WASH.

No case of human plague since October 30, 1907. The last plague-infected rat was found September 26, 1908. Total plague-infected rats found to date, 21.

Week ended January 29, 1910. Rats received, 904. Rats necropsied, 776. No plague-infected rats were found.

SMALLPOX IN THE UNITED STATES.

Reports Received During Week Ended February 18, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Alabama:				
Montgomery	Jan. 30–Feb. 5	47		
Arkansas:				
Little Rock	Jan. 25–31	20		
California:				
Los Angeles	Jan. 23–29	1		
Sacramento County	Jan. 1–31		1	
Colorado:				
Chaffee County	Jan. 1–31	6		
Conejos County	Jan. 1–31	10		
Denver County	Jan. 1–31	10		
Garfield County	Jan. 1–31	1		
Huerfano County	Jan. 1–31	3		
Larimer County	Jan. 1–31	4		
Las Animas County	Jan. 1–31	5		
Logan County	Jan. 1–31	3		
Mesa County	Jan. 1–31	4		
Montrose County	Jan. 1–31	6		
Morgan County	Jan. 1–31	1		
Otero County	Jan. 1–31	1		
Ouray County	Jan. 1–31	11		
San Miguel County	Jan. 1–31	1		
Summit County	Jan. 1–31	1		
Weld County	Jan. 1–31	15		

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received During Week Ended February 18, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Connecticut	Jan. 1-31	None.		
District of Columbia	Jan. 30-Feb. 5	2		
Florida:				
Jacksonville	Jan. 30-Feb. 5	1		
Georgia:				
Macon	Jan. 1-31	51		
Illinois:				
Alexander County	Jan. 1-31	6		
Coles County	Jan. 1-31	4		
Edwards County	Jan. 1-31	19		
Effingham County	Jan. 1-31	81		
Fayette County	Jan. 1-31	1		
Franklin County	Jan. 1-31	6		
Jackson County	Jan. 1-31	2		
Kane County	Jan. 1-31	1		
Macon County	Jan. 1-31	1		
McLean County	Jan. 1-31	1		
Montgomery County	Jan. 1-31	7		
Pulaski County	Jan. 1-31	2		
Sangamon County	Jan. 1-31	4		
Shelby County	Jan. 1-31	9		
Wabash County	Jan. 1-31			Present.
Wayne County	Jan. 1-31	5		
Williamson County	Jan. 1-31	21		
Iowa:				
Buena Vista County	Jan. 1.31	1		
Calhoun County	Jan. 1-31	10		
Cass County	Jan. 1-31	1		
Cedar County	Jan. 1-31	3		
Cherokee County	Jan. 1-31	24		
Clayton County	Jan. 1-31	1		
Dallas County	Jan. 1-31	1		
Dubuque County	Jan. 1-31	5		
Jones County	Jan. 1-31	1		
Linn County	Jan. 1-31	7		
Madison County	Jan. 1-31	1		
Marion County	Jan. 1-31	2		
Marshall County	Jan. 1-31	4		
Monroe County	Jan. 1-31	2		
Polk County	Jan. 1-31	27		
Pottawattamie County	Jan. 1-31	1		
Poweshiek County	Jan. 1-31	6		
Sioux County	Jan. 1-31	6		
Kansas:				
Crawford County	Dec. 1-31	1		
Decatur County	Dec. 1-31	8		
Douglas County	Dec. 1-31	1		
Gove County	Dec. 1-31	3		
Jackson County	Dec. 1-31	5		
Jewell County	Dec. 1-31	7		
Leavenworth County	Dec. 1-31	1		
Lyon County	Dec. 1-31	1		
Marshall County	Dec. 1-31	20		
McPherson County	Dec. 1-31	1		
Montgomery County	Dec. 1-31	17		
Ness County	Dec. 1-31	8		
Pottawatamie County	Dec. 1-31	6		
Reno County	Dec. 1-31	57		
Riley County	Dec. 1-31	9		
Saline County	Dec. 1-31	1		
Scott County	Dec. 1-31	9		
Sedgwick County	Dec. 1-31	1	1	
Shawnee County	Dec. 1-31	12		
Sheridan County	Dec. 1-31	2		
Wyandotte County	Dec. 1-31	69		
Louisiana:				
New Orleans	Feb. 9-15	7		
Maine	Jan. 1-31	None.		
Massachusetts:				
Essex County	Jan. 1-31	1		
Middlesex County	Jan. 1-31	65		
Lynn County	Jan. 1-31	4		
Suffolk County	Jan. 1-31	2		
Worcester County	Jan. 1-31	18		
Michigan:				
Alcona County	Jan. 1-31	1		
Antrim County	Jan. 1-31	2		
Arenac County	Jan. 1-31	45		
Bay County	Jan. 1-31	26		
Berrien County	Jan. 1-31	6		
Genesee County	Jan. 1-31	85		

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received During Week Ended February 18, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Michigan—Continued.				
Gladwin County	Jan. 1–31	1		
Houghton County	Jan. 1–31	24		
Ingham County	Jan. 1–31	7		
Ionia County	Jan. 1–31	7		
Kent County	Jan. 1–31	1		
Keweenaw County	Jan. 1–31	1		
Livingston County	Jan. 1–31	8		
Mecosta County	Jan. 1–31	4		
Midland County	Jan. 1–31	5		
Missaukee County	Jan. 1–31	15		
Oakland County	Jan. 1–31	1		
Oceana County	Jan. 1–31	1		
Ogemaw County	Jan. 1–31	5		
Osceola County	Jan. 1–31	2		
Oscoda County	Jan. 1–31	2		
Presque Isle County	Jan. 1–31	1		
Roscommon County	Jan. 1–31	6		
Saginaw County	Jan. 1–31	23		
St. Clair County	Jan. 1–31	2		
Shiawassee County	Jan. 1–31	5		
Wayne County	Jan. 1–31	3		
Mississippi:				
Biloxi	Jan. 30–Feb. 5	2		
Gulfport	Jan. 27–Feb 3	2		
Marshall County	Jan. 30–Feb. 5	3		
Natchez	Jan. 30–Feb. 5	19		
Missouri:				
Kansas City	Jan. 23–29	4	1	
St. Louis	Jan. 30–Feb. 5	6		
North Dakota:				
Billings County	Jan. 1–31	4		
Grand Forks County	Jan. 1–31	1		
McLean County	Jan. 1–31	2		
Walsh County	Jan. 1–31	39		
Ohio:				
Allen County	Jan. 1–31	15		
Adams County	Jan. 1–31	1		
Belmont County	Jan. 1–31	4		
Brown County	Jan. 1–31	18		
Clermont County	Jan. 1–31	1		
Darke County	Jan. 1–31	3		
Franklin County	Jan. 1–31	1		
Hamilton County	Jan. 1–31	1		
Jackson County	Jan. 1–31	29		
Miami County	Jan. 1–31	1		
Montgomery County	Jan. 1–31	2		
Ross County	Jan. 1–31	16		
Shelby County	Jan. 1–31	6		
Van Wert County	Jan. 1–31	5		
Wayne County	Jan. 1–31	1		
Oregon (entire State)	Dec. 1–31	28		
Tennessee:				
Chattanooga	Jan. 30–Feb. 5	5		
Knoxville	Jan. 30–Feb. 5	1		
Memphis	Jan. 30–Feb. 5	19		
Washington County	Jan. 30–Feb. 5	4		
Texas:				
Amarillo	Jan. 16–22	16		
Denton County	Jan. 16–22	24	4	
	Jan. 30–Feb. 5	27	5	
El Paso	Jan. 2–22	2	1	
Fort Worth	Jan. 1–31	27	2	
Hale County	Jan. 9–15	7		
San Antonio	Jan. 16–Feb. 5	6	1	
Waco	Jan. 1–31	1		
Walnut Springs	Jan. 12–18	2		
Wills Point	Jan. 1–31	2	1	
Utah:				
Boxelder County	Dec. 1–31	37		
Cache County	Dec. 1–31	20		
Carbon County	Dec. 1–31	2		
Davis County	Dec. 1–31	8		
Piute County	Dec. 1–31	1		
Salt Lake County	Dec. 1–31	22		
San Pete County	Dec. 1–31	1		
Sevier County	Dec. 1–31	2		
Tooele County	Dec. 1–31	1		
Uintah County	Dec. 1–31	16		
Utah County	Dec. 1–31	31		
Wasatch County	Dec. 1–31	1		
Weber County	Dec. 1–31	14		

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received During Week Ended February 18, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Virginia:				
Lynchburg	Jan. 30-Feb. 5	10		
Petersburg	Feb. 26-Jan. 26	2		
Washington:				
Kitsap County	Jan. 1-31	1		
Spokane	Jan. 23-29	10		
West Virginia:				
Wheeling	Jan. 30-Feb. 5	1		
Wisconsin:				
Chippewa County	Jan. 1-31	3		
Clark County	Jan. 1-31	10		
Douglas County	Jan. 1-31	4		
Jefferson County	Jan. 1-31	6		
Juneau County	Jan. 1-31	1		
La Crosse County	Jan. 1-31	9		
Langlade County	Jan. 1-31	2		
Milwaukee County	Jan. 1-31	2		
Winnebago County	Jan. 1-31	2		

Reports Received from January 1 to February 11, 1910.

[For reports received from June 25, 1909, to December 31, 1909, see PUBLIC HEALTH REPORTS for December 31, 1909. In accordance with custom the tables of epidemic diseases are terminated semiannually and new tables begun.]

Place.	Date.	Cases.	Deaths.	Remarks.
Alabama:				
Birmingham	Jan. 9-29	11		
Mobile	Jan. 16-22	3		
Montgomery	Dec. 19-Jan. 29	232		
Total for State		246		
Arkansas:				
Argenta	Jan. 22-28	5		
Lonoke	Jan. 6-20	2		
Total for State		7		
California:				
Berkeley	Dec. 26-Jan. 1	1		
Los Angeles	Jan. 12-22	1		
Oakland	Dec. 26-Jan. 1	1		
Sacramento	Dec. 12-18	2		
San Francisco	Dec. 19-Jan. 22	7		
Total for State		12		
Colorado:				
Boulder	Dec. 19-25	1		
Fruita District	Dec. 26-Jan. 1	3		
Rocky Ford	Jan. 9-15	1		
Total for State		5		
District of Columbia	Dec. 19-Jan. 29	6		
Total for District		6		
Illinois:				
Chicago	Dec. 19-25	2		
Total for State		2		
Indiana:				
Adams County	Oct. 1-31	4		
Allen County	Oct. 1-Dec. 31	156	1	
Carroll County	Nov. 1-30	1		
Clark County	Dec. 1-31	19		
Clinton County	Dec. 1-31	4		
Daviess County	Nov. 1-Dec. 31	8		
Dekalb County	Dec. 1-31	2		
Delaware County	Oct. 1-Nov. 30	20		

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received from January 1 to February 11, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Indiana—Continued.				
Grant County	Oct. 1–Dec. 31	28		
Greene County	Oct. 1–31	6		
Jefferson County	Nov. 1–30	1		
Knox County	Oct. 1–31	7		
Laporte County	Dec. 1–31	1		
Marion County	Dec. 1–31	1		
Marshall County	Oct. 1–Dec. 31	40		
Noble County	Nov. 1–Dec. 31	2		
Randolph County	Oct. 1–31	1		
St. Joseph County	Oct. 1–Dec. 31	17		
Shelby County	Dec. 1–31	1		
Steuben County	Nov. 1–Dec. 31	3		
Tippecanoe County	Dec. 1–31	1		
Vanderburg County	Oct. 1–31	8		
Warren County	Nov. 1–30	1		
Wayne County	Nov. 1–30	1		
Total for State		333	1	
Iowa:				
Cedar Rapids	Dec. 1–31	7		
Sioux City	Dec. 1–31	2		
Total for State		9		
Kansas:				
Clay County	Nov. 1–30	1		
Cloud County	Nov. 1–30	1		
Cowley County	Nov. 1–30	3		
Decatur County	Nov. 1–30	2		
Graham County	Nov. 1–30	20		
Lane County	Nov. 1–30	1		
Montgomery County	Nov. 1–30	6		
Norton County	Nov. 1–30	30		
Reno County	Nov. 1–30	16		
Scott County	Nov. 1–30	2		
Shawnee County—				
Topeka	Nov. 1–30	1		
Sheridan County	Nov. 1–30	5		
Sumner County	Nov. 1–30	9		
Wabaunsee County	Nov. 1–30	3		
Wilson County	Nov. 1–30	2		
Total for State		102		
Kentucky:				
Hartford	Dec. 12–18	2		
Lexington	Dec. 12–Jan. 29	4		
Paducah	Jan. 5–11	1		
Total for State		7		
Louisiana:				
New Orleans	Dec. 26–Jan. 29	26		
Shreveport	Jan. 23–29	5		
Total for State		31		
Maryland:				
Baltimore	Dec. 26–Jan. 1	1		
Dorchester County	Dec. 3–31	4		
Garrett County	Jan. 8–31	1		
Total for State		6		
Michigan:				
Alcona County	Nov. 1–Dec. 31	25		
Antrim County	Nov. 1–Dec. 31	20		
Arenac County	Nov. 1–Dec. 31	89		
Bay County	Nov. 1–Dec. 31	46		
Delta County	Dec. 1–31	1		
Emmet County	Nov. 1–30	2		
Genesee County	Nov. 1–Dec. 31	104		
Gladwin County	Nov. 1–Dec. 31	7		
Gratiot County	Nov. 1–30	1		
Houghton County	Nov. 1–Dec. 31	22		
Ingham County	Dec. 1–31	1		
Ionia County	Nov. 1–Dec. 31	32		
Iosco County	Dec. 1–31		1	

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received from January 1 to February 11, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Michigan—Continued.				
Kent County	Dec. 1-31	3		
Lapeer County	Nov. 1-30	2		
Livingston County	Nov. 1-Dec. 31	10		
Marquette County	Nov. 1-30	1		
Mason County	Nov. 1-30	1		
Midland County	Dec. 1-31	1		
Montcalm County	Nov. 1-30	3		
Montgomery County	Dec. 1-31	32		
Ontonagon County	Nov. 1-30	2		
Osceola County	Dec. 1-31	5		
Otsego County	Dec. 1-31	1		
Presque Isle County	Dec. 1-31	1		
Saginaw County	Dec. 1-31	6		
Sanilac County	Nov. 1-30	2		
Shiawassee County	Dec. 1-31	1		
Wayne County	Dec. 1-31	3		
Total for State		424	1	
Minnesota:				
Becker County	Jan. 4-10	3		
Beltrami County	Dec. 21-Jan. 10	2		
Benton County	Dec. 14-20	7		
Blue Earth County	Dec. 21-27	1		
Carver County	Dec. 7-Jan. 3	4		
Goodhue County	Dec. 28-Jan. 3	1		
Hennepin County	Dec. 28-Jan. 3	5		
Itasca County	Dec. 14-20	1		
Kandiyohi County	Dec. 7-13	1		
Mower County	Dec. 28-Jan. 10	3		
Ottertail County	Dec. 21-27	2		
Polk County	Dec. 7-13	1		
Red Lake County	Dec. 7-13	1		
Renville County	Dec. 7-13	1		
Rock County	Dec. 7-Jan. 10	15		
Roseau County	Dec. 7-Jan. 3	12		
St. Louis County	Dec. 7-Jan. 10	6		
Sibley County	Dec. 7-13	4		
Todd County	Dec. 28-Jan. 3	1		
Wabasha County	Dec. 7-13	1		
Watonwan County	Dec. 28-Jan. 3	1		
Wright County	Dec. 7-Jan. 10	15		
Total for State		88		
Mississippi:				
Biloxi	Jan. 2-15	3		
Gulfport	Jan. 26	6		
Holly Springs	Jan. 2-29	6		
Natchez	Dec. 26-Jan. 22	39	1	
Claiborne County—				
Port Gibson	Dec. 19-25	1		
Total for State		55	1	
Missouri:				
Andrew County	Jan. 23-29	3		
Joplin	Jan. 16-22	1		
Kansas City	Jan. 2-22	6		
St. Joseph	Jan. 2-15	5		
St. Louis	Dec. 26-Jan. 22	7		
Total for State		22		
Montana:				
Dawson County	Nov. 1-30	1		
Flathead County	Oct. 1-Nov. 30	6		
Jefferson County	Nov. 1-30	1		
Lewis and Clark County	Oct. 1-Nov. 30	3		
Missoula County	Oct. 1-Nov. 30	22		
Park County	Nov. 1-30	1		
Powell County	Nov. 1-30	1		
Ravalli County	Nov. 1-30	2		
Silver Bow County	Oct. 1-Nov. 30	15		
Butte	Dec. 19-31	14		
Total for State		66		

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received from January 1 to February 11, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Nebraska:				
South Omaha	Dec. 5–11	3		
Total for State		3		
New York (entire State)	Sept. 1–Nov. 30	33	1	
Cattaraugus County	Dec. 1–31	1		
Cayuga County	Dec. 1–31	1		
Erie County	Dec. 1–31	17		
Jefferson County	Dec. 1–31	1		
Lewis County	Dec. 1–Jan. 31	2		
Niagara County	Dec. 1–Jan. 31	40		
Oneida County	Dec. 1–Jan. 31	2		
St. Lawrence County	Jan. 1–31	9		
Ulster County	Jan. 1–31	2		
Westchester County	Jan. 1–31	1		
Total for State		109	1	
North Carolina:				
Bladen County	Nov. 1–30	12		
Catawba County	Oct. 1–Nov. 30	5		
Chowan County	Oct. 1–Nov. 30	2		
Craven County	Nov. 1–30	3		
Currituck County	Oct. 1–Nov. 30	4		
Davidson County	Oct. 1–Nov. 30	7		
Duplin County	Nov. 1–30	1		
Forsyth County	Oct. 1–Nov. 30	22		
Franklin County	Oct. 1–31	15		
Gaston County	Nov. 1–30	1		
Greene County	Nov. 1–30	15		
Guilford County	Nov. 1–30	2		
Johnston County	Nov. 1–30	6		
Jones County	Oct. 1–Nov. 30	9		
McDowell County	Nov. 1–30	10		
Mecklenburg County	Nov. 1–30	21		
Nash County	Nov. 1–30			Many cases.
Robeson County	Oct. 1–31	1		
Rockingham County	Nov. 1–30	6		
Rowan County	Nov. 1–30	3		
Rutherford County	Nov. 1–30	10		
Surry County	Oct. 1–Nov. 30	5		
Union County	Oct. 1–Nov. 30	7		
Wake County	Nov. 1–30	8		
Wayne County	Nov. 1–30	8		
Wilson County	Nov. 1–30	44		
Yadkin County	Oct. 1–31	1		
Total for State		228		
North Dakota:				
Bottineau County	Oct. 1–31	1		
Cass County	Dec. 1–31	1		
McLean County	Dec. 1–31	2		
Total for State		4		
Ohio:				
Cleveland	Dec. 19–26	1		
Stryker	Dec. 19–25	1		
Total for State		2		
Oklahoma:				
Beckham County	Nov. 1–30	1		
Blaine County	Dec. 1–31	7		
Coal County	Aug. 1–Sept. 30	10		
Comanche County	Nov. 1–30	1		
Creek County	Oct. 1–Nov. 30	3		
Garfield County	Nov. 1–30	1		
Grant County	Aug. 1–31	1		
Harmon County	Aug. 1–31	2		
Hughes County	Aug. 1–31	3		
Jackson County	Aug. 1–Nov. 30	19		
Kingfisher County	Oct. 1–31	2		
Le Flore County	Oct. 1–31	1		
Lincoln County	Aug. 1–31	3		
McIntosh County	Sept. 1–30	2		
Marshall County	Oct. 1–31	1		
Muskogee County	Oct. 1–31	1		

SMALLPOX IN THE UNITED STATES—Continued.

Reports Received from January 1 to February 11, 1910.

Place.	Date.	Cases.	Deaths.	Remarks.
Oklahoma—Continued.				
Okfuskee County	Oct. 1-31	1		
Oklahoma County	Aug., Sept., and Nov.	14	1	
Osage County	Sept. 1-Oct. 31	9		
Pawnee County	Aug. 1-31	1		
Pottawatomie County	Sept. 1-Nov. 30	41		
Pushmataha County	Sept. 1-30	1		
Seminole County	Oct. 1-Nov. 30	7		
Sequoyah County	Aug. 1-Sept. 30	2		
Tulsa County	Nov. 1-30	3		
Washington County	Nov. 1-30	1		
Woodward County	Nov. 1-30	1		
Total for State		139	1	
Oregon:				
Portland	Nov. 1-30	2		
Total for State		2		
Pennsylvania (entire State)	Dec. 1-31	2		
South Carolina:				
Clover	Jan. 23-29	3		
Total for State		3		
Tennessee:				
Chattanooga	Dec. 26-Jan. 29	21		
Knoxville	Jan. 2-29	20		
Memphis	Nov. 1-Jan. 31	91		
Dekalb County	Dec. 12-Jan. 1	9		
Washington County	Dec. 26-Jan. 1	7		
Total for State		148		
Texas:				
El Paso	Nov. 1-Jan. 1	3		
Fort Worth	Nov. 1-Dec. 31	5		
San Antonio	Dec. 5-25	5		
Denton County	Dec. 26-Jan. 1	9		
Total for State		22		
Virginia:				
Portsmouth	Jan. 16-29	2		
Richmond	Dec. 1-31	1		
Total for State		3		
Washington:				
Seattle	Jan. 2-22	6		
Spokane	Dec. 19-Jan. 22	12		
Tacoma	Jan. 2-8	1		
Wahkeakum County	Dec. 1-31	8		
Total for State		27		
Wisconsin:				
La Crosse	Dec. 19-Jan. 1	2		
Milwaukee	Dec. 19-Jan. 1	2		
Superior	Dec. 19-Jan. 1	6		
Total for State		10		
Grand total for the United States		2,123	5	

MORBIDITY AND MORTALITY.

WEEKLY MORBIDITY AND MORTALITY TABLE, CITIES OF THE UNITED STATES.

[For smallpox see special tables.]

Cities.	Week ended—	Estimated population, 1909.	Total deaths from all causes.	Tuberculosis.		Typhoid fever.		Scarlet fever.		Diphtheria.		Measles.		Whooping cough.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Allentown, Pa.	Jan. 15	47,001	20	....	....	....	....	5	....	7	1	....	....	....	....
Altoona, Pa.	Feb. 5	50,814	13	....	....	....	....	2	....	1	....	4	....	....	....
Ann Arbor, Mich.	Jan. 29	14,711	6	....	1	....	....	....	....	....	....	1	....	1	....
Ashtabula, Ohio.	Feb. 5	16,648	3	....	....	....	....	....	....	....	....	....	....	....	....
Baltimore, Md.	...do.	576,023	248	146	25	9	3	25	1	16	1	26	....	32	3
Bath, Me.	...do.	12,055	....	....	....	1	....	....	....	....	....	....	....	....	....
Battle Creek, Mich.	Jan. 29	26,775	8	....	....	3	1	2	....	1	....	5	....	....	....
Bayonne, N. J.	Feb. 5	49,894	....	1	....	....	....	5	....	1	....	1	....	6	2
Beaver Falls, Pa.	...do.	10,341	....	2	....	1	....	....	....	....	....	2	....	....	....
Berkeley, Cal.	Jan. 29	a 19,700	5	....	1	1	....	....	....	....	....	12	....	1	....
Biddeford, Me.	Feb. 5	17,676	7	....	....	....	....	....	....	....	....	....	....	....	....
Binghamton, N. Y.	...do.	45,855	21	....	1	....	1	....	....	....	....	8	....	....	....
Birmingham, Ala.	Jan. 29	49,553	39	2	4	1	....	5	....	2	....	....	....	2	....
Boulder, Colo.	Feb. 5	....	1	....	....	2	....	....	....	1	....	....	....	....	....
Braddock, Pa.	...do.	21,000	8	....	....	....	....	2	....	1	....	2	....	....	....
Bridgeport, Conn.	Jan. 29	90,913	24	2	7	....	....	24	....	3	2	5	....	2	....
Buffalo, N. Y.	Jan. 31	396,535	605	121	47	31	5	123	39	96	9	2,402	41	37	....
Butler, Pa.	Feb. 5	12,760	2	1	....	....	....	4	....	....	....	....	....	....	....
Cambridge, Mass.	...do.	101,872	39	5	9	....	....	10	....	14	1	1	....	....	....
Camden, N. J.	...do.	89,305	37	4	4	....	....	5	....	3	....	....	....	....	....
Canton, Ohio.	...do.	40,037	14	....	1	....	....	3	....	1	....	....	....	....	....
Carbondale, Pa.	...do.	15,698	4	....	....	....	....	....	....	4	....	....	....	....	....
Charlotte, N. C.	Jan. 15	35,101	19	....	2	2	....	1	....	....	....	12	....	....	....
Do.	Jan. 22	....	4	1	....	1	....	....	....	....	....	34	....	....	....
Chattanooga, Tenn.	Jan. 29	34,654	....	3	....	....	....	....	....	1	....	....	....	....	....
Chelsea, Mass.	Feb. 5	39,862	9	....	1	....	....	3	....	....	....	5	....	....	....
Chicago, Ill.	...do.	2,224,491	631	135	63	17	3	181	10	101	11	231	3	52	3
Chicopee, Mass.	Feb. 5	20,010	12	....	....	1	....	....	....	4	....	....	....	....	....
Cincinnati, Ohio.	Jan. 29	351,212	....	32	....	1	....	3	....	10	....	47	....	7	....
Do.	Feb. 5	....	139	24	22	....	1	5	1	7	2	42	1	3	....
Cleveland, Ohio.	Feb 4	506,938	132	28	13	4	2	10	1	20	....	181	1	2	1
Clinton, Mass.	Feb. 5	12,656	2	....	....	....	....	....	....	....	....	....	....	....	....
Coffeyville, Kans.	Jan. 15	....	3	....	....	1	....	1	....	1	....	1	....	....	....
Do.	Jan. 22	....	3	2	1	1	....	1	....	2	....	1	....	....	....
Do.	Jan. 29	....	6	2	1	6	1	....	....	....	....	10	....	....	....
Columbus, Ohio.	Jan. 22	17,893	56	10	6	....	....	6	2	3	....	31	1	2	....
Do.	Feb. 5	....	37	3	5	....	....	2	....	....	....	30	....	2	....
Covington, Ky.	...do.	51,715	14	1	2	....	....	1	....	2	....	1	....	....	....
Danville, Ill.	...do.	27,387	9	1	1	....	....	1	....	1	....	7	....	....	....
Dayton, Ohio.	Jan. 8	106,688	28	2	2	1	....	7	....	3	1	1	....	....	....
Do.	Jan. 22	....	42	....	7	....	....	....	3	....	2	....	1	....	1
Detroit, Mich.	Jan. 15	384,855	142	....	....	....	....	19	2	8	....	....	....	....	....
Do.	Feb. 5	....	146	....	....	....	....	36	2	23	3	....	....	....	....
Duluth, Minn.	Jan. 15	74,520	20	....	2	....	....	13	....	7	1	4	....	....	....
Do.	Jan. 22	....	20	6	2	3	1	17	1	....	....	3	....	....	....
Dunkirk, N. Y.	Feb. 7	18,061	2	6	....	1	....	....	....	1	....	4	....	....	....
Elmira, N. Y.	Feb. 5	35,765	12	8	....	1	....	2	....	16	....	1	....	....	....
El Paso, Tex.	Jan. 29	22,911	29	4	11	1	....	....	....	1	....	5	....	2	....
Erie, Pa.	Feb. 5	63,652	27	4	1	....	....	6	1	1	....	7	1	1	....
Evansville, Ind.	...do.	66,948	22	2	3	1	....	2	....	1	....	5	....	....	....
Everett, Mass.	...do.	32,931	5	1	....	1	....	6	....	....	....	1	....	....	....
Fall River, Mass.	...do.	106,481	33	6	2	1	1	1	....	4	1	1	....	....	....
Fort Wayne, Ind.	Jan. 8	54,180	21	....	....	....	....	....	....	4	....	....	....	....	....
Do.	Jan. 15	....	22	....	....	....	....	1	....	2	....	....	....	....	....
Do.	Jan. 22	....	8	....	....	....	....	1	....	1	....	....	....	....	....
Freeport, Ill.	Feb. 5	19,200	5	....	....	....	....	....	....	1	....	4	....	....	....
Galesburg, Ill.	...do.	21,615	11	....	....	....	....	....	....	....	....	....	....	....	....
Gloucester, Mass.	...do.	25,923	2	....	....	....	....	....	....	....	....	....	....	....	....
Greensboro, N. C.	Jan. 15	16,081	10	....	2	....	....	....	....	1	....	....	....	....	....
Do.	Jan. 22	....	13	....	1	....	....	....	....	3	....	....	....	....	....
Do.	Jan. 29	....	6	....	1	....	....	....	....	2	....	1	....	....	....
Harrison, N. J.	...do.	14,604	5	....	....	....	....	3	....	1	....	....	....	....	....
Do.	Feb. 5	....	3	....	....	....	....	1	....	....	....	....	....	....	....
Hartford, Conn.	...do.	103,808	46	4	5	....	....	....	....	9	....	....	....	....	....
Haverhill, Mass.	Jan. 22	38,354	12	2	3	1	....	10	....	4	....	9	....	4	....
Do.	Feb. 5	....	15	7	2	1	....	5	....	3	....	2	....	4	1

a Estimated population 1906. No estimate 1909.

MORBIDITY AND MORTALITY—Continued.

Weekly morbidity and mortality table, cities of the United States—Continued.

Cities.	Week ended—	Estimated population, 1909.	Total deaths from all cases.	Tuberculosis.		Typhoid fever.		Scarlet fever.		Diphtheria.		Measles.		Whooping cough.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Homestead, Pa.	Jan. 21	17,145	3	....	....	1	....	2	....	....	....	2	....	....	....
Do.	Jan. 31	.....	6	....	....	....	....	2	....	....	....	5	....	....	....
Hyde Park, Mass.	Feb. 5	15,522	3	1	....	....	....	1	....	1	....	1	....	....	....
Indianapolis, Ind.	Jan. 29	241,826	70	4	7	4	....	15	....	7	....	250	2	4	....
Jacksonville, Fla.	Feb. 5	40,798	17	2	3	....	1	1	....	1	....	.....	....	....	....
Jersey City, N. J.	Feb. 6	253,711	77	2	3	1	....	35	....	12	1	5	....	....	....
Johnstown, Pa.	Feb. 5	46,520	15	....	....	....	....	4	1	3	....	28	....	....	....
Kansas City, Kans.	Jan. 8	85,742	22	....	2	8	1	14	....	8	1	.....	....	....	....
Do.	Jan. 15	.....	21	....	....	11	1	12	....	5	1	11	....	....	....
Do.	Jan. 29	.....	26	2	3	8	1	6	....	12	3	17	....	....	....
Kearny, N. J.	Feb. 5	15,765	6	....	....	....	....	2	....	2	....	8	....	1	....
Kingston, N. Y.	...do....	26,110	7	....	2	1	1	4	....	2	....	.....	....	....	....
Knoxville, Tenn.	Jan. 29	37,758	9	....	2	....	....	....	....	....	....	.....	....	....	....
Lackawanna, N. Y.	Feb. 5	.....	1	....	....	....	....	3	....	....	....	33	....	....	....
La Crosse, Wis.	...do....	29,224	7	1	....	....	....	3	....	....	....	2	....	....	....
La Fayette, Ind.	...do....	19,801	3	....	2	....	....	2	....	....	....	.....	....	....	....
Lancaster, Pa.	...do....	49,962	19	1	....	1	....	2	....	3	....	24	....	....	....
Lebanon, Pa.	Feb. 5	20,295	5	....	....	....	....	2	....	....	....	.....	....	....	....
Lexington, Ky.	Jan. 29	30,690	21	....	2	....	....	2	....	1	....	1	....	....	....
Do.	Feb. 5	.....	19	....	2	....	....	....	....	....	....	1	....	....	....
Lockport, N. Y.	...do....	18,105	6	....	....	4	....	3	....	1	....	7	....	....	....
Los Angeles, Cal.	Jan. 22	.....	104	13	18	4	....	9	....	3	....	624	11	1	....
Lowell, Mass.	Feb. 5	95,125	42	3	2	....	1	1	....	3	....	64	2	....	....
Lynn, Mass.	Jan. 22	83,865	26	4	2	....	1	7	....	6	....	3	....	....	....
Do.	Jan. 29	.....	24	2	....	....	....	6	....	5	....	.....	....	....	....
Do.	Feb. 5	.....	21	3	2	2	....	8	....	5	....	4	....	....	....
Malden, Mass.	Jan. 29	41,535	8	1	2	....	....	5	....	2	....	9	....	....	....
Manchester, N. H.	...do....	68,561	33	5	5	1	....	1	....	6	3	7	....	....	....
Do.	Feb. 5	.....	33	2	2	....	....	1	....	6	....	8	....	....	....
Manistee, Mich.	...do....	10,788	.....	1	....	....	....	1	....	1	....	.....	....	....	....
Manitowac, Wis.	...do....	13,490	2	1	....	3	....	2	....	....	....	.....	....	....	....
Mansfield, Ohio.	...do....	21,390	.....	....	....	1	....	1	....	....	....	5	....	....	....
Marinette, Wis.	...do....	14,682	5	....	....	....	....	3	....	1	....	.....	....	....	....
Marlboro, Mass.	Jan. 29	14,444	6	1	2	1	....	....	....	....	....	3	....	....	....
Do.	Feb. 5	.....	5	....	2	....	....	....	....	....	....	17	....	....	....
Massillon, Ohio.	Feb. 28	13,610	3	....	1	....	....	....	....	....	....	.....	....	....	....
Medford, Mass.	Feb. 5	20,839	6	1	....	....	....	1	....	3	....	3	....	....	....
Melrose, Mass.	Jan. 29	15,361	6	3	....	....	....	1	....	1	....	.....	....	....	....
Memphis, Tenn.	Jan. 8	136,363	48	3	6	....	1	4	....	7	....	.....	....	....	....
Do.	Jan. 15	.....	43	8	3	1	....	1	....	4	....	.....	....	....	....
Do.	Jan. 22	.....	67	6	6	1	....	1	....	6	....	.....	....	....	....
Do.	Jan. 31	.....	59	5	9	4	....	1	....	2	....	.....	....	....	....
Mobile, Ala.	Jan. 29	45,122	27	....	6	....	....	2	....	....	....	.....	....	....	....
Moline, Ill.	Feb. 5	23,081	5	....	....	....	1	....	....	1	....	.....	....	....	....
Montclair, N. J.	...do....	18,296	5	1	....	....	....	....	....	3	....	.....	....	....	1
Monticello, Ind.	Feb. 5	.....	3	....	....	....	....	....	....	....	....	.....	....	....	....
Montgomery, Ala.	Jan. 29	43,927	28	....	5	2	....	....	....	....	....	.....	....	1	....
Morristown, N. J.	...do....	12,849	4	6	....	....	....	....	....	....	....	.....	....	....	....
Do.	Feb. 5	.....	4	....	....	....	....	....	....	....	....	.....	....	....	....
Mount Vernon, N. Y.	...do....	27,891	.....	....	1	....	....	6	....	....	....	1	....	....	....
Muncie, Ind.	Jan. 22	30,266	5	....	....	....	....	1	....	1	....	26	....	....	....
Do.	Feb. 5	.....	4	....	....	....	....	1	....	1	....	12	....	....	....
Muskegon, Mich.	...do....	20,995	.....	....	....	1	....	....	....	1	....	3	....	....	....
Nanticoke, Pa.	Feb. 6	.....	3	....	....	....	....	1	....	....	....	.....	....	....	....
Nashville, Tenn.	Feb. 5	106,476	35	3	6	2	....	6	....	1	....	.....	....	....	....
Nebraska City, Nebr.	...do....	.....	1	....	....	5	....	....	....	....	....	.....	....	....	....
Newark, N. J.	...do....	308,669	123	20	16	1	....	63	1	56	3	.....	2	....	....
New Bedford, Mass.	...do....	83,898	18	....	....	....	....	....	....	....	....	.....	....	....	....
Newburyport, Mass.	...do....	14,832	2	....	....	....	....	....	....	....	....	.....	....	....	....
New Orleans, La.	Jan. 29	327,662	145	41	19	3	....	32	2	15	1	40	1	....	....
Newport, Ky.	Feb. 5	31,345	6	....	1	1	1	....	....	....	....	.....	....	....	....
Newton, Mass.	...do....	39,419	8	2	2	....	....	1	....	1	....	.....	....	....	....
New York, N. Y.	...do....	4,450,963	1,466	650	184	19	4	622	26	390	42	1,075	17	30	3
Niagara Falls, N. Y.	Jan. 22	32,012	8	....	....	10	....	1	....	1	....	33	1	....	....
Do.	Feb. 5	.....	9	3	1	9	1	....	....	1	....	11	....	....	....
Norristown, Pa.	...do. ...	24,491	5	7	....	1	1	3	....	1	....	.....	....	....	....
North Adams, Mass.	...do....	20,510	5	1	....	1	....	....	....	....	....	.....	....	....	....
Northampton, Mass.	...do....	21,008	11	....	1	....	....	....	....	....	....	.....	....	3	....
Oakland, Cal.	Jan. 29	a 73,812	43	....	3	....	1	5	1	2	....	3	....	....	....
Oklahoma City, Okla.	Dec. 8	45,380	12	....	2	6	....	1	....	2	....	1	....	....	....
Do.	Dec. 15	.....	20	....	3	3	1	....	....	....	....	.....	....	....	....
Do.	Dec. 22	.....	12	....	....	....	....	....	....	1	....	.....	....	....	....

a Estimated population 1906. No estimate 1909.

MORBIDITY AND MORTALITY—Continued.

Weekly morbidity and mortality table, cities of the United States—Continued.

Cities.	Week ended—	Estimated population, 1900.	Total deaths from all causes.	Tuberculosis.		Typhoid fever.		Scarlet fever.		Diphtheria.		Measles.		Whooping cough.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Oklahomo City, Okla	Dec. 29	.....	21	....	....	....	2	1	1	2	....	.....	....	....	....
Omaha, Nebr	Jan. 29	134,972	.....	....	....	....	....	....	....	1	....	.....	....	....	....
Do	Feb. 5	.....	.....	....	....	....	....	....	....	2	....	.....	....	....	....
Orange, N. J	...do....	27,669	.....	5	2	....	....	7	....	2	....	6	....	....	....
Ottumwa, Iowa	Jan. 22	21,648	5	....	....	....	....	....	....	....	....	.....	....	....	....
Do	Jan. 29	.....	6	....	....	....	....	....	....	....	....	.....	....	....	....
Do	Feb. 5	.....	8	....	....	....	....	....	....	....	....	.....	....	....	....
Palmer, Mass	...do....	.....	7	....	....	....	....	....	1	1	....	.....	....	....	1
Peekskill, N. Y	...do....	15,473	4	1	....	....	....	8	....	1	....	33	....	....	....
Philadelphia, Pa	...do....	1,491,082	.....	70	52	55	10	57	2	86	3	33	....	11	5
Pittsburg, Pa	Jan. 15	558,123	202	28	7	15	3	14	....	18	4	189	12	24	1
Do	Jan. 22	.....	187	36	12	8	2	26	3	8	4	164	4	11	....
Do	Jan. 29	.....	174	31	13	10	1	25	5	16	4	219	3	11	1
Do	Feb. 5	.....	191	28	18	9	3	18	....	20	3	200	3	12	1
Plainfield, N. J	...do....	20,947	6	2	2	....	....	6	....	....	....	4	....	....	....
Portsmouth, N. H	...do....	11,336	.....	....	....	....	....	....	....	4	....	.....	....	....	....
Portsmouth, Va	Jan. 29	19,225	10	....	....	....	....	....	....	2	....	1	....	....	....
Do	Feb. 5	.....	11	....	....	2	....	....	....	2	....	.....	....	....	....
Pottstown, Pa	...do....	14,065	8	....	....	....	....	1	....	1	....	10	....	....	....
Providence, R. I	...do....	217,065	84	2	4	....	1	....	....	10	1	38	1	1	....
Racine, Wis	...do....	34,840	16	....	....	2	....	11	1	1	....	.....	....	....	....
Reading, Pa	Feb. 7	97,231	36	8	4	1	....	1	1	1	1	36	....	1	....
Rock Island, Ill	Feb. 5	24,766	4	2	2	3	....	1	....	....	....	.....	....	....	....
Saginaw, Mich	Jan. 8	51,941	23	1	1	....	....	....	....	1	....	1	....	....	....
Do	Jan. 22	.....	11	....	....	....	....	2	....	2	....	3	....	....	....
St. Joseph, Mo	...do....	125,504	24	1	1	....	1	3	....	5	3	.....	....	....	....
St. Louis, Mo	Jan. 29	686,369	244	60	24	6	....	59	6	44	3	5	1	28	2
Sandusky, Ohio	Feb. 5	20,737	5	....	....	....	....	....	....	....	....	.....	....	....	....
San Francisco, Cal	Jan. 29	[a] 342,782	114	29	18	....	1	8	....	15	....	28	....	4	1
San Jose, Cal	...do....	24,596	6	....	....	....	....	....	....	....	....	.....	....	....	....
Seattle, Wash	...do....	[a] 104,169	40	3	4	3	1	23	1	1	....	13	....	7	....
Schenectady, N. Y	...do....	73,037	22	1	2	1	....	1	....	3	....	155	1	....	....
Shreveport, La	...do....	18,743	.....	3	....	3	....	....	....	1	....	.....	....	....	....
Somerville, Mass	Feb. 5	75,375	22	3	1	....	....	1	....	10	....	3	....	....	....
South Bend, Ind	Jan. 29	49,321	15	2	1	....	....	10	1	....	....	.....	....	....	....
South Bethlehem, Pa	Feb. 5	15,886	9	....	....	....	....	....	....	....	....	.....	....	....	....
Spokane, Wash	Jan. 22	[a] 47,006	21	....	....	1	....	5	....	1	....	3	....	....	....
Springfield, Mass	Feb. 5	82,724	32	8	2	1	1	11	....	7	2	27	....	....	....
Steelton, Pa	...do....	14,769	3	....	....	....	....	....	....	....	....	.....	....	1	....
Tacoma, Wash	Jan. 29	[a] 37,714	16	....	1	2	1	1	....	....	....	2	....	....	....
Taunton, Mass	Feb. 5	30,926	10	....	1	....	....	3	1	....	....	4	....	....	....
Terre Haute, Ind	...do....	55,509	10	4	1	....	....	....	....	8	....	3	....	....	....
Titusville, Pa	...do....	8,397	1	....	....	....	....	1	....	....	....	.....	....	....	....
Toledo, Ohio	Jan. 29	174,059	46	....	4	6	3	3	....	6	....	124	2	....	....
Do	Feb. 5	.....	28	....	2	5	1	3	....	8	....	95	1	....	....
Topeka, Kans	Jan. 29	44,757	.....	....	....	....	....	....	....	1	....	.....	....	....	....
Utica, N. Y	Jan. 15	69,458	21	4	4	....	....	2	....	1	1	15	....	1	....
Do	Feb. 5	.....	21	2	2	....	....	....	....	1	....	15	1	....	....
Waltham, Mass	...do....	28,552	7	....	....	....	....	6	....	2	....	.....	....	....	....
Warren, Ohio	...do....	11,838	2	....	....	....	....	....	....	24	....	.....	....	....	....
Washington, D. C	Jan. 29	322,212	162	37	28	10	1	66	....	11	2	2	....	11	....
Wheeling, W. Va	Jan. 22	42,799	18	4	2	3	1	....	1	3	....	1	....	....	....
Do	Jan. 29	.....	16	2	4	1	....	....	....	1	....	1	....	....	....
Wichita, Kans	Jan. 15	39,612	16	....	....	1	....	....	....	1	....	1	....	....	....
Do	Feb. 5	.....	13	1	2	....	....	2	....	3	....	.....	....	....	....
Wilkes-Barre, Pa	...do....	64,323	32	13	2	2	....	5	....	6	1	2	....	15	....
Wilkinsburg, Pa	...do....	19,999	13	....	....	3	....	1	....	....	....	7	....	4	....
Williamsport, Pa	...do....	30,220	10	2	1	1	....	8	....	2	....	3	....	1	....
Wilmington, Del	...do....	88,980	32	....	3	....	....	....	1	....	1	.....	....	....	....
Woburn, Mass	...do....	14,520	8	....	....	....	....	2	....	....	....	.....	....	....	....
Worcester, Mass	Jan. 22	135,906	48	3	4	....	....	7	....	15	4	21	1	1	....
Yonkers, N. Y	Feb. 5	72,200	15	2	1	....	....	5	....	3	....	.....	....	....	....
York, Pa	...do....	41,895	.....	2	....	....	....	1	....	1	....	30	....	....	....
Zanesville, Ohio	...do....	25,614	9	....	2	2	....	1	....	....	....	.....	....	....	....

[a] Estimated population, 1906. No estimate 1909.

STATISTICAL REPORTS OF MORBIDITY AND MORTALITY, STATES AND CITIES OF THE UNITED STATES (untabulated).

ILLINOIS—*Alton.*—Month of January, 1910. Population, 22,000. Total number of deaths from all causes 22, including tuberculosis 4. Cases reported: Scarlet fever 1, diphtheria 2.

KANSAS.—Month of December, 1909. Deaths from contagious diseases were reported as follows: Typhoid fever 35, smallpox 1, measles 3, scarlet fever 6, diphtheria 26, tuberculosis 58. Cases reported: Typhoid fever 125, smallpox 239, measles 96, scarlet fever 318, diphtheria 217, tuberculosis 277.

LOUISIANA—*Shreveport.*—Month of January, 1910. Population, 30,000. Total number of deaths from all causes 89 (residents 45, nonresidents 44), including typhoid fever 2, tuberculosis 24 (residents 13, nonresidents 11).

MINNESOTA—*Stillwater.*—Month of January, 1910. Population, 12,318. Total number of deaths from all causes 8, including tuberculosis 2. Cases reported: Diphtheria 3, scarlet fever 1.

NEW HAMPSHIRE—*Concord.*—Month of December, 1909. Population, 20,000. Total number of deaths from all causes 33, including tuberculosis (pulmonary) 2. Cases reported: Typhoid fever 2, measles 14, diphtheria 19.

Month of January, 1910. Total number of deaths from all causes 54, including scarlet fever 1, tuberculosis (pulmonary) 4. Cases reported: Typhoid fever 1, measles 43, scarlet fever 3, diphtheria 9.

SOUTH CAROLINA—*Charleston.*—Month of January, 1910. Population, 57,593. Total number of deaths from all causes 136, including typhoid fever 1, measles 3, diphtheria 2, tuberculosis 13. Cases reported: Typhoid fever 5, diphtheria 6, scarlet fever 1.

UTAH—*Salt Lake City.*—Month of December, 1909. Population 85,000. Total number of deaths from all causes 121, including typhoid fever 4, scarlet fever 1, diphtheria 1, tuberculosis 7. Cases reported: Typhoid fever 17, smallpox 16, measles 2, scarlet fever 129, diphtheria 12.

Year 1909. Population 85,000. Total number of deaths from all causes 1,279, including typhoid fever 35, smallpox 3, scarlet fever 33, diphtheria 24, tuberculosis 74. Cases reported: Typhoid fever 380, smallpox 502, measles 57, scarlet fever 740, diphtheria 178, tuberculosis 22 (incomplete).

VIRGINIA—*Petersburg.*—Month ended January 26, 1910. Population 30,000. Total number of deaths from all causes 40, including tuberculosis 3. Cases reported: Typhoid fever 4, smallpox 2, diphtheria 5, tuberculosis 4.

FOREIGN AND INSULAR.

CHINA.

AMOY—Inspection of Vessel—Smallpox.

Passed Assistant Surgeon Foster reports, January 6:

Week ended January 1. The British steamship *Taisang* with 54 in crew and 45 cabin and 123 steerage passengers for Manila was granted a supplemental bill of health December 28. All passengers were vaccinated. Crew and steerage passengers bathed and their clothing disinfected. All on board inspected prior to sailing. Two passengers rejected for trachoma and 3 for favus. Manifests viséed for 1,936 pieces of freight. The vessel anchored in the stream while in port. The prevailing diseases in the port and vicinity are smallpox and typhoid fever.

HONGKONG—Examination of Emigrants—Inspection of Vessels.

Acting Assistant Surgeon Hough reports, December 28 and 30 and January 6:

Restrictions enforced by and against Hongkong remain as reported December 11.

Aliens for Honolulu and Pacific coast ports.—Week ended December 18. Examined, 283; rejected, 104. Week ended December 25. Examined, 292; rejected, 111. Week ended January 1, 1910. Examined, 490; rejected, 165.

Aliens for Philippine Islands.—Week ended December 18. Examined, 7; rejected, 5. Week ended December 25. Examined, 17; rejected, 7. Week ended January 1, 1910. Examined, 11; rejected, 7.

INSPECTION AND DISINFECTION OF VESSELS.

Week ended December 18.

Vessels granted bills of health	9
Total members of crews	705
Total cabin passengers	152
Total steerage passengers	576
Members of crew bathed	593
Steerage passengers bathed	518
Pieces of baggage disinfected	1,111
Vessels disinfected to kill rats	3
Crews' quarters disinfected:	
By formaldehyde	4
By sulphur	3

Week ended December 25.

Vessels granted bills of health	11
Total members of crews	1,199
Total cabin passengers	782

Total steerage passengers	319
Members of crew bathed	594
Steerage passengers bathed	314
Pieces of baggage disinfected	908
Vessels disinfected to kill rats	2
Crews' quarters disinfected:	
By formaldehyde	7
By sulphur	2

Week ended January 1, 1910.

Vessels granted bills of health	14
Total members of crews	2,764
Total cabin passengers	173
Total steerage passengers	762
Members of crew bathed	683
Steerage passengers bathed	762
Pieces of baggage disinfected	1,448
Vessel disinfected to kill rats	1
Crews' quarters disinfected:	
By formaldehyde	7
By sulphur	1

SHANGHAI—Inspection of Vessel—Smallpox.

Acting Assistant Surgeon Ransom reports, January 5:

Week ended January 1. Bills of health issued to 5 steamships. One vessel inspected. Members of crew inspected, 54; steerage passengers, 10; pieces of baggage disinfected, 9; manifests for 1,975 pieces of freight viséed; emigrants for San Francisco per steamship *China* examined and passed, 3. The weekly report of the municipal health officer shows 1 death from smallpox among natives.

CUBA.

CIENFUEGOS—Inspection of Vessels.

Acting Assistant Surgeon Suarez reports, January 31:

Week ended January 29. Vessels inspected, 7; bills of health issued, 7; members of crews of outgoing vessels inspected, 156; member of crew landed, 1. No quarantinable disease was reported.

MATANZAS—Inspection of Vessels.

Acting Assistant Surgeon Nuñez reports, February 7:

Week ended February 3. Bills of health issued to 7 vessels bound for the United States. No quarantinable disease reported.

The department of sanitation reports the inspection of 3,749 houses during the period from January 20 to 31.

SANTIAGO—Inspection of Vessels.

Acting Assistant Surgeon Wilson reports, February 4:

Week ended January 29. Bills of health issued to 4 vessels bound for the United States. No quarantinable disease reported.

The department of sanitation reports the inspection of 2,918 houses.

ECUADOR.

GUAYAQUIL—Plague, Smallpox, and Yellow Fever.

Passed Assistant Surgeon Parker reports, January 18:

Two weeks ended January 15.

Disease.	Locality.	Previously reported.	New cases.	Cured.	Died.	Remaining.
Plague	Guayaquil	46	34	36	17	27
Yellow fever	do	14	15	21	3	5
Smallpox	do		2			2
Plague	Milagro		4		1	3
Do	Babahoyo	10	4	9	2	3
Yellow fever	do		3			3

It will be seen that there is a considerable diminution in the number of plague and yellow fever cases as compared with the report for the previous two weeks. Plague is reported from Milagro. Babahoyo in addition to plague now reports yellow fever.

The number of deaths from all causes in Guayaquil for the first 15 days of the month was 139, while for the same period last year it was 105. Estimated population 70,000.

HAWAII.

HONOLULU—Plague-prevention work.

Chief Quarantine Officer Hobdy reports, January 24:

The last case of human plague at Honolulu occurred July 17, 1907. The last plague-infected rat was found at Aiea, 9 miles from Honolulu, August 22, 1907.

Week ended January 22.

Total rats taken	484
Trapped	473
Found dead (Mus alexandrinus)	1
Shot from trees	10
Examined bacteriologically	369
Plague rats	0
Classification of rats trapped:	
Mus alexandrinus	79
Mus musculus	190
Mus norvegicus	36
Mus rattus	168
Classification of rats shot from trees:	
Mus alexandrinus	3
Mus rattus	7
Average number of traps set daily	1,294

HILO.

Last case of human plague occurred at Papeekeo, Hilo, October 4, 1909. Last plague-infected rat was found December 6, 1909.

INDIA.

CALCUTTA—Cholera and Plague.

Acting Assistant Surgeon Allan reports, January 13:

Week ended December 25, 1909. At Calcutta there were 21 deaths from cholera and 9 from plague, in all Bengal 936 cases of plague with 656 deaths, in all India 7,737 cases of plague with 6,559 deaths.

Week ended January 1, 1910. At Calcutta 12 deaths from cholera and 4 from plague; in all Bengal 1,096 cases of plague with 911 deaths; in all India 8,873 cases with 7,725 deaths.

ITALY.

NAPLES—Examination of Emigrants—Smallpox.

Surgeon Geddings reports, January 17 and 24:

Vessels inspected at Naples and Palermo, two weeks ended January 22.

NAPLES, WEEK ENDED JANUARY 15.

Date.	Name of ship.	Destination.	Steerage passengers inspected and passed.	Pieces of baggage inspected and passed.	Pieces of baggage disinfected.
Jan. 9	Ré d'Italia	New York	157	30	290
10	San Giorgio	do	457	28	250
11	Cretic	Boston	269	34	360
12	Saxonia	New York			
12	Italia	do	103	37	220
14	Europa	do	282	50	360
15	Roma	do	173	25	250
15	Luisiana	do	414	40	320
	Total		1,855	244	2,050

WEEK ENDED JANUARY 22.

Jan. 19	Pannonia	New York			
19	Duca di Genova	do	824	110	980
21	König Albert	do	447	55	620
	Total		1,271	165	1,600

PALERMO, WEEK ENDED JANUARY 15.

Jan. 10	Ré d' Italia	New York	167	400	150
13	Italia	do	193	250	75
	Total		360	650	225

WEEK ENDED JANUARY 22.

Jan. 16	Roma	New York	149	200	75

Rejections recommended.

NAPLES, WEEK ENDED JANUARY 15.

Date.	Name of ship.	Trachoma.	Favus.	Suspected trachoma.	Suspected favus.	Smallpox.	Other causes.	Total.
Jan. 9	Ré d' Italia	5	3	2				10
10	San Giorgio	1	2	2				5
11	Cretic	9	2	2				13
12	Saxonia							
12	Italia	6		2			2	10
14	Europa	1	2	3			1	7
15	Roma	2	1	4			1	8
15	Luisiana	10	1	1			1	13
	Total	34	11	16			5	66

Rejections recommended—Continued.

WEEK ENDED JANUARY 22.

Date.	Name of ship.	Trachoma.	Favus.	Suspected trachoma.	Suspected favus.	Smallpox.	Other causes.	Total.
Jan. 19	Pannonia							
19	Duca di Genova	14	4	8	1	1	14	42
21	König Albert	5	1	3			4	13
	Total	19	5	11	1	1	18	55

PALERMO, WEEK ENDED JANUARY 15.

Jan. 10	Ré d' Italia	9		8		1		18
13	Italia	12		8		2		22
	Total	21		16		3		40

WEEK ENDED JANUARY 22.

Jan. 16	Roma	11		10				21

Smallpox in Naples.—During the week ended January 16, 3 cases of smallpox were reported in the city of Naples; during the week ended January 23, 35 cases with 4 deaths.

A case of smallpox was discovered at the examination of steerage passengers for the steamship *Duca di Genova* January 19. The patient was sent to the Cotugno hospital for contagious diseases. One contact was returned to her domicile and revaccinated. The house was disinfected.

JAPAN.

KOBE—Inspection of Vessels—Plague.

Acting Assistant Surgeon Smith reports, January 12:

Week ended January 8. Supplemental bills of health granted to 7 steamships. Members of crews inspected 901, steerage passengers 314. Members of crews bathed 30, steerage passengers 11; effects disinfected. Pieces of baggage steamed 96, bedding 22. Manifests viséed for 86, 245 pieces of freight amounting to 6,798 tons. Emigrants examined: Per steamship *China* for Honolulu, passed 10, recommended for rejection 33; for San Francisco, passed 1, recommended for rejection 4. The emigrants were 7 days in quarantine detention at Ono before embarkation. Twenty-five cases of human hair were disinfected with formalin.

The official returns of infectious diseases show 1 case of plague with 1 death at Kobe during the week.

MEXICO.

Report from the Superior Board of Health of Mexico.

In compliance with articles 1 and 2 of the International Sanitary Convention held at Washington, October 14, 1905, the acting president of the Superior Board of Health of Mexico reports, January 31 and February 7, that no case of yellow fever and no death from the said disease were registered in the Mexican Republic during the weeks

ended January 29 and February 5, and that the prophylactic measures reported under date of September 28, 1908, continue to be carried out.

COATZACOALCOS—Inspection of Vessels.

Acting Assistant Surgeon Thompson reports, February 2:

Week ended February 2. Vessels inspected: January 27, steamships *San Cristobal* for Port Arthur, and *Buenos Aires* for New York via Habana; February 1, steamships *Massachusetts* for Delaware Breakwater, and *Norheim* for Texas City via Veracruz and Tampico; February 2, steamship *Guatemala* for New Orleans.

RUSSIA.

ST. PETERSBURG—Status of Cholera in Russia.

The following information dated January 22 was received from Minister Rockhill through the Department of State February 8:

The ministry for foreign affairs states that during the period from January 9 to 15 there were 4 new cases of cholera with 1 death in Russia, occurring as follows:

Cities and governments.	Cases.	Deaths.
Moscow		1
Baku	1	
Territory of the Don	3	

Under date of January 17, Minister Rockhill reported that the cities of St. Petersburg, Schlusselburg, and Ialta, and the districts of Novoladoga, in the government of St. Petersburg, and Ialta, in the government of Taurida, have been declared free of cholera.

VENEZUELA.

LA GUAIRA—Inspection of Vessels.

Acting Assistant Surgeon Kellogg reports, January 23:

Week ended January 22. Vessels inspected: January 18, steamship *Montevideo* for San Juan with 25 in crew, passengers in transit 49, taken on at this port 51; January 20, steamships *Città di Torino* for Colon, crew 86, passengers in transit 68, taken on at this port 19; and *Prins Willem III* for New York, crew 39, passengers in transit 11, taken on at this port 10; and January 21, steamship *Mercian* for the United States, crew 50, no passengers.

CHOLERA, YELLOW FEVER, PLAGUE, AND SMALLPOX.

Reports Received During Week Ended February 18, 1910.

[These tables include cases and deaths recorded in reports received by the Surgeon-General, Public Health and Marine-Hospital Service, from American consuls through the Department of State and from other sources.]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Rangoon	Dec. 26–Jan. 1	.....	9	
Russia, general	Jan. 9–15	4	1	
Baku	Jan. 9–15	1	.....	
Don, territory	Jan. 9–15	3	.....	
Moscow	Jan. 9–15	.....	1	
Java:				
Batavia	Dec. 26–Jan. 1	4	1	
Straits Settlements:				
Singapore	Jan. 2–8	.....	1	
Sumatra:				
Palembang	Sept. 20–Oct. 20	[a] 936	675	

YELLOW FEVER.

Brazil:				
Manaos	Jan. 2–15	.....	9	
Para	Jan. 16–22	5	5	
Ecuador:				
Babahoyo	Jan. 1–15	3	.....	
Guayaquil	Jan. 1–15	15	3	

PLAGUE.

Brazil:				
Bahia	Dec. 26–31	4	2	
Pernambuco	Dec. 1–15	.....	3	
Ecuador:				
Guayaquil	Jan. 1–15	34	17	
Milagro	Jan. 1–15	4	1	
Egypt:				
Provinces—				
Assiout	Jan. 7–13	1	.....	
Beni Souef	Jan. 14–20	.....	2	
Galioobeh	Jan. 11–17	2	1	
Fayoum	Jan. 20	1	.....	
Japan:				
Kobe	Jan. 2–8	1	1	
Straits Settlements:				
Singapore	Dec. 25–Jan. 1	2	2	
Turkey in Asia:				
Jiddah	Jan. 19–23	1	.....	

SMALLPOX.

Brazil:				
Bahia	Dec. 26–31	18	12	
Pernambuco	Dec. 1–15	.....	27	
China:				
Canton	Dec. 26–Jan. 1	5	.....	
Shanghai	Dec. 26–Jan. 1	.....	1	
Ecuador:				
Guayaquil	Jan. 1–15	2	.....	
Egypt, general	Dec. 25–31	66	12	
Cairo	Jan. 8–21	2	2	
Great Britain:				
Nottingham	Jan. 16–22	1	.....	
India:				
Bombay	Jan. 5–11	.....	8	
Karachi	Jan. 2–8	2	.....	
Madras	Jan. 1–7	.....	1	
Rangoon	Dec. 26–Jan. 1	.....	3	
Italy:				
Naples	Jan. 10–23	38	4	
Batavia:				
Java	Dec. 26–Jan. 1	4	1	

[a] From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, January 12, 1910.

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

Reports Received During Week Ended February 18, 1910.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Chihuahua	Jan. 24-30	1		
Russia:				
St. Petersburg	Jan. 2-15	88	12	
Warsaw	Nov. 16-20	21		
Spain:				
Barcelona	Jan. 18-24		1	
Huelva	Dec. 1-31		6	
Valencia	Jan. 23-29	1		

Reports Received from January 1 to February 11, 1910.

[For reports received from June 25, 1909, to December 31, 1909, see PUBLIC HEALTH REPORTS for December 31, 1909. In accordance with custom, the tables of epidemic diseases are terminated semiannually and new tables begun.]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Germany:				
Heydekrug	Nov. 19-Dec. 4	2		
Niederung	Nov. 16-22	1		
India:				
Bombay	Nov. 24-Dec. 28		13	
Calcutta	Nov. 14-Jan. 1		146	
Madras	Jan. 1-7		1	
Rangoon	Nov. 14-Dec. 25		26	
Java:				
Batavia	Nov. 14-Dec. 25	380	109	
Norway:				
Friedershald	Dec. 31-Jan. 3	1	1	From a vessel from Riga.
Persia:				
Astara	Dec. 1-9	35	22	
Philippine Islands:				
Manila	Nov. 7-20	19	20	Third quarter, 1909. Cases 82, deaths 61.
Provinces				Third quarter, 1909. Cases 3,946, deaths 2,609.
Albay	Nov. 7-20	6	6	
Bataan	Nov. 7-20	115	73	
Bohol	Nov. 7-20	25	14	
Bulacan	Nov. 7-20	24	19	
Camarines	Nov. 7-20	5	5	
Capiz	Nov. 21-Dec. 18	3	2	
Cavite	Nov. 7-20	61	48	
Cebu	Nov. 7-20	207	156	Nov. 20, 1 case on s. s. Yaptico.
Leyte	Nov. 21-Dec. 18	14	11	
Oriental Negros	Nov. 7-20	10	5	
Pampanga	Nov. 7-20	8	5	
Rizal	Nov. 7-13	4	3	
Tarlac	Nov. 7-13	9	5	
Russia, general	Nov. 21-Jan. 1	435	200	
Baku, government	Nov. 21-Dec. 25	22	22	
Baku	Nov. 21-Dec. 25	26	17	
Don, territory	Nov. 28-Dec. 25	15	10	
Ekaterinslav, government	Nov. 21-Jan. 1	23	7	
Jaroslav, government	Nov. 21-27		1	
Kostroma, government	Nov. 21-27	3	4	
Kovna, government	Nov. 21-27	8	3	
Kursk, government	Nov. 21-Dec. 11	6		
Moscow, government—				
Moscow	Nov. 29-Jan. 8	255	113	
Pskov, government	Nov. 21-27	10		
St. Petersburg, government	Nov. 21-Dec. 18	14	12	
St. Petersburg	Nov. 21-Jan. 1	53	12	
Taurida, government	Nov. 21-Dec. 25	66	28	
Vitebsk, government	Nov. 21-27	2		
Siam:				
Bangkok	Oct. 28-Nov. 27	3	3	
Siberia:				
Vladivostok	Nov. 16-21	1		
Straits Settlements:				
Singapore	Dec. 19-25		1	
Turkey in Asia:				
Trebizond	Nov. 28	1		On a vessel from Batum.

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

Reports Received from January 1 to February 11, 1910.

YELLOW FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Manaos	Nov. 21–Jan. 1	.....	8	
Para	Nov. 28–Jan. 15	25	22	
Ecuador:				
Guayaquil	Dec. 1–31	41	15	
Peru:				
Callao	Nov. 2–Dec. 2	1	1	From s. s. Loa.
Mexico:				
Yucatan—				
Merida	Dec. 20–21	1	1	
Santa Cruz de Bravo	Dec. 20	1	1	
Trinidad:				
Port of Spain	Nov. 28–Dec. 4	1	1	

PLAGUE.

Brazil:				
Bahia	Nov. 20–Dec. 24	35	17	
Para	Nov. 28–Dec. 25	11	8	
Pernambuco	Oct. 15–Nov. 30	.....	11	
Rio de Janeiro	Nov. 2–Dec. 26	15	2	
Santos	Nov. 1–Dec. 29	5	3	One case from bark Amazone, Dec. 1.
China:				
Hankow	Nov. 27–Dec. 7	20	20	
Hongkong	Nov. 21–27	1	1	
Ecuador:				
Babahoyo	Dec. 16–Jan. 15	14	2	
Guayaquil	Dec. 1–31	130	47	
Egypt:				
Alexandria	Nov. 19–Dec. 15	3	2	
Port Said	Nov. 30–Dec. 22	2	1	
Provinces—				
Assiout	Sept. 29–Jan. 6	24	9	
Beherach	Dec. 8–14	1	.....	
Beni Souef	Dec. 16–Jan. 2	10	2	
Girgeh	Dec. 19–26	2	1	
Ghizeh	Dec. 19–Jan. 2	2	.....	
Menouf	Nov. 28–Dec. 15	17	6	
Minieh	Dec. 21–27	3	1	
German East Africa:				
Mpwapwa	Sept. 19–Oct. 5	7	.....	
India:				
Bombay Presidency and Sind.	Nov. 7–Jan. 1	7,897	5,459	
Madras Presidency	Nov. 7–Jan. 1	766	551	
Bengal	Nov. 7–Jan. 1	3,930	2,982	
United provinces	Nov. 7–Jan. 1	18,488	17,101	
Punjab	Nov. 7–Jan. 1	9,252	7,552	
Burma	Nov. 7–Jan. 1	459	369	
Central provinces, including Berar.	Nov. 7–Jan. 1	5,711	4,575	
Coorg	Nov. 14–27	5	1	
Mysore State	Nov. 7–Jan. 1	1,112	803	
Hyderabad State	Nov. 7–Jan. 1	105	81	
Central India	Nov. 7–Jan. 1	716	537	
Rajputana and Ajmer-Merwara.	Nov. 7–Jan. 1	2,716	2,431	
Kashmir	Nov. 7–Dec. 4	140	96	
Grand total	.....	51,297	42,538	
Indio-China:				
Saigon	Nov. 7–27	4	3	
Japan:				
Kobe	Nov. 28–Jan. 1	21	16	
Paraguay	Dec. 10	.....	30	In the northern part.
Peru:				
Arequipa, department—				
Mollendo	Dec. 20–Jan. 1	1	.....	
Lambayeque, department	Oct. 1–Dec. 9	29	10	
Libertad, department	Nov. 19–Dec. 9	25	3	
Lima, department	Oct. 22–Dec. 9	9	5	

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

Reports Received from January 1 to February 11, 1910.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Russia:				
Astrakhan, district	Dec. 5–Jan. 19	80	74	50 miles south of Beiskulak.
Beiskulak	Dec. 10–16	18	16	
Dschedda	Jan. 7			Present.
Libau	Dec. 3–9	1	1	
Uralsk, district	Nov. 25–Jan. 12	208	202	
Siam:				
Bangkok	Oct. 28–Nov. 27	5	5	
Turkey in Asia:				
Beirut	Nov. 29–Dec. 14	3		
Jiddah	Jan. 5–15	3	3	

SMALLPOX.

Algeria, general	Dec. 1–15	22		
Algiers	Nov. 1–Dec. 31		2	
Bona	Dec. 1–31	11	7	
Argentina:				
Buenos Aires	Oct. 1–Nov. 30		16	
Austria:				
Galicia	Jan. 1–8	1		
Vienna	Jan. 9–15	1		
Brazil:				
Bahia	Nov. 20–Dec. 24	97	63	
Pernambuco	Oct. 16–Nov. 30		109	
Rio de Janerio	Nov. 2–Dec. 26	13		
São Paulo	Nov. 1–21		2	
Canada:				
Nova Scotia—				
Halifax	Dec. 19–25	2		
Chile:				
Antofagasta	Jan. 1			Present.
Quillota	Nov. 28–Dec. 4			Do.
Valparaiso	Nov. 20–Jan. 1			Do.
China:				
Amoy	Nov. 28–Dec. 25		2	
Canton	Dec. 12–25	10		
Chang Cheun	Dec. 11			Do.
Chio Be	Dec. 11			Do.
Hankow	Dec. 19–25			Present among natives.
Shanghai	Nov. 1–Dec. 28		3	Among Chinese.
Cuba:				
Habana	Dec. 3–9	1		From s. s. La Navarre.
Egypt, general	Nov. 5–Dec. 23	329	103	
Alexandria	Nov. 5–Dec. 25	19	19	
Cairo	Nov. 26–Jan. 7	8	3	
France:				
Paris	Dec. 5–Jan. 15	27	1	
Germany, general	Dec. 5–Jan. 22	53		
Konigsberg	Dec. 12–Jan. 15	2	2	In vicinity.
Great Britain:				
Hull	Jan. 16–22	2		
Liverpool	Dec. 19–Jan. 15	7		
London	Nov. 28–Jan. 22	13		
Plymouth	Nov. 12–18		1	
Southampton	Nov. 12–18	1		
Greece:				
Athens	Nov. 22–Dec. 25		11	
Hawaii:				
Honolulu	Jan. 31–Feb. 4	3	1	2 cases Jan. 31 from U. S. S. Washington from Yokohama. 1 case Feb. 2 on s. s. Makura.
India:				
Bombay	Nov. 24–Dec. 28		35	
Calcutta	Nov. 14–Dec. 18		6	
Madras	Dec. 18–24		1	
Rangoon	Nov. 20–Dec. 18		11	
Indo-China:				
Saigon	Dec. 7–13	1		
Italy, general	Nov. 29–Jan. 23	147		
Genoa	Dec. 1–Jan. 15	13	1	
Milan	Jan. 1–16	1		
Naples	Dec. 6–Jan. 9	70	14	
Japan:				
Kobe	Dec. 12–25	1	1	
Java:				
Batavia	Dec. 12–25	3		

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

Reports Received from January 1 to February 11, 1910.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Liberia:				
Monrovia	Nov. 28-Dec. 4	6		
Malta:				
Valetta	Dec. 12-Jan. 1	2	1	
Mexico:				
Aguascalientes	Dec. 12-Jan. 22		12	
Chihuahua	Dec. 13-Jan 23	2	5	
Mexico	Nov. 14-Dec. 18		11	
Monterey	Nov. 13-19		1	
Netherlands:				
Rotterdam	Dec. 5-11	7		
Persia:				
Hamadan	Nov. 15			Present.
Sultanabad	Nov. 15			Do.
Teheran	Nov. 1-Dec. 2			Do.
Peru:				
Callao	Dec. 6-12			Do.
Philippine Islands:				
Manila	Nov. 14-Dec. 4	4		Third quarter, 1909—Cases, 5; deaths, 0.
Portugal:				
Lisbon	Dec. 5-Jan. 22	93		
Porto Rico, general	July 1-Oct. 31	38	12	
Russia:				
Libau	Dec. 6-Jan. 9	20		
Moscow	Nov. 21-Jan. 8	49	14	
Odessa	Nov. 21-Dec. 25	52	17	
Riga	Dec. 5-Jan. 8	28		Oct. 1-Nov. 30, 17 deaths.
St. Petersburg	Nov. 28-Jan. 1	214	81	
Warsaw	Oct. 24-Nov. 13		48	
Spain:				
Almeria	Nov. 1-Dec. 31		10	
Barcelona	Dec. 14-Jan. 16		10	
Huelva	Nov. 1-30		11	
Madrid	Dec. 1-31		40	
Seville	Dec. 1-31		3	
Valencia	Jan. 9-15	1		
Tripoli:				
Tripoli	Nov. 14-Dec. 25	242	24	
Turkey:				
Constantinople	Jan. 2-9		1	
Turkey in Asia:				
Bagdad	Nov. 21-Dec. 11			Present.
Smyrna	Nov. 5-Dec. 1		31	
Uruguay:				
Montevideo	Oct. 1-Nov. 30		12	

MORTALITY.

WEEKLY MORTALITY TABLE, FOREIGN AND INSULAR CITIES.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Typhoid fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Aberdeen	Jan 28	185.703										2		1
Alexandria	Dec. 31	391,121	223	20						3		4	3	
Amoy	Dec. 25	8,000	6	1				1						
Antwerp	Jan. 15	323,921	64	5								1	4	
Athens	Jan. 1	241,058	111	21				3		4				
Bahia	Dec. 31	265,000	105	16	2			12						
Barcelona	Jan. 24	591,272	350	20				1		3		5	2	
Barmen	Jan. 1	163,500	37	3							2	1		
Do	Jan. 8		35	3									1	

MORTALITY—Continued.

Weekly mortality table, foreign and insular cities—Continued.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from—									
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Typhoid fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Belfast	Jan. 22	391,167	125	15	....	....	....	....	....	....	....	1	....	13
Belgrade	...do....	80,000	.....	....	....	....	....	....	....	1	....	....	....	....
Bergen	...do....	87,749	31	5	....	....	....	....	....	....	....	1	3	....
Berlin	Jan. 8	2,213,402	572	83	....	....	....	....	....	3	15	15	4	5
Birmingham	Jan. 22	558,336	183	....	....	....	....	....	....	....	4	1	....	2
Bombay	Jan. 11	977,822	533	47	7	....	....	8	....	3	....	....	1	....
Bordeaux	Jan. 15	251,198	110	10	....	....	....	....	....	....	....	....	....	1
Bristol	Jan. 29	382,550	98	7	....	....	....	....	....	....	....	1	2	....
Brussels	Jan. 22	562,895	196	17	....	....	....	....	....	1	....	....	2	1
Budapest	Jan. 15	804,200	.....	....	....	....	....	....	....	....	5	1	1	....
Do	Jan. 22	.....	.....	....	....	....	....	....	....	2	3	4	2	....
Cairo	Jan. 14	704,836	379	37	....	....	....	....	9	2	....	8	....	....
Do	Jan. 21	.....	424	29	....	....	....	2	1	3	....	13	1	....
Calcutta	Dec. 25	847,796	540	38	9	21	....	....	....	....	....	....	....	....
Do	Jan. 1	.....	551	24	4	12	....	....	....	....	....	....	1	....
Canton	Dec. 18	1,000,000	150	20	....	....	....	....	....	5	....	2	....	....
Do	Dec. 25	.....	150	20	....	....	....	....	....	3	....	2	....	....
Do	Jan. 1	.....	150	20	....	....	....	....	....	3	....	2	....	....
Chemnitz	Jan. 8	279,966	92	9	....	....	....	....	....	....	....	2	....	1
Do	Jan. 15	.....	86	8	....	....	....	....	....	....	1	1	1	1
Chihuahua	Jan. 30	37 000	28	4	....	....	....	....	....	....	....	....	....	....
Do	Jan. 22	.....	67	10	....	....	....	....	....	....	....	1	....	1
Cologne	Jan. 15	474,338	138	17	....	....	....	....	....	....	4	2	3	2
Copenhagen	Jan. 8	450,000	118	11	....	....	....	....	....	....	3	....	....	1
Dalny	...do....	37,906	20	1	....	....	....	....	....	1	....	....	....	....
Dresden	Jan. 15	551,000	143	19	....	....	....	....	....	1	....	3	2	....
Dundee	Jan. 22	170,206	67	6	....	....	....	....	....	....	....	1	....	....
Edinburgh	...do....	355,366	113	5	....	....	....	....	....	....	....	....	6	....
Frankfort on the Main	Jan. 8	868,800	84	....	....	....	....	....	....	2	....	2	2	2
Do	Jan. 15	.....	102	....	....	....	....	....	....	....	2	1	....	2
Glasgow	Jan. 28	872,021	263	....	....	....	....	....	....	3	2	4	39	....
Gothenberg	Jan. 22	164,000	50	6	....	....	....	....	....	....	1	....	14	1
Greenock	...do....	72,300	21	....	....	....	....	....	....	1	....	....	1	1
Halifax	Jan. 5	50,000	13	5	....	....	....	....	....	1	....	....	....	....
Hull	Jan. 22	280,006	106	....	....	....	....	....	....	....	....	1	....	6
Karachi	Jan. 8	108,644	113	....	57	....	....	....	....	....	....	....	....	....
Kobe	...do....	380,717	160	....	1	....	....	....	....	1	....	1	....	....
Leeds	Jan. 22	490,985	142	9	....	....	....	....	....	....	2	1	1	2
Leipsic	Jan. 15	590,329	143	20	....	....	....	....	....	....	1	2	1	1
Libau	Jan. 23	90,000	.....	....	....	....	....	....	....	....	5	....	....	....
Liegé	Jan. 15	176,411	46	5	....	....	....	....	....	....	....	1	....	....
Liverpool	Jan. 22	767,606	270	16	....	....	....	....	....	2	6	6	3	7
London	...do....	7,537,196	1,911	....	....	....	....	....	....	6	3	18	24	40
Lyons	Jan. 8	500,000	183	34	....	....	....	....	....	1	....	4	1	....
Madras	Jan. 7	509,346	394	....	....	....	....	1	....	....	....	....	....	....
Manaos	Jan. 8	52,000	50	3	....	....	4	....	....	....	....	....	....	....
Do	Jan. 15	.....	46	2	....	....	5	....	....	....	....	....	....	....
Manchester	Jan. 22	631,533	225	23	....	....	....	....	....	1	....	1	4	2
Mannheim	Jan. 1	185,471	40	8	....	....	....	....	....	1	....	....	....	1
Do	Jan. 8	185,889	33	1	....	....	....	....	....	....	1	1	....	1
Monterey	Jan. 30	100,000	38	3	....	....	....	....	....	1	....	....	....	1
Montreal	Feb. 5	389,837	172	28	....	....	....	....	....	19	8	4	....	4
Nagasaki	Jan. 9	175,936	38	5	....	....	....	....	....	2	....	....	....	....
Naples	Jan. 22	593,729	327	....	....	....	....	4	....	....	1	1	....	....
Newcastle-on-Tyne	...do....	281,584	75	....	....	....	....	....	....	....	....	....	....	1
Nottingham	Jan. 15	260,000	88	....	....	....	....	....	....	....	....	1	....	....
Nuremberg	Jan. 1	316,180	101	17	....	....	....	....	....	....	1	1	3	1
Do	Jan. 8	323,500	115	15	....	....	....	....	....	....	....	....	3	1
Para	Jan. 23	185,000	72	5	....	....	5	....	....	....	....	....	....	....
Port Elizabeth	Dec. 28	32,959	6	2	....	....	....	....	....	2	....	....	....	....
Do	Jan. 1	.....	8	2	....	....	....	....	....	4	....	....	....	....
Do	Jan. 8	.....	16	4	....	....	....	....	....	2	....	....	....	....
Port Said	Jan. 14	61,961	43	1	....	....	....	....	....	....	....	1	....	....
Do	Jan. 21	61,961	34	1	....	....	....	....	....	1	....	1	....	....
Prague	Jan. 8	233,649	112	23	....	....	....	....	....	....	1	2	....	1
Do	Jan. 15	.....	108	21	....	....	....	....	....	1	....	1	1	1
Progreso	Jan. 22	4,500	5	1	....	....	....	....	....	1	....	....	....	....
Rangoon	Jan. 1	252,155	194	4	1	9	....	3	....	....	....	....	....	....
Saigon	Nov. 27	206,000	.....	....	....	3	....	....	....	....	....	....	....	....
Do	Jan. 1	.....	.....	....	....	2	....	....	....	....	....	....	....	....

MORTALITY—Continued.

Weekly mortality table, foreign and insular cities—Continued.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from— Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Typhoid fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
St. John	Feb. 5	40,711	.....	1	....	....	....	....	....	....	....	....	....	1
Singapore	Dec. 25	271,060	201	23	....	1	....	....	....	....	....	....	....	....
Sheffield	Jan. 15	472,000	120	6	....	....	....	....	....	1	....	2	1	1
Do	Jan. 22	.....	155	8	....	....	....	....	....	....	3	1	....	2
South Shields	...do....	119,737	31	4	....	....	....	....	....	1	....	....	....	....
Turin	Jan. 13	391,968	144	13	....	....	....	....	....	3	....	3	1	1
Do	Jan. 20	.....	153	13	....	....	....	....	....	1	....	2	1	....
Valencia	Jan. 22	240,000	131	8	....	....	....	....	....	1	....	1	1	....
Victoria	Jan. 29	35,000	6	....	....	....	....	....	....	....	1	....	....	....
Vienna	Jan. 22	2,085,888	630	101	....	....	....	....	....	....	6	2	5	4
Warsaw	Nov. 20	764,054	329	62	....	....	....	21	....	1	14	6	11	5
Yokohama	Jan. 17	392,870	.....	....	....	....	....	....	....	....	....	1	....	....

MORTALITY—FOREIGN AND INSULAR—COUNTRIES AND CITIES (untabulated).

AUSTRIA — *Brunn.* — Month of November, 1909. Population, 94,500. Total number of deaths from all causes 96, including typhoid fever 1, scarlet fever 1, tuberculosis 18.

BRAZIL—*Pernambuco.*—Two weeks ended December 15, 1909. Population, 210,000. Total number of deaths from all causes 332, including smallpox 27, measles 4, tuberculosis 42, plague 3.

CANADA—*Hamilton.*—Month of January, 1910. Population, 70,000. Total number of deaths from all causes 238, including measles 5, scarlet fever 1, diphtheria 5, tuberculosis 4.

CANADA—YUKON TERRITORY—*Dawson.*—Months of November and December, 1909. Population, 9,142. Total number of deaths from all causes 5, including typhoid fever 1.

GREAT BRITAIN.—Week ended January 15:

England and Wales.—The deaths registered in 76 great towns correspond to the annual rate of 14.9 per 1,000 of the aggregate population, which is estimated at 16,713,617.

Ireland.—The number of deaths registered in 21 principal town districts having an aggregate estimated population of 1,151,790 correspond to an annual rate of 22.3 per 1,000 of the population. The lowest rate was recorded in Queenstown, viz, 6.6, and the highest in Lisburn, viz, 45.5 per 1,000.

Scotland.—The deaths registered in 8 principal towns having an aggregate estimated population of 1,864,194 correspond to an annual rate of 16.7 per 1,000 of the population. The lowest rate was recorded at Aberdeen, viz, 11.5, and the highest at Perth, viz, 25.2 per 1,000

of the population. The total number of deaths from all causes was 604, including typhoid fever 4, measles 37, scarlet fever 10, diphtheria 9.

MALTA.—Two weeks ended January 1, 1910. Population, 212,888. Total number of deaths from all causes 139, including typhoid fever 1, tuberculosis 4.

SPAIN—*Huelva.*—Month of December, 1909. Population, 24,000. Total number of deaths from all causes 70, including typhoid fever 2, smallpox 6, tuberculosis 10.

URUGUAY—*Montevideo.*—Month of November, 1909. Population, 319,935. Total number of deaths from all causes 407, including smallpox 5, measles 3, diphtheria 2, tuberculosis 56.

TURKS ISLANDS.—Three weeks ended January 29, 1910. Population, 1,800. Total number of deaths from all causes 3. No deaths from contagious diseases.

WALTER WYMAN,
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United States Public Health and Marine-Hospital Service.