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## VEGETABLES AS A POSSIBLE FACTOR IN THE DISSEMINATION OF TYPHOID FEVER.

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Obviously a factor of great importance in the consideration of the prevalence and spread of typhoid fever is the viability of the *Bacillus typhosus*. Through what agencies the majority of cases contract infection is a mooted question by no means settled. Without going into such a discussion to any great length, it would seem that the dissemination of infection is due not so much to any article of food or drink as to the incidence of contamination. A study has been made of contaminated vegetables as one of the factors in transmitting typhoid infection, with additional reference to the longevity of the *Bacillus typhosus* in polluted soil.

Regarding the viability of the *Bacillus typhosus*, outside the human body, a large amount of experimental work has been done. The diversity of results has been in direct proportion to the number of investigators. Most of the work has been confined to soil, feces, and water.

Wurtz and Bourges in 1901 demonstrated that plants could be contaminated by infected soil. They recovered the *Bacillus typhosus* from vegetables grown under such conditions up to three weeks after the soil had been infected.

It is probable that much of the work done by early investigators in the study of the viability of the *Bacillus typhosus* was without value, because of the confusion of Eberth's bacillus with other organisms, which had in common with the *Bacillus typhosus* certain cultural or biological peculiarities. Admitting, however, that much of the earlier work is not to be unreservedly accepted, studies have been done in comparatively recent years by investigators, whose methods and results are unquestioned. Notably among these are Firth and Horrocks who worked upon the longevity of the *Bacillus typhosus* in soil. Their identification of the organism was complete. On ordinary soil, inoculated with an emulsion of the *Bacillus typhosus* in plain water, the ground being given no subsequent treatment except rain water in proportion to the natural precipitation, the organism was recovered throughout 67 days. In the same soil, nurtured with diluted sterile sewage, the longevity was 74 days. In the soil around an old drain, the organism was recovered 65 days

after inoculation. On soil kept perfectly dry and exposed to direct sunlight, the longevity was twenty days, with a total exposure to sunlight of 120 hours.

More recently Galvagne and Calderini, using most thorough methods of identification, determined the longevity of the *Bacillus typhosus* in a privy vault, in a barrel, and in soil. The longevity in the privy vault was 30 days, in the barrel 25 days. In feces spread upon soil, after 10 days in the vault, the duration of viability was 20 days on the surface and 40 days in the deeper layer, a total of 30 and 50 days, respectively.

Levy and Kayser report a case where the longevity of the *Bacillus typhosus* from feces in a naturally infected vault extended to over 5 months. This included a period of 14 days, during which time the infected feces had lain as manure in a garden.

Mair regained the organism after 84 days from soil inclosed by glass and with moisture added. From an aquarium containing fish, protozoal, and plant life with a bacterial count of 60,000 per cubic centimeter and exposed to sunlight during part of the day, Hoffman regained the *Bacillus typhosus* from water 36 days, and from mud at the bottom of the tank, 2 months after infection.

Such results as these seem ample refutation of the contention of those who claim that the *Bacillus typhosus* is an obligative parasite.

From lack of more definite methods our knowledge of typhoid infection in human beings is limited chiefly to various epidemiologic surveys. In arriving at conclusions as to the infecting agencies, the epidemiologist bases his findings on presumptive evidence, and, while his deductions may be clearly logical and convincing, still such a process of forming conclusions not infrequently admits of doubt as to the actual cause of infection. In reviewing the epidemiological data of different typhoid epidemics, the fact that the majority of typhoid cases, forming so-called "explosive" outbreaks, acquire infection through the ultimate sources of milk and water, becomes apparent. In the prosodemical cases, the part played by carrier infection, through contact with food, or other similar channels, has been more thoroughly appreciated in the last decade. Little attention has apparently been paid to the rôle of foodstuffs which are eaten uncooked, such as fruits and vegetables, in conveying infection acquired at the time of cultivation. In order to determine the possibility of this means of infection and to test the viability of the typhoid bacillus on garden truck, the following experiments were conducted in raising radishes and lettuce, fertilized with infected material.

#### METHOD OF INOCULATION.

Preliminary work was done in December, 1910, and January, 1911, under hothouse conditions. Glass jars were used, filled with loamy soil. Rainfall was simulated by using an ordinary garden watering pot, the plants being sprinkled every two or three days. As work had to be done in a basement, for lack of other available space, the plants had very little sunshine and did not grow to maturity. Poor horticultural methods probably had much to do with the failure to mature plants. The temperature was ordinary room temperature. In April lettuce and radishes were planted in the open, exposed to natural conditions. On the second day, after planting the seed, the

surface of the ground was sprinkled with a fecal emulsion, mixed with 24-hours' old agar culture of the *Bacillus typhosus*. No nutrient medium whatever was introduced into the infecting mixture. The culture was removed from the agar slant with sterile water and then mixed with the fecal material. Thus the ground was infected subsequent to seeding and prior to the appearance of the plants.

#### METHOD OF ISOLATION OF THE BACILLUS TYPHOSUS.

Two different media were used for the isolation of the organism, Endo's medium, and a mannite litmus agar. Endo's medium, as ordinarily made, contains 4 per cent agar, alkalized with 10 cubic centimeters of a 10 per cent solution of sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) to each liter of the neutral agar. If a 10 per cent solution of anhydrous sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) is used in the above quantity, the alkalinity is so great as to be too restraining to the *Bacillus typhosus*. This amount was, therefore, decreased to 6 cubic centimeters to each liter of neutral agar.

The alkaline agar is flaked in amounts of 200 to 400 cubic centimeters. When needed for use it is melted in an Arnold sterilizer, and to it is added 1 per cent lactose, 0.5 per cent saturated alcoholic fuchsin, and 0.25 per cent anhydrous sodium sulphite, according to formula. Plates are poured immediately.

Firth and Horrocks laid great stress on the efficacy of the glucose litmus agar plate method in isolating the *Bacillus typhosus*, there being a difference in the color play in the colonies of these organisms, due to the different sugar-splitting properties of the *Bacillus typhosus*, the *Bacillus coli*, and the soil organisms. I did not have the same success as these authors with this medium, but found a mannite litmus agar highly satisfactory.

Both Endo's medium and mannite medium have points of merit as well as disadvantages. Endo's medium has the advantage of inhibiting a number of organisms other than the *Bacillus typhosus*, leaving the colonies of the *Bacillus typhosus* fairly discrete and isolated. The mannite medium in nowise restrains, and it permits of an overgrowth and confluence of colonies. On the other hand several organisms which present the same characteristics on Endo's medium as colonies of the *Bacillus typhosus* show marked differentiation on mannite medium.

In this work two soil organisms corresponding in a general way culturally with the *Bacillus aureescens*, the *Pseudomonas ovalis*, and the *Bacillus lactis aerogenes* caused a confusion with typhoid colonies when plated on Endo's medium. On mannite litmus agar these colonies were readily differentiated, those of the *Bacillus coli* and *Bacillus lactis aerogenes* being opaque, large, and of a dirty pink color; those of *Bacillus aureescens* reddish opaque; those of *Pseudomonas ovalis* opaque and white, while the colony of *Bacillus typhosus* was a clear amber. The difference is readily accounted for by the different mannite-splitting property of these organisms. Planted in mannite broth fermentation tube for 24 hours the net increase of acidity over the control tube was for the *Bacillus typhosus* equal to an amount of decinormal sodium hydrate solution equivalent to 20 per cent of the volume of the culture, for the *Bacillus aureescens* 10 per cent, *Bacillus coli* 17 per cent. The *Pseudomonas ovalis* was slightly alkaline.

METHOD OF EXAMINATION OF PLANTS.

The parts of the plants selected for examination were the leaves and stems, cut off well above ground, so that the roots with the adherent soil could not enter into the results. The procedure varied between rubbing the leaf and stem directly on surface of plated medium, and washing these parts with a small quantity of broth, the latter being plated without any incubation. Using the "washings" immediately, or after standing for an hour or two, gave better results with fewer saprophytes on the resultant plate than plating out from an incubated specimen.

IDENTIFICATION OF THE BACILLUS TYPHOSUS.

Characteristic colonies on the plates were planted in broth tubes and incubated for 24 hours, at which time a drop of highly agglutinative serum was added. If agglutination occurred, the culture was replated and the resulting growth studied on different media. Confirmation was considered complete if the organism was a motile bacillus, agglutinating in high dilutions, not liquefying gelatine, producing an acidity of milk not exceeding that caused by a known typhoid control, giving negative Indol test, and forming no gas on lactose broth.

ERRORS IN AGGLUTINATION.

In only one instance was there agglutination of an organism that later proved to be other than the *Bacillus typhosus*. A strain of *Bacillus acidi lactici* produced agglutination, but not of the same appearance as that caused by the typhoid strain worked with. Whereas the *Bacillus typhosus* early gave a flocculent precipitate, the upper part of the broth tube becoming clear, this *Bacillus acidi lactici* caused a finely granular appearance in the broth and did not tend to precipitate or become flocculent. Subsequent growth on other media proved its identity.

EXPERIMENT I.

*Plants cultivated within house.*

Date planted.	Date inoculated.	Parts examined.	Date of last positive examination.	Total longevity.
Jan. 6	Jan. 8	Leaves and upper stems.....	Feb. 2	25 days.

In this experiment the plants commenced wilting on February 3, and no subsequent examination was made. In all there were during the growth of the plants 10 clear days. The total exposure of the growing plants to sunlight was approximately 30 hours. Examinations were made on alternate days from the time the plants first appeared above the ground. The plants were watered every two days with a garden sprinkling pot.

## EXPERIMENT II.

*Plants cultivated in open air exposed to rain and sunlight during part of day.*

Date planted.	Date inoculated.	Parts examined.	Date of last positive examination.	Total longevity.
Apr. 12	Apr. 15	Leaves and stems.....	May 16	31 days.

During the period from April 15 to May 16 there were 23 days, with approximately 138 hours of exposure to direct sunlight. On 8 days there was rain, on 4 of which moderate showers fell, and 4 very light precipitation. These vegetables were planted in a location where the sun shone upon them only in the forenoon. Examinations were made every 3 days. Examinations were positive for the *Bacillus typhosus* up to the tenth day. From the tenth day to the thirtieth the organism was not recovered, but on the thirtieth and thirty-first, positive results were obtained. The *Bacillus typhosus* was not recovered after the thirty-first day.

In this examination from 6 to 10 endo plates were made at each examination and from 30 to 40 suspected colonies picked, the large majority of which were negative.

Plants were not sprinkled during this period, although there was practically a drought as only 1.03 inches of rain fell throughout the 31 days. As desiccation is one of the most devitalizing conditions affecting the *Bacillus typhosus*, this test was more severe than would have obtained in most truck gardens where good horticultural methods are in use, as in the latter the moisture due to irrigation or sprinkling would constitute a more favorable environment for the *Bacillus typhosus* and conduce to greater longevity.

The only explanation for negative examinations from the tenth day to the thirtieth day, aside from defective technique, or lack of thoroughness in examination, is that the leaves examined on the thirtieth and thirty-first days were smaller and protected from the sun's rays by a larger plant.

The plant examinations were negative subsequent to May 16.

The *Bacillus typhosus* was recovered from the soil 35 days after inoculation.

## EXPERIMENT III.

*Plants cultivated in open air exposed to sunlight throughout entire day and to rainfall.*

Date planted.	Date inoculated.	Parts examined.	Date of last positive examination.	Total longevity.
Apr. 12..	Apr. 15..	Leaves and stems.....	Apr. 25..	10 days.

Conditions in this experiment were the same as in the succeeding except as to length of exposure to sunshine. This space was unshaded throughout the entire day. From April 15 to 25 the total exposure to sunshine amounted to 84 hours.

## EXPERIMENT IV.

In order to determine with what tenacity the organisms were adherent to the plant and to what degree natural precipitation might be depended upon to free growing vegetables of infected material, a leaf of lettuce, from an infected bed, was subjected to washing. The leaf was placed in a conical glass containing sterile water and thoroughly cleansed by means of a pipette and platinum needle. This was repeated by passing the leaf through two other washings. After the third washing the leaf, in an almost macerated condition, was rubbed on an Endo plate and all three washings were plated out. Plates inoculated from the first washing and from the leaf gave positive findings.

## CONCLUSIONS.

In the foregoing experiments it is evident that plants cultivated in contaminated soil will take up on the leaves and stems, as they grow through the soils, organisms existing therein.

The *Bacillus typhosus* was recovered from the tips of leaves that were, to naked-eye appearances, free from soil, although it is presumable that microscopic particles of earth were adherent to the leaves.

Rainfall will not free vegetables from infected material.

Conditions in Experiments II and III correspond to the natural, except as to the infecting material, which was an artificially infected stool, as no typhoid stool was available.

Under conditions most unfavorable to the *Bacillus typhosus*, the infection lasted at least 31 days, a period sufficiently long for some varieties of lettuce and radishes to mature.

## SANITARY CONSIDERATION.

Accepting the results of a large number of investigators, it is evident that the *Bacillus typhosus* may be classed among the soil bacteria rather than among the water organisms. The longevity of the *Bacillus typhosus* according to different workers, ranges in unsterilized water from 7 to 30 days, whereas the duration of life is prolonged in soil to 60 and 70 days.

With this end in mind, the fertilization of ground by human excreta assumes a twofold importance. When pollution of garden earth with infected material occurs, not only may the vegetables thereon, such as lettuce, radishes, and celery, directly convey infection, but the soil may serve as a reservoir for the bacteria, drainage from such areas serving to maintain in streams an infection for much longer periods than if the infection of the stream were direct.

Of all the problems confronting the sanitation of this country in recent years few have received more attention than that of stream pollution. But in the consideration of the contamination resulting from the discharge of urban sewage, which is admittedly of paramount importance, that arising from a great and widespread rural population has been given less consideration than it deserves.

The practice of using human excreta as fertilizer is by no means as uncommon as is generally supposed, and without doubt will become more widespread unless this method of soil enrichment be curtailed by properly enforced laws. Although some emphasis has been laid on the fact that tips of vegetables examined were microscopically free from earth, the viability of the *Bacillus typhosus* on plants, and its longevity in soil, can be considered identical so far as the sanitary

significance is concerned, for very seldom if ever is there seen in the market lettuce or celery free from dirt, and even in well managed households and public eating places scrupulous care in preparing articles for the table is exceptional.

#### BIBLIOGRAPHY.

- Stimson, Hygienic Laboratory Bulletin 35, p. 138.  
 Firth and Horrocks. British Medical Journal, 1902, p. 936.  
 Galvagne and Calderini. Zeit. f. Hyg. 1908, LXI, 188.  
 Levy and Kayser Cent. Bakt. 1903, XXXIII, 489.  
 Mair. Jour. Hygiene, 1908. Vol. 8.  
 Viability of *B. typhosus* in soil.

#### TYPHUS FEVER IN THE UNITED STATES.

In last week's issue of the Public Health Reports there appeared under the title "The relation of so-called Brill's disease to typhus fever," a report of work done by Passed Asst. Surgs. Anderson and Goldberger, which shows that the so-called Brill's disease is identical with the typhus fever of Mexico. The typhus fever of Mexico is very probably the same as the typhus fever of Europe and Asia, and presumably the infection known to exist in New York, and understood to have occurred in other large cities, was imported by European or Asiatic immigrants. This gives the American physician a new disease with the symptoms of which he should familiarize himself, and the possible appearance of which among patients he should keep constantly in mind. To the health authorities of the United States it presents a new infectious disease for consideration and control.

From 1896 to the end of 1910 Dr. Nathan E. Brill noted among the medical patients in one hospital in New York City 255 cases of a disease which in general symptoms resembled typhoid fever to some extent, and which very probably has usually been so diagnosed. Dr. Brill, however, clearly differentiated the two diseases, and in various reports drew attention to the similarity of his cases to typhus fever. That the disease could be typhus fever, however, he could hardly believe, because of its mildness and low fatality. Among the 255 cases which he had observed there was but one death.

In addition to the cases reported by Brill, Dr. Leon Louria reported 18 cases observed during the summer and autumn of 1910 in one hospital in Brooklyn.

The fact that cases of typhus fever have been confused with typhoid fever in New York City, and that they are without doubt being so confused in other large cities, is of interest in view of the fact that originally these two diseases were both included under typhus fever and no differentiation was made between them. Gerhard and Pen-nock, of Philadelphia, are commonly given credit for having in 1837 first definitely established that typhoid fever and typhus were distinctly separate entities.

The clinician has at all times found difficulty in diagnosing mild cases of even the more common diseases. Some of this difficulty is inevitable, but much of it has been due to the fact that the usual descriptions of a disease given in the literature are of its more severe manifestations, which are assumed to be usual and typical and frequently pathognomonic. The natural result of this is that very probably certain diseases are recognized only in their more virulent and at

times less common form. It took some time for the practitioner to readjust his ideas so that he recognized as smallpox the many mild cases occurring in this country, and many of these are still being overlooked. In yellow fever the mild cases, which are probably common during epidemics and in endemic centers, are without doubt not recognized. The same is true of cholera, and our mental pictures of these diseases are very likely those of the more severe forms only. The same may be assumed to be true of many other diseases.

The classical descriptions of typhus fever have not proven sufficient for the identification of the mild type of the disease present in this country, even by so well informed and accurate an observer as Brill. For the convenience, therefore, of those who have not had the opportunity of observing this mild and, compared with the usual descriptions given, atypical form of the disease, the following parallel comparison of the symptoms with those of typhoid fever, with which it is most apt to be confused, is taken from an article by Dr. Brill in the American Journal of the Medical Sciences for April, 1910, Volume CXXXIX, page 500:

**TYPHOID FEVER.**

Usually long incubation.  
 Onset not commonly abrupt  
 Fever; gradually increasing ascent of temperature to fastigium—in all, about 10 days.  
 Remissions of temperature occasionally more than a degree.  
 Fall usually by gradations to normal, taking commonly one week.  
 Eruption, circumscribed, lenticular, papular.  
 Distribution, chiefly, back, and abdomen, seldom appearing on upper and lower extremities; almost unknown on palms and soles.  
 Eruption appears in crops throughout the disease.  
 Spots rarely confluent, and then confluence of but two spots.  
 Roseola disappearing on pressure.  
 Petechial spots (hemorrhagic) very rare.  
 Apathy and prostration late in development.  
 Labial herpes rare.  
 Diarrhea fairly common.  
 Hemorrhages from the bowel often observed.  
 Headache disappears in second week.  
 Relapses observed by all observers.  
 Widal reaction positive in over 95 per cent of the cases.  
 Blood cultures positive in over 90 per cent of the cases.  
 Convalescence slow.

**BRILL'S DISEASE—TYPHUS FEVER.**

Short incubation, four to five days.  
 Commonly with chill or chilly sensation.  
 Fastigium reached in three days.  
 Rarely more than 1 degree.  
 Fall commonly by crisis, not longer than 60 hours.  
 Maculopapular, periphery indistinct and irregular.  
 Distribution in addition to trunk on upper and lower extremities not infrequent, on palms and soles occasionally.  
 Does not appear in crops.  
 Confluence may occur with three or four spots forming a number of patches.  
 Erythema, not disappearing on pressure.  
 Petechiæ occasionally.  
 Apathy and prostration early.  
 Labial herpes in 6 per cent of the group.  
 Constipation an almost invariable accompaniment.  
 No intestinal hemorrhages or blood in feces.  
 Is more intense and lasts throughout the disease.  
 Relapses have never occurred.  
 Widal reaction invariably absent.  
 Blood cultures invariably negative.  
 Convalescence speedy.



**MEASURES FOR PREVENTION.**

Both the old world typhus and that of Mexico have been experimentally given to monkeys by the bites of body lice which had previously bitten infected monkeys or human patients suffering with the disease. The body louse is therefore to be considered as a possible, and probably the usual, agent by which the disease is carried from individual to individual. This comparatively recent addition to our knowledge of typhus fever offers an apparent explanation of the diminished frequency of its occurrence in jails and other institutions in which outbreaks were at one time so common in certain countries that the disease was known as jail fever. Typhus fever does not seem to be spread by fomites nor by direct contact unless the contact is such that the exchange of body lice is possible. Wherever cases occur measures should be taken to eliminate the possibility of infected body lice spreading the disease.

# UNITED STATES.

## MUNICIPAL ORDINANCES, RULES, AND REGULATIONS PERTAINING TO PUBLIC HYGIENE.

[Adopted since July 1, 1911.]

BINGHAMTON, N. Y.

### BIRTHS AND DEATHS—REPORTS OF.

*Births:* SEC. 30. Every physician or midwife attending at the birth of a child, and no physician or midwife being in attendance, the parent or custodian of a child born shall cause a notice of such birth to be returned within 36 hours thereafter to the office of the registrar of vital statistics upon the blank notice of birth provided by the department of health, and shall within three days thereafter file with the registrar of vital statistics a complete record of the birth upon the form prescribed by the State department of health, which shall be attested by the physician or midwife if any in attendance, and no physician or midwife being in attendance, by the parent or custodian of the child born.

The physician or midwife attending at the birth of a child shall at the time of filing such certificate, unless it contains the given name of such child, cause to be furnished to the parents or custodian of such child a name card, which shall be filled in by such parent or custodian with the given name of such child when named, and immediately filed with the registrar of vital statistics at his office.

Any person violating any provision of this section shall forfeit and pay a penalty of \$2 for each offense.

*Deaths:* SEC. 31. Upon the death or notification thereof of any person the physician last in attendance upon such deceased shall immediately fill out a certificate of death, giving full name of deceased, medical attendance, date and probable cause of death, duly certify to same and deliver the certificate to the undertaker or person having charge of corpse; and it shall be the duty of the undertaker to obtain the information necessary to complete the certificate from some member of the family of the deceased or competent person who is able to furnish the facts; and after duly recording the same on the certificate shall cause it to be filed with the registrar of vital statistics within 24 hours after having received the certificate. In case an inquest is required by law, the coroner or the coroner's physician shall fill out "said certificate." If no inquest is required and no physician was in attendance at the time of death or immediately prior thereto, the health officer shall fill out and file said certificate. Any person violating any of this section shall forfeit and pay a penalty of \$5 for each offense. [Amendment to sanitary code, adopted July 28, 1911.]

BLOOMINGTON, ILL.

### GARBAGE—COLLECTION, REMOVAL, AND DISPOSAL.

SEC. 1. That hereafter the collection, removal, and disposal of garbage, and all substances, or matter included therewith, within the city of Bloomington, shall be collected, removed, and disposed of by the city as herein provided.

SEC. 2. That the collection, removal, and disposal of garbage as herein provided, shall be under the direction, management, and control of the department of health, and such work shall be maintained and provided for out of funds appropriated for the use of the department of health.

SEC. 3. That the board of health shall employ carts, wagons, or other vehicles, and teams, and other equipment necessary in carrying on such work, and the board of health shall employ such laborers and employees as they may deem necessary to the proper prosecution of said work, including a foreman, at a salary not exceeding \$60 per month.

SEC. 4. That there shall be included therewith, and removed as garbage, ashes, in cans, paper, bottles, crockery, rubbish, cellar accumulations, glass, spouting, old tin, small brush, grass and weeds from residence lots when placed in the alleys, building materials, from construction or repair of a building or other improvement to amount of one-fourth of one load from any one place, manure from the fire engine houses, patrol barn and other city premises.

SEC. 5. That the board of health may make such rules and regulations as to them may seem wise or necessary to properly carry on such work, and they may do all things required to fully carry into effect the intent and purpose of this ordinance.

SEC. 6. All ordinances and parts of ordinances in conflict herewith are hereby repealed.

SEC. 7. This ordinance shall be in full force and effect from and after its passage and approval. [Ordinance adopted Aug. 5, 1911.]

#### BRADDOCK, PA.

##### HOGS—KEEPING OF, WITHIN BOROUGH.

SEC. 1. Be it ordained and enacted by the town council of the borough of North Braddock, and it is hereby ordained and enacted by authority of the same, that the keeping of hogs within the limits of said borough be and the same is hereby declared to be a public nuisance, and is hereby prohibited.

SEC. 2. Any person or persons, firm or corporation maintaining such nuisance shall upon conviction thereof, forfeit and pay a penalty of not less than \$1 nor more than \$20 and costs of suit. [Ordinance adopted July 7, 1911.]

#### BROOKLINE, MASS.

##### COMMUNICABLE DISEASES—PLACARDING, SCHOOL ATTENDANCE OF CASES AND CONTACTS—NOTIFICATION OF REMOVAL OF CASES OF TUBERCULOSIS—DISINFECTION.

##### *Article 1. Communicable diseases.*

SEC. 1. (a) No child shall be allowed to attend school from any household in which there is or has been a case of scarlet fever, for a period of six weeks from the commencement of the last case in the household and until a certificate has been presented from the attending physician, the board of health or its agent, that all danger of conveying the disease by such child is passed. (See section D.)

(b) No child who has visited a house in which there was at the time a case of scarlet fever shall attend school until the expiration of two weeks following exposure, unless he has already had that disease, except by special permit from the agent of the board of health. (See Section D.)

(c) No child who has diphtheria shall be allowed to attend school for a period of one week from the date of the second successive negative bacteriological culture from both nose and throat and until a certificate has been presented from the attending physician that all danger of conveying the disease by such child is passed; and that no well child be allowed to attend school from any household in which there is or has been a case of diphtheria until the same precautions have been taken, with the exception that but one negative bacteriological culture, from both nose and throat, is required. (See Sec. D.)

(d) The agent of the board of health may, if circumstances warrant (for example, removal of the patient to hospital), give to children not infected in a household in which there is or has been scarlet fever or diphtheria, a special permit to return to school as soon as he considers it safe for them to do so.

(e) No child from any house where there is a case of scarlet fever or diphtheria shall be allowed to mingle with persons from any other house until after the removal, recovery, or death of the patient and the disinfection of the premises.

(f) Every house infected with diphtheria, scarlet fever, or smallpox shall have affixed on or near the front and rear doors a card, furnished by the board of health, stating the disease to be avoided; and any unauthorized person removing such a card shall be liable to a fine not exceeding one hundred dollars.

SEC. 2. No child who has chickenpox shall be allowed to attend school until a period of two weeks has elapsed from the first appearance of the eruption and all scabs have disappeared.

SEC. 3. No child who has German measles shall be allowed to attend school until a period of one week has elapsed from the first appearance of the eruption.

SEC. 4. (a) No child ill with tuberculosis, who is a menace to the health of others, shall be allowed to continue in school.

(b) Whenever a person with tuberculosis moves out of a house or an apartment, the attending physician, if there be one, or the active head of the family, shall so notify the board of health within 24 hours, and both of the above-mentioned persons shall be held legally responsible for violation of this order.

SEC. 5. No child who has mumps shall be allowed to attend school until a period of three weeks has elapsed from the first signs or symptoms of the disease.

SEC. 6. No child who has measles and no child, who has not had the disease, in a household in which there is a case of measles shall be allowed to attend school within two weeks from the appearance of the rash in the last case in such household.

SEC. 7. No child with whooping cough and no child, who has not had the disease, in a household in which there is a case of whooping cough shall be allowed to attend school within eight weeks from the beginning of the cough and until the cough characteristic of the disease has ceased in the last case in such household.

SEC. 8. No child shall be allowed to attend school from any household in which there is or has been a case of cerebrospinal meningitis or of infantile paralysis until a certificate has been presented from the board of health or its agent.

#### Article II.—Disinfection.

SEC. 1. Such rooms and such articles in any house as in the opinion of the board of health have been subjected to infection or contagion from smallpox, scarlet fever, diphtheria, cerebrospinal meningitis, infantile paralysis, or tuberculosis, shall be disinfected by the board. The attending physician or the agent of the board of health shall decide in each case as to the proper time for disinfecting, and shall then notify the board; but in no case of scarlet fever shall disinfection be done in less than four weeks from the commencement of the last case in the household (except by special permit of the agent of the board); and in diphtheria disinfection shall not be done until after at least two successive negative bacteriological cultures from both nose and throat have been obtained.

SEC. 2. Articles which have been exposed to infection, or those which have been in contact with a patient within 10 days prior to the diagnosis of any of the above-named diseases, shall not be sent to any laundry or other workshop unless they have been first disinfected by the board of health.

SEC. 3. Refuse from the sick room of a person having any of the above-named diseases, shall not be put into any waste receptacle without being first disinfected.

SEC. 4. All books which have been used by a patient having any of the above-named diseases, or otherwise exposed to infection, shall not be returned to any library, school, or circulating agency, without first being disinfected by the board of health. [Ordinance board of health, adopted Nov. 6, 1911.]

### CHATTANOOGA, TENN.

#### UNSAFE AND UNHEALTHY BUILDINGS AND STRUCTURES.

SEC. 1. *Be it ordained by the board of commissioners of the city of Chattanooga, That* any unsafe building, staging, or other structure damaged from any cause, or which is otherwise in such condition as to render the same unhealthy or a menace to the health of the community or dangerous to life and limb, or a menace on account of fire which may originate on the inside thereof or on the outside thereof, so to be readily communicated with the same, is hereby declared to be a public nuisance, and the maintenance of the same shall be punished as herein provided.

SEC. 2. *Be it further ordained, That* when any building, staging, or other structure is found by the building inspector of the city of Chattanooga to be unsafe or dangerous for any reason, or in the condition set out in section 1 of this ordinance, he shall immediately report the same to the chief of the fire department and the commissioner of fire and police, and in the event said officials shall concur in the report of the said building inspector, the said building shall be condemned and notice of the said condemnation shall be given to the owner, agent, or person having charge or control of such building, staging, or other structure, stating that the same is unsafe, dangerous, or otherwise in the condition mentioned in section 1 of this ordinance, and giving to such owner, agent, or other person a reasonable time in which to remedy the condition of said building, or to destroy the same, if its destruction be necessary in the opinion of said building inspector, chief of the fire department, and the commissioner of fire and police.

SEC. 3. *Be it further ordained, That* any person or persons violating any of the provisions of this ordinance, or refusing or failing to comply with the requirements herein ordained, shall be deemed guilty of a misdemeanor, and upon conviction before the city judge, shall be fined not less than \$2 nor more than \$50.

SEC. 4. *Be it further ordained*, That all ordinances in conflict with the provisions herein, be, and the same are hereby, repealed.

SEC. 5. *Be it further ordained*, That this ordinance take effect from and after its passage, the public welfare requiring it. [Ordinance adopted Aug. 28, 1911.]

#### CINCINNATI, OHIO.

##### DRINKING WATER—POLLUTED NOT TO BE DISTRIBUTED OR KEPT FOR PUBLIC USE.

SEC. 1. The supplying and distribution or the keeping for public use of polluted drinking water, consumption of which would be dangerous to the public health, is prohibited.

SEC. 2. This order and regulation is hereby declared applicable to all common carriers of passengers and to any persons, firm, or corporation who may serve the public with drinking water as aforesaid.

SEC. 3. Whoever violates any provision of this order and regulation, or obstructs or interferes with the execution hereof, shall be fined not to exceed \$100 or imprisoned for not to exceed 90 days, or both, but there shall be no imprisonment for a first offense, and each prosecution shall be as for a first offense, unless the affidavit upon which the prosecution is instituted, contains the allegation that the offense is a second or repeated offense.

SEC. 4. If such violation, obstruction, or interference be by a corporation, it shall forfeit and pay to the city of Cincinnati a sum not to exceed \$300, to be collected in a civil action brought in the name of the municipality.

SEC. 5. Any officer of the city of Cincinnati having authority in the matter of this order and regulation who permits a violation hereof shall be subject to fine or imprisonment as provided in section 3 hereof.

SEC. 6. This order and regulation shall take effect and be in force from and after the earliest period allowed by law. [Resolution board of health, adopted Aug. 9, 1911.]

#### CLEVELAND, OHIO.

##### SIDEWALKS—CLEANING OF.

RESOLUTION No. 117. *Be it resolved by the board of health of the city of Cleveland*, That title 4 of the regulations of the board of health be supplemented by adding thereto the following section, numbered as follows:

SEC. 5. That on and after April 15, 1911, it shall be unlawful for the owner, lessee, or person in possession or control of any building or premises embraced within those sections of the city which are within the fire limits as defined by ordinance of council (said ordinances being Nos. 15711 and 7472A) to sweep or cause to be swept the sidewalk in front of or adjacent to said building or premises. The owner, lessee, or person in possession or control of said building or premises shall, between the 1st day of April and the 1st day of December of each year, excepting at times of freezing temperature, flush or cause to be flushed with water daily, before the hour of 7 a. m., the sidewalk fronting or adjacent to such building or premises.

Any person violating any of the provisions of this section shall be subject to the penalties provided in title 6 of the regulations of the board of health. [Resolution board of health, effective July 8, 1911.]

#### LAWRENCE, MASS.

##### MASSAGE, MANICURING, VAPOR BATHS—LICENSING OF PERSON PRACTICING.

REGULATION 84. In accordance with chapter 443 of the acts of 1911, all persons practicing manicuring, massage, or who conduct an establishment for giving vapor baths for hire or reward will receive a license from the board of health on presentation of a recommendation signed by an inspector of the health department, a police inspector, the city marshal, or a member of the board of health, on payment of a fee of \$2.

All such licenses shall expire on the 31st day of December of each year without regard to the time of issuance. [Regulation board of health, adopted July 1, 1911.]

## ST. PAUL, MINN.

## REFUSE AND WASTE MATTER—DISPOSAL OF.

SEC. 1. No person shall remove, transport, or carry, by cart or otherwise, any dust, ashes, manure, grease, offal, rubbish, or waste matter whatsoever in the city of St. Paul, unless the same is so inclosed in a tight receptacle so as to be impervious to flies and to prevent its distribution by wind or otherwise; and no person shall remove, transport, or carry such waste matter for hire in said city without first obtaining a license so to do, as hereinafter provided.

SEC. 2. Any person desiring a license to remove, transport, or carry dust, ashes, manure, grease, offal, rubbish, or waste matter in the city of St. Paul, shall file with the commissioner of health of said city a written agreement to comply with all the ordinances of said city and the regulations of said commissioner relating to the removal of such matter. Said commissioner shall thereupon deliver to said person a license to engage in the removal of such matter for a period of one year, and suitable tags, one of which tags said person shall display in a conspicuous place on each side of each wagon used for said purpose.

SEC. 3. This ordinance shall not apply to the removal of garbage or night soil.

SEC. 4. Any person violating any of the provisions of this ordinance shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$5 nor more than \$25, or imprisoned for not less than 5 days nor more than 30 days for each offense.

SEC. 5. This ordinance shall take effect and be in force from and after its passage and publication. [Ordinance, adopted July 14, 1911.]

CEREBROSPINAL MENINGITIS IN TEXAS.

Cerebrospinal meningitis is present in numerous localities in Texas. No information as to its prevalence has been received since January 25, for which see Public Health Reports of January 26, page 128.

Surg. Guiteras at Galveston reports January 30 that the case suspected of being cerebrospinal meningitis, which was reported January 20, has been confirmed, and that 2 new cases were reported January 27 and 2 new cases with 1 death January 29.

Surg. Guiteras further reported: Three new cases of cerebrospinal meningitis with 1 death were reported January 30, and on February 1, 2 new cases. The total number of cases reported since January 20 is 11, with 3 deaths.

Examination at Tampico of Vessels from Texas Ports. †

The American consul at Tampico reports February 3 that all vessels arriving from Texas ports are being especially examined for cerebrospinal meningitis.

PLAGUE-PREVENTION WORK.

DISTRIBUTION OF POISON.

In connection with the making and maintenance of a squirrel-free zone around the cities of California on San Francisco Bay, 1,455 acres of land in Alameda County were covered with poison during the week ended January 20, 1912.

During the same period 6,900 acres of land in San Joaquin County and 7,280 acres in Stanislaus County were covered with poison for the purpose of eradicating plague foci.

RECORD OF PLAGUE INFECTION.

Places.	Date of last case of human plague.	Date of last case of rat plague.	Date of last case of squirrel plague.	Total number of rodents found infected since May, 1907.
California:				
Cities—				
San Francisco.....	Jan. 30, 1908.....	Oct. 23, 1908.....	None.....	398 rats.
Oakland.....	Aug. 9, 1911.....	Dec. 1, 1908.....	do.....	126 rats.
Berkeley.....	Aug. 27, 1907.....	None.....	do.....	None.
Los Angeles.....	Aug. 11, 1908.....	do.....	Aug. 21, 1908.....	1 squirrel.
Counties—				
Alameda (exclusive of Oakland and Berkeley).	Sept. 26, 1909.....	Wood rat, Oct. 17, 1909.	Oct. 9, 1911.....	114 squirrels and 1 wood rat.
Contra Costa.....	July 21, 1911.....	None.....	Sept. 23, 1911.....	364 squirrels.
Fresno.....	None.....	do.....	Oct. 27, 1911.....	1 squirrel.
Merced.....	do.....	do.....	July 13, 1911.....	5 squirrels.
Monterey.....	do.....	do.....	Aug. 6, 1911.....	Do.
San Benito.....	June 5, 1910.....	do.....	June 8, 1911.....	22 squirrels.
San Joaquin.....	Sept. 18, 1911.....	do.....	Aug. 26, 1911.....	18 squirrels.
San Luis Obispo.....	None.....	do.....	Jan. 29, 1910.....	1 squirrel.
Santa Clara.....	Aug. 23, 1910.....	do.....	Oct. 5, 1910.....	23 squirrels.
Santa Cruz.....	None.....	do.....	May 17, 1910.....	3 squirrels.
Stanislaus.....	do.....	do.....	June 2, 1911.....	13 squirrels.
Washington:				
City—				
Seattle.....	Oct. 30, 1907.....	Sept. 21, 1911.....	None.....	25 rats.

**RATS COLLECTED AND EXAMINED FOR PLAGUE INFECTION.**

Place.	Week ended—	Found dead.	Total collected.	Examined.	Found infected.
<b>California:</b>					
Cities—					
Berkeley.....	Jan. 20, 1912		<sup>1</sup> 135	85	
Fresno.....	do.....		<sup>2</sup> 77	77	
Oakland.....	do.....	92	<sup>3</sup> 658	387	
San Francisco.....	do.....	34	<sup>4</sup> 1,513	1,232	
Counties—					
San Joaquin.....	do.....		<sup>5</sup> 136	136	
Santa Clara.....	do.....		<sup>6</sup> 49	49	
<b>Washington:</b>					
City—					
Seattle.....	do.....		1,126	1,083	

- <sup>1</sup> Identified: *Mus norvegicus*, 83; *Mus musculus*, 2.
- <sup>2</sup> Identified: *Mus alexandrinus*, 61; *Mus musculus*, 11; unidentified, 5.
- <sup>3</sup> Identified: *Mus norvegicus*, 569; *Mus musculus*, 87; *Mus rattus*, 1; *Mus alexandrinus*, 1.
- <sup>4</sup> Identified: *Mus norvegicus*, 733; *Mus rattus*, 270; *Mus musculus*, 258; *Mus alexandrinus*, 252.
- <sup>5</sup> Identified: *Mus norvegicus*, 124; *Mus alexandrinus*, 12.
- <sup>6</sup> Identified: *Mus norvegicus*, 48; *Mus alexandrinus*, 1.

**SMALLPOX IN THE UNITED STATES.**

In the following table the States indicated by an asterisk are those from which reports of smallpox are received only from certain city, and in some cases county, boards of health. In these States, therefore, the recorded cases and deaths should not be taken as showing the general prevalence of the disease. In the States not marked by an asterisk the reports are received monthly from the State boards of health, and include all cases reported to the State authorities.

**REPORTS RECEIVED DURING WEEK ENDED FEB. 9, 1912.**

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Arizona:</b>				
County—				
Greenlee.....	Nov. 1-30.....	1	1	
<b>Colorado:</b>				
Counties—				
Boulder.....	Jan. 1-31.....	1		
Denver.....	do.....	5		
Jefferson.....	do.....	1		
Larimer.....	do.....	1		
Montrose.....	do.....	3		
Pueblo.....	do.....	3		
Rio Grande.....	do.....	3		
Routt.....	do.....	1		
Weld.....	do.....	1		
Total for State.....		19		
<b>Florida:</b>				
Counties—				
Duval.....	Jan. 21-27.....	20		
Hernando.....	do.....	4		
Orange.....	do.....	4		
Total for State.....	do.....	28		
<b>*Louisiana:</b>				
New Orleans.....	Jan. 15-21.....	4		
<b>Maryland:</b>				
	Dec. 1-31.....			No cases.
<b>*Missouri:</b>				
St. Louis.....	Jan. 1-27.....	20		



## SMALLPOX IN THE UNITED STATES—Continued.

Reports Received during Week ended Feb. 9, 1912.

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Oklahoma:</b>				
Counties—				
Beckham.....	Oct. 1-31.....	1		
Garfield.....	do.....	1		
Washington.....	do.....	1		
Total for State.....		3		
Mayes.....	Nov. 1-30.....	6		
Bryan.....	Dec. 1-31.....	4		
Comanche.....	do.....	5		
Delaware.....	do.....	6		
Dewey.....	do.....	1		
Nowata.....	do.....	1		
Total for State.....		17		
<b>*Tennessee:</b>				
Knoxville.....	Jan. 21-27.....	3		
<b>Utah:</b>				
Counties—				
Box Elder.....	Dec. 1-31.....	10		
Cache.....	do.....	9		
Carbon.....	do.....	1		
Juab.....	do.....	15		
Salt Lake.....	do.....	32		
San Pete.....	do.....	4		
Sevier.....	do.....	12		
Uintah.....	do.....	55		
Utah.....	do.....	21		
Wasatch.....	do.....	27		
Weber.....	do.....	28		
Total for State.....		214		
Grand total for the United States.....		315	1	

For reports received from July 1 to December 29, see Public Health Reports for December 29, 1911. The cumulative table of reported cases of smallpox, heretofore published each week, has been discontinued, and in its place summaries will be published periodically.

MORBIDITY AND MORTALITY.

MORBIDITY AND MORTALITY TABLE, CITIES OF THE UNITED STATES, FOR WEEK ENDED JAN. 20, 1912.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Small-pox.		Tuberculosis.		Typhoid fever.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<i>Cities having over 500,000 inhabitants.</i>														
Baltimore, Md.....	558,485	247	30	6	13	26	1	38	23	9	2	1	1	1
Boston, Mass.....	670,585	268	40	4	142	1	22	33	28	2	2	2	2	3
Chicago, Ill.....	2,185,283	746	143	11	56	2	137	7	1	164	92	22	2	3
Cleveland, Ohio.....	560,663	149	17	3	32	37	2	36	16	1	1	1	1	1
New York, N. Y.....	4,766,883	1,578	238	31	610	6	248	5	1	435	171	57	9	9
Philadelphia, Pa.....	1,549,008	599	78	15	20	2	36	2	69	60	48	12	12	12
Pittsburgh, Pa.....	533,905	185	22	5	11	1	12	38	15	5	5	5	5	5
<i>Cities having from 300,000 to 500,000 inhabitants.</i>														
Buffalo, N. Y.....	423,715	111	30	1	11	26	1	12	5	6	2	2	2	2
Cincinnati, Ohio.....	364,463	145	12	4	4	21	1	28	20	1	1	1	1	1
Detroit, Mich.....	465,766	169	24	2	3	27	2	42	22	18	7	17	4	4
Los Angeles, Cal.....	319,198	121	12	1	3	12	7	22	14	17	6	3	3	3
Milwaukee, Wis.....	373,857	133	15	3	28	1	30	18	7	20	14	6	6	6
Newark, N. J.....	347,469	129	17	2	1	17	1	20	14	17	6	3	3	3
New Orleans, La.....	339,975	158	3	1	2	15	9	34	17	33	14	3	3	3
San Francisco, Cal.....	416,912	8	3	234	4	9	9	33	14	3	3	3	3	3
Washington, D. C.....	331,069	160	15	9	9	9	9	19	13	9	2	2	2	2
<i>Cities having from 200,000 to 300,000 inhabitants.</i>														
Denver, Colo.....	213,381	45	20	1	5	6	3	9	7	10	4	4	4	4
Jersey City, N. J.....	267,779	87	3	1	1	1	1	3	7	10	4	4	4	4
Kansas City, Mo.....	248,381	26	3	5	3	13	2	4	7	10	4	4	4	4
Providence, R. I.....	224,326	93	17	5	3	1	7	2	4	10	4	4	4	4
Seattle, Wash.....	237,194	40	6	5	7	7	2	4	7	10	4	4	4	4
<i>Cities having from 100,000 to 200,000 inhabitants.</i>														
Bridgeport, Conn.....	102,054	37	1	4	6	4	1	3	6	10	4	4	4	4
Cambridge, Mass.....	104,839	6	1	1	6	6	3	6	10	4	4	4	4	4
Columbus, Ohio.....	181,548	44	10	1	17	11	1	4	1	4	1	1	1	1
Dayton, Ohio.....	116,577	35	6	3	3	3	3	4	4	3	3	3	3	3
Fall River, Mass.....	119,295	47	1	3	3	3	3	4	3	3	3	3	3	3
Grand Rapids, Mich.....	112,571	37	1	1	5	5	1	1	1	5	5	5	5	5
Lowell, Mass.....	106,294	6	13	1	6	6	1	3	3	3	3	3	3	3
Nashville, Tenn.....	110,364	41	3	2	2	2	4	7	3	7	3	1	1	1
Oakland, Cal.....	150,174	47	1	1	1	1	4	2	2	2	1	1	1	1
Omaha, Neb.....	124,096	45	1	1	1	1	4	5	5	5	5	5	5	5
Richmond, Va.....	127,628	6	2	4	4	4	7	2	6	1	1	1	1	1
Spokane, Wash.....	104,402	67	9	4	15	12	2	1	1	9	1	1	1	1
Toledo, Ohio.....	168,497	41	7	3	3	21	10	2	1	2	1	1	1	1
Worcester, Mass.....	145,986	41	7	3	3	21	10	2	1	2	1	1	1	1
<i>Cities having from 50,000 to 100,000 inhabitants.</i>														
Altoona, Pa.....	52,127	18	1	3	3	3	4	1	2	1	1	1	1	1
Bayonne, N. J.....	55,545	16	1	1	1	1	1	4	2	1	1	1	1	1
Brockton, Mass.....	56,878	15	4	50	1	1	4	2	1	1	1	1	1	1
Camden, N. J.....	94,538	4	1	3	3	3	2	4	3	1	1	1	1	1
Duluth, Minn.....	78,466	31	1	9	6	6	1	2	8	1	1	1	1	1
Elizabeth, N. J.....	73,409	39	4	9	6	6	1	2	8	1	1	1	1	1
Evansville, Ind.....	69,647	17	6	3	6	6	1	1	4	1	1	1	1	1
Harrisburg, Pa.....	64,186	21	8	1	9	9	2	2	4	1	1	1	1	1
Hartford, Conn.....	98,915	24	3	1	1	1	2	2	2	1	1	1	1	1
Hoboken, N. J.....	70,324	3	1	1	1	1	1	2	2	1	1	1	1	1
Houston, Tex.....	78,800	42	5	1	1	1	1	2	2	1	1	1	1	1
Johnstown, Pa.....	55,482	20	2	1	1	1	1	2	2	1	1	1	1	1
Kansas City, Kans.....	82,331	27	2	1	1	1	1	2	2	1	1	1	1	1
Lawrence, Mass.....	85,892	27	2	1	1	1	1	2	2	1	1	1	1	1
Lynn, Mass.....	89,336	33	1	1	1	4	2	2	2	1	1	1	1	1

## MORBIDITY AND MORTALITY—Continued.

Morbidity and mortality table, cities of the United States, for week ended Jan. 20, 1912—Continued.

Cities.	Population, United States census 1910.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Small-pox.		Tuberculosis.		Typhoid fever.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
<i>Cities having from 50,000 to 100,000 inhabitants—Con.</i>														
Manchester, N. H.	70,063	36	3		13		1				1	1		
New Bedford, Mass.	96,652	35	4		4		2				5	4		1
Oklahoma City, Okla.	64,205	16	2								6	2		2
Passaic, N. J.	54,773	15	3		3		1	2				3		
Reading, Pa.	96,071	27	7	4			5						3	
St. Joseph, Mo.	77,403	12												2
San Antonio, Tex.	96,614	53	1		12		3				4	9	5	2
Schenectady, N. Y.	72,826	28	1		2		2				1	2		
South Bend, Ind.	53,684	12	2										4	
Springfield, Ill.	51,678	7	2				2	1					1	
Springfield, Mass.	88,926	22			26		4				1	1	1	
Trenton, N. J.	96,815	45					3				4	4	2	
Wilkes-Barre, Pa.	67,105	30	2		342	1					1	2	1	
Yonkers, N. Y.	79,803	23	1		6			13	1		6	2	5	
<i>Cities having from 25,000 to 50,000 inhabitants.</i>														
Atlantic City, N. J.	46,150		1				3							
Auburn, N. Y.	34,668	12										3		1
Aurora, Ill.	29,807	11									2	2		
Berkeley, Cal.	40,434	8			8						1	2		
Binghamton, N. Y.	48,443	24	1				2							
Brookline, Mass.	27,792	10	2										1	
Butte, Mont.	39,165	16					6	1				2		
Chattanooga, Tenn.	44,604						1				3		2	
Chelsea, Mass.	32,452	19			4		1	1			2		1	
Chicopee, Mass.	25,401	8			1								1	
Danville, Ill.	27,871	6	2	1			2					1		
Dubuque, Iowa	38,494	8												
East Orange, N. J.	34,371	4	1				2							
Elmira, N. Y.	37,176	15	2								2			1
El Paso, Tex.	39,279	31					6	1	1			5	4	1
Everett, Mass.	33,484	9			2		2				1	1		
Fitchburg, Mass.	37,826	11	4								2	1		
Haverhill, Mass.	44,115	18	8	1	12							1	2	1
Kalamazoo, Mich.	39,437	16	1				3				2	1		
Knoxville, Tenn.	36,346	18	1	1					1			3		
La Crosse, Wis.	30,417	8									2	2	1	
Lancaster, Pa.	47,227						1							
Lexington, Ky.	35,099	21	2	2	28		2							
Lynchburg, Va.	29,494	19			8		1				1			
Malden, Mass.	44,404	8	5		1		4					1		
Montgomery, Ala.	38,136	15	1		5		1				2	3	1	
Mount Vernon, N. Y.	30,919		2		28									
Newcastle, Pa.	36,280		1										6	
Newport, Ky.	30,309	14	2				1				2	2		
Newton, Mass.	39,806	11			7		1				2			
Niagara Falls, N. Y.	30,445	9	4									1	11	1
Norristown, Pa.	27,875	14			25									
Orange, N. J.	29,630	11	2		1		5					1		
Pasadena, Cal.	30,291	13										3		
Pittsfield, Mass.	32,121	6					2					1		
Portsmouth, Va.	33,190	16	1				1		3			1		
Racine, Wis.	38,002	9	6				2					2		
Roanoke, Va.	34,874	12	1		27		2				3	2		
Rockford, Ill.	45,401	11	1				1							
Salem, Mass.	43,697	13												
San Diego, Cal.	39,578		1				1	1			2	2		
South Omaha, Nebr.	26,259	5												
Superior, Wis.	40,384	16	1	1					3			1		
Taunton, Mass.	34,259	13					3							
Walsham, Mass.	27,834	8			6						2	4		
West Hoboken, N. J.	35,403	9	3				2				1			
Wheeling, W. Va.	41,641	17									2	2	2	
Wilmington, N. C.	25,748	26										4		1
Zanesville, Ohio.	28,026	12	4									1	6	



**STATISTICAL REPORTS OF MORBIDITY AND MORTALITY, STATES OF THE UNITED STATES (Untabulated).**

**FLORIDA.**—Week ended January 27, 1912. Reports from the State board of health show diphtheria present in 3 localities with 6 cases, malaria in 6 localities with 11 cases, smallpox in 3 counties with 28 cases, tuberculosis in 6 localities with 15 cases, typhoid fever in 6 localities with 16 cases.

**MARYLAND.**—Month of December, 1911. Population, 1,295,346. The deaths include diphtheria 10, measles 1, scarlet fever 2, tuberculosis 63, typhoid fever 21. Cases reported: Diphtheria 117, measles 9, scarlet fever 97, typhoid fever 175. The cases of typhoid fever were distributed as follows: Potomac River watershed 84, Patuxent River watershed 11, Herring Run watershed 5, Baltimore city water system 2.

**MICHIGAN.**—Month of December, 1911. Population, 2,810,173. Total number of deaths from all causes 2,859, including diphtheria 46, measles 9, scarlet fever 9, tuberculosis 197, typhoid fever 39.<sup>1</sup>

**MINNESOTA.**—Month of October, 1911. Population, 2,075,708. Total number of deaths from all causes 1,442, including diphtheria 22, measles 1, scarlet fever 7, tuberculosis 164, typhoid fever 34.

**NEW YORK.**—Month of November, 1911. Population, 9,113,614. Total number of deaths from all causes 10,629, including diphtheria 161, measles 13, scarlet fever 38, smallpox 5, tuberculosis 1,237, typhoid fever 114. Cases reported: Diphtheria 1,976, measles 1,465, scarlet fever 1,260, smallpox 24, tuberculosis, pulmonary, 2,692, typhoid fever 781.

**OKLAHOMA.**—Month of October, 1911. Population, 1,657,155. Total number of deaths from all causes 777, including diphtheria 24, scarlet fever 1, tuberculosis 39, typhoid fever 92. Cases reported: Diphtheria 279, scarlet fever 69, smallpox 3, tuberculosis 56, typhoid fever 467.

Month of November, 1911. Total number of deaths from all causes 758, including diphtheria 31, scarlet fever 7, tuberculosis 40, typhoid fever 57. Cases reported: Diphtheria 271, scarlet fever 97, smallpox 6, tuberculosis 80, typhoid fever 328.

Month of December, 1911. Total number of deaths from all causes 794, including diphtheria 28, scarlet fever 6, tuberculosis 244, typhoid fever 36. Cases reported: Diphtheria 178, scarlet fever 132, smallpox 17, tuberculosis 69, typhoid fever 204.

**UTAH.**—Month of December, 1911. Population, 373,351. Total number of deaths from all causes 304, including diphtheria 7, scarlet fever 4, tuberculosis 16, typhoid fever 3. Cases reported: Diphtheria 56, measles 157, scarlet fever 152, smallpox 214, tuberculosis 10 (incomplete), typhoid fever 14.

<sup>1</sup> For communicable diseases, December, 1911, see Public Health Reports, February 2, 1912, page 174.

# FOREIGN AND INSULAR.

## BRAZIL.

### Rio de Janeiro—Plague.

Consul General Lay reports the occurrence of 3 cases of plague with 2 deaths at Rio de Janeiro during the two weeks ended December 23, 1911.

## CANARY ISLANDS.

### Santa Cruz de Tenerife—Typhus Fever.

Consul Kitchin reports the occurrence of 2 deaths from typhus fever during the two weeks ended January 13, 1912.

## CHINA.

### Hongkong—Plague.

Surgeon Brown reports: During the week ended December 3, 1911, 2 cases of plague with 1 death were reported at Hongkong.

## GREECE.

### Athens—Cerebrospinal Meningitis.

Consul General Gale reports January 8 the presence of cerebrospinal meningitis in Athens and vicinity. From two to three cases were stated as occurring daily in the city and during the week ended December 30, 1911, about 12 cases were reported in the vicinity.

## HAWAII.

### Mosquito-Eradication Measures at Honolulu.

The following statement of the work of mosquito destruction at Honolulu was received from Passed Asst. Surg. McCoy:

*Mosquito-eradication measures conducted at Honolulu for the week ended Jan. 6, 1912.*

Inspections of—	Total inspections.	Larvæ found in—	Cleaned.	Oiled.	Drained.	Emptied.	Collected.	Filled.	Ordered repaired.	Screened.	Stocked with fish that destroy mosquito larvæ.
<b>Gutters:</b>											
House.....	1,656	38	607	1,197							
Street.....	139	14		73	18						
Standing water.....	706	98		636	13						
Cesspools.....	779	20		725					2	13	
Privy vaults.....	929	38		851					3		
Holes and low places.....	358	38		189				162			
Catch basins.....	241	3		145		92			20		
Leaky fixtures.....	140	1		68					97		
Swamps.....	18	3		3	6						3
Ponds.....	17	4		7	1						4
Troughs and tanks.....	95	23		20		72					
Tubs and other receptacles.....	444	35				416					
Tin cans, bottles, etc.....	1,705	25				1,705					
Water barrels.....	231	34		77		125				50	
Vacant houses.....	7	7		3							
Holes in trees.....	1,068	53						1,068			

## ITALY.

## Status of Cholera.

During the week ended December 31, 1911, 1 case of cholera was reported in the Province of Caltanissetta, and in the Province of Girgenti there were reported 5 cases, with 1 death occurring in 2 localities.

## Naples—Examination of Emigrants.

Surgeon Geddings reports:

Vessels inspected at Naples and Palermo, week ended January 6, 1912:

## NAPLES.

Date.	Name of ship.	Destination.	Steerage passengers inspected and passed.	Pieces of baggage inspected and passed.	Pieces of baggage disinfected.
Dec. 31	Oceania.....	New York.....	487	135	680
Jan. 3	Duca d'Aosta.....	Philadelphia.....	460	120	730
5	Berlin.....	New York.....	774	195	870
	Total.....		1,721	450	2,280

## PALERMO.

Jan. 2	Argentina.....	New York.....			
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Vessels inspected at Naples and Palermo week ended January 13, 1912:

## NAPLES.

Date.	Name of ship.	Destination.	Steerage passengers inspected and passed.	Pieces of baggage inspected and passed.	Pieces of baggage disinfected.
Jan. 9	Sant' Anna.....	New York.....	332	70	490
9	Cincinnati.....	do.....	430	65	510
10	Ancona.....	do.....	315	45	420
13	Dinnamare.....	New Orleans.....			
	Total.....		1,077	180	1,410

## PALERMO.

Jan. 9	Mrav.....	New Orleans.....			
10	Sant' Anna.....	New York.....	230	85	280
	Total.....		230	85	280

## JAMAICA.

## Kingston—Beriberi.

Consul Snyder reports the occurrence of 2 deaths from beriberi at Kingston during the week ended December 31, 1911.

## MEXICO.

## Typhus Fever.

Consul Schmulz at Aguascalientes reports the occurrence of 2 deaths from typhus fever during the week ended January 14.

Consul General Shanklin at Mexico City reports the occurrence of 81 cases of typhus fever, with 16 deaths, during the two week sended December 30, 1911.

## Yellow Fever at Merida.

During the week ended January 20, 2 new cases of yellow fever were reported at Merida. The total number of cases reported from August 1, 1911, to January 20 is 55, with 27 deaths.

## SERVIA.

## Declared free from Cholera.

According to information received from the Servian foreign office, Servia was officially declared free from cholera December 31, 1911.

## SWEDEN.

## Poliomyelitis.

According to reports made by district physicians to the royal medical department, the total number of cases of poliomyelitis in Sweden during the year 1911 was approximately 3,520. In the year 1906, when a more extensive epidemic than any previously reported prevailed in Sweden, the total number of reported cases was 1,025.

## TURKEY IN ASIA.

## Aleppo—Cholera.

The American consul reported January 26 the presence of cholera at Aleppo.

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

## REPORTS RECEIVED DURING WEEK ENDED FEB. 9, 1912.

[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.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Madras.....	Dec. 24-30.....	51	46	
Italy.....				Total Dec. 24-31: Cases 6, deaths 1.
Provinces—				
Caltanissetta.....	Dec. 24-31.....	1		
Girgenti.....	.....do.....	5	1	
Java:				
Batavia.....	Dec. 17-23.....	3	1	
Roumania:				
Districts—				
Braila.....	Oct. 31-Dec. 13....	22	11	
Convolori.....	Oct. 31-Nov. 23....	21	1	
Dolju.....	Nov. 2-Dec. 13....	14		
Konstanza.....	Oct. 30-Nov. 23....	4		
Tulcea.....	Oct. 31-Dec. 13....	13	2	
Servia.....				Declared free Dec. 31.
Belgrade, district.....	Nov. 26-Dec. 16....		1	
Turkey in Asia:				
Aleppo.....	Jan. 26.....			
Kharpout.....	Dec. 17-30.....	9	7	
Tripoli.....	Jan. 4.....	1		Present.
Turkey in Europe:				
Constantinople.....	Jan. 2.....	1		
Durazzo.....	Dec. 7-13.....	2		

## YELLOW FEVER.

Mexico:				
Merida.....	Jan. 14-20.....	2		



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

Reports Received during Week ended Feb. 9, 1912.

## PLAGUE.

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Chile:</b>				
Iquique.....	Jan. 1-6.....	1		
Plasua.....	Nov. 1-30.....	8		
<b>China:</b>				
Hongkong.....	Dec. 17-23.....	2	1	
<b>German East Africa:</b>				
Dar-es-Salaam.....	Nov. 13-15.....	1	1	From the interior via Bergamogo.
<b>India:</b>				
Bombay.....	Dec. 24-30.....	13	14	
Karachi.....	do.....	6	6	
<b>Java:</b>				
Paseroean Residency.....	Dec. 17-23.....	9	3	
<b>Straits Settlements:</b>				
Singapore.....	Dec. 10-16.....	2	2	

## SMALLPOX.

<b>Arabia:</b>				
Aden.....	Dec. 19-Jan. 1.....	3	1	
<b>Canada:</b>				
Montreal.....	Jan. 21-27.....	5		
Ottawa.....	Jan. 14-20.....	14		
Quebec.....	Jan. 21-27.....	23		
Winnipeg.....	Jan. 14-20.....	1		
<b>Chile:</b>				
La Serena.....	Nov. 21-30.....	14		
<b>China:</b>				
Hongkong.....	Dec. 17-23.....	11	9	
<b>Cuba:</b>				
Habana.....	Jan. 19.....	1		From steamship Mexico.
<b>France:</b>				
Paris.....	Jan. 7-13.....	7		
<b>Germany:</b>				
do.....	do.....	1		
<b>India:</b>				
Bombay.....	Dec. 24-30.....	4	2	
Madras.....	do.....	4	3	
<b>Italy:</b>				
Genoa.....	Jan. 1-15.....	14		
Leghorn.....	Jan. 17-23.....	10		
Messina.....	Nov. 19-Dec. 31.....		5	
Naples.....	Jan. 1-6.....	5		
Palermo.....	Jan. 1-13.....	389	134	
<b>Java:</b>				
Batavia.....	Dec. 17-23.....	3	1	
<b>Mexico:</b>				
Guadalajara.....	Jan. 14-20.....		1	
Mazatlan.....	Dec. 19-23.....		1	
Mexico.....	Dec. 17-30.....	18	8	
San Antonio.....	Jan. 1-21.....	12	9	
San Carlos.....	do.....			Present.
<b>Spain:</b>				
Cadiz.....	Dec. 1-31.....		9	
Valencia.....	Jan. 6-12.....	27	3	
<b>Straits Settlements:</b>				
Singapore.....	Dec. 10-16.....	2	1	
<b>Teneriffe:</b>				
Santa Cruz.....	Jan. 1-13.....		2	
<b>Turkey in Asia:</b>				
Beirut.....	do.....	75	12	
<b>Turkey in Europe:</b>				
Constantinople.....	Jan. 8-14.....		4	

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

REPORTS RECEIVED FROM DEC. 30, 1911, TO FEB. 2, 1912.

[For reports received from July 1, 1911, to Dec. 29, 1911, see PUBLIC HEALTH REPORTS for Dec. 29, 1911. In accordance with custom, the tables of epidemic diseases are terminated semiannually and new tables begun.]

## CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Ras-el-Ketib.....	Dec. 27.....		2	In the military hospital.
Austria-Hungary:				
Coastland—				
Capodistria.....	Dec. 14-24.....	2	2	
Croatia and Slavonia.....				Total Oct. 22-Dec. 16: Cases, 36.
Sriem.....	Oct. 22-Dec. 16...	36		
Hungary.....				Total Nov. 19-Dec. 23: Cases, 37.
Bacs-Bodog.....	Dec. 10-16.....	9		
Jasz-Nagykun-Szolnok.....	Dec. 3-23.....	11		
Torontal.....	Nov. 19-Dec. 16...	17	2	
Bulgaria:				
Burgas.....	Nov. 22-23.....	2	2	
Varna.....	Nov. 6.....	1		
Dutch East Indies.....				Total Sept. 24-Oct. 9: Cases, 322; deaths, 256.
Batavia.....	Nov. 12-Dec. 18...	18	7	
India:				
Calcutta.....	Nov. 5-Dec. 9.....		204	
Madras.....	Nov. 26-Dec. 16...	296	231	Madras Presidency, Dec. 1-31: Cases, 3,879; deaths, 2,412.
Rangoon.....	Oct. 1-Nov. 30...	6	3	
Indo-China:				
Saigon.....	Nov. 20-Dec. 17...	203	169	
Italy.....				Total June 8-Dec. 24: Cases, 15,979; deaths, 6,021.
Provinces—				
Caltanissetta.....	Nov. 26-Dec. 23...	8	7	
Girgenti.....	do.....	100	56	
Messina.....	Nov. 26-Dec. 2.....	3	2	
Syracuse.....	Nov. 26-Dec. 23...	15	9	
Malta.....	Nov. 19-Dec. 10...	6	6	Dec. 23 declared free from cholera.
Montenegro.....	Nov. 4-11.....	9	5	
Persia:				
Adaban.....	Nov. 4.....	1	1	
Philippine Islands:				
Province—				
Union.....	Oct. 29-Dec. 4.....	5	5	
Roumania.....				Total Sept. 9-Dec. 13: Cases, 192; deaths, 42, including cases previously reported.
Districts—				
Braila.....	Nov. 24-Dec. 13...	1		Nov. 6-23: 1 death.
Doljju.....	Nov. 6-Dec. 13...	4	4	
Prahova.....	Nov. 6-23.....	1	1	
Talomita.....	do.....	2		
Tulcea.....	Nov. 24-Dec. 13...	1	1	
Siam:				
Bangkok.....	Nov. 5-Dec. 2.....		149	
Straits Settlements:				
Singapore.....	Nov. 5-18.....	3	3	
Tripoli:				
Tripoli.....	Oct. 25-Nov. 10.....			150 to 200 among the civil population and 25 to 30 among the military, Dec. 21, 1911.
Tunis Regency.....				Total Nov. 25-Dec. 21: Cases, 325; deaths, 371.
Beja district.....	Nov. 25-Dec. 7.....	30	35	
Bizerta district.....	Nov. 25-Dec. 5.....	9	15	
Turkey in Asia:				
Adana.....	Dec. 2-6.....	16	5	
Amara.....	Oct. 15.....	1	1	
Basra.....	Oct. 22-23.....	14	10	
Erzeroum, vilayet.....	Sept. 11-16.....	50	28	
Erzeroum.....	do.....	11	8	
Kaifa.....	Dec. 8.....			Present.
Kerbalah.....	Oct. 20-23.....	10	10	
Kharput.....	Nov. 19-Dec. 9.....	29	22	
Jiddah.....	Dec. 2-24.....	323	210	
Mekka.....	Dec. 4-24.....	905	879	Sept. 1-Dec. 24: Cases, 1,643; deaths, 1,565.
Mersina.....	Dec. 1-7.....	2	1	
Osmania.....	Dec. 1-6.....	2	4	
Sinope.....	Dec. 7.....	2	1	
Trebzond and vicinity.....	Sept. 18-23.....	64	34	
Turkey in Europe:				
Constantinople.....	Oct. 24-30.....	5	1	
Saloniki, vilayet.....	Nov. 6-19.....	4	3	In Serres.

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

Reports Received from Dec. 30, 1911, to Feb. 2, 1912.

## YELLOW FEVER.

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Brazil:</b>				
Manaos.....	Nov. 19-Jan. 6.....	.....	8	
Para.....	Dec. 9-16.....	1	1	
<b>Ecuador:</b>				
Bucay.....	Nov. 16-30.....	2	.....	
Duran.....	Dec. 1-15.....	3	2	
Guayaquil.....	Nov. 16-Dec. 15.....	20	11	
Milagro.....	.....do.....	8	1	
<b>Mexico:</b>				
Espita.....	Dec. 31-Jan. 6.....	1	.....	
Maxcanu.....	.....do.....	1	.....	
Merida.....	Nov. 12-Jan. 6.....	8	7	Total Aug. 1-Jan. 20: Cases 55; deaths, 27.
Temax.....	Dec. 31-Jan. 6.....	1	.....	
<b>Venezuela:</b>				
Caracas.....	Nov. 16-Dec. 7.....	11	.....	
Sabana Grande.....	Dec. 12.....	.....	.....	Epidemic.
At sea.....	Dec. 17-23.....	1	1	On a vessel en route from Manaos to Para.

## PLAGUE.

<b>Algeria:</b>				
Philippeville.....	Oct. 19-Nov. 11.....	8	2	Including 5 cases, p. 2096. Vol. XXVI.
<b>Brazil:</b>				
Bahia.....	Sept. 1-30.....	.....	2	
Para.....	Dec. 24-30.....	5	1	
Pernambuco.....	Oct. 16-Jan. 16.....	.....	4	
Rio de Janeiro.....	Nov. 12-Dec. 23.....	6	3	
<b>British East Africa:</b>				
Kismayu.....	Oct. 15-25.....	2	.....	1 case pneumonic.
<b>Chile:</b>				
Iquique.....	Nov. 12-Dec. 23.....	9	4	
<b>China:</b>				
Amoy.....	Jan. 15.....	.....	.....	Present.
Hongkong.....	Dec. 9-16.....	1	1	
<b>Dutch East Indies:</b>				
Java.....	.....	.....	.....	Total Mar. 1-Dec. 9: Cases, 1,777; deaths, 1,262.
Paseroean Residency, Malang District.....	Nov. 12-Dec. 18.....	41	19	
Soerabaya.....	Oct. 17-27.....	2	.....	
<b>Ecuador:</b>				
Guayaquil.....	Nov. 16-Dec. 15.....	102	42	
<b>Egypt:</b>				
Provinces—				
Assiout.....	Oct. 14-Dec. 27.....	38	36	
Behera.....	Oct. 15-Dec. 26.....	3	1	
Galloubeh.....	Oct. 5-Dec. 26.....	1	.....	
Kena.....	Nov. 20-Dec. 13.....	3	3	
Minieh.....	Dec. 13.....	1	.....	
<b>India:</b>				
Bombay.....	Nov. 19-Dec. 23.....	44	39	
Calcutta.....	Nov. 11-Dec. 9.....	.....	30	
Karachi.....	Nov. 26-Dec. 21.....	9	8	
Rangoon.....	Oct. 1-Nov. 30.....	38	39	
Bombay Presidency and Sind.....	Oct. 29-Dec. 9.....	27,376	19,684	
Madras Presidency.....	.....do.....	3,589	2,886	
Bengal.....	.....do.....	1,537	1,136	
United Provinces.....	.....do.....	6,139	4,975	
Punjab.....	.....do.....	820	579	
Burma.....	.....do.....	90	84	
Central Provinces.....	.....do.....	3,803	2,838	
Coorg.....	.....do.....	45	22	
Mysore State.....	.....do.....	3,600	2,787	
Hyderabad State.....	.....do.....	6,012	5,651	
Central India.....	.....do.....	3,403	2,825	
Rajputana and Ajmere Merwara.....	.....do.....	302	246	
North West Province.....	.....do.....	1	1	Total for India, Oct. 29-Dec. 9: Cases, 56,717; deaths, 43,714.

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

Reports Received from Dec. 30, 1911, to Feb. 2, 1912.

## PLAGUE—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
<b>Indo-China:</b>				
Saigon .....	Nov. 13-Dec. 17...	12	5	
<b>Mauritius:</b>				
.....	Nov. 3-23 .....	13	8	
<b>Natal:</b>				
Durban .....	Jan. 17.....		1	
<b>Peru:</b>				
Salaverry .....	Dec. 25-Jan. 9 .....			Present in vicinity.
<b>Philippine Islands:</b>				
Cebu quarantine station.....	Dec. 4.....	1		On s. s. Montrose from Shanghai.
<b>Russian Empire:</b>				
Astrakhan, government.....	Nov. 28-Dec. 20...	87	84	
<b>Siam:</b>				
Bangkok .....	Nov. 4-Dec. 2.....	5	5	
<b>Straits Settlements:</b>				
Singapore .....	Nov. 5-Dec. 9.....	10	9	

## SMALLPOX.

<b>Algeria:</b>				
Algiers .....	Nov. 1-30 .....		1	
<b>Arabia:</b>				
Aden.....	Nov. 28-Dec. 18...	1	1	
<b>Argentina:</b>				
Buenos Aires.....	Oct. 1-31 .....		6	
Rosario .....	Oct. 1-Nov. 30 .....		31	
<b>Austria-Hungary:</b>				
Galicia .....	Dec. 24-30 .....	1		
Trieste .....	Dec. 3-9 .....	1		From s. s. Baron Call from Beirut.
<b>Brazil:</b>				
Bahia .....	July 1-31 .....		1	
Pernambuco .....	Oct. 16-Nov. 30 .....		246	Report for Oct. 1-15 not received.
Rio de Janeiro .....	Nov. 26-Dec. 2 .....	1	1	
<b>Canada:</b>				
British Columbia—				
Nelson .....	Dec. 24-30 .....	1		
Ontario—				
Kingston .....	Dec. 19-23 .....	1		
Ottawa .....	Dec. 10-Jan. 13 .....	21		
Sarnia .....	Oct. 17-Dec. 31 .....	42		
Toronto .....	Jan. 6-13 .....		1	
Quebec—				
Montreal .....	Dec. 17-Jan. 20 .....	3		
Quebec .....	Dec. 10-Jan. 13 .....	137	1	
<b>Ceylon:</b>				
Colombo .....	Nov. 12-18 .....	1		
<b>Chile:</b>				
Iquique .....	Dec. 10-16 .....	2		
Talcahuano .....	Nov. 26-Dec. 23 .....	14	3	
Valparaiso .....	Dec. 3-9 .....	43		
<b>China:</b>				
Canton .....	Nov. 11-Dec. 16 .....	25	4	
Chungking .....	Nov. 18-25 .....			Present.
Hongkong .....	Nov. 12-Dec. 16 .....	43	32	
Nanking .....	Dec. 10-16 .....			Do.
Shanghai .....	Dec. 11-17 .....		1	
<b>Cuba:</b>				
Habana .....	Dec. 19 .....	1		From German s. s. Frankenwald from Spain and Canary Islands.
<b>Egypt:</b>				
Cairo .....	Dec. 10-16 .....	1		
<b>France:</b>				
Marseille .....	Nov. 1-30 .....		1	
Paris .....	Dec. 3-Jan. 6 .....	36	2	
<b>Germany:</b>				
.....	Dec. 31-Jan. 6 .....	1		
<b>India:</b>				
Bombay .....	Nov. 19-Dec. 23 .....	40	22	
Calcutta .....	do.....		16	
Madras .....	Nov. 26-Dec. 9 .....	18	10	
Rangoon .....	Oct. 1-Nov. 30 .....	29	9	
<b>Indo-China:</b>				
Saigon .....	Nov. 13-Dec. 10 .....	18		
<b>Italy:</b>				
Genoa .....	Dec. 1-15 .....	6	1	
Leghorn .....	Dec. 16-Jan. 6 .....	46	1	
Naples .....	Dec. 3-30 .....	31	1	
Palermo .....	Nov. 26-Dec. 30 .....	1,263	412	

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

Reports Received from Dec. 30, 1911, to Feb. 2, 1912.

## SMALLPOX—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
Japan:				
Arima-Mura.....	Nov. 12-18.....	6	1	11 miles east from Kobe.
Kanagawa, ken.....	Dec. 17-23.....	1		
Java:				
Batavia.....	Nov. 12-Dec. 18...	12	3	
Malta.....	Dec. 24-Jan. 6.....	2	1	
Mexico:				
Aguascalientes.....	Dec. 18-Jan. 7.....		2	
Chihuahua.....	Nov. 20-Jan. 14.....	62	19	
Coahuila, State.....	Oct. 1-30.....		16	
Juarez.....	Dec. 19-Jan. 20.....	5	2	
Magdalena.....	Dec. 23-Jan. 20.....		30	Dec. 23-Jan. 8, 99 cases.
Maratlan.....	Dec. 11-Jan. 2.....		4	
Mexico.....	Nov. 26-Dec. 16.....	16	10	
Monterey.....	Dec. 11-24.....		2	
Porfirio Diaz.....	Dec. 3-Jan. 22.....		26	
Sandoval.....	Dec. 16.....			Present.
San Ignacio.....	Jan. 8.....	3		
Santa Ana.....	do.....	4		
San Luis Potosi.....	Nov. 12-Dec. 2.....	3		
Tampico.....	Dec. 1-31.....	4	4	
Tapachula.....	Nov. 1-Dec. 31.....		14	
Portugal:				
Lisbon.....	Dec. 9-Jan. 6.....	19		
Russia:				
Libau.....	Dec. 17-23.....	1		
Moscow.....	Nov. 19-Dec. 23.....	12	4	
Odessa.....	Nov. 26-Dec. 23.....	7	1	
Reval.....	Nov. 1-30.....	1		
St. Petersburg.....	Nov. 19-Dec. 30.....	84	9	
Warsaw.....	Nov. 5-Dec. 2.....		185	
Spain:				
Cadiz.....	Nov. 1-30.....		5	
Madrid.....	Dec. 1-31.....		1	
Malaga.....	Nov. 1-30.....		45	
Seville.....	Dec. 1-31.....		5	
Valencia.....	Dec. 3-Jan. 6.....	45	6	
Straits Settlements:				
Singapore.....	Nov. 19-Dec. 9.....	7	1	
Switzerland:				
Zurich, Canton.....	Dec. 3-23.....	6		
Teneriffe:				
Santa Cruz.....	Dec. 3-30.....		27	
Turkey in Asia:				
Beirut.....	do.....	40	13	
Turkey in Europe:				
Constantinople.....	Dec. 4-Jan. 7.....		26	
Uruguay:				
Montevideo.....	Sept. 1-Oct. 31.....	19	3	
Venezuela:				
Caracas.....	Nov. 1-Dec. 31.....	11		
Zanzibar:				
Zanzibar.....	Oct. 28-Dec. 15.....	3	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.		
Munich.....	Dec. 30	597,000	177	28							1	3		2		1
Newcastle-on-Tyne.....	Jan. 13	269,193	104	9						1	4					1
Ottawa.....	Jan. 20	90,000	22													
Palermo.....	Jan. 6	340,000	254	8				80	1	1	2	1				
Do.....	Jan. 13		207	8				54		1	1					
Paris.....	do.....	2,847,000	888	217										6	8	3
Port Said.....	Dec. 23	52,811	18							1						
Do.....	Dec. 31		32										1			
Prague.....	Dec. 30	225,204	72	11						4		3				
Do.....	Jan. 6		73	9						1					7	
Rangoon.....	Dec. 23	289,432	188					2								
Do.....	Dec. 30		189		3	13		4								
Rotterdam.....	Jan. 13	436,015	109							2	1					
Santa Cruz de Tenerife.....	Jan. 6	46,000	21	2			1	2								
Do.....	Jan. 13		16				1	2		1						
Sarnia.....	Jan. 27	9,936	12	2						1						
Singapore.....	Dec. 16	303,328	205	24	2			1								
Southampton.....	Jan. 13	120,891	38	3						1						1
Do.....	Jan. 20		28	5												1
Stettin.....	Jan. 6	237,000	68	5									1			
Do.....	Jan. 13		95	9						1	1	2	1	2	1	2
Stoke-on-Trent.....	do.....	237,153	100	3						1			2	1	1	2
Swansea.....	do.....	115,100	31									2		2		
Talcahuano.....	Dec. 30	28,000	7	2							1			2		1
Do.....	Jan. 6		3	2												
Tapachula.....	Dec. 31	25,000	45	1			1									2
Toronto.....	Jan. 27	392,000	126	12						1	2	4	1	1	1	1
Trieste.....	Dec. 23	233,925	85										1	1		1
Trinidad.....	Jan. 13	60,000	37	4						1						
Turin.....	Jan. 14	401,555	119	8									1			
Valencia.....	Jan. 13	240,000	131	7				3			1	2	1	2		
Vienna.....	Dec. 23	2,064,583	586	100							4	4	11	6	7	7
Do.....	Dec. 13		622	93						1	2	12	6	4	4	4
Do.....	Jan. 6		599	76						2	6	4	5	5	4	4
Winnipeg.....	Jan. 20	151,958	37	1							2	2				
Yokahama.....	Jan. 8	419,630								1			3			

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

ARGENTINA—*Rosario*.—Month of November, 1911. Population, 208,123. Total number of deaths from all causes 359, including diphtheria 3, smallpox 6, tuberculosis 46, typhoid fever, 1.

AUSTRIA-HUNGARY—*Brunn*.—Month of November, 1911. Population, 108,944. Total number of deaths from all causes 185, including diphtheria 7, measles 1, tuberculosis 31, typhoid fever 1.

BRITISH INDIA.—*Rangoon*.—Month of November, 1911. Population, 289,432. Total number of deaths from all causes 764, including cholera 4, measles 1, plague 12, smallpox 3, tuberculosis 37, typhoid fever 3.

CANADA—*Ontario*.—Month of December, 1911. Population, 82,000. Total number of deaths from all causes 103, including diphtheria 2, scarlet fever 1, tuberculosis 5.

**DUTCH GUIANA—Paramaribo.**—Month of December, 1911. Population, 37,475. Total number of deaths from all causes 107. No contagious diseases.

**FRANCE—Calais.**—Month of December, 1911. Population, 75,000. Total number of deaths from all causes 100, including diphtheria 1, measles 1, tuberculosis 20.

**Marseille.**—Month of December, 1911. Population, 550,619. Total number of deaths from all causes 791, including diphtheria 5, tuberculosis 125, typhoid fever 14.

**GREAT BRITAIN.**—Week ended January 6, 1912.

**England and Wales.**—The deaths registered in 77 great towns correspond to an annual rate of 15.3 per 1,000 of the population which is estimated at 17,559,219.

**Ireland.**—The deaths registered in 21 principal town districts correspond to an annual rate of 18.6 per 1,000 of the population which is estimated at 1,157,014. The lowest rate was recorded at Drogheda, viz, 4.2, and the highest at Ballymena, viz, 27.5 per 1,000.

**Scotland.**—The deaths registered in 18 principal towns correspond to an annual rate of 17.4 per 1,000 of the population, which is estimated at 2,182,400. The lowest rate was recorded at Patrick, viz, 8.4, and the highest at Greenock, viz, 24.7 per 1,000. The total number of deaths from all causes was 705, including diphtheria 13, measles 34, scarlet fever 11, typhoid fever 2.

**ITALY—Milan.**—Month of October, 1911. Population, 602,236. Total deaths from all causes, 162; including diphtheria 3, measles 1, tuberculosis 118, typhoid fever 34.

Month of November, 1911. Total number of deaths from all causes, 140; including diphtheria 4, measles 3, scarlet fever 1, tuberculosis 106, typhoid fever, 23.

Month of December, 1911. Total number of deaths from all causes, 151; including diphtheria 5, scarlet fever 1, tuberculosis 119, typhoid fever 26.

**SPAIN—Cadiz.**—Month of December, 1911. Population, 67,306. Total number of deaths from all causes, 160; including diphtheria 2, smallpox 9, tuberculosis 19.

By authority of the Secretary of the Treasury:

RUPERT BLUE,  
Surgeon General,

*United States Public Health and Marine-Hospital Service.*

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