

Public Health Reports

Treasury Department, United States Marine-Hospital Service. Published in accordance with act of Congress approved February 15, 1893.

VOL. XIV.

WASHINGTON, D. C., AUGUST 18, 1899.

No. 33.

UNITED STATES.

THE ETIOLOGY OF YELLOW FEVER—ABSTRACT OF THE REPORT OF THE COMMISSION OF MEDICAL OFFICERS, MARINE-HOSPITAL SERVICE, DETAILED BY AUTHORITY OF THE PRESIDENT TO INVESTIGATE THE CAUSE OF YELLOW FEVER.

Under date of November 8, 1897, P. A. Surg. (now Surgeon) Eugene Wasdin and P. A. Surg. H. D. Geddings were detailed, by authority of the Secretary of the Treasury and the President, as a commission to investigate in Havana the nature of yellow fever. Their full report, dated July 10, 1899, has been received and is printed as a separate publication.

The report embodies the work of the commission in fairly testing the claim of Professor Sanarelli, of Bologna, Italy, that the bacillus icteroides is the cause of yellow fever, and the conclusion is drawn that this famous scientist has isolated the true cause of the terrible scourge.

This conclusion is based upon a careful bacteriologic study, in the well-equipped laboratory of the Marine-Hospital Service in Havana, Cuba, of 22 cases of disease thought to be yellow fever by the native physicians in attendance.

Of these cases all were seen during the progress of the disease, and in 14 of them the commission concurred in the diagnosis.

Each case was the subject of careful bacteriologic study before and, if practicable, after death. This consisted in the abstraction of blood in sterile bulb tubes from the ear tip under careful asepsis. This blood was then diluted in the bulbs with meat-peptone bouillon, and after an incubation of twenty-four hours the growth was transplanted to fresh

tubes of bouillon, from which, after twenty-four hours, Petri plates were made in series. From these the organisms present in the blood were isolated in pure cultures and studied. After isolation each organism was subjected to the cultural examination on all media, by means of which those meeting the demands of Sanarelli for the organism he discovered were readily selected and their pathogenicity for animals established.

Of the 14 cases diagnosed as yellow fever, the commission isolated the organism of Sanarelli, the bacillus icteroides, from 13, and in the case in which this organism escaped the observation of the commission it was isolated by an independent observer for whom tube cultures had been taken at a necropsy conducted by the commission.

Thus the even percentage of isolations has been obtained in these 14 cases, all of which presented prominent symptoms of the disease. In the cases not thus diagnosed the organism of Sanarelli was not obtained.

From the living blood in 12 of the 14 cases, abstracted not earlier than the third day of the disease, the organism was isolated, and in the 2 others it was obtained post-mortem.

The commission, having preserved a number of cultures made at the isolation hospital in the city of New Orleans from cases seen during the epidemic of 1897, also isolated therefrom the bacillus icteroides in the proportion of 83.33 per cent of the cases examined, the cultures having been made at necropsy.

Thus the identity of the bacillus icteroides of our Southern States, with that found in Cuba, and that sent the commission by Professor Sanarelli, which was obtained in South America, was established.

As a control to these examinations the commission made use of a number of cases suffering from diseases other than yellow fever, from which the blood, extracted in the same manner and treated in the same way, failed to yield any organism at all comparable to Sanarelli's. These diseases were representative of those usual to the city of Havana and were seen during the same period of time in which the cases of yellow fever were under observation. Also there were 31 dead bodies examined, bodies dead from known and unknown diseases, many of them in the city morgue, the most of them in the Spanish military hospitals. In each instance careful section was made and the blood from the heart, from the liver, the spleen, and the kidneys, and the urine, and feces, planted directly into bouillon or agar-agar slant tubes, from which cultures series of plates were made.

All bodies thus examined, at times many hours after death, yielded colonies of various organisms, save one, and this at the time of necropsy was diagnosed pathologically as yellow fever, and was sterile.

In none of these cases of comparative necropsic examination was the bacillus icteroides found—neither in their blood, nor urine, nor feces. Therefore, the commission assumes that the organism of Sanarelli is found only in bodies sick with or dead from the disease of yellow fever,

at the same time conceding that in many of the sick the blood does not yield the germ, and that in the dead it may prove absent only under certain conditions.

Coincident with the above observations the commission carried on the study of the natural history of the organism as to its mode of entering the body, its colonization therein, its toxic possibilities, and its distribution in the organs post-mortem.

Numerous and interesting experiments were made with animals, the commission finding all the animals at its command, such as mice, rats, dogs, cats, guinea pigs, rabbits, and monkeys, quite susceptible to the artificial infections produced by inoculating them under the skin, intra-peritoneally and endo-venously. At the same time it became convinced that the same or very similar results were obtainable by the use of other organisms of different kinds. It found, as had been claimed by Sternberg, that similar clinical and anatomical results could be found after the artificial administration of the bacillus X, as well as that of Havelburg, and of the bacillus coli communis, all of which proved, artificially exhibited, very pathogenic to all animals, and necropsies upon these revealed similar conditions of the organs. Moreover, the toxins elaborated *in vitro* by the above-named organisms, X, Havelburg, and coli communis, and icteroides were precipitated, purified, and tested, comparatively upon animals, with the result that the commission decided that the *mode of death* from these toxins, when injected into animals, *was the same in kind*, and that the toxins differed only in intensity, and that of these the bacillus icteroides produced the most potent.

From these facts the commission, early in its work, became convinced that the claim of Professor Sanarelli, of having discovered the germ of yellow fever, was not established by any evidence presented in his published works, and that it was not tenable so long as it could be claimed that the bacillus of Havelburg and the bacillus X of Sternberg produced the same pathological conditions when artificially inoculated, and the commission recognized the validity of this claim, in view of the facts given above, although it had for a long time recognized both of these organisms as belonging to the colon group.

At this stage of its work the solution of the problem seemed very remote, but before turning to some other and unknown cause of this disease it was determined to place experimental animals under *natural conditions of infection*, since it was recognized that all preceding experimental work was so artificial that it was impossible for the commission to judge of the pathogenic, or rather *specific*, merits of the three prominent organisms.

From this animal experimentation the commission proves the natural specificity of the organism of Sanarelli; the absolute innocuousness of the bacillus coli communis, of the bacillus X, and of the bacillus Havelburg, to even the most susceptible of animals; and a marked degree of similarity in the reaction of these animals (mice) to the *acute*

infectious organisms, such as *bacillus typhosus* and *bacillus cholerae suis*, when exhibited to them naturally. The Sanarelli organism is thus eliminated from the colon group and associated with the acute infectious organisms.

The commission recognized that Sanarelli's claim was *only* one of pathogenicity and not of *specificity*; that until such demonstration of specificity there could be no *valid* claim for his organism. This validity the commission believes to have established in the conclusion that the *bacillus icteroides* is "naturally infectious to animals, the degree varying with the species; that in some rodents local infection is most quickly followed by blood infection; and while in rabbits and dogs there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man."

The commission has determined "that the infection takes place by way of the *respiratory tract*," and that the primary colonization in the lungs is responsible for the first evidences of absorptive intoxication such as fever, pains, etc., characteristic of the disease. Also that this primary colonization in the lungs and its poison symptoms may constitute the *entire attack* of the disease in many instances, an attack so light, so ephemeral, that even the most expert diagnosticians may not differentiate them from other ephemera, or poorly marked attacks of allied diseases, as for instance the *dengue*.

Moreover, the conclusion has been reached that what is known in the literature of yellow fever as the "reactionary fever," the "secondary infection" (from germs normal to the body), and the "secondary paroxysm," is due to the passage of the infecting germ, the *bacillus icteroides*, from its primary colony in the lungs into the general circulation, thus producing a "secondary paroxysm" so familiar clinically in all marked cases, unless of the *siderante* type.

This "secondary paroxysm" is then a septicæmic one, and it depends not upon *bacillus coli communis*, or *bacillus proteus*, or upon the micrococci, but upon the further colonization of the specific organism in the blood, thus bearing out Faget's observation that the "*decline*" of the fever, the true "secondary paroxysm," is as *specific* as the "rise," or the primary attack.

The commission recognizes the coincident invasion of the blood by the organisms of the respiratory tract, among which are found colon and proteus, as of possible, it may be of frequent occurrence, or these may invade from the alimentary canal "during the last hours of life," when the mucosa becomes impaired from stasis and this invasion becomes possible, such mixed septicæmiæ being of most severe type and frequently fatal. The commission, therefore, differs entirely from Professor Sanarelli in his theory that the disease of yellow fever is primarily a septicæmia. Indeed, it can scarcely be a matter of surprise that Sanarelli formulated this opinion, seeing that he always produced, with (as he thought) unimportant exceptions, artificial infectious

by internal inoculations, which, perforce, must have produced septicæmiæ. Those cases not open to such explanation, which he observed in man, he explained in a still more unsatisfactory way; in fact by the assumption that the germ selected to hide away in the spleen in small numbers during the *whole course* of the disease only to suddenly come forth and produce a septicæmia at its termination.

The commission, therefore, concludes that the theory of Sanarelli in this regard is not sustained by the facts of these cases, and offers the above solution of probably the most widely and generally observed characteristic of yellow fever, the "secondary paroxysm" characterized by a septicæmia.

The theory formulated and expressed by Dr. Sternberg, U. S. A., that the "germinal principle" in yellow fever was to be looked for in the alimentary tract, an opinion evidently dependent upon the well-known influence of the disease upon the organs adjacent and contributive to this tract and portions of the tract itself, as the duodenum, has been found untenable by the commission, since there is no record of anyone ever having isolated the specific germ from the canal save in the case of its presence there through some capillary hemorrhage into its lumen.

The influence of the various disinfecting agents upon the bacillus icteroides has been studied by the commission with an eye to the practical advantages to be derived from a better acquaintance with the organism, and it is found that the organism is readily influenced by the mechanical and chemical agents in ordinary use. Cold, however, is not a factor in this process, for the organism resists the most extensive refrigeration, and no reliance can be placed on this mode of disinfection. On the other hand, the organism is very susceptible to dehydration, and can not withstand artificial drying for more than ten to twelve days, and it is very probable that its susceptibility to *frost* is due to the lessened humidity of the atmosphere at such seasons rather than to the degree of cold experienced. Sunlight is very fatal to this organism, and no doubt is more so if the organism has lost its vitality through evaporation of its fluids, as in a frosty atmosphere.

The resemblance between the bacillus icteroides, in its behavior on certain media, and the bacillus of hog cholera has been brought to the attention of the commission, and it has deemed the observation that there is a possible similarity in the pathogenicity of the two organisms in the domestic hog of great importance, although its experience in the observation of the cultural similarities leads to the conclusion that they are culturally distinct, while the infection of the domestic hog, in its experience, is impossible by the method pursued of feeding bacillus icteroides to them.

However, the question being of too much importance to be determined without full data, the commission placed under treatment a number of domestic hogs, in an environment free from suspicion of the possibility of any contamination with the bacillus cholerae suis, with a

view to deciding the question of the reaction of these animals to the bacillus icteroides, administered to them in pure cultures in their food. These experiments were conducted at the United States quarantine station at Delaware Breakwater, and therefrom it is deduced, first, that the domestic pig is incapable of infection from the bacillus icteroides when introduced through the intestinal or digestive tract, and second, that the bacillus icteroides, when fed to pigs, will not produce any of the lesions or intestinal symptoms of hog cholera.

CONCLUSIONS OF THE COMMISSION.

First. That the microorganism discovered by Prof. Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides," is the cause of yellow fever.

Second. That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some rodents local infection is very quickly followed by blood infection; and that, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.

Third. That infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease.

Fourth. That in many cases of the disease, probably a majority, the primary infection or colonization in the lungs is followed by a "secondary infection" or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

Fifth. That there is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicæmia, inasmuch as cases do occur in which the bacillus icteroides can not be found in the blood or organs in which it might be deposited therefrom.

Sixth. That there exists no causal relationship between the bacillus "X" of Sternberg and this highly infectious disease, and that the bacillus "X" is frequently found in the intestinal content of normal animals and of man, as well as in the urine and the bronchial secretion.

Seventh. That, so far as your commission is aware, the bacillus icteroides has never been found in any body other than one infected with yellow fever, and that whatever may be the cultural similarities between this and other microorganisms it is characterized by a specificity which is distinctive.

Eighth. That the bacillus icteroides is very susceptible to the influences injurious to bacterial life; and that its ready control by the processes of disinfection, chemical and mechanical, is assured.

Ninth. That the bacillus icteroides produces *in vitro*, as well as *in vita*, a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

YELLOW FEVER IN THE NATIONAL SOLDIERS' HOME NEAR HAMPTON, VA.

[Continued from last PUBLIC HEALTH REPORTS.]

August 10: Surgeon White reports that inspections will be continued in Phoebus; that physicians are reporting all cases, and all are being investigated. Newport News has abolished her quarantine, but the other towns are awaiting the assurance that Boston, Baltimore, New York, and Philadelphia will not quarantine against them. Phoebus and the Home are well guarded.

August 11: Surgeon Magruder reports from Newport News that nothing suspicious was found at Williamsburg. Reinspection of Morriston and adjacent points shows condition satisfactory.

Acting Assistant Surgeon Archinard reports that all points between West Point and Richmond have maintained a strict quarantine against Phoebus, Hampton, and the Soldiers' Home, and there need be no fear along these points. No refugees found.

Acting Assistant Surgeon Farquhar reports, after a thorough investigation, no refugees found in Suffolk.

Craney Island.—August 9: Received, none; discharged, 4; on hand, 19; all well. August 10: Received, none; discharged, 6; on hand, 13; all well. August 11: Received, none; discharged, 1; on hand, 12; all well. Passed Assistant Surgeon Smith reports that all guests will be discharged to-day, and all guards to-night.

August 12: Surgeon Vickery telegraphs: "All favorable; no new case and no death. Last suspicious case not the fever."

August 13: Acting Assistant Surgeon Farquhar reports that he has inquired at Belfield, Emporia, and Gaines River Junction, and found no refugees. He goes to Franklin to-night and Monday (14th) to Portsmouth, Va., it not being necessary to visit any other towns along the road.

Surgeon Vickery, of the National Soldiers' Home, telegraphs: "Condition continues good; over 1,500 in tents."

Surgeon Pettus, at Fort Monroe, reports that all guards except 3 have been discharged, but that it is necessary to keep up launch patrol till Phoebus is out of quarantine.

Acting Assistant Surgeon Archinard was directed, if satisfied with conditions between West Point and Richmond, to proceed to Danville and work back to Richmond on line of the Southern Railroad, making inquiries at Danville, using his judgment as to what places he should stop at and make inquiries, wiring arrival and departure from each place.

Inspection service at Alexandria.

ALEXANDRIA, VA., August 12, 1899.

SIR: According to instructions received from you, from August 2 all passengers from yellow fever infected and suspected districts were kept

under personal observation. Owing to the fact that passengers coming north stopped in Richmond, it was difficult to ascertain their point of departure. There were in all 14 arrivals from Newport News, Hampton, and vicinity. All were kept under surveillance except 1 supposed inmate of the Home, who disappeared August 2 and could not be located, as he left the city after spending the night in a lodging house.

No sickness of any kind has developed among these refugees.

Very respectfully,

ARTHUR SNOWDEN,
Acting Assistant Surgeon, U. S. M. H. S.

August 13: Surgeon Magruder is directed to proceed to Richmond, and remain on duty there probably during the week, wiring the Bureau if he thinks necessary to visit any other place. He is directed to locate Acting Assistant Surgeon Donaldson in Newport News, for inspection purposes.

August 14: Acting Assistant Surgeon Farquhar reports, after investigation, no refugees in Franklin, Va., and that he leaves for Portsmouth, Va., in the afternoon.

Surgeon Wasdin relieved from temporary duty at Norfolk and directed to report at Bureau for special temporary duty.

Surgeon White reports the beginning of another inspection of Phoebus to-day.

Acting Assistant Surgeon Archinard reports his arrival at Danville, Va., and that he will report after investigation.

August 15: Surgeon White reports the completion of the inspection of Phoebus and is authorized, as requested, to discontinue the cordon around Phoebus and to maintain a strong cordon around the Soldiers' Home.

Dr. Newbill, president of the board of health of Norfolk, was telegraphed as follows:

I have approved Surgeon White's recommendation to remove cordon around Phoebus and maintain strong cordon around Soldiers' Home. Phoebus has been practically a detention camp for two weeks, and pratique to its inhabitants can not now be refused. Dr. White, after repeated and almost continuous inspections, declares it is absolutely not infected, judging by all known means of investigation. Conference this afternoon unanimous in favoring immediate relief for Phoebus.

The same telegram was sent Dr. Hope, quarantine officer, Portsmouth, Va., and Dr. Brice, board of health, Portsmouth, Va.

Surgeon Vickery telegraphs from the Home that all is favorable, and that some men are moving back from tents to the quarters which have been disinfected.

Passed Assistant Surgeon Smith reports as follows concerning his work in Norfolk in connection with yellow fever:

NORFOLK, VA., *August 14, 1899.*

SIR: I have the honor to report that since rejoining this station, August 3, I have had occasion to examine 1 case of sickness and to attend 1 post-mortem examination, with reference to the disease yellow

fever, and found nothing to indicate the existence of that disease in either case, the investigations having been made merely as a matter of caution. I have inquired of the president of the board of health and do not learn that any other cases of sickness have occurred in the city of a nature to call for investigation or special examination.

I report these facts as a part of the work of the Service at this station, which would not appear in any other form.

Respectfully, yours,

A. C. SMITH,
Passed Assistant Surgeon, U. S. M. H. S.

[Reports to the Supervising Surgeon-General United States Marine-Hospital Service.]

REPORTS FROM THE MEXICAN BORDER.

El Paso, Tex., August 6, 1899.—I have the honor to report the arrival of 3 mechanics from Tampico, Mexico, during the week ended August 5, 1899. Their tickets showed they had been sixteen days away from Tampico. I disinfected their baggage here.

Among the arrivals from Vera Cruz was 1 French passenger and his wife, who refused to allow our inspectors to disinfect their baggage in the City of Mexico. It was attended to here before their departure to California.

A package containing samples of tobacco arrived here from Vera Cruz by Wells Fargo Express. The parcel was unpacked, the old wrapper burnt in my presence, and the samples repacked in new canvas.

Since Mexican passengers arriving on the Mexican Central sometimes stop over night or longer at Juarez, Mexico, before crossing into the United States, I meet every day the Mexican Central train several miles below Juarez, and at times, if they refuse to show their certificates and try to slip through, I demand their certificates at their entrance into the United States, but I have the satisfaction to state that except in a few cases all were able to show with their certificates that they were all right.

I am opposed to the disinfection of packages from Vera Cruz arriving with Wells Fargo Express, for reasons given in my communication to the assistant superintendent, a copy of which I herewith inclose.

Very respectfully,

E. ALEXANDER,
Sanitary Inspector, U. S. M. H. S.

[Inclosure.]

EL PASO, TEX., July 15, 1899.

SIR: In reply to your communication I have to inform you that such articles coming from Vera Cruz and Cordoba as require disinfection or fumigation, arriving at Juarez, Mexico, be disinfected or fumigated, as the case may demand, in the City of Mexico, thus preventing the unnecessary exposure to infection of some of your employees and contamination of goods in your charge from other points in Mexico to this place, a distance of some 1,200 miles.

My time here is very much taken up, and once in a while I may be prevented from at once disinfecting or fumigating such articles as you may want to dispatch immediately, therefore, it will be to the interest of Wells Fargo to have all such articles as need disinfection or fumigation done prior to their arrival here, thereby expediting their business.

Very respectfully,

E. ALEXANDER,
Sanitary Inspector, U. S. M. H. S.

Mr. M. B. DAVIS, *El Paso, Tex.*

Laredo, Tex., August 9, 1899.—On August 8, at 6 p. m., I received a telegram from the Department: "Wire what is necessary for establishment of small detention camp. Have you any tents, and what personal service would be required?" I had to inspect the train that evening and could not inspect the ground on account of darkness, but answered as follows: "Have tents; require cook and 2 guards at about \$2 per day, and barb-wire fencing, cots, and bedding." On close inspection of premises in morning concluded would require 5 persons to establish camp, which I wired you. Place selected is at the quarantine station at the end of international railroad bridge. It has dry gullies or arroyos on two sides, the railroad on one side and the Rio Grande River bank on the south side. The part to be fenced will be about 150 feet each way, and can not be made larger on account of arroyos. At a short distance further west, across the arroyo, is a suitable place for a hospital camp when necessary. Water for the camp can be obtained from the river. I will put up 6 small tents, a dining tent and kitchen tent. Will employ 1 scavenger who will also act as guard within the inclosure, 1 cook (I have found a good cook who comes provided with kitchen utensils and tableware, including stove, tablecloths, etc.), at \$2 per day. Two guards at \$2.50 per day. I will have these guards remain without the inclosure. I have also the guard who is on duty at the same place used as baggage disinfector and guard. I will have him in general charge of camp. There is also a United States customs inspector on duty at the bridge, within hailing distance, day and night, in case of necessity. I will also require a telephone connection which will cost \$3 per month. Guards and scavenger do not receive rations. The size of the inclosure and the situation permit 1 man to guard it without much difficulty. I am to have the corner posts of inclosure 12 or 13 feet high to place a light on top, and would prefer an electric light, but on account of to day's absence of the manager of company, I am unable to procure an estimate of the cost of lights.

Respectfully, yours,

H. J. HAMILTON,
Acting Assistant Surgeon, U. S. M. H. S.

August 10: I have the honor to submit the following report for the week ended August 5, 1899:

International foot and tramway bridge.—Vaccinated and entered, 3; refused entry, 13; passed without vaccination, 3,014; total inspected, 3,030.

Mexican National Railroad bridge.—Refused entry to 5 persons during the week reported. All claimed to be from noninfected points. I receive daily a list of persons arriving at Tampico. None as yet have presented here for inspection. Travel from Mexico by railroad continues light. Will have detention camp in working condition for morning of August 12, 1899. Regulations are being enforced.

Respectfully, yours,

H. J. HAMILTON,
Acting Assistant Surgeon, U. S. M. H. S.

Further with reference to plague on the steamship Nippon Maru.

[See PUBLIC HEALTH REPORTS, No. 28, July 14, 1899.]

SAN FRANCISCO QUARANTINE STATION,
Angel Island, Cal., July 28, 1899.

SIR: In confirmation of my telegrams of June 27 and June 28, *et seq.*, I have the honor to report further on the steamship *Nippon Maru*, which arrived at this port from Hongkong via Japanese ports and Honolulu. It appears from the reports of Sanitary Inspector Eldridge, dated from Yokohama, that the vessel was held in quarantine for seven days at Nagasaki on account of a death occurring among the Chinese steerage on May 26, two days before arrival at the latter place. The examination conducted by the quarantine authorities, demonstrated the cause of death to be bubonic plague. The cabin and steerage passengers were removed to the quarantine station, and there given a bath.

The effects of the steerage were disinfected. After seven days detention the vessel was discharged from quarantine, on June 3, and proceeded to Yokohama. The sanitary inspector reports, "I have some doubts as to this case having been of an infectious nature, but whether so or not the measures seem to have been such as to render any special precautions here unnecessary."

On June 15, three days before arrival at Honolulu, another death occurred in the steerage. In this instance it was a Chinese adult. The diagnosis of the ship's surgeon was uremic convulsions. The body was embalmed and brought to Honolulu. The port physician, Dr. Day, in company with Surgeon Carmichael, made the examination of the body, a report of which has already been furnished the Bureau.

The bacteriological examination conducted by Dr. Alvarez demonstrated both by culture and inoculation experiments the bacillus of plague.

The second case occurring on the vessel after disinfection, was due to either a long period of incubation, twelve days, or to imperfect method of disinfection, I am unable to determine which. On the vessel's arrival at Honolulu, a Japanese woman, aged 29, was found to be ill with what appeared to the port physician to be cerebral hemorrhage, due in all probability to specific origin. The case had been ill (I think it was stated) for a day before arrival at Honolulu.

The port physician would not remove the case to the quarantine hulk *Columbia*, although destined for Honolulu. The reason stated was, that on account of the precarious condition the removal would only hasten the fatal termination. Death occurred two days out from San Francisco; the body buried at sea.

The vessel was kept in strict quarantine at Honolulu for four days, after which time she departed for San Francisco. Surgeon Carmichael recommended that the vessel be held and disinfected, but this was not acceded to.

The conditions on board were not encouraging, due in most part to the lack of discipline, so much so, that almost all the cabin passengers were in a state of panic. At the captain's request, 3 physicians among the cabin passengers volunteered to aid the ship's surgeon in disinfecting the steerage compartments, as recommended by the port physician. This was done as well as could be under the circumstances, but was not in my opinion efficient.

On the morning of June 27 the vessel arrived and was boarded by

Dr. Mathewson and myself. On making examination of the ship's papers, particularly those of the ship's surgeon, nothing was found that had any bearing on the cases of illness, occurring during the voyage, nor could an intelligible verbal statement be obtained. There were no clinical histories recorded, nor were temperatures recorded.

In view of these facts, and that 2 cases of bubonic plague had occurred en route, and that a case had occurred at Honolulu—about which there was a doubt as to the cause of death—I deemed it wise to order the vessel in quarantine.

On inspection, I found all well on board. The number on board as per ship's papers was: Cabin passengers, 55; European steerage, second cabin, 6; steerage, Japanese, 32; steerage, Chinese, 106; stowaways, 2; crew, 176; total, 377.

The vessel was ordered to anchor on the lee of the island, about 1½ miles from shore, in order to facilitate the landing of the passengers and crew. At 5 p. m. the customs established a guard about the vessel by means of a launch, 4 men being on watch. This was maintained throughout the vessel's detention.

The cabin passengers were landed on June 27 and their effects disinfected. On June 28 the steerage and as many of the crew as could be spared from the vessel were removed to the station, bathed, and their effects disinfected.

On removal of the steerage and crew, 7 Japanese were found who were not accounted for by the ship's officers. On investigation it was learned that these had only been known to the European officers since the embarkation of the crew began. These men were stowaways who had been hidden in the coal bunkers. I strongly suspect that some of the subalterns were cognizant of their presence and connived at their concealment.

Late in the afternoon of the 28th it was reported in the San Francisco papers that the bodies of 2 Japanese had been found near the Gate, evidently drowned. A life preserver was on each body, marked with the vessel's name.

On inquiry of the stowaways I obtained from 3 of these, independent of one another, the following history: Since it was known that all persons were to be landed, the stowaways, at the connivance of the crew, were to escape from the ship by swimming ashore. They were informed that if they were found on the ship the officers would return them to Japan. So at 3 o'clock on the morning of the 28th they donned life belts preparatory to jumping overboard. Watching their opportunity, 2 made the attempt while the others gave it up.

All these stowaways were in good health, partaking of a full meal on the evening of the 27th. The bodies of the drowned Japanese fell into the hands of the city authorities who alleged that these cases died or were infected with bubonic plague. The announcement was made only after twelve hours examination. Fortunately I obtained a preparation made from a culture from the glands from these cases and found it not to resemble that of the plague. After removal of all the textile fabrics to the station the vessel was taken to the Omaha and there disinfected.

After the completion of disinfection on June 29, a new crew being provided, the vessel was given pratique to proceed and discharge cargo.

Upon the owners' request, and Bureau approval, the crew and 9 stowaways were put on board after the vessel loaded and proceeded to Japan direct.

The cabin passengers, 55, having completed the fifteen days' detention, all being well, were discharged on July 11.

The steerage passengers were discharged on July 12, all well, one remaining in hospital (childbirth).

Respectfully, yours,

J. J. KINYOUN,
Passed Assistant Surgeon, U. S. M. H. S.

Case of yellow fever on Spanish bark Triunfo.

SOUTH ATLANTIC QUARANTINE STATION, *August 9, 1899.*

SIR: I have the honor to report the arrival at this station Sunday afternoon of the Spanish bark *Triunfo* from Caballerio via Havana to Brunswick and remanded thence here on account of a suspicious case among the 21 passengers, who are all returning to their homes in the Canary Islands via Brunswick.

This case developed fever the day of arrival in Brunswick (3d instant), which was the fifth day from Havana. The patient died about ten hours after arrival here, and a necropsy done by me confirms the diagnosis of yellow fever. The vessel, the effects of passengers and crew, and containers of the cargo (rum) have been disinfected. The vessel is held.

Respectfully, yours,

HUGH S. CUMMING,
Passed Assistant Surgeon, U. S. M. H. S.

Case of typhus fever at Mobile

NEW ORLEANS, LA., *August 4, 1899.*

SIR: I have the honor to acknowledge the receipt of Marine-Hospital Service letter of July 26, 1899 (G), relating to the case of Adolf Mommensen of the Danish steamship *Flandria*, who died of typhus fever in the marine-hospital at Mobile on July 20, 1899, as reported in my letter of July 20.

I arrived at Mobile hospital about 12.30 a. m. of that day and remained with the man until his death at 9 a. m., doing what I could for him.

Health Officer Goode had described the case and given his opinion on the way to the hospital, and I was more than willing to find reason to dispute with him as to diagnosis and the restrictive measures adopted.

I found the man with a temperature of 104°, pulse 120 to 126, weak and gassy, rapid respiration, semidelirium, subsultus tendinum, and a double mottling of the skin; the upper flecking appeared as freckles over chest, trunk, and thighs, but beneath there was a mosaic mottling of all colors, although no color was decided. There were fine watery pimples over the greater portion of the abdomen. The temperature at noon and 6 p. m. had been over 39°.

The freckled eruption did not disappear on pressure but the second larger coloration would disappear for a moment on stroking with the finger or pressing with the hand. The face was dusky as if the skin was under a layer of smoke.

The tongue was dry, brown, and sore. The breath was very offensive. The mind was clouded and he could only give a few rational words at a time, but the dry and sore tongue prevented plain speech.

The spleen was not notably enlarged and was very tender. At 4 a. m. the temperature was 186°, the pulse 140, but difficult to count on account of the subsultus. At 8 a. m. the coloration was deeper but did not become purpuric.

I made a diagnosis of symptomatic typhus and have no cause to change my opinion in spite of the fact that there is no chance for an etiological diagnosis.

I returned to Mobile to procure the history of his four days' illness at the Providence Infirmary but learned that the sheets had been destroyed during the disinfection. I submit a copy of a letter from Dr. Festorazzi, who cared for the man after his arrival in Mobile. I regret that I have no record as kept at quarantine by Dr. Goldthwaite.

Respectfully, yours,

R. D. MURRAY,
Surgeon, U. S. M. H. S.

[Inclosure.]

MOBILE, ALA., August 2, 1899.

DEAR DOCTOR: Referring to the case of A. Mommsen, the third engineer of Danish steamship *Flandria*, Captain Hansen, who died of typhus fever, I beg leave to submit to you the following statement: I deeply regret to state that Sister Augustine, of the Providence Infirmary, has informed me that she destroyed the clinical charts of this case. From Captain Hansen I have received the following: Steamer left Santiago for Mobile July 8, and third engineer took sick with the fever on the 9th. He remained ill the entire trip, and on reaching the city on July 15 I was informed by telephone between the hours of 8 and 8.30 p. m. that the *Flandria* had an engineer very ill, and that the captain desired him to be placed at once in a hospital. I instructed that the patient be sent at once to the Providence Infirmary. I saw the third engineer for the first time at about 9 or 9.30 that night at the infirmary. The man appeared very ill, his temperature about $101\frac{3}{4}^{\circ}$ F., pulse weak and rapid.

Sunday morning visited the patient about 8 a. m. and found his condition about the same. Monday morning his condition was worse, temperature during Sunday evening and night showed a rise, and nurse's record on fever chart a temperature of 103 to 104° F. with a weak, rapid, and fast pulse. From Monday till Wednesday his fever remained unchanged, very high, with corresponding fast pulse. Patient seemed to have tendency to coma; unable to sleep day or night; very nervous and delirious.

It was Monday morning that the nurse called my attention to the eruption on the patient's body. Noticed eruption on his arms, chest, and back; the eruption was slight and faint on the lower portion of body.

The eruption consisted of minute spots. The coloration of the eruption was of a dusky red of a rather florid tint. By Tuesday and Wednesday the eruption became more dingy or reddish brown in hue and some of the spots assumed a marked purplish appearance. Patient was constipated. Found albumen in urine. On Tuesday I was positive of my diagnosis from the symptoms that confronted me (that my patient was suffering from typhus fever) and so reported the case to you as health officer and invited you to visit the patient with me. After seeing this case with me and carefully considering every symptom that presented itself, and concurring in my diagnosis, I at once reported the case to the board of health. Through the kindness of the surgeon in charge of the marine hospital, this case was transferred Wednesday morning from the Providence Infirmary to the marine hospital and there isolated in a tent. Proper disinfection was at once adopted at the Providence Infirmary and everything in connection with the case destroyed. My connection with the case ended on transferring case to marine hospital. Learned patient died Thursday.

Trusting that these few facts in regard to this case will be satisfactory to you,

I remain, yours very truly,

ANGELO FESTORAZZI, M. D.

Weekly report from United States Detention Camp at Egmont Key.

UNITED STATES DETENTION CAMP,
Egmont Key, Fla., August 3, 1899.

SIR: I have to respectfully submit the following report for the week ended August 3, 1899: There have been no arrivals and no departures from the camp, and no other transactions worthy of mention. The work of moving the camp is progressing slowly on account of bad weather prevailing and the swarms of mosquitoes, which greatly interfere with the work.

Respectfully, yours,

G. M. CORPUT,
Assistant Surgeon, U. S. M. H. S.

PORTO RICO.

*Concerning bills of health.*PONCE, PORTO RICO, *July 29, 1899.*

SIR: Referring to your letter of June 25, in reply to one from this office of May 25, concerning the signing conjointly of bills of health at this port by myself and the United States consular agent here, and informing me that in compliance with War Department Circular No. 16, May 11, 1899, collectors of customs have been authorized to perform the duties of United States consuls and consular agents at ports in territory under military government, but that the officers of this service would still retain the function of issuing and signing all bills of health, I have the honor to inform you that these orders went into effect some days ago, and that the function of issuing and signing all bills of health was retained at this port by this office, but under the same orders the following conditions must be complied with:

All bills of health issued to foreign vessels sailing for any port of the United States (Cuba and Porto Rico included), or to a foreign port via a United States port, must be signed by the collector of this port as well as myself, and the usual consular fee is charged and collected for the same by the custom-house.

American vessels with similar destination are not required to have the signature of the collector on their bills of health, but may obtain it, if they desire to do so, without any fee. In consequence, some of them obtain it, and some do not.

Vessels bound for foreign ports and not calling by any United States port are, of course, not required to have the collector's signature on their bills of health. Vessels of this class, if they desire it, are always granted bills of health by this office. Most of them take them, some do not. They of course carry in addition a bill of health from the proper foreign consulate.

It is needless to add that this office of course neither charges nor collects any fees.

These facts are submitted for the information of the Bureau. The delay in submitting them is partly due to the fact that for some time the matter of fees remained in doubt awaiting a decision from San Juan.

Respectfully, yours,

C. H. LAVINDER,
Assistant Surgeon, U. S. M. H. S.

Smallpox in the United States as reported to the Supervising Surgeon-General United States Marine-Hospital Service, June 30 to August 18, 1899.

[For reports received from January 1 to June 30, 1899, see PUBLIC HEALTH REPORTS for June 30.]

Places.	Date.	Cases.	Deaths.	Remarks.
California:				
Oakland.....	June 3-June 24...	2	0	
San Diego.....	June 1-June 30...	2	1	
Total for the State.....		4	1	
Connecticut:				
Stamford.....	July 20.....	1		
Florida:				
Jacksonville.....	July 1-July 15...	5		
Gadsden County.....	July 1-July 31...	18		
Hillsboro County.....	April 10-July 10...	35		
Jackson County.....	July 1-July 31...	1		
Lake County.....	do.....	1		
Leon County.....	do.....	4		
Marion County.....	do.....	3		
Pasco County.....	do.....	5		
Total for the State.....		72		
Georgia:				
Montgomery County.....	July 15-Aug. 10...	31		
Savannah.....	June 3-July 27...	7		
Total for the State.....		38		
Illinois:				
Chicago.....	June 20-July 1...	3	0	
Indiana:				
Clark County.....	July 1-July 31...	1		
Lake County.....	do.....	1		
Total for the State.....		2		
Kansas:				
Kansas City.....	June 10-June 17...	2		
Kentucky:				
Louisville.....	June 23-Aug. 3...	14	0	
Louisiana:				
New Orleans.....	June 17-Aug. 5...	12	0	
Shreveport.....	do.....	3	0	Doubtful.
Total for the State.....		15	0	
Maryland:				
Baltimore.....	June 18-July 15...	18	0	
Steelton.....	June 28.....	14		
Total for the State.....		32		
Massachusetts:				
Boston.....	June 27-Aug. 5...	5	2	
Everett.....	Aug. 7.....	1		
Fall River.....	June 27.....	1		
Total for the State.....		7	2	
Minnesota:				
Austin.....	July 15-Aug. 1...	1	0	
Duluth.....	do.....	1	0	
East Grand Forks.....	do.....	7	0	
Total for the State.....		9	0	
Mississippi:				
Natchez.....	July 7.....	1	0	
Missouri:				
Barry County.....	April 6-July 20...	35		
Lawrence County.....	do.....	1		
Lincoln County.....	do.....	9		
Scott County.....	do.....	25		
St. Francois County.....	do.....	30	2	
Stoddard County.....	do.....	35		
St. Louis.....	June 19-June 26...	4		
Total for the State.....		139	2	

Smallpox in the United States, etc.—Continued.

Places.	Date.	Cases.	Deaths.	Remarks.
North Carolina:				
Bertie County.....	May 1-May 31...	4		Smallpox reported. Do.
Burke County.....	do	22		
Catawba County.....	do	1		
Charlotte.....	June 30.....	1		
Chowan County.....	May 1-May 31...	1		
Currituck County.....	do	6		
Gates County.....	do			
Hertford County.....	do	4		
McDowell County.....	do	1		
Moore County.....	do	1		
Nash County.....	do			
Northampton.....	do	1		
Rockingham.....	do	14		
Rowan.....	do	1		
Wake.....	do	4		
Wayne.....	do	7		
Total for the State.....		68		
Ohio:				
Cincinnati.....	July 7.....	2		
Cleveland.....	June 24-July 29...	11		
Columbus.....	July 30-Aug. 5...	1		
Dayton.....	July 15-Aug. 5...	3		
Total for the State.....		17		
Oregon:				
Portland.....	June 13-July 19...	6	0	
Pennsylvania:				
Allegheny County.....	June 3-Aug. 5...	30		At Penn Station, several.
Belle Vernon.....	June 3-June 26...	1		
Brownsville Township.....	do	34		
Cambria County.....	June 3-Aug. 5...	27		
Clearfield County.....	do	12		
Fayette County.....	do	23		
Jefferson County.....	June 3-June 26...	5		
Philadelphia.....	June 3-Aug. 5...	64	0	
Somerset County.....	do	10		
Washington County.....	June 3-June 26...	11		
Westmoreland County.....	June 3-Aug. 5...	2		
Total for the State.....		219		
Porto Rico:				
Ponce.....	June 17-July 22...	6		
Texas:				
Braumont.....	Aug. 2.....	8		
Presidio.....	July 28.....	40		
Sabine Pass.....	July 15.....	2		
Shafter.....	July 28-Aug. 5	25		
Total for the State.....		75		
Virginia:				
Cape Charles.....	July 8.....	1		
Danville.....	June 14-July 6...	30	0	
Norfolk.....	June 22-Aug. 4...	19	0	
Portsmouth.....	June 22-July 22...	7	0	
Total for the State.....		57		
Washington:				
Almira.....	July 3.....	9		
Seattle.....	July 19.....	1		
Spokane.....	July 8-July 29...	6		
Tacoma.....	July 23-Aug. 5...	2		
Walla Walla.....	June 29.....	8	0	
Total for the State.....		26		
West Virginia:				
Benwood.....	July 5.....	1	0	

*Report of immigration at Boston for the week ended August 12, 1899.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
*Port of Boston, August 13, 1899.**Number of alien immigrants who arrived at this port during the week ended August 12, 1899;
also names of vessels and ports from which they came.*

Date.	Vessel.	Where from.	No. of immigrants.
Aug. 6	Steamship Prince Arthur.....	Yarmouth, Nova Scotia.....	39
Do....	Steamship Yarmouth.....	do.....	42
Do....	Steamship Cambrian.....	London, England.....	1
Aug. 7	Steamship Admiral Sampson.....	Port Morant, Jamaica.....	14
Do....	Steamship Halifax.....	Halifax, Nova Scotia.....	72
Do....	Steamship Armenian.....	Liverpool, England.....	10
Aug. 8	Steamship Simon Dumois.....	Porta Plato, San Domingo.....	3
Do....	Steamship Prince George.....	Yarmouth, Nova Scotia.....	41
Do....	Schooner I. V. Dexter.....	Liverpool, Nova Scotia.....	7
Do....	Steamship Hibernian.....	Glasgow, Scotland.....	39
Aug. 9	Steamship Prince Arthur.....	Yarmouth, Nova Scotia.....	24
Do....	Steamship Admiral Farragut.....	Port Morant, Jamaica.....	3
Do....	Steamship Sachem.....	Liverpool, England.....	3
Do....	Steamship Boston.....	Yarmouth, Nova Scotia.....	31
Do....	Schooner Belmont.....	Weymouth, Nova Scotia.....	3
Aug. 10	Steamship Prince George.....	Yarmouth, Nova Scotia.....	25
Do....	Steamship Yarmouth.....	do.....	39
Do....	Steamship La Grande Duchesse.....	Halifax, Nova Scotia.....	100
Do....	Steamship Prince Arthur.....	Yarmouth, Nova Scotia.....	18
Do....	Steamship Sylvania.....	Liverpool, England.....	3
Aug. 12	Steamship Prince George.....	Yarmouth, Nova Scotia.....	22
Do....	Steamship Boston.....	do.....	23
Do....	Steamship Derbyshire.....	Liverpool, England.....	193
	Total.....		775

GEORGE B. BILLINGS,
*Commissioner.**Report of immigration at New York for the week ended August 5, 1899.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
*Port of New York, August 8, 1899.**Number of alien immigrants who arrived at this port during the week ended August 5, 1899;
also names of vessels and ports from which they came.*

Date.	Vessel.	Where from.	No. of immigrants.
July 30	Steamship Etruria.....	Liverpool and Queenstown.....	153
Do....	Steamship New York.....	Southampton.....	158
Do....	Steamship Koenigin Luise.....	Bremen.....	685
July 31	Steamship Maasdam.....	Rotterdam.....	312
Aug. 1	Steamship Brasilia.....	Hamburg.....	49
Do....	Steamship Friedrich der Grosse.....	Bremen.....	297
Aug. 2	Steamship State of Nebraska.....	Glasgow.....	57
Do....	Steamship Westernland.....	Antwerp.....	221
Do....	Steamship Teutonic.....	Liverpool and Queenstown.....	230
Aug. 4	Steamship Sorrento.....	Hamburg.....	83
Do....	Steamship Patria.....	do.....	332
Do....	Steamship Archimede.....	Genoa and Naples.....	786
Aug. 5	Steamship Auguste Victoria.....	Hamburg.....	203
Do....	Steamship Campania.....	Liverpool and Queenstown.....	210
Do....	Steamship St. Louis.....	Southampton.....	176
Do....	Steamship Lahn.....	Bremen.....	266
	Total.....		4,218

THOMAS FITCHIE,
Commissioner.

*Report of immigration at New York for the week ended August 12, 1899.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
*Port of New York, August 14, 1899.**Number of alien immigrants who arrived at this port during the week ended August 12, 1899 ;
also names of vessels and ports from which they came.*

Date.	Vessel.	Where from.	No. of im- migrants.
Aug. 6	Steamship La Champagne.....	Havre.....	177
Aug. 7	Steamship Anchoria.....	Glasgow.....	120
Do ...	Steamship Cymric.....	Liverpool and Queenstown.....	168
Do ...	Steamship Spaarndam.....	Rotterdam	308
Aug. 8	Steamship Patria.....	Naples.....	590
Do ...	Steamship Kensington.....	Antwerp.....	325
Aug. 9	Steamship Bremen.....	Bremen	347
Do ...	Steamship Kaiser Wilhelm der Grosse.....	.....do.....	442
Do ...	Steamship Aller.....	Genoa and Naples.....	769
Aug. 10	Steamship Servia	Liverpool and Queenstown.....	117
Aug. 11	Steamship Hekla.....	Copenhagen, etc.....	107
Do ...	Steamship Germanic.....	Liverpool and Queenstown.....	162
Do ...	Steamship Patricia.....	Hamburg.....	276
Aug. 12	Steamship Lassell.....	Rio de Janeiro	2
Do ...	Steamship Victoria.....	Naples.....	248
Do ...	Steamship St. Paul.....	Southampton.....	178
Total .....		.....	4,336

THOMAS FITCHIE,
Commissioner.

*Report of immigration at Philadelphia for the week ended August 5, 1899.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
*Port of Philadelphia, August 7, 1899.**Number of alien immigrants who arrived at this port during the week ended August 5, 1899;
also names of vessels and ports from which they came.*

Date.	Vessel.	Where from.	No. of im- migrants.
Aug. 5	Steamship Rhymland.....	Liverpool and Queenstown.....	101
	Total.....	.....	101

J. L. HUGHES,
*Acting Commissioner.**Report of immigration at Philadelphia for the week ended August 12, 1899.*OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
*Port of Philadelphia, August 12, 1899.**Number of alien immigrants who arrived at this port during the week ended August 12, 1899;
also names of vessels and ports from which they came.*

Date.	Vessel.	Where from.	No. of im- migrants.
Aug. 6	Steamship Waesland.....	Liverpool and Queenstown.....	151
Aug. 9	Steamship Maryland.....	London.....	1
	Total.....	.....	152

J. L. HUGHES,
Acting Commissioner.

Vessel from Cuba and Porto Rico arriving at Baltimore for the week ended August 12, 1899.

BALTIMORE, MD., *August 12, 1899.*

SIR: I respectfully transmit the following statement of vessels which entered at the port of Baltimore from ports in Cuba and Porto Rico during the week ended August 12, 1899:

Date.	Nationality.	Name of vessel.	Where from.	Date of sailing.	Nature of cargo.
Aug. 9	British.....	Steamship Armstor	Santiago de Cuba	Aug. 2	Iron ore and tobacco.

Respectfully, yours,

JNO. R. KING,
Acting Deputy Collector.

REPORTS FROM NATIONAL QUARANTINE

Number.	Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.
1	UNITED STATES: Alexandria, Va.....	Aug. 12	.....	.....	.....
2	Beaufort, N. C.....	do.....	.....	.....	.....
3	Brunswick, Ga.....	Aug. 5	Sp. bk. F. G. (a).....	July 19	Bahia.....
			Sp. bk. Pablo Sensat (a).....	July 23	Santos.....
			Sp. bk. Josefa (a).....	July 25	Havana ..
			Sp. ship Palamos (a).....	July 27	Rio
			Sp. bk. Triunfo	Aug. 3	Havana
		Aug. 12	Sp. bg. Safi.....	Aug. 4	.....do.....
			Sp. bk. Josefa (a).....	July 25	Havana
			Sp. ship Palamos (a).....	July 27	Rio
			Sp. bg. Safi.....	Aug. 4	Havana
			Sp. bk. Jaime Mir	Aug. 12	.....do.....
4	Cape Charles, Va	do.....	Ship Canada (a).....	Aug. 3	Barbados
			Ship Aldeborough (a).....	Aug. 4	Havana
			Sc. Laura E. Sprague	Aug. 6	Fort Monroe
5	Cape Fear, N. C.....	do.....	.....	.....	.....
6	Columbia River, Oreg.....	Aug. 5	.....	.....	.....
7	Delaware Breakwater Quarantine, Lewes, Del.	Aug. 12	.....	.....	.....
8	Eureka, Cal.....	Aug. 5	.....	.....	.....
9	Grays Harbor, Wash.....	do.....	.....	.....	.....
10	Gulf Quarantine, Ship Island, Miss.	Aug. 12	Nor. bk. Gudrun (a).....	July 20	Bahia.....
			Am. sc. Rita Cue(a).....	July 27	Laguna de Ter- minos.
			Am. btn. C. C. Sweeney(a)	July 28	Cienfuegos.....
			Am. sc. Bertha Louise(a).....	do.....	Santiago.....
			Nor. ss. Transit (a).....	July 29	Progreso and Vera Cruz.
			Nor. bk. Mörländ.....	Aug. 1	St. Catharina, Brazil.
			Br. ss. Somerhill.....	Aug. 4	Vera Cruz.....
11	Newbern, N. C.....	do.....	.....	.....	.....
12	Pascagoula, Miss.....	do.....	.....	.....	.....
13	Port Townsend, Wash.....	Aug. 5	.....	.....	.....
14	Reedy Island Quarantine, Del.	Aug. 12	.....	.....	.....
15	San Diego, Cal.....	Aug. 5	.....	.....	.....
16	San Francisco, Cal.....	do.....	Am. ss. City of Peking....	July 30	Hongkong
17	Savannah, Ga.....	Aug. 12	.....	.....	.....
18	South Atlantic Quarantine, Blackbeard Island, Ga.	Aug. 5	Swed. bk. Gurli (a).....	July 17	Bahia.....
			Nor. bk. Oxford (a).....	July 24	Pernambuco.....
19	Tortugas Quarantine, Key West, Fla.	do.....	Sp. ss. Leonora (a).....	July 29	Havana and Cu- ban ports.
			Am. sc. Mary E. Riggs....	July 30	Sagua la Grande.
			Am. sc. Lily White.....	July 31	Cardenas.....
			Am. sc. Laura.....	Aug. 2	Havana
			Am. sc. Frank Neally.....	do.....	Cardenas
			Sp. ss. Alicia.....	Aug. 11	San Juan and P. R. ports.
			Sp. ss. Leonora	do.....	Havana via Ma- tanzas.
20	Washington, N. C.....	Aug. 12	.....	.....	.....

a Previously reported.

AND INSPECTION STATIONS.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
1				No transactions.....	
2				No report.....	
3	Brunswick	Disinfected and held.....	Aug. 2		1
	do	do	Aug. 5		
	do	do			
	do	Held for disinfection.....			
	do	Remanded to South Atlantic Quarantine.		One case yellow fever day following arrival.	
	do	Held for disinfection.....			
	do	Disinfected and held.....	Aug. 7		2
	do	do	Aug. 12		
	do	do			
	do	Held for disinfection.....			
4	Norfolk	Disinfected	Aug. 10		9
	do	do	Aug. 9		
	do	Held.....	Aug. 11		
5				No report	
6					2
7					3
8				No transactions.....	
9					1
10	Ship Island.....	Disinfected and held.....	Aug. 2	3 cases beriberi at sea on Nor. bk. Natant from Cape Town.	6
	Pascagoula	do	Aug. 1		
	Ship Island	do			
	Pascagoula	do	July 30		
	Mobile.....	do			
	Pascagoula	do			
	Mobile.....	do			
11					4
12				No transactions.....	
13					7
14					24
15				No transactions.....	
16	San Francisco.....	Disinfected.....	July 31	1 steerage passenger supposed to have plague removed at Yokohama; 139 oriental passengers bathed and their effects disinfected. 60 oriental passengers on Nor. ss. Thyra, from Hongkong, bathed and their effects disinfected. 31 oriental passengers on A. m. ss. Walla Walla, from Victoria, bathed and effects disinfected	24
17				No report.....	
18	Savannah	Disinfected and held.....	Aug. 4	6 cases yellow fever and 2 death at Bahia; 5 cases and 1 death at sea.	1
	Sapelo.....	Held for disinfection, discharging ballast.			
19	Pensacola	Disinfected	Aug. 1	Left without pratique	
	Key West.....	do	Aug. 2	do.....	
	do	do	do.....	do.....	
	Miami	do	Aug. 4	do.....	
	Port Tampa	do	Aug. 5	do.....	
	Pensacola	Disinfected and held.....			
	do	do			
20				No transactions.....	

REPORTS FROM NATIONAL QUARANTINE

Number.	Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.
21	CUBA :				
22	Cardenas.....	Aug. 5	Telesfora.....	July 31	Liverpool and
	Cienfuegos.....	do.....			Santiago.
			Berenguer el Grande	Aug. 2	Santiago
			Reina de los Angeles	Aug. 5	do.....
23	Daiquiri.....	July 22			
24	Gibara.....	July 15			
25	Guantanamo.....	July 22			
26	Havana	Aug. 4			
27	Manzanillo.....	July 27			
28	Matanzas	July 8			
29	Santiago de Cuba.....	July 29			
	PORTO RICO :				
30	Ponce.....	July 29			
31	San Juan.....	Aug. 5			

REPORTS FROM STATE AND

Number.	Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.
1	Anclote, Fla.....				
2	Baltimore, Md.....	Aug. 12			
3	Bangor, Me	Aug. 5			
		Aug. 12			
4	Boston, Mass	do.....			
5	Carrabelle, Fla.....	do.....			
6	Cedar Keys, Fla.....	Aug. 5			
7	Charleston, S. C	do.....			
8	Charlotte Harbor, Fla.....	Aug. 12			
9	Elizabeth River, Va.....	do.....	Hampton Roads	Aug. 3	Hampton.....
10	Galveston, Tex.....	Aug. 5	Br. ss. Governor.....	July 30	Cartagena
			Cumberland	Aug. 2	Cienfuegos.....
11	Gardiner, Oreg	July 29			
12	Key West, Monroe Co., Fla.....	Aug. 12			
13	Los Angeles, Cal	Aug. 5			
14	Mayport, Fla.....	do.....			
15	Mobile Bay, Ala.....	Aug. 12			
16	New Bedford, Mass.....	do.....			
17	New Orleans, La.....	do.....			
18	Newport News, Va.....	do.....			
19	Newport, R. I.....	do.....			
20	New York, N. Y.....	do.....			
21	Pass Cavallo, Tex.....	do.....			
22	Port Royal, S. C.....	do.....			
23	Providence, R. I.....	do.....			
24	St. Helena Entrance, S. C	do.....			
25	San Pedro, Cal	July 29			
26	Tampa Bay, Fla.....	Aug. 12			

AND INSPECTION STATIONS—Continued.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
21				No report.....	
22	Cienfuegos	Discharged cargo in open bay.			11
	do	do			
	do	Discharged cargo and certified passengers in open bay.			
23				No transactions	
24				No report.....	
25					6
26					23
27					4
28					9
29					20
30				No report	
31				do	

MUNICIPAL QUARANTINE STATIONS.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
1				No report.....	
2				do	
3					1
4					1
5				No report.....	
6				No report.....	
7				do	
8				do	
9	Norfolk	Disinfected.....	Aug. 8		7
10	Galveston	Fumigated.....	Aug. 2		6
	do	do	Aug. 5		
11				No report	
12				do	
13				No transactions.....	
14				No report	
15				do	
16					1
17				No report.....	
18				do	
19				do	
20				do	
21				do	
22				do	
23					3
24				No report	
25				do	
26				do	

Reports of States and yearly and monthly reports of cities of the United States.

CALIFORNIA—Los Angeles.—Month of July, 1899. Estimated population, 103,000. Total number of deaths, 122, including diphtheria, 1; enteric fever, 2; whooping cough, 2; cerebro-spinal meningitis, 2, and 19 from phthisis pulmonalis.

Oakland.—Month of July, 1899. Estimated population, 75,000. Total number of deaths, 56, including measles, 1; cerebro-spinal meningitis 2, and 4 from phthisis pulmonalis.

Sacramento.—Estimated population, 30,000. Total number of deaths, 38, including cerebro-spinal meningitis, 1, and 5 from phthisis pulmonalis.

San Francisco.—Month of June, 1899. Estimated population, 360,000. Total number of deaths, 495, including diphtheria, 9; enteric fever, 6; scarlet fever, 5; whooping cough, 2; smallpox, 2; cerebro-spinal meningitis, 5, and 67 from phthisis pulmonalis.

CONNECTICUT—Hartford.—Month of July, 1899. Estimated population, 76,000. Total number of deaths, 176, including diphtheria, 6; enteric fever, 2; measles, 3; whooping cough, 2, and 15 from phthisis pulmonalis.

INDIANA.—The State Board of Health Bulletin for July says:

The diseases which increased in area of prevalence during July were diarrhea, cholera morbus, dysentery, cholera infantum, and malarial fever. All of these, except malarial fever, are called filth diseases, and would not appear in the hot months if we would but so dispose of all excreta as to prevent access of flies, and prevent the same from getting into the water supply.

The diseases decreasing in area of prevalence were typhoid fever, erysipelas, measles, bronchitis, pleuritis, whooping cough, diphtheria, pneumonia, and scarlet fever. All but the first three are called house diseases, because they are favored by foul air which can only exist in badly ventilated, damp houses.

Dysentery has been epidemic in several towns, notably in Liberty Center and Covington. The total deaths so far at these 2 places is 26, with probably 100 cases. All of this loss and sorrow could have been prevented by simply properly caring for excreta.

IOWA—Davenport.—Month of July, 1899. Estimated population, 40,000. Total number of deaths, 37, including enteric fever, 1; cerebro-spinal meningitis, 2, and 3 from phthisis pulmonalis.

Dubuque.—Month of July, 1899. Estimated population, 45,000. Total number of deaths, 34, including enteric fever, 1, and 1 from phthisis pulmonalis.

MAINE—Biddeford.—Month of July, 1899. Estimated population, 16,000. Total number of deaths, 37, including diphtheria, 1; whooping cough 2, and 2 from phthisis pulmonalis.

Portland.—Four weeks ended August 5, 1899. Estimated population, 50,000. Total number of deaths, 75, including diphtheria, 1; enteric fever, 1; cerebro-spinal meningitis, 1, and 4 from phthisis pulmonalis.

MASSACHUSETTS—Brockton.—Month of July, 1899. Estimated population, 37,278. Total number of deaths, 43, including diphtheria, 1, and 2 from phthisis pulmonalis.

Fitchburg.—Month of July, 1899. Estimated population, 29,438. Total number of deaths, 31, including diphtheria, 1; enteric fever, 1; scarlet fever, 1; cerebro-spinal meningitis, 2, and 4 from phthisis pulmonalis.

Worcester.—Month of July, 1899. Estimated population, 108,463. Total number of deaths, 153, including diphtheria, 1; enteric fever, 2; whooping cough, 1, and 10 from phthisis pulmonalis.

MICHIGAN.—Reports to the State board of health, Lansing, for the week ended August 5, 1899, from 71 observers, indicate that pleuritis, cholera morbus, typhoid fever, tonsillitis, and inflammation of bowels increased, and remittent fever, bronchitis, intermittent fever, and inflammation of kidney decreased in area of prevalence. Phthisis pulmonalis was reported present at 188, typhoid fever at 50, scarlet fever at 32, measles at 22, whooping cough at 20, diphtheria at 11, cerebro-spinal meningitis at 4, and smallpox at 1 place—Battle Creek.

Grand Rapids.—Month of July, 1899. Estimated population, 90,000. Total number of deaths, 93, including enteric fever, 2; whooping cough, 2; cerebro-spinal meningitis, 1, and 6 from phthisis pulmonalis.

MINNESOTA—Winona.—Month of July, 1899. Estimated population, 24,000. Total number of deaths, 27, including 1 from phthisis pulmonalis.

NEW HAMPSHIRE—Concord.—Month of June, 1899. Estimated population, 18,000. Total number of deaths, 29. No deaths from contagious diseases.

NEW JERSEY—Hudson County.—Month of June, 1899. Estimated population, 384,784. Total number of deaths, 592, including diphtheria, 20; enteric fever, 4; measles, 3; scarlet fever, 4; whooping cough, 1, and 53 from phthisis pulmonalis.

NEW YORK—Auburn.—Month of July, 1899. Estimated population, 30,000. Total number of deaths, 44, including enteric fever, 1, and 6 phthisis pulmonalis.

Buffalo.—Month of July, 1899. Estimated population, 370,000. Total number of deaths, 486, including diphtheria, 3; enteric fever, 5; measles, 5; scarlet fever, 2; whooping cough, 3; cerebro-spinal meningitis, 1, and 40 from phthisis pulmonalis.

OHIO.—Reports to the State board of health for the eight weeks ended July 29, 1899, from 61 localities having an aggregate population of 1,465,434, show a total of 15 deaths from diphtheria, 4 from enteric fever, 4 from measles, 5 from scarlet fever, and 11 from whooping cough.

Cleveland.—Month of July, 1899. Estimated population, 395,000. Total number of deaths, 523, including diphtheria, 3; measles, 1; scarlet fever, 2, and 17 from phthisis pulmonalis.

Toledo.—Month of July, 1899. Estimated population, 150,000. Total number of deaths, 158, including diphtheria, 8; enteric fever, 8; measles, 1; cerebro-spinal meningitis, 1, and 7 from phthisis pulmonalis.

TENNESSEE—Nashville.—Month of July, 1899. Estimated population, 110,834—white, 69,389; colored, 41,445. Total number of deaths, 164—white, 90; colored, 74, including diphtheria, 2; enteric fever, 5; whooping cough, 4; cerebro-spinal meningitis, 1, and 18 from phthisis pulmonalis.

TEXAS—Laredo.—Month of July, 1899. Estimated population, 14,000. Total number of deaths, 44, including enteric fever, 1, and 2 from phthisis pulmonalis.

MORTALITY TABLE, CITIES OF THE UNITED STATES.

Cities.	Week ended.	Population, U. S. Census of 1890.	Total deaths from all causes.	Deaths from—								
				Phthisis pulmonalis.	Yellow fever.	Smallpox.	Varicoid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.
Allegheny, Pa.	June 17	105,287	25	5								1
Do.	June 24	105,287	44	3								
Do.	July 8	105,287	52						2			1
Do.	July 15	105,287	49	2					1			1
Do.	July 22	105,287	52	3					1			1
Do.	July 29	105,287	49	3					4			1
Do.	Aug. 5	105,287	41	4					2			
Do.	Aug. 12	105,287	29						1		1	
Amesbury, Mass.	do.	9,798	4						2			
Ashtabula, Ohio.	do.	8,338	5									
Baltimore, Md.	do.	434,439	203	22					6		6	1
Baton Rouge, La.	Aug. 5	10,478	3						1			
Bay City, Mich.	do.	27,839	2									
Binghamton, N. Y.	Aug. 12	35,005	14	1								
Boston, Mass.	do.	448,477	231	25					7	2	6	1
Bristol, R. I.	Aug. 5	5,478	0									
Brockton, Mass.	do.	27,294	7	1								
Cambridge, Mass.	Aug. 12	70,028	39	5								1
Camden, N. J.	Aug. 5	58,313	26									
Charleston, S. C.	do.	a 54,955	b 56	1					1			
Chelsea, Mass.	do.	27,909	13									
Chicago, Ill.	Aug. 12	1,099,850	490	39					19	10	13	
Chicopee, Mass.	Aug. 5	14,050	7									
Do.	Aug. 12	14,050	10	1							1	1
Chillicothe, Ohio.	Aug. 5	11,288	4									
Cincinnati, Ohio.	Aug. 12	296,908		10					1		1	
Cleveland, Ohio.	Aug. 5	261,353	112	7							1	
Do.	Aug. 12	261,353							1			1
Concord, N. H.	Aug. 5	17,044	7	2								
Dayton, Ohio.	Aug. 12	61,220	19						3			
Detroit, Mich.	Aug. 5	205,876	85								1	6
Dunkirk, N. Y.	do.	9,416	3									
Dunmore, Pa.	do.	8,315	7								1	
Elmira, N. Y.	do.	29,708	11	2								
Erie, Pa.	Aug. 12	40,634	12	2					1			
Evansville, Ind.	do.	50,756	16	3					1			
Everett, Mass.	Aug. 5	11,068	12									
Fall River, Mass.	Aug. 12	74,396	51	1								1
Fitchburg, Mass.	Aug. 5	22,037	15	1					1		1	
Green Bay, Miss.	do.	9,069	5	1					1			
Greenville, S. C.	do.	8,607	2									
Do.	Aug. 12	8,607	1									
Hoboken, N. J.	Aug. 5	43,648	20	2					1			
Jacksonville, Fla.	do.	17,201	11	2								
Johnstown, Pa.	Aug. 12	21,805	13									
Lawrence, Mass.	Aug. 5	44,654	15	1								
Los Angeles, Cal.	do.	50,395	12									

a Estimated population, 65,165—white, 28,870; colored, 36,295.

b White, 12; colored, 30.

MORTALITY TABLE, CITIES OF THE UNITED STATES—Continued.

[illegible]

Table of temperature and rainfall, week ended August 18, 1899.

[Received from Department of Agriculture, Weather Bureau.]

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	Excess.	Deficiency.	Normal.	Excess.	Deficiency.
Atlantic Coast:						
Eastport, Me.....	61		3	.77		.67
Portland, Me.....	69		7	.91		.01
Northfield, Vt.....	63		5	1.11		.91
Boston, Mass.....	71		5	1.12		.12
Vineyard Haven, Mass.....	72		2	1.09	.51	
Nantucket, Mass.....	69		1	.70	1.10	
Woods Hole, Mass.....	69		1	.89	.61	
Block Island, R. I.....	69		3	.80	.30	
New Haven, Conn.....	71		3	1.25		1.15
Albany, N. Y.....	72		2	.93		.53
New York, N. Y.....	74		2	1.12		1.08
Harrisburg, Pa.....	73	1		1.05	.35	
Philadelphia, Pa.....	75		1	1.04	1.86	
New Brunswick, N. J.....	73		1	1.14	.16	
Atlantic City, N. J.....	73		1	1.16	1.74	
Baltimore, Md.....	76	0		.91		.11
Washington, D. C.....	76	0		.91		.21
Lynchburg, Va.....	76	2		.91	.09	
Cape Henry, Va.....	77	1		1.26		.96
Norfolk, Va.....	77	3		1.46		1.26
Charlotte, N. C.....	77	3		1.26		.46
Raleigh, N. C.....	77	1		2.00		.60
Kittyhawk, N. C.....	78	0		1.66		1.56
Hatteras, N. C.....	78	2		1.40		.90
Wilmington, N. C.....	78	2		1.73		1.13
Columbia, S. C.....	79	5		1.66	.04	
Charleston, S. C.....	81	3		1.75		1.45
Augusta, Ga.....	80	4		1.19	3.01	
Savannah, Ga.....	81	3		1.79		.69
Jacksonville, Fla.....	81	3		1.47		.67
Jupiter, Fla.....	81			1.05		
Key West, Fla.....	84		2	1.01	1.79	
Gulf States:						
Atlanta, Ga.....	77	5		1.11		1.01
Tampa, Fla.....	81	3		2.17		1.37
Pensacola, Fla.....	81	3		2.06		1.16
Mobile, Ala.....	81	3		1.61		.41
Montgomery, Ala.....	81	5		.98		.98
Vicksburg, Miss.....	81	5		.79		.79
New Orleans, La.....	82	4		1.40		1.20
Shreveport, La.....	82	6		.39		.39
Fort Smith, Ark.....	79	7		.84		.24
Little Rock, Ark.....	79	7		.98		.88
Palestine, Tex.....	81	3		.59		.59
Galveston, Tex.....	83	1		1.20		1.20
San Antonio, Tex.....	82	4		.84		.84
Corpus Christi, Tex.....	82	0		.59		.59
Ohio Valley and Tennessee:						
Memphis, Tenn.....	80	6		.84		.84
Nashville, Tenn.....	79	3		.74		.64
Chatanooga, Tenn.....	77	5		.85		.85
Knoxville, Tenn.....	76	2		.98		.18
Louisville, Ky.....	78		2	.84	.46	
Indianapolis, Ind.....	75		1	.76	1.44	
Cincinnati, Ohio.....	76	0		.90	.70	
Columbus, Ohio.....	74	0		.77		.57
Parkersburg, W. Va.....	74	2		.91		.21
Pittsburg, Pa.....	74	0		.71		.01
Lake Region:						
Oswego, N. Y.....	69		1	.58		.38
Rochester, N. Y.....	70	0		.70		.60
Buffalo, N. Y.....	70	0		.70		.50
Erie, Pa.....	71		1	.72		.72
Cleveland, Ohio.....	71	1		.70		.70
Sandusky, Ohio.....	72	2		.70		.70
Toledo, Ohio.....	72	0		.63		.53
Detroit, Mich.....	71	1		.63		.63
Lansing, Mich.....	69	1		.63		.63
Port Huron, Mich.....	68	2		.66		.26
Alpena, Mich.....	65		1	.77		.37
Sault Ste. Marie, Mich.....	62		2	.56	.04	
Marquette, Mich.....	64		2	.63	.07	
Green Bay, Wis.....	69		1	.63		.53

a The figures in these columns represent the average daily departure.

Table of temperature and rainfall, week ended August 18, 1899—Continued.

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	^a Excess.	^a Deficiency.	Normal.	Excess.	Deficiency.
Lake Region—Continued.						
Grand Haven, Mich.....	68	0	.....	.56	.....	.46
Milwaukee, Wis.....	69	1	.....	.63	.57	.....
Chicago, Ill.....	72	0	.....	.70	.....	.40
Duluth, Minn.....	65	.....	5	.70	2.00	.....
Upper Mississippi Valley:						
St. Paul, Minn.....	70	2	.....	.77	.....	.37
La Crosse, Wis.....	71	1	.....	.66	.34	.....
Dubuque, Iowa.....	73	1	.....	.70	.....	.70
Davenport, Iowa.....	74	0	.....	.84	.06	.....
Des Moines, Iowa.....	73	3	.....	.77	.23	.....
Keokuk, Iowa.....	76	0	.....	.66	1.14	.....
Hannibal, Mo.....	75	1	.....	.42	5.98	.....
Springfield, Ill.....	74	0	.....	.49	1.31	.....
Cairo, Ill.....	78	4	.....	.63	.....	.63
St. Louis, Mo.....	78	2	.....	.79	.50	.....
Missouri Valley:						
Columbia, Mo.....	75	5	.....	.62	1.48	.....
Springfield, Mo.....	76	8	.....	.92	.....	.62
Kansas City, Mo.....	77	3	.....	.91	.09	.....
Topeka, Kans.....	76	6	.....	1.05	.....	.35
Wichita, Kans.....	79	5	.....	.84	1.16	.....
Concordia, Kans.....	78	4	.....	.66	1.04	.....
Lincoln, Nebr.....	75	3	.....	.73	.87	.....
Omaha, Nebr.....	75	3	.....	.77	2.63	.....
Sioux City, Iowa.....	74	2	.....	.79	.....	.88
Yankton, S. Dak.....	73	1	.....	.70	.....	.50
Valentine, Nebr.....	72	0	.....	.49	.31	.....
Huron, S. Dak.....	69	3	.....	.63	.....	.63
Pierre, S. Dak.....	73	1	.....	.42	.....	.22
Moorhead, Minn.....	66	.....	2	.63	.....	.13
Bismarck, N. Dak.....	68	.....	2	.45	.....	.35
Williston, N. Dak.....	68	.....	4	.28	.....	.18
Rocky Mountain Region:						
Havre, Mont.....	66	.....	2	.35	.....	.25
Helena, Mont.....	67	.....	7	.14	.36	.....
Miles City, Mont.....	73	.....	3	.26	.44	.....
Rapid City, S. Dak.....	70	0	.....	.29	.....	.29
Spokane, Wash.....	70	.....	8	.07	.23	.....
Walla Walla, Wash.....	74	.....	8	.00	.70	.....
Baker City, Oreg.....	66	.....	4	.00	.30	.....
Winnemucca, Nev.....	73	.....	7	.00	.20	.....
Boise, Idaho.....	76	.....	8	.05	.15	.....
Salt Lake City, Utah.....	76	.....	4	.14	.....	.14
Lander, Wyo.....	68	.....	6	.21	.....	.21
Cheyenne, Wyo.....	66	.....	2	.35	.....	.25
North Platte, Nebr.....	72	0	.....	.56	.14	.....
Denver, Colo.....	71	1	.....	.35	.....	.35
Pueblo, Colo.....	75	.....	1	.49	1.21	.....
Dodge City, Kans.....	76	4	.....	.70	.....	.70
Oklahoma, Okla.....	80	6	.....	.69	.....	.59
Amarillo, Tex.....	74	6	.....	.70	.....	.30
Abilene, Tex.....	82	4	.....	.61	.....	.61
Santa Fe, N. Mex.....	67	1	.....	.66	.....	.66
El Paso, Tex.....	80	0	.....	.42	.08	.....
Phoenix, Ariz.....	89	.....	1	.27	.....	.27
Pacific Coast:						
Seattle, Wash.....	64	.....	4	.14	1.06	.....
Tacoma, Wash.....	62	.....	2	.14	.46	.....
Fort Canby, Wash.....	59	.....	1	.14	.86	.....
Portland, Oreg.....	66	.....	6	.07	.23	.....
Roseburg, Oreg.....	67	.....	7	.05	.55	.....
Eureka, Cal.....	56	0	.....	.00	.20	.....
Redbluff, Cal.....	82	.....	10	.00	.....	.00
Carson City, Nev.....	68	.....	4	.00	.....	.00
Sacramento, Cal.....	74	.....	7	.00	.....	.00
San Francisco, Cal.....	58	0	.....	.00	.....	.00
Fresno, Cal.....	81	.....	5	.00	.....	.00
San Luis Obispo, Cal.....	65	.....	1	.00	.....	.00
Los Angeles, Cal.....	71	.....	3	.00	.....	.00
San Diego, Cal.....	69	.....	3	.05	.....	.05
Yuma, Ariz.....	93	.....	5	.07	.....	.07

^a The figures in these columns represent the average daily departure.

FOREIGN.

[Reports received from United States consuls through the Department of State and from other sources.]

Cholera, yellow fever, plague, and smallpox as reported to the Supervising Surgeon-General United States Marine-Hospital Service, June 30, 1899, to August 18, 1899.

[For reports received from January 1 to June 30, 1899, see PUBLIC HEALTH REPORTS for June 30.]

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay.....	June 6-July 11...		3	
Calcutta.....	May 13-July 1...		95	
Madras.....	May 20-June 9...	0	9	
Japan:				
Osaka and Hiogo.....	June 10-June 17...	1	1	
Yokohama.....	July 16-July 22...	2	1	

YELLOW FEVER.

Argentina:				
Buenos Ayres.....	Apr. 1-Apr. 30...		4	
Brazil:				
Bahia.....	June 3-July 21...	172	82	
Rio de Janeiro.....	May 19-July 7...		54	
St. Felix.....	June 7.....			Reported present.
Colombia:				
Barranquilla.....	June 10-June 24...	2	2	
Panama.....	June 16-July 23...	14	8	
Cuba:				
Cienfuegos.....	July 23-July 29...	1	1	Doubtful.
Havana.....	June 15-Aug. 3...	20	5	
Manzanillo.....	July 2-Aug. 5...	8	2	
Matanzas.....	June 17-July 27...	2		1 Doubtful.
	Aug. 6.....	1		
Santiago.....	June 10-Aug. 5...	201	42	
Mexico:				
Cordoba.....	June 21.....	23	14	
Merida.....	July 1.....	1		
Orizaba.....	May 1-July 24...		11	
Progreso.....	July 25.....	2	1	
Tampico.....	July 1-July 7...	1	1	
Vera Cruz.....	June 15-July 27...	140	124	
San Salvador:				
San Salvador.....	June 30.....	1	1	

PLAGUE.

China:				
Hongkong.....	Apr. 11-July 8...	1,415	1,349	
Egypt:				
Alexandria.....	May 4-July 21...	74	32	
French Ivory Coast Colony:				
Grand Bassam.....	June 7.....	200		
India:				
Bombay.....	May 27-July 11...		317	
Calcutta.....	May 13-July 1...		139	
Japan:				
Kanagawa Ken.....	July 1-July 10...	2	1	
Nagasaki Ken.....	do.....	2		
Taiwan, Formosa.....	do.....	14	6	
Tamsui, Formosa.....	Apr. 26-July 12...	881	611	
Mauritius.....	May 4-May 31...	1	5	Total since outbreak, 2,468 cases; 1,866 deaths.
	July 14-July 20...	30	29	
Persia:				
Bushire.....	June 8.....			Plague reported.
Réunion (Isle de).....	July 24.....	1	1	Do.
Straits Settlements:				
Penang.....	Jan. 4-June 30...	42	33	
Singapore.....	May 27-June 17...	0	3	
Turkey:				
Bassorah.....	June 19.....	1	1	

Cholera, yellow fever, plague, and smallpox, etc.—Continued.

SMALLPOX.

Places.	Date.	Cases.	Deaths.	Remarks.
Arabia:				
Aden.....	May 1-May 31...		1	
Argentina:				
Bueno Ayres.....	Apr. 1-Apr. 30...		1	
Austria:				
Budapest.....	June 16-June 24...	2		
Belgium:				
Antwerp.....	June 10-July 22...	9	4	
Ghent.....	June 23-July 1...		1	
Brazil:				
Bahia.....	June 3-July 15...	3		
Rio de Janeiro.....	May 19-July 7...	144	122	
Espiriti Sancti	June 7.....			Reported present.
China:				
Hongkong	May 6-June 10...	2	1	
	July 12-July 24...	2		
Colombia:				
Panama.....	July 26-Aug. 1...	1	1	
Cuba:				
Havana.....	June 30-July 6...	5	1	
Santiago.....	July 1-July 8...	1		
Egypt:				
Cairo.....	May 20-July 15...		15	
England:				
Liverpool.....	June 10-June 17...		1	
London.....	June 10-July 15...	4	1	
France:				
Nantes.....	June 1-June 30...	1		
Marseilles.....	June 25-July 2...	1		
Paris.....	July 2-July 8...		1	
Gibraltar.....	June 4-June 21...	1		
Greece:				
Athens.....	June 10-July 29...	95	19	
India:				
Bombay.....	May 27-July 11...		46	
Calcutta.....	May 13-June 10...		2	
Madras.....	May 20-June 30...		5	
Mexico:				
Chihuahua.....	July 16-July 29...		3	
City of Mexico.....	June 4-July 30...	60	44	
Nuevo Laredo.....	July 1-July 8...		2	
Netherlands:				
Rotterdam.....	July 15-July 22...	1		
Russia:				
Moscow.....	May 27-July 15...	96	42	
Odessa.....	June 10-July 22...	28	7	
St. Petersburg.....	June 3-July 22...	74	27	
Warsaw.....	June 3-July 1...		3	
Scotland:				
Glasgow.....	June 3-June 17...	1	1	
Straits Settlements:				
Singapore.....	Apr. 1-July 1...		20	
Turkey:				
Beirut.....	June 27-July 1...	1		
Erzeroum.....	July 8-July 15...	2		
Smyrna.....	May 27-July 23...		9	
Uruguay:				
Montevideo.....	May 27-June 3...	1	4	

EPIDEMIC NOTES.

[Translated in this Bureau from the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, Berlin, July 26, 1899.]

BRITISH EAST INDIES.—The total number of plague deaths for the week ended June 24, was 470 as against 550 in the preceding week. Of this number 43 occurred in the city of Bombay. In the Kolhapur State and in the city of Goona the disease has somewhat increased, and in the Belgaum district it has decreased. Only 1 plague death was

reported from Kurrachee. Outside of the presidency of Bombay only 35 deaths were reported, of which 14 were in the state of Mysore, 10 in the state of Hyderabad, and 4 in Calcutta.

STRAITS SETTLEMENTS—*Penang*.—From June 15 to 23, 6 new cases and 7 deaths were reported. From date of outbreak to June 23, 34 cases and 29 deaths have been reported.

CHINA.—According to advices of June 14, cases of plague are reliably reported in the city of Amoy and its environs, and among the Chinese population of the Island of Kulangsee. The disease does not seem to have as yet assumed an epidemic form.

***Hongkong*.**—During the week ended July 8, 100 cases and 96 deaths were reported.

EGYPT—*Alexandria*.—During the two weeks ended July 14, there were 9 and 8 cases, respectively (3 and 2 Europeans), and 3 and 5 deaths (Europeans, 1 and 2, respectively). The total number from May 3 to July 7 is 60 cases and 22 deaths. On the English steamer *Dictator* which arrived at Suez on July 9 from Bombay, having touched at Kurrachee and Perim, 2 undoubted cases of plague and 3 suspicious cases were reported in a crew of 64. Ship and crew were subjected to the prescribed quarantine measures at the Wells of Moses.

MAURITIUS.—During the 2 weeks ended July 14, 30 and 20 cases and 24 and 14 deaths, respectively, were reported.

CHOLERA.

BRITISH EAST INDIES.—During the week ended June 24, there were 3 cholera deaths.

YELLOW FEVER.

FRENCH IVORY COAST.—According to advices of July 9 the endeavor to restrict epidemic of yellow fever which broke out in Grand Bassam was so successful, that the rest of the colony remained exempt. The last death occurred on June 10, and the epidemic appears to be extinct.

EGYPT.

[Translated in this Bureau.]

Bulletin of the plague at Alexandria, Egypt, July 8, noon, to July 9, noon, 1899.

	Europeans.	Natives.
In hospital	7	9
New entries	1	2
Deaths in hospital	1	0
Death outside of hospital	0	0
Cured.....	0	0
Remaining	7	11

Total plague cases to date, 65; total plague deaths to date, 23; total plague cases to date, 24; remaining under treatment, 18. The last case was isolated on July 8, 1899.

**SANITARY REPORTS FROM THE CENTRAL AMERICAN AND COLOMBIAN
FRUIT PORTS.**

BRITISH HONDURAS.

Sanitary report from Belize.

BELIZE, BRITISH HONDURAS, August 4, 1899.

SIR: I have the honor to report the sailing this a. m. of the steamship *Managua* for Mobile; crew and passengers all well. This p. m., even date, the steamship *Foxhall* sailed for New Orleans direct; crew and passengers all well. Both vessels have complied with the regulations of the Service.

The sanitary condition of Belize is very good, owing to the recent rains, which have washed the city out thoroughly. There are no infectious or contagious diseases in Belize or near surrounding country; prevailing sickness, intermittent and remittent fevers.

Very respectfully,

C. W. KNIGHT,

Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,

U. S. Marine-Hospital Service.

[Inclosure No. 1.]

List of deaths registered in the town of Belize from the 28th ultimo to date.

BELIZE, August 3, 1899.

Certified by medical practitioner—

Bright's disease	1
Cardiac syncope.....	1
Phthisis.....	1
Certified by district commissioner or police.....	0
Certified by coroner.....	0
Uncertified.....	0

Total.....	3
------------	---

A. K. YOUNG,
Registrar-General.

[Inclosure No. 2.]

Report of vessels sailing for United States ports from Belize for the month ended July 31.

July 7, steamship *Engineer*, for New Orleans via Mexican ports; steamship *Breakwater*, for New Orleans direct; steamship *Managua*, for Mobile direct. July 11, steamship *Ardenrose*, for New York via Jamaica. July 14, steamship *Stillwater*, for New Orleans direct. July 21, steamship *Breakwater*, for New Orleans direct; steamship *Managua*, for Mobile direct. July 28, steamship *Stillwater*, for New Orleans direct. July 29, steamship *Themis*, for New York via Jamaica. July 31, steamship *Mira*, for New Orleans via Mexican ports.

HONDURAS.

Sanitary report from Puerto Cortez.

PUERTO CORTEZ, HONDURAS, August 2, 1899.

SIR: I have the honor to report the continued good health of this port. One death since last report—a child—of convulsions. Reports from the interior town of San Pedro of the prevalence of dysentery and

bowel complaints—usual at this season. Temperature continues high, 90° F., light showers prevailing. Four vessels have been inspected: *Themis*, New York to Jamaica and Central America; *Foxhall*, to New Orleans; steamship *S. Oteri*, to New Orleans; *Olympia*, to New Orleans.

Respectfully submitted,

L. A. WAILES, M. D.,

Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

COLOMBIA.

Sanitary report from Bocas del Toro.

BOCAS DEL TORO, COLOMBIA, *August 5, 1899.*

SIR: I have the honor to submit report for the week ended Saturday, August 5, 1899.

The following vessels have been inspected and have sailed for the United States during the week:

Date.	Name of vessel.	Master.	Number of crew.	Destination.	No. of passengers.
July 30.....	España.....	Danielsen	14	Mobile.....	1
Do.....	Kitty.....	Olsen.....	17	do	0
Aug. 2.....	John Wilson.....	do	17	do	1
Aug. 5.....	Paracoa.....	Wolden.....	16	do	0
Do.....	Colombia.....	Berg.....	17	do	3

This port and the surrounding country are in good sanitary condition, and there is very little sickness of any kind.

During the week the following deaths have occurred: One Chinaman, malarial fever; 1 native, female, tuberculosis; 1 native, male, valvular heart disease.

Respectfully, yours,

HERMAN B. MOHR,

Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

COSTA RICA.

Sanitary report from Port Limon.

PORT LIMON, COSTA RICA, *August 4, 1899.*

SIR: I have the honor to transmit the following report for the week ended August 3, 1899:

The sanitary condition of the port and the surrounding country remains very good. There is no suspicion as to the existence of contagious or infectious diseases, in fact, there has not been a death in the port nor in the outlying districts of the "Department" of Limon for a period of thirteen days.

The following vessels have been inspected and cleared from this port for the United States during the past week: July 28, *Olympia*, Lesslie, crew, 35 (for New Orleans); passengers, 9. August 3, *Phoenix*, Sewell, crew, 18 (for New Orleans); passenger, 1. August 3, *Hispania*, Froekberg, crew, 22 (for New Orleans); passengers, 6.

I inclose herewith the triplicate copies of United States bills of

health issued to the steamship *Phoenix* and also to the steamship *Hispania*.

Respectfully, yours,

WM. H. CARSON,
Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

GUATEMALA.

Sanitary report from Livingston.

LIVINGSTON, GUATEMALA, *August 2, 1899.*

SIR: I have the honor to report 2 deaths at this place since my last report, an adult and a child, Carribeans, and both are reported as having died of calentura. Calentura is the name given by the natives to the continued type of fever that prevails in these countries, and which is now assuming a much more serious type (a pernicious fever) than earlier in the season, and hence with an increasing fatality. The treatment, in my opinion, is largely responsible for the fatality. It is the treatment of a century ago—excessive purging, vomiting, and sweating, and no ice nor water. Two deaths also reported in Barrios, a Mexican adult, of septicæmia, and a child, of pernicious fever.

Respectfully,

NORWOOD K. VANCE,
Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure.]

Clearance of vessels for New Orleans during the week.

LIVINGSTON, GUATEMALA, *August 2, 1899.*

Date.	Vessel.	Master.	No. of crew.	Laborers.	Destination.	No. of passengers.
Aug. 1....	Foxhall.....	Reed	30	22	New Orleans, La.....	9
Aug. 2....	Managua.....	Gundersen..	16	20	Mobile, Ala.....	None.

The foreign and New York vessels I do not mention here for the reason that they are not subject to the quarantine restrictions, but I mail you the triplicate bills of health issued from the consular agency for all vessels not calling at southern ports.

NICARAGUA.

Sanitary report from Bluefields.

BLUEFIELDS, NICARAGUA, *August 1, 1899.*

SIR: I have the honor to submit my weekly report, as follows: Have inspected the steamships *Rover*, *Jarl Fulton*, and *Luldal*, all bound for New Orleans, carrying a total of 12 passengers, whose baggage was promptly disinfected. Two deaths have been recorded in Bluefields during the past week; 1 adult (colored), of snake bite, and 1 adult (colored) of malarial toxæmia. The general health of the town and vicinity continues good.

Respectfully, yours,

D. W. GOODMAN,
Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

SANITARY REPORTS FROM OTHER PORTS.

BRAZIL.

Sanitary reports from Rio de Janeiro.—Annual report of the Pasteur Institute.

RIO DE JANEIRO, July 19, 1899.

SIR: I have the honor to transmit to you the official sanitary report for the week ended July 7:

There were 298 deaths from all causes, a decrease of 1, as compared with the preceding week; 7 deaths from *accessio pernicioso*, an increase of 3; 3 deaths from yellow fever, a decrease of 3; 27 deaths from small-pox, an increase of 10; 1 death from typhoid fever, a decrease of 2; 1 death from scarlet fever, none before; 1 death from diphtheria, the same as before; 2 deaths from measles, an increase of 1; 2 deaths from *beriberi*, an increase of 1; 52 deaths from tuberculosis, an increase of 7.

Report of the Pasteur Institute.

Professor Ferreire dos Santos, director of the Pasteur Institute at this city, has published his report, embracing the period from the 9th of February, 1888, when at that institute the first antirabic inoculation was performed, up to June 30, 1899.

The total number of persons who applied for treatment was 4,901, 3,150 persons having been admitted in consequence of having been bitten by animals known or supposed to be suffering from rabies; 1,751 were rejected, it having been discovered that the animals by which the latter were bitten were not affected by *lyssa*.

The following table shows the services performed annually:

Year.	Persons treated.	Consultations.	Year.	Persons treated.	Consultations.
1888.....	105	226	1894.....	314	481
1889.....	90	190	1895.....	402	531
1890.....	158	250	1896.....	337	495
1891.....	242	356	1897.....	397	566
1892.....	207	320	1898.....	397	678
1893.....	241	360	1899.....	230	448

The reasons for which 1,751 persons were rejected were as follows: Fifteen hundred and fifty persons had been bitten by healthy animals; 96 persons did not show any wound; 12 persons had been bitten by animals which were attacked by rabies after the persons were bitten; 4 persons had been bitten by animals that had been attacked by other diseases than rabies; 2 persons had consulted the Institute through the medium of third persons; 3 persons applied to the Institute only after rabies were already declared; 84 persons refused to submit to the treatment recommended on account of having been bitten by suspected animals; of these, 2 persons died of rabies.

Of the 3,150 persons treated, there were 2,353 males and 1,312 females; 1,701 were adults and 1,449 children. The age of the patients varies from 5 years to 70 years.

Eighteen hundred and fifty-one patients came from the city of Rio de Janeiro, 715 persons from the State of Rio de Janeiro, 251 from the State of Sao Paulo, 245 from Minas, 28 from Pernambuco, 22 from Rio

Grande do Sul, 20 from Espirito Santo, 9 from Parana, 5 from Bahia, and 1 each from Para, Alagoas, Sergipe, and Ceara.

In 283 instances, the place in which the patients were bitten was the hand, in 1,068 instances the upper extremities, in 1,057 instances the lower extremities, in 157 instances the body, in 44 instances in various places.

Of the persons treated 2,249 had been bitten on uncovered parts of the body, 901 through the clothing.

The bites were caused in 2,786 instances by dogs, in 338 instances by cats, in 4 instances by monkeys, in 3 instances by mules, in 2 instances by asses, in one instance by a cow, and also, in one instance by a horse.

Two hundred and fifty persons were bitten by animals, whose existing disease was shown by experiments; 1,363 persons were bitten by animals, who showed undoubted symptoms, and 1,537 persons were bitten by highly suspicious animals.

To appreciate the real effect of the antirabic injections it is necessary to deduct 153 cases from the 3,150 persons treated. The reason is as follows: In the case of 38 persons treatment was suspended because it was discovered that the animals by which they were bitten were not suffering from hydrophobia; 103 persons did not await the termination of the treatment; in 7 cases of patients under treatment the lyssa made its appearance before the termination of treatment and 5 patients died of other diseases. Therefore the number of persons treated correctly was 2,997. Of those 21 died from hydrophobia, the mortality consequently being 7 per cent. If we consider that in the case of 9 patients among the 21 deceased, hydrophobia developed within fifteen days after the commencement of the treatment, and that therefore the antirabic injections could not produce an efficient preventive result, then the mortality has been but 4 per cent.

Before the announcement of Pasteur's discovery the mortality from rabies, according to Leblanc, was 16 per cent.

If the proportion of mortality is considered in regard to the parts in which the wound was inflicted, the result varies considerably, as the following table shows:

Part of body bitten.	Percentage of before.	Mortality now.
Head.....	88	1.11
Hands.....	67	0.49
Upper extremities.....	30	0.19
Lower extremities.....	21	0.20
Trunk.....	31	0.65
Various places.....	75	0

Since last report the following-named ships have been inspected and received bills of health of this office: July 15, steamship *Cyprian Prince*, British, for New York. July 17, steamship *Colombia*, French, for New Orleans. July 18, ship *Marabout*, British, for Pensacola; barkentine *J. B. Rabel*, American, for Apalachicola.

Respectfully, yours,

W. HAVELBURG, M. D.,
Sanitary Inspector, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

COLOMBIA.

Yellow fever and smallpox in Panama.

PANAMA, August 1, 1899.

SIR: I have the honor to say that by a report made to me by the chairman of the board of health of Panama, I am able to give you the following summary of the yellow fever at this port from its beginning in May last:

It shows that the first case appeared on May 2, 1899, and from that date to July 21, there had been 74 cases. Of these 39 were fatal and 35 were cured. Since July 21 there has been no yellow fever here. There was 1 case of smallpox landed here from one of the south steamers, but it was taken in charge by the authorities and well cared for. This case was fatal.

I am, sir, your obedient servant,

H. A. GUDGER,
United States Consul-General.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

No yellow fever in Cartagena.

CARTAGENA, COLOMBIA, July 27, 1899.

SIR: I beg to report that not a single case of yellow fever exists in this consular district and surrounding country. The city is perfectly healthy.

Respectfully, yours,

RAFAEL MADRIGAL,
United States Consul.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Sanitary report from Havana.

HAVANA, CUBA, August 4, 1899.

SIR: I have the honor herewith to present my report for the week ended August 3, 1899. I inclose the mortuary report for the week, together with the report of infectious diseases furnished the chief sanitary inspector of the city.

Six cases of yellow fever were reported this week, with 2 deaths, fairly scattered in town. One was taken from a vessel, the brigantine *Lista*, who had been only three days aboard her. She was lying in the stream when he sickened; the vessel has been disinfected.

From the above it is obvious that the amount of yellow fever in town is trifling, and that the conditions are unfavorable for its prevalence; for, occurring as it has done in as many and widely spread localities (in most instances the origin being unknown), its lack of spread is due to some other cause than the existence of insufficient foci to start its dissemination.

The methods of house quarantine, isolation, and disinfection are continued by the sanitary authorities here in cases of yellow fever.

Respectfully, yours,

H. R. CARTER,
Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure No. 1.]

Mortality report for the city of Havana for the week ended August 3, 1899.

Causes.	July—				August—			Total.
	28	29	30	31	1	2	3	
Tuberculosis	2	2	0	2	2	1	2	11
Enteritis	2	3	0	3	4	3	5	20
Pernicious fever.....	1	0	3	1	1	0	0	6
Pneumonia	2	0	1	2	1	1	2	9
Paludal fever.....	1	3	1	0	3	0	1	9
Yellow fever.....	0	0	0	1	0	0	1	2
Measles	0	0	0	0	1	0	0	1
Dysentery.....	0	0	0	0	0	1	1	2
Diphtheria	0	0	0	0	0	0	1	1
Infectious fever.....	0	0	0	0	0	0	2	2
Enteric fever.....	0	1	0	0	0	0	0	1
All causes.....	17	21	17	22	22	22	27	143

[Inclosure No. 2.]

Report of deaths which occurred in the Department of Havana from the 16th to the 31st instant, inclusive.

Diseases.	Havana.	Guana- bacoa.	Regla.
Yellow fever.....	1	0	0
Typhoid fever	7	2	1
Pernicious fever.....	7	2	1
Scarlet fever.....	0	0	0
Infectious fever.....	1	4	0
Malaria	37	5	2
Smallpox.....	0	0	0
Measles	12	2	0
Diphtheria.....	1	0	0
Pneumonia	23	2	2
Influenza.....	0	0	0
Dysentery	3	4	1
Enteritis	46	17	5
Tuberculosis	42	9	0
Cancer	2	1	0
Total.....	182	48	12
Deaths from all other diseases.....	179	22	16
Grand total.....	361	70	28

[Inclosure No. 3.]

Infectious diseases reported to sanitary department during the month of July, 1899.

Diseases—	
Yellow fever	7
Diphtheria	16
Tuberculosis	69
Measles.....	640
Infectious fever.....	7
Typhoid fever.....	24
Varioloid	4
Total	767

Sanitary reports from Santiago, Daiquiri, Guantanamo, and Manzanillo.

SANTIAGO DE CUBA, July 29, 1899.

SIR: I have the honor to make the following report of the sanitary condition of Santiago de Cuba for the week ended July 29. There was a total of 27 deaths in the civil population of the city, an increase of 10 over that of the previous week.

The principal causes of death were as follows :

Malarial fevers.....	7
Tuberculosis.....	6
Intestinal diseases.....	2
Pneumonia.....	1
Erysipelas.....	1
Other causes.....	10

Total..... 27

Population, 34,000 ; mortality, 41.29 per 1,000.

There was a total of 28 vessels inspected ; 20 on arrival and 8 on departure. None were detained in quarantine.

Owing to the gradual disappearance of yellow fever I am relaxing the quarantine measures so as not to interfere with the rapid handling of shipping, but still exercise measures that will protect the ship from infection. The regulations relating to passenger steamers have not been relaxed.

Yellow fever.—The situation here apparently is improving. From June 17 to July 22, there were 185 cases with 35 deaths ; for the week ended July 29, there were 8 cases and 3 deaths, making a total of 193 cases and 38 deaths.

Nonimmunes continue to leave the city, and by so doing, the number of cases gradually diminishes. Nonimmunes coming by water are not allowed to land unless on Government business. This general order will be relaxed as soon as it can be done with safety.

One case of fever was removed from the jail on the morning of July 29 ; he died in transit to the yellow fever hospital. This necessitated the disinfection of the jail. The personal effects of 45 of the prisoners were disinfected on board the disinfecting bark *Rough Rider* in the afternoon—the balance are to follow. Steam is kept up on board the *Rough Rider* continuously, and material either for other ports or from the city is always there to keep every one busy. Act. Asst. Surg. John Frick, Marine-Hospital Service, has reported from Havana and has been placed in charge of this work.

Daiquiri.—Sanitary Inspector Juan J. de Jongh reports that for the week ended July 22, 1 vessel was inspected and given bill of health.

No deaths occurred during the week.

Guantanamo.—Sanitary Inspector Luis Espin reports for the week ended July 22, a total of 9 vessels inspected ; 6 on arrival and 3 on departure.

Manzanillo.—Sanitary Inspector Socarras reports for the week ended July 29, a total of 11 deaths from the following causes :

Malarial diseases.....	2
Intestinal diseases.....	1
Tetanus.....	1
Other causes.....	7

Total..... 11

There have been no cases of yellow fever during the week. Of the 7 cases reported 5 were and 2 were not yellow fever ; of the latter 2, 1 was malarial fever and recovered, the other was a case of alcoholic enteritis, resulting in death. There were 4 recoveries and 1 death from yellow fever.

The sanitary condition of the port is good, and as the disease was confined strictly to the barracks clean bills of health will be issued.

Soldiers and officers here on duty have gone into camp outside of the city.

During the same week 4 vessels were inspected, both on arrival and on departure.

Respectfully, yours,

HERMAN B. PARKER,
Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

No yellow fever in Manzanillo during the past week.

WASHINGTON, D. C., *August 10, 1899.*

SIR: I have the honor to transmit herewith a copy of a letter from the collector of customs at the port of Manzanillo, Cuba, respecting the condition regarding yellow fever in that port.

Very respectfully,

G. D. MEIKLEJOHN,
Assistant Secretary of War.

The honorable the SECRETARY OF THE TREASURY.

[Inclosure.]

PORT OF MANZANILLO, CUBA, *July 26, 1899.*

SIR: I have the honor to report that there have been no new cases of yellow fever in Manzanillo during the past week. Conditions are more satisfactory than at any time during the last month.

Very respectfully,

T. G. IRWIN,
Collector of Customs.

The COLLECTOR OF CUSTOMS FOR CUBA, *Havana, Cuba.*

GREECE.

Quarantine against ports in India, the Persian Gulf, and Egypt.

ATHENS, GREECE, *July 18, 1899.*

SIR: I have the honor to advise you that delayed communications which have just been received at the United States legation from the Greek minister of foreign affairs, contains the following information:

“By royal decree it has been ordered that all vessels arriving in any port of Greece, from Bombay, Calcutta, and the ports of the Persian Gulf, from and after June 29, 1899, will be subjected to a quarantine of eleven days at the lazaret, Delos, Greece. That any vessel arriving at a Greek port from Egyptian or Red Sea ports, from and after June 26, 1899, will be quarantined at the lazaret for twelve days. And that from and after June 26, 1899, all arrivals from French ports, or any other Mediterranean port not included in the foregoing orders, shall be subjected to a strict sanitary visit.”

Respectfully, yours,

DANIEL E. MCGINLEY,
United States Consul.

The honorable the ASSISTANT SECRETARY OF STATE.

HONDURAS.

No yellow fever in Amapala.

AMAPALA, July 24, 1899.

SIR : Following the instructions from the Secretary of the Treasury, I have the honor to report that up to this day there has been no case of yellow fever in my consular district and the surrounding country.

I am, sir, your obedient servant,

RUBERTHOTS,

Acting U. S. Consular Agent.

The SUPERVISING SURGEON-GENERAL,

U. S. Marine Hospital-Service.

ITALY.

Weekly report from Naples.

NAPLES, ITALY, July 26, 1899.

SIR : I have the honor to report that for the week ended July 26, 1899, the following ships were inspected : .

On July 22, 1899, the steamship *Patria*, of the Fabre Line, bound for New York with passengers and cargo.

Inspected and passed, 599 steerage, and 1 cabin passengers. The steamship company was advised to reject the following cases : Trachoma, 2; poor physique, 1; lameness, 1; all of which were subsequently refused passage.

On July 24, 1899, the steamship *Victoria*, of the Anchor Line, bound with passengers and cargo for New York.

Inspected and passed 213 steerage passengers.

The steamship company was advised to reject the following cases : Macrocephalus, 1; large ulceration right leg and back, 1; both of which were subsequently refused passage.

After careful investigation it was found impossible to get statistics of contagious diseases in Italy, so that a letter has been addressed to every consul in Italy and surrounding countries from which there is liable to be any immigration or other travel to the United States through this port. The substance of the letter is to the effect that it would be considered as a favor if they inform the office here at Naples at once in the event of any contagious disease making its appearance in their district. The replies are all coming in slowly and up to the present have all been favorable.

Black smallpox has been reported as having broken out in epidemic form at Sinaia, Roumania. The consul there has been asked for further information.

Respectfully, yours,

VICTOR G. HEISER,

Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,

U. S. Marine-Hospital Service.

JAPAN.

Regulations for the medical inspection of ships and for executing the quarantine laws.

YOKOHAMA, JAPAN, July 19, 1899.

SIR: I have the honor to inclose, herewith, for your information, a copy of the recently promulgated, revised, Regulations for the Medical Inspection of Vessels, and for the Execution of the Quarantine Laws in the ports of Japan.

Very respectfully,

STUART ELDRIDGE, M. D.,
Sanitary Inspector, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure No. 1.]

THE MEDICAL INSPECTION OF SHIPS.

Notification No. 26 of the department of state for home affairs.

JULY 14, 1899.

Article I. When a vessel arrives at a port where medical inspection is in operation, she shall hoist the flag prescribed by the international code of signals, approach the guardships or the lookout, and be ordered to stop temporarily, after which the following information shall be obtained with regard to the master and each of those on board:

1. The name of the port of exit.
2. The name of any ports of call.
3. Whether there is any person actually suffering from a contagious disease, or whether any person has died of such a disease.
4. Whether on the voyage or during stay in ports of call there has been any case of sickness or death from contagious disease.
5. Whether any communication has been held with a vessel in which there has been a case of sickness or death from contagious disease.

Vessels which are clearly known to be navigating home waters shall not be required to stop, or furnish information, as prescribed in the above clauses.

Art. II. When, in consequence of the roughness of the sea, a ship can not be visited, the above information shall be obtained by the aid of the international code of signals, and, if medical inspection is necessary, the ship shall be required to anchor outside the harbor, and wait until the sea has subsided, after which she shall be visited.

In the event of a ship's disobeying the order to anchor outside of the harbor, or continuing her voyage without regard to the signals, she shall be required to put back, and to furnish the required information or undergo inspection. In such a case, the fact shall be communicated to the office of harbor affairs and to the police station.

A ship arriving after sunset, provided she is not a mail steamer or has no special reason for dispatch, shall be required to anchor outside the harbor, and to furnish the required information or undergo inspection the following morning.

Art. III. In the case of a ship as above coming from a foreign port or from Formosa, written forms as prescribed shall be handed to the master or to one of the officers and they shall be required to fill in the required information. At the same time, the whole or part of the passengers and crew shall be ordered to assemble upon the deck, and, after the written forms have been received, all these persons, as well as the cabins, shall be inspected. Should the inspection reveal nothing unusual, a permit shall be handed to the master or to his representative.

Art. IV. With regard to the ships mentioned above, the following procedure shall be observed:

1. When there is actually on board a person suffering, or a person who has died from a contagious disease, or when there has been a case of illness or death from a contagious disease on the voyage or while in a port of call, the process of disinfection shall be carried out, and the ship be detained, unless the disease is smallpox or scarlet fever.

2. When a ship has sailed from an infected port, or has called at such a port, or has had communication with an infected ship, or when there are doubts as to these points, the process of disinfection shall be carried out, and she shall be required to stop, unless the disease is smallpox or scarlet fever.

3. Vessels coming within the purview of Article VI of the Open Port Regulations need not undergo disinfection.

In the case mentioned in this clause, information shall be given to the harbor office, the custom-house, the post office, and the police.

Art. V. Should a ship belonging to the category of clause 1, Article III, have on board a person suffering from, or the body of a person who has died of, a contagious disease other than those enumerated in Article II of the Regulations for Carrying out Medical Inspection in Open Ports, a report must be sent to the police office of the district.

Art. VI. A passenger or member of the crew who comes into contact with, or who is suspected of having come into contact with, a person suffering from, or the body of a person who has died of, pest, cholera, or yellow fever, shall be required to move to the quarantine station.

Art. VII. In the case of a foreign or native man-of-war, the information detailed in Article I shall be obtained in writing from the commander or the medical officer. Under such circumstances, the usual written form need not be employed nor need a permit be given.

Art. VIII. When a ship of war, foreign or native, falls within the category of the first clause of Article IV, she shall be disinfected, after consultation with her commander.

Art. IX. When ships or articles are disinfected, the following provisions shall be observed:

(Here follow seven clauses setting forth the process of disinfection in detail.)

Art. X. When the passengers or crew of a ship are detained, inspections shall be made from time to time to determine the state of their health, and medical examinations may be carried out should such a course appear necessary.

[Inclosure No. 2.]

Quarantine regulations.

The following regulations for the operation of the quarantine law were issued by the minister for home affairs on July 13:

Article 1. The ports where quarantine shall be enforced are Yokohama, Kobe, Nagasaki, and Kuchinotsu. When temporary quarantine is enforced at other ports such places shall be indicated by notification.

If it is found necessary to disinfect a vessel which has been subjected to quarantine at the port of Yokohama she shall be taken to Nagahama for that purpose. Any vessel that has been subjected to quarantine at the port of Kuchinotsu shall be taken to Megami for a similar purpose.

Art. 2. The diseases against which quarantine is enforced are cholera, smallpox, scarlet fever, the pest, and yellow fever. When temporary quarantine is enforced with reference to other contagious diseases it shall be indicated by notification.

Art. 3. The duration of the detention of a vessel in the case mentioned in No. 1, clause 1, article 6 of the quarantine law, shall be seven days in case of the pest; five days in case of cholera and yellow fever, counting from the time at which disinfection was finished. Provided that in the event mentioned in No. 3 of same the calculation shall commence from the time when a vessel left or passed through an infected district or from the time when facts justified the suspicion that it had been affected by disease.

A vessel which has undergone quarantine or detention by any quarantine station in the Empire and on which no suspicious circumstances have arisen since then shall not be quarantined or detained again.

The names of infected districts shall from time to time be indicated by notification.

Art. 4. Certificates to be given to vessels in accordance with the quarantine law are shown in forms from No. 1 to No. 3 according to the nature of circumstances.

The statement (from master and surgeon) shall be according to Form No. 4.

Art. 5. Patients suffering from contagious diseases, or who are suspected to be suffering from the same, may be accommodated in the isolation rooms attached to a quarantine station.

Art. 6. Passengers and crew of a vessel who have been removed to the detention room of a quarantine station must be detained during the period mentioned in clause 1, article 3, of these regulations. When a contagious disease has broken out among the passengers or crew thus detained, the detention provided for in clause 1, article 3, shall be renewed with regard to the whole or a portion of these persons. Provided the vessel itself shall not be affected by this renewal.

Art. 7. Corpses shall be cremated at an appointed place and the ashes handed over to the person to take charge of them or the master of the vessel or his representative. If there is not anybody to take charge of them, or the master or his representative refuses to take charge of the ashes, they shall be dealt with in accordance with the law relating to the sick and dead in the streets.

When relatives or friends have applied for the delivery of a corpse, it may be handed over in cases where exists no apprehension as to the spread of the disease.

Art. 8. In the case mentioned in article 5 of the quarantine law, a police official shall order the vessel to be brought to the nearest quarantine station. Provided that the master or his representative has made an application, the vessel may be dealt with in accordance with clauses 2 and 3 of this article.

When a police official deems it impossible to bring the vessel to the nearest port where quarantine is to be undergone, or in cases where it is thought that the vessel may be dealt with by other means, he shall order a suitable measure of disinfection to the master and crew without bringing her to the nearest quarantine station. In this case all the expenses shall be borne by the owner of the vessel, the master, or his representative.

In the case mentioned in the foregoing clause, where it is deemed necessary to isolate patients, they may be accommodated at an appointed place, the cost being paid by the patients themselves, the owner or master of the ship or his representative.

Art. 9. Expenses in connection with the disinfection of a vessel shall be collected according to the following rates, provided that this rule is not applicable to Japanese and foreign war ships and vessels belonging to the Japanese army :

EXPENSE OF DISINFECTING A VESSEL.

Under 100 registered tonnage, 10 yen.

Above 100 and under 1,000 registered tonnage, 20 yen.

Above 1,000 and under 2,000 registered tonnage, 30 yen.

Upward of 2,000 tons (additional), 10 yen for every 1,000 tons.

For cargo, 10 sen apiece.

Expense of disinfecting the clothing, luggage, and personal effects of passengers and crew :

First and second class passengers and members of the crew corresponding to them, 1 yen each.

Third-class passengers and members of the crew corresponding to them, 10 sen each.

Art. 10. The amount of expenses to be collected from those who have been removed to a quarantine station shall be fixed by the directors of the quarantine stations with the approval of the minister for home affairs.

SUPPLEMENTARY RULE.

These regulations are not applicable to Japanese junks and fishing boats.

MAURITIUS.

Plague in the island.

PORT LOUIS, MAURITIUS, *June 29, 1899.*

SIR : Since my last communication, dated 14th instant, reporting the progress and development of the bubonic plague at Port Louis, I now have the honor to further inclose the press reports showing the actual state of affairs here, which have chiefly grown out of the disputes between the legislative council of the Government and the different opinions held by that body and the board of health as to the means to be adopted towards stamping out the plague, and the demands made by the elected members of the council upon the Government in order to allay the consternation and fear that have seized the bulk of the people.

Referring to the third paragraph of my communication of 14th instant, it will be seen that up to the above date the Government and the board of health had refused to accede to the demands of the elected members of the council to have any physiological experiment made of the plague bacillus.

It will be seen from my last communication that I anticipated disorder to come, growing out of the excitement existing among the people. Such disorder has taken place since I forwarded my last dispatch. The

people have stoned the medical expert brought here from India, beaten, bruised, and torn the clothes off his medical colleagues and finally they have bolted and barred their doors against the entrance of the sanitary inspectors.

It is now necessary to have all the health officers guarded by a posse of police during their visitations, and it will be seen from one of the clippings inclosed of yesterday's date and penciled in blue, that the Sepoy soldiers have received official orders to hold themselves in readiness to assist the police at the quarantine stations.

Finally, the Government and board of health have yielded to the clamor of the people and the demand of their elected representatives in having a scientific investigation made of the true nature of the existing disease which is now spreading so rapidly and so extensively.

For this purpose 3 guinea pigs were selected, and upon their bodies a physiological experiment has been made by inoculating them with the blood of the plague victims. After an interval of two or three days the pigs died, one after the other, and, upon the examination of their blood, large quantities of the plague bacillus were found in it.

It will also be seen from the clipping inclosed of June 26, and marked in blue penciling, that a communication has been received by the governor from Mr. Courtenay C. Bennett, the British vice-consul at Réunion, stating that the cases of disease which had existed for some time in Madagascar and Réunion were not bubonic plague, but rather "lymphangite infectieuse." It seems that the guinea pig test was made in Réunion and Madagascar, but the operation had no effect upon the animals. Hence there is no doubt now of the nature of the malady existing in Mauritius. There is no disputing the fact that since the approach of the so-called midwinter season here the propagation and spread of the microbe are apparent in the number of victims attacked and in the daily increase of deaths, some of the unfortunate victims, as will be seen from the inclosed clippings, dropping suddenly dead on the streets.

In my last dispatch I called attention to infectious atmosphere in which I am now surrounded in consequence of the establishment of segregated stations on all sides of the consulate. See clipping inclosed dated yesterday (28th), and the remarks of Mr. Langier, one of the elected members for Port Louis, regarding the placing of these stations in the Champ de Mars, where the consulate is located.

Respectfully, yours,

JOHN P. CAMPBELL,
United States Consul.

The honorable the ASSISTANT SECRETARY OF STATE.

MEXICO.

Sanitary report from Vera Cruz.

VERA CRUZ, MEXICO, August 4, 1899.

SIR: I have the honor to report the following mortality list for the week ended August 3. Deaths from yellow fever, 15; pernicious, 3; remittent, 2; tuberculosis, 9; various causes, 19; total from all causes, 48.

The past week shows a little improvement over the previous week, as far as yellow fever is concerned, although to-day's record of 6 new cases and 4 deaths indicates that there is no immediate probability of the epidemic subsiding.

Many of the inhabitants left the city for the country when the epidemic appeared, and now as the fever gets better the fresh material is

constantly coming in and furnishing enough fuel to keep the epidemic smoldering. I have heard of no new cases in the surrounding country, and the shipping continues free from infection.

Respectfully, yours,

SAML. H. HODGSON,

Acting Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Yellow fever on British steamship Transit at Progreso.

CONSULATE OF THE UNITED STATES,

Progreso, July 16, 1899.

SIR: I have to report that the British steamship *Transit*, from Vera Cruz and Tampico, arrived at this port on the 13th instant.

On the 15th instant, while the vessel was unloading at the dock, 2 of the crew were seen to be unwell. They were given medical attention, and to-day, the 16th, the cases were officially declared to be yellow fever. One of the 2 cases will unquestionably prove to be fatal.

The health officials of the port have taken energetic action in the matter. The steamship has been ordered in quarantine at a safe distance offshore and close vigilance is being observed.

Yucatan, up to date of writing, has had no case of yellow fever this season. The case noted in some newspaper reports a few weeks ago proved to be only a mild case of bilious fever and the subject was up and about his business in less than four days.

Respectfully, yours,

EDWARD H. THOMPSON,

United States Consul.

The honorable the ASSISTANT SECRETARY OF STATE.

Inspection service at Puebla and Orizaba.

MEXICO, MEXICO, *August 6, 1899.*

SIR: In accordance with Bureau letter (J. W. B.) of June 16, 1899, wherein I was ordered to visit when necessary the towns on the lines of railroad between Mexico City and Vera Cruz, I have the honor to inform you that I left here on the morning of August 2 and arrived in Puebla on the afternoon of the same day. I immediately called upon the consular agent, Mr. Headen, for the purpose of explaining the Service work in Mexico, and to arrange for the certification of residents of Puebla who might travel to the United States, and whose health status, while perfectly good, would be unknown to us. Mr. Headen promised any assistance within his power, and any information likely to be of interest to us. He was requested to issue a certificate to each passenger, but addressed to this office, stating the length of time the passenger had resided in Puebla, whether an infected locality had been visited, and whether the passenger had traveled in a local or through train to Mexico City. I learned upon good authority that no cases of yellow fever have been brought to Puebla this year. I left on the following morning, August 3, for Orizaba, on which place I will make a separate report.

Respectfully, yours,

L. E. COFER,

Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

MEXICO, MEXICO, August 6, 1899.

SIR: I have the honor to make the following report on the city of Orizaba, at which place I arrived in the afternoon of August 3. Orizaba lies on the main line of the Mexican Railway, at a distance of 82 miles from Vera Cruz, and 181 miles from the City of Mexico. The time distance from Vera Cruz is about four hours, and from Mexico City about ten hours. The altitude of Orizaba is 4,027 feet, which with its excellent natural drainage and abundant rainfall should insure for it a high degree of healthfulness. This, however, is not the case, as enteric, typhus, and the severe forms of malarial fever are nearly always present. The population of Orizaba is about 45,000, and the annual death rate from all causes for the year ended June 30, 1899, was 2,434. The water supply, which is supposed to be, and undoubtedly is, the cause of the intestinal diseases which prevail in Orizaba, is derived partly from small mountain streams and from private wells. There is no sewer system, except one large stone sewer which runs through the center of the town, therefore, all refuse must be swept away by the surface drainage. I called upon the district registrar and was allowed to compile the following table from the official records. As deaths alone are reported, the actual number of cases is unknown.

Year and month.	Yellow fever.	Typhus fever.	Enteric fever.	Perniciosa.
1899.				
January.....		1	2	
February.....		3	1	
March.....		2	1	
April.....		1	3	6
May.....	4	3	2	4
June.....	2	1	1	3
July.....	a 5	0	0	5

a Last case died on July 24.

All of the cases of yellow fever were imported either from Vera Cruz or Cordoba. I was unable to obtain reliable information as to the total number of cases of yellow fever. Dr. Mindiola, of Orizaba, cited to me 3 recoveries from this disease. If one could be certain that the cases of perniciosa were all of a malarial nature an exact number of cases might be more easily arrived at. While the town of Orizaba is noninfectible, I see no reason to depart from our rule requiring detention of all passengers and disinfection of all baggage coming from that place. I have arranged with a resident of Orizaba, a Mr. Delplaine, to have a weekly mortality report forwarded to the Marine-Hospital Service Bureau, and also any information likely to prove of use in the Service work here forwarded to this office.

Respectfully, yours,

L. E. COFER,

Assistant Surgeon, U. S. M. H. S.

The SUPERVISING SURGEON-GENERAL,
U. S. Marine-Hospital Service.

PORTUGAL.

Plague in Oporto and Lisbon.

August 16: Consul at Lisbon wires State Department: "Bubonic pest at Oporto. Few cases at Lisbon. No trains can pass Spanish frontier. No more clean bills of health issued vessels."

FOREIGN STATISTICAL REPORTS.

ARABIA—Aden.—Month of April, 1899. Estimated population, 30,000. Total number of deaths, 104, including 50 from enteric fever.

Month of May. Total number of deaths, 109, including smallpox, 1, and 48 from enteric fever.

BAHAMAS—Dunmore Town.—Two weeks ended August 4, 1899. Census population, 1,472. No deaths and no contagious diseases reported.

Governors Harbor.—Week ended August 5, 1899. Estimated population, 1,500. No deaths and no contagious diseases reported.

Green Turtle Cay—Abaco.—Two weeks ended August 3, 1899. Estimated population, 3,900. No deaths and no contagious diseases reported.

Inagua.—Four weeks ended July 30, 1899. Estimated population, 1,200. No deaths and no contagious diseases.

Nassau.—Two weeks ended August 5, 1899. Estimated population, 12,000. No deaths and no contagious diseases reported.

BRITISH HONDURAS—Belize.—Month of June, 1899. Estimated population, 30,000. Total number of deaths, 68, including 5 from phthisis pulmonalis.

DUTCH GUIANA—Paramaribo.—Month of June, 1899. Estimated population, 30,567. Total number of deaths, 80. No contagious diseases.

GERMANY—Dresden.—Month of June, 1899. Estimated population, 395,300. Total number of deaths, 592, including diphtheria, 3; enteric fever, 1; measles, 1; whooping cough, 4, and 86 from phthisis pulmonalis.

Glauchau.—Month of June, 1899. Estimated population, 27,000. Total number of deaths, 69, including diphtheria, 1; measles, 2; whooping cough, 3, and 9 from phthisis pulmonalis.

GREAT BRITAIN—England and Wales.—The deaths registered in 33 great towns in England and Wales during the week ended July 29, 1899, correspond to an annual rate of 20.7 a thousand of the aggregate population, which is estimated at 11,404,408. The highest rate was recorded in Liverpool, viz, 29.7, and the lowest in Wolverhampton, viz, 12.9.

London.—One thousand eight hundred and eighty-four deaths were registered during the week, including measles, 56; scarlet fever, 5; diphtheria, 35; whooping cough, 19; enteric fever, 13, and diarrhea and dysentery, 350. The deaths from all causes correspond to an annual rate of 21.6 a thousand. In Greater London 2,481 deaths were registered, corresponding to an annual rate of 19.8 a thousand of the population. In the "outer ring" the deaths included 9 from diphtheria, 11 from measles, and 11 from whooping cough.

Sunderland.—Two weeks ended July 22, 1899. Estimated population, 145,613. Total number of deaths, 80, including measles, 2, and 4 from whooping cough.

Ireland.—The average annual death rate represented by the deaths registered during the week ended July 29, 1899, in the 22 principal town districts of Ireland was 22.0 a thousand of the population, which is estimated at 1,053,188. The lowest rate was recorded in Lurgan, viz, 21.6, and the highest in Sligo, viz, 40.6 a thousand. In Dublin and suburbs 191 deaths were registered, including diphtheria, 2; enteric fever, 11; measles, 13; scarlet fever, 3, and whooping cough, 3.

Scotland.—The deaths registered in 8 principal towns during the week ended July 29, 1899, correspond to an annual rate of 17.1 a thousand of the population, which is estimated at 1,587,414. The lowest mortality was recorded in Leith, viz, 11.4, and the highest in Perth, viz, 20.3 a thousand. The aggregate number of deaths registered from all causes was 523, including diphtheria, 3; measles, 17; scarlet fever, 6, and whooping cough, 9.

JAMAICA—Kingston.—Month of July, 1899. Estimated population, 46,542. Total number of deaths, 126, including 9 from phthisis pulmonalis.

JAPAN—Formosa—Tamsui.—Month of June, 1899. Estimated population, 2,797,543. Number of deaths not reported. Deaths from plague, 187.

Two weeks ended July 12. Total number of deaths not reported. Deaths from plague, 46.

MALTA.—Two weeks ended June 30, 1899. Estimated population, 180,328. Total number of deaths, 203, including enteric fever, 2; measles, 1, and 1 from whooping cough.

MEXICO—Tuxpan.—Month of July, 1899. Estimated population, 11,000. Total number of deaths, 41, including yellow fever, 1; measles, 1; whooping cough, 1; leprosy, 1, and 2 from phthisis pulmonalis.

PARAGUAY—Asuncion.—Estimated population, 45,000. Total number of deaths, 53, including enteric fever, 2, and 6 from phthisis pulmonalis.

RUSSIA—Riga.—Month of March, 1899. Estimated population, 282,000. Total number of deaths, 574, including diphtheria, 13; enteric fever, 5; measles, 4; scarlet fever, 3; whooping cough, 6; smallpox, 35, and 76 from phthisis pulmonalis.

Month of April. Total number of deaths, 537, including diphtheria, 10; enteric fever, 3; measles, 3; scarlet fever, 4; whooping cough, 3; smallpox, 34, and 66 from phthisis pulmonalis.

WEST INDIES—St. Thomas.—Months of April, May, and June, 1899. Estimated population, 14,007. Total number of deaths, 288.

MORTALITY TABLE, FOREIGN CITIES.

Cities.	Week ended.	Estimated popula- tion.	Total deaths from all causes.	Deaths from—								
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Acapulco.....	July 29.....	6,000	5									
Aix la Chapelle.....	do.....	132,780	52									
Alexandria.....	July 9.....	a 325,000										
Do.....	July 16.....	b 325,000										
Amherstburg.....	Aug. 5.....	2,300	0									
Amsterdam.....	July 29.....	517,595	177			2		3				3
Antwerp.....	July 22.....	287,462	76						2		4	
Athens.....	do.....	200,000			3							
Bahia.....	July 21.....	200,000			1							
Barmen.....	July 22.....	137,000	50								1	
Barranquilla.....	do.....	40,000	21									
Belfast.....	do.....	350,000	149					6			4	2
Do.....	July 29.....	350,000	138					5			2	2
Belize.....	Aug. 3.....	13,000	3									
Bergen.....	July 19.....	57,000	29									
Do.....	July 26.....	57,000	18							2		
Berlin.....	July 15.....	1,818,418	647						14	14	23	
Birmingham.....	July 29.....	514,956	207					1	1	3	3	1
Bluefields.....	do.....	3,018	2									
Bombay.....	July 11.....	821,764	557	1		10					13	
Bordeaux.....	May 7.....	286,000	119					1		1		
Do.....	May 14.....	286,000	84							1		
Do.....	May 21.....	286,000	98					2				
Do.....	May 28.....	286,000	71									
Do.....	June 4.....	286,000	72									
Do.....	June 11.....	286,000	125					1				
Do.....	June 18.....	286,000	109							3		
Do.....	June 25.....	286,000	109					3		3		
Bremen.....	July 5.....	145,000	41									
Do.....	July 22.....	145,000	30									
Bristol.....	do.....	320,911	87									
Do.....	July 29.....	320,911	84					1		1		
Breslau.....	July 22.....	433,938	232					1	2	3		
Brussels.....	do.....	551,611	172							2		
Budapest.....	July 23.....	640,000				2		1	3	1		2
Cairo.....	June 24.....	570,062	487			11	17		7			
Do.....	July 1.....	570,062	482			1	5	24	2	7		
Do.....	July 8.....	570,062	478			4	12	4		1		
Do.....	July 15.....	570,062	450			2	9	6		4		
Calcutta.....	July 1.....	681,860	c 320	7			1			2		
Cartagena.....	July 22.....	25,000	12									
Catania.....	July 27.....	124,000	63					5		1		
Chandiere Junction.....	Aug. 5.....	500	0									
Chemnitz.....	July 22.....	181,000	100					1	1		1	1
Chihuahua.....	Aug. 5.....	24,000	43					1		2	1	1
Coburg.....	July 22.....	19,700	4									
Cognac.....	do.....	20,400	7									
Do.....	July 29.....	20,400	8					1				
Cologne.....	July 22.....	360,625	207					1	1	3	1	
Colon.....	July 28.....	8,000	3									
Copenhagen.....	July 22.....	351,000	123							1		2
Crefeld.....	July 29.....	108,183	32						1	1		
Dresden.....	July 15.....	395,300	144						3	3		3
Do.....	July 22.....	395,300	143						3	3	1	
Dublin.....	July 29.....	349,594	191					1	3		13	3
Dundee.....	do.....	166,072	53							1		
Dusseldorf.....	July 22.....	203,553	94					1	1			
Edinburgh.....	July 29.....	278,927	82					1				2
Ensenada.....	Aug. 5.....	2,700	3									
Flushing.....	July 29.....	18,371	9									
Frankfort on the Main.....	July 22.....	253,900	86							1	1	1
Geneva.....	July 15.....	95,348	18							1		
Gibraltar.....	July 23.....	25,900	9									
Girgenti.....	July 22.....	24,428	11									
Glasgow.....	July 27.....	733,903	279					4	1	2	15	7
Gothenburg.....	July 22.....	122,205	45									
Do.....	July 29.....	122,205	34						1			2
Guatemala.....	July 25.....	65,000	51					5				
Halifax.....	Aug. 5.....	45,000	19							1		
Hamburg.....	July 22.....	675,351	249					1		1		3

a Plague, 3.

b Plague, 4.

c Plague, 6.

MORTALITY TABLE, FOREIGN CITIES—Continued.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—							
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.
Hamburg.....	July 29.....	675,351	296								1
Hongkong.....	July 1.....	248,710	a 202			1					
Do.....	July 8.....	248,710	b 197								
Do.....	July 15.....	248,710	c 151								
Honolulu.....	July 22.....	35,000	28							1	1
Iquique.....	June 3.....	33,106	20								
Do.....	June 10.....	33,106	27					2			
Do.....	June 17.....	33,106	26					2			
Do.....	June 24.....	33,106	22					1			
Do.....	July 1.....	33,106	26								
Leeds.....	July 29.....	423,889	172					1	2	6	6
Leghorn.....	July 30.....	104,735	46							1	1
Leipsic.....	July 22.....	430,635	169						2	1	2
Leith.....	July 29.....	77,385	17					1			1
Licata.....	July 22.....	20,000	14								
Leige.....	do.....	169,760	61					8			1
Liverpool.....	July 29.....	668,645	363					3	2	5	8
Livingston.....	do.....	1,500	1								7
London.....	do.....	6,528,434	2,481					14	5	44	69
Lyons.....	July 22.....	466,028	178					1	2		2
Madras.....	July 7.....	452,518	264							3	2
Manchester.....	July 29.....	505,343	240					1		11	7
Mannheim.....	July 22.....	126,824	40								
Marseilles.....	July 31.....	447,344	203								
Matamoras.....	Aug. 4.....	16,304	9								
Mayence.....	July 29.....	80,000	35								1
Mazatlan.....	do.....	16,700	13								
Messina.....	do.....	107,000	37								
Mexico.....	July 30.....	344,377	325		7	4				4	1
Milan.....	July 29.....	481,297	5								
Montevideo.....	June 24.....	215,061	52					1		1	
Do.....	July 8.....	215,061	48					2		1	
Munich.....	July 22.....	445,000	198						2		3
New Castle on Tyne.....	July 29.....	228,625	64					1			2
Nice.....	July 24.....	114,000	34					1			
Nuevo Laredo.....	July 29.....	6,000	10								
Odesa.....	July 22.....	414,800	218		1			1	4		4
Palermo.....	do.....	300,000	93								
Panama.....	Aug. 1.....	16,000			1						
Paris.....	July 29.....	2,511,955	948					115	6	3	29
Plymouth.....	do.....	99,848	42								2
Prague.....	July 22.....	190,260	131						2	2	2
Progreso.....	July 8.....	4,800	4					2			
Do.....	July 15.....	4,800	4								
Do.....	July 22.....	4,800	4		1						
Do.....	July 31.....	4,800	4								
Puerto Cortes.....	Aug. 2.....	2,000	1								
Quebec.....	Aug. 5.....	73,000									
Queenstown.....	June 17.....	15,000	5								
Do.....	June 24.....	15,000	5								
Do.....	July 1.....	15,000	8								
Do.....	July 8.....	15,000	4								
Rheims.....	July 22.....	107,709	53					1			
Rio de Janeiro.....	June 23.....	768,000	d 288		11	15		2			
Do.....	June 30.....	768,000	e 299		6	17		3			
St. John, New Brunswick.....	Aug. 5.....	45,000	14								1
Do.....	Aug. 12.....	45,000	15								
St. Petersburg.....	July 15.....	1,267,023	655		2	1	29	3	19	12	3
Do.....	July 22.....	1,267,023	731		4	1	19	6	14	22	5
St. Stephen, New Brunswick.....	July 29.....	3,000	2								
Do.....	Aug. 5.....	3,000	1								
Sheffield.....	July 15.....	363,402	163					1	4	10	2
Do.....	July 22.....	363,402	185						4	7	6
Do.....	July 29.....	363,402	191					1		7	6
Singapore.....	June 24.....	97,110	197								
Do.....	July 1.....	97,110	188		2						
Smyrna.....	July 23.....	300,000	56		1		2				
Solingen.....	July 22.....	300,000	20								
Southampton.....	do.....	103,168	26								

a Plague, 144.

b Plague, 96.

c Plague, 65.

d Beriberi, 3.

e Beriberi, 1.

MORTALITY TABLE, FOREIGN CITIES—Continued.

Cities.	Week ended.	Estimated popula- tion.	Total deaths from all causes.	Deaths from—								
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
South Shields	July 29.....	102,312	37	.....	.....	.....	.....	1	.....	.....	.....	.....
Stettin	July 22.....	153,000	177	.....	.....	.....	.....	1	1	.....	.....	.....
Stockholm.....	July 21.....	291,580	117	.....	.....	.....	.....	.....	1	2	4	.....
Stuttgart	July 29.....	162,934	60	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sunderland .....	.....do.....	145,013	48	.....	.....	.....	.....	.....	1	.....	.....	.....
Tampico	Aug. 4.....	12,000	17	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste	July 22.....	165,000	76	.....	.....	.....	.....	.....	.....	1	.....	.....
Utiilla	July 29.....	800	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Venice	July 22.....	171,023	66	.....	.....	.....	.....	5	.....	.....	.....	.....
Vienna .....	.....do.....	1,623,134	610	.....	.....	.....	.....	1	1	7	15	4
Yokohama.....	July 8.....	189,455	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Do	July 16.....	189,455	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
D	July 22.....	189,455	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Windsor, Nova Scotia	Aug. 5.....	3,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....

By authority of the Secretary of the Treasury :

WALTER WYMAN,
Supervising Surgeon-General U. S. Marine-Hospital Service.