Public Health Reports

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UNITED STATES.

RELATIONS OF WATER SUPPLY AND SEWERS TO THE HEALTH OF CITIES, WITH SPECIAL REFERENCE TO THE CITY OF WASHINGTON.

[Address before the Civic Center by GEO. M. KOBER, M. D., January 15, 1897.]

It has been my duty, as a member of the committee on public sanitation, to study the relations of our sewers and water supply to the health of this city. Similar studies by medical men have furnished long ago the answer to the oft-recurring question, "How is it our fathers got along without these so-called modern improvements?" and "What has sanitation accomplished towards prolonging human life?"

Although sewers and acqueducts are not of modern origin, and figure in the history of Rome over 2,000 years ago, it is true that during the dark ages, when ignorance and brutal prejudice ruled, they fell into disuse, while in most places they never existed; but as pure air and water are a vital necessity to man, and therefore the chief sanitary requisites of a community, we need not be surprised that the mortality of towns without them was greater than the birth rate, and that the city populations had to be recruited continually from the country—conditions which existed until the beginning of the present century. Nor need we wonder that the average length of human life in the sixteenth century was only 18 to 20 years, while to-day it is over 40 years. (The mortality of London between 1660–70 was 80 per 1,000, between 1728–50 it was still 40 per 1,000, while at the present day it is from 20 to 21 per 1,000.) Indeed, we have ample evidence that with the introduction of these so-called modern sanitary improvements the general mortality in numerous cities during the past forty years has been reduced fully one-half, the good effects being especially shown by a marked decrease in the number of cases of typhoid fever, diarrheal diseases, and consumption. This statement is based upon statistical data, with which I do not care to burden you, but they are so conclusive as regards the diminution of typhoid fever that to-day an undue prevalence of this disease in a city is considered an index of an impure water supply or defective sewer system, particularly the former, and the question naturally arises, "How does our National Capital compare in this respect with other cities in the United States?"

I regret to state that of 54 cities tabulated by Professor Mason, of Troy, Washington

stands No. 7 on the list as regards the death rate from typhoid fever; only Denver, Allegheny, Camden, Pittsburg, Newark, and Charleston furnished a higher rate. This is all the more lamentable because our rate is double and treble that of cities like New York, Brooklyn, Boston, Buffalo, Milwaukee, Detroit, Toledo, New Orleans, etc. Nor can we console ourselves with the idea that this condition is purely ephemeral, for investigation has shown that typhoid fever has increased with approximate uniformity during the past fifteen years—that is to say, while the typhoid fever death rate in 1881 was only 3.6 per 10,000 living inhabitants, it has gradually increased with only slight annual fluctuations until for the year ending June 30, 1896, it has reached 8.12 per 10,000 of inhabitants. This would, indeed, be discouraging if investigation last year had not revealed the significant fact that the disease is more prevalent in the suburbs and in sections where people, in the absence of sewers and a general water supply, are compelled to resort to box privies and wells. Thus, for example, while the typhoid fever death rate in the suburbs and northeast last year was 8.44 and 8.76 per 10,000, the rate in the northwest section—i. e., the region west of Thirteenth street to Rock Creek and north of the Potomac to Florida avenue—furnished only 1.71 per 10,000, or only a slight fraction over that of Lynn, Mass., which city has a rate of 1.6 per 10,000, and stands at the head of American cities as regards exemption from typhoid fever. In other words, were every section of this district supplied with the same sanitary conditions as are enjoyed by the 52,000 residents of the northwest, the National Capital would lead her sister cities as regards exemption from this particular disease. This to my mind indicates the encouraging fact that the prevalence of typhoid fever in this city is not influenced by climatic conditions, but is associated with local unsanitary factors, and, therefore, to a great extent preventable.

I have already intimated that impure water and soil pollution must be invoked to explain the undue prevalence of the disease in the suburbs and certain parts of the city, simply because the absence of sewers compels recourse to makeshifts by which the soil is liable to pollution with the dejecta of patients suffering from typhoid fever, and by percolation we have subsequent infection of the well water. Leaky and defective sewers may, of course, produce the same ultimate result on wells within the city limits. As a matter of fact, of 436 cases of typhoid fever investigated 289 were largely consumers of well water, and 132 were largely consumers of Potomac water; and, as in 26 of 70 samples of water examined by Dr. Kinyoun, of the Marine-Hospital Service, sewage bacteria were found, it points with more than mere suspicion to the fact that the germs of typhoid fever may be conveyed from the intestinal tract to the soil and from the soil back to the system, chiefly through the water supply.

In 1895 there were, in round numbers, 39,000 houses in this district with sewer connections and about 13,000 houses still supplied with makeshifts; and it is a noteworthy fact that the unsewered houses, constituting about one-third of all the houses, furnished 160, or more than one-half, of all the typhoid-fever houses investigated. The role these boxes play in the pollution of soil, water, and air is best judged by the fact that during the fiscal year ending June 30, 1895, the sanitary inspector reported 4,372 as "full," 746 as leaky, 5,201 as filthy, and 230 as dilapidated. These makeshifts, even if there were no wells, would be still a source of danger, in so far as they favor the transmission of germs by means of flies infecting the food. Nor can the possibility be ignored that these germs in leaky and overflowing boxes may reach the upper layer of the soil and with pulverized dust gain access to the system.

It is gratifying, therefore, that Congress during the last session passed a law providing for the drainage of lots, which will enable the health department to abolish a large number of these nuisances, and I may add that the Civic Center and the committee on legislature of the medical society materially aided our efficient health officer in the passage of this bill.

I deem it the duty of every good citizen to aid in the prompt abatement of these

nuisances, and after their removal the soil in the vicinity should be thoroughly disinfected, as the germs of typhoid fever implanted in the manner referred to may live for an indefinite time unless destroyed by germicides.

In regard to the number of surface wells, I am pleased to report, upon information kindly furnished by Captain Burr, that there were only 143 in service June 30, 1896, a decrease of 128 during the past five years, and also that, upon the petition of the residents of Takoma and Brookland, and at a considerable personal expense, Potomac water has been introduced for the first time in the history of Takoma, and distributing pipes have been greatly extended in Brookland. These suburbs suffered severely from typhoid fever last year, and are evidently hoping to improve their water supply.

In addition to the surface wells, there are now 11 artesian wells in the district, 9 having been sunk since July last—4 in the southwest, 4 in the southeast, and 1 in the northwest. While no bacteriologic examination has been made of these recent wells, the result of the first two justifies the hope that water free from sewage bacteria may be obtained; but until repeated examinations have proved their purity it will be unwise to advocate what has elsewhere proved a failure, for the city of Charleston is supplied with artesian wells, yielding 16,000,000 gallons daily, and yet its typhoid fever rate is 9.8 per 10,000.

If I were asked to explain the remarkable exemption from typhoid fever in the northwestern section of this city, I should attribute it not only to better sanitary environment, but also to the fact that the residents are especially careful in the selection of their drinking water.

While nothing short of a house-to-house census could determine the number of families who use domestic filters or sterilize their water by boiling, I am quite certain that these precautions are more generally employed there than in any other section of the city, and Körösi, of Budapest, has shown that of 7,000 residents in the most fashionable part of his native city those who used filtered water contributed 9.3 cases of typhoid fever and the consumers of unfiltered water furnished 14.1 cases per 10,000.

While I consider the prompt abandonment of every surface well and box privy as extremely necessary, because it eliminates two important factors in the dissemination of the disease, I fear the danger will not be removed until we secure a pure general water supply with a comprehensive sewer system. My reason for this belief is that the closing of nearly one-half of the pumps in this city during the past five years has led to no perceptible decrease in the amount of typhoid fever, showing that they were not the only cause, and that the other causes must really be on the increase. It is difficult to estimate the amount of injury done by scattering the germs from leaky or overflowing boxes, since the possibility of æreal infection in the absence of positive proof is denied by many sanitarians; but there is no doubt about the increased sources of pollution of the Potomac River, which constitutes our general water supply. There are now over 23,000 people living in towns along the river, and since this stream receives directly or indirectly the drainage not only of these towns, but also of every hamlet and farmhouse washed by its shores and tributaries, and as the number of inhabitants in this watershed is constantly increasing and typhoid fever is very prevalent among them, and, finally, as sewage bacteria have been repeatedly demonstrated in the tap water of our city, the possibilities of infection with the typhoid bacillus are too numerous. These are disagreeable facts, but the sooner they are corrected, in the language of Dr. Busey, "the better it will be for the health of our residents and the fair name of our city."

You will ask, Can they be corrected? and I unhesitatingly answer yes, because a summary of the evidence on this subject reveals the significant fact that cities, both at home and abroad, in which there has been the most marked decrease in the typhoid fever death rate are those in which a pure water supply has been substituted for a preexisting contaminated one. Thus, for example, the typhoid fever death rate in Boston in 1846–1849 was still 17.4 per 10,000; in 1890–1892 it had fallen to 3.2 per 10,000, the

city having in the meantime expended $25,000,000 on its water supply. The rate from this disease in Lawrence, Mass., for five years prior to 1893 was 12.7 per 10,000. After the establishment of sand filters, in September, 1893, the rate fell during the first twelve months to 5.2 per 10,000. In other words, 48 human lives at a value of $5,000 each, or a total value of $220,000, were saved to that city by an expenditure of only $65,000 for the plant and $4,000 running expenses per year. The typhoid fever death rate in Chicago in 1892 was 14.3 per 10,000. After improving the water supply it fell to 5.6 per 10,000. In 1874 the rate in Vienna was 11.5 per 10,000, and with the introduction of a pure water supply it has fallen to less than 2 per 10,000. The experience of London, Berlin, Munich, and a host of other cities has been precisely the same.

Munich was notorious for its excessive typhoid fever death rate, it being 29 per 10,000 in 1856. With the introduction of a pure water supply and improved sewer system it has fallen to less than 2 per 10,000.

The question has passed beyond the speculative or experimental stage. Conservative cities are not in the habit of authorizing the expenditure of large sums of money without counting the cost and results; and the mortality statistics have furnished more eloquent and conclusive arguments than the most zealous advocates of sanitary reforms.

It is gratifying to know that a city like Philadelphia, with even a lower typhoid fever rate than ours, has recently taken active steps to improve its water supply; and Pittsburg, within the past week or two, has sent an official committee to Lawrence, Mass., to inspect the method of water filtration by sand.

An abundance of water does not limit the spread of typhoid fever, for New York City, with only 78 gallons per head a day, has only 2.3 deaths, while this city, with a daily per capita consumption of 173 gallons, furnishes 8.12 deaths. Let us advocate, therefore, an ample quantity of pure water, and until this is accomplished let us filter and boil our drinking water, boil our milk, and thoroughly disinfect the excreta of typhoid fever patients.

The frequent presence of dead animals, 16 of which, according to the report of the health officer for 1889, were found and removed in June of that year in the drifts near Seneca dam, the almost constant presence of sewage bacteria in Potomac water, and an excessive and ever increasing typhoid fever rate, I believe more than justify our claim for the necessity of an improved water supply.

Without underrating the importance of a perfect system of sewers and the reclamation of the low lands along the Eastern Branch, sand filtration of our water supply will accomplish more for the health of this city than any single factor; and if the expenditure of $1,000,000, with an average annual expense of $60,000, will save this city 100 deaths from typhoid fever per annum, not to mention ten times the number of cases and the stigma which now attaches to our city, it will indeed prove a profitable investment.

It is our duty and privilege to point out the facts; it is clearly the duty of those in authority to investigate and apply the remedy, and hygiene has long since demonstrated the methods by which it may be successfully accomplished.

And, as the right of petition is not denied to us, I submit the following resolutions:

RESOLUTION PASSED BY THE CIVIC CENTER JANUARY 15, 1897.

Whereas, the statistics of the health officer of the District of Columbia indicate an almost uniform increase and excessive prevalence of typhoid fever during the past 15 years, and

Whereas, the experience of the civilized world points to a contaminated water supply as the most important factor in the causation of this disease; therefore be it

Resolved, That we, the Civic Center of the City of Washington, a body composed of members who are working for the public good, most earnestly pray the Senate and House of Representatives in Congress assembled, that you will create a commission * * * for the purpose of determining the present sources of contamination of the Potomac River. and the measures necessary to remedy, remove, and prevent such pollution, if found to exist.

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

One case of smallpox at San Francisco Quarantine Station, Cal.

ANGEL ISLAND, CAL., *February 20, 1897.*

Chinese woman sickened with variola on steamer *China*, February 11. The vessel, with 32 cabin, 78 steerage, and 112 in the crew, quarantined. Usual vaccination, disinfection, and detention. Details by mail.

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

One case of smallpox in New Haven, Conn.

NEW HAVEN, CONN., *February 17, 1897.*

SIR: It becomes my duty to inform you that 1 case of smallpox exists at New Haven, in the county of New Haven, in the State of Connecticut. The person sick is a resident, the origin of the disease is unknown, and the measures taken to restrict are isolation and vaccination.

Very respectfully,
C. A. LINDSLEY,
Secretary State Board of Health.

*Smallpox in the United States as reported to the Supervising Surgeon-General United States Marine-Hospital Service, December 29, 1896, to February 23, 1897.**

Places.	Date.	Cases.	Deaths.	Remarks.
Alabama:				
Mobile	Dec. 28–Jan. 26	2		
Connecticut:				
New Haven	Feb. 17	1		
Florida:				
Pensacola	Jan. 19–Feb. 14	9		
Escambia County (not including Pensacola).	Dec. 2–Jan. 19	18		
Indiana:				
Greenwood	Feb. 12	1		
Washington:				
Tacoma	Feb. 6			

* For table of smallpox in the United States, etc., May 9, 1896, to December 29, 1896, see PUBLIC HEALTH REPORTS, Vol. XII, No. 1.

Report of immigration at Boston for the week ended February 20, 1897.

OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
Port of Boston, February 20, 1897.

Number of alien immigrants who arrived at this port during the week ended February 20, 1897; also names of vessels and ports from which they arrived.

Date.	Vessel.	Where from.	No. of immigrants.
Feb. 14	Steamship Boston	Yarmouth, Nova Scotia	39
Feb. 15	Schooner J. M. Haynes	Demerara, South America	1
Feb. 16	Ship Constance	Manila	2
Feb. 18	Steamship Ethelwold	Port Antonio, Jamaica	2
Do.	Steamship Boston	Yarmouth, Nova Scotia	53
Do.	Steamship Bonavista	Halifax, Nova Scotia	20
Do.	Steamship Bohemia	Hamburg, Germany	40
	Total		157

THOMAS F. DELHANTY,
Commissioner of Immigration.

QUARANTINE REPORTS.

National quarantine stations.

[Vessels named only when detained or given treatment at quarantine.]

Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
Brunswick, Ga	Feb. 13	Sp. bk. Pensativo	Feb. 9	Habana	Brunswick	Disinfected and held	Feb. 13		6
		Sp. bg. Segundet	do	do	do	do	do		
Delaware Breakwater, Del.	Feb. 20								2
Eureka, Cal	Feb. 10							No transactions	
Grays Harbor, Wash	do							do	
Gulf, Ship Island, Miss	Feb. 13								2
Newbern, N. C	do							No transactions	
Port Townsend, Wash	do								15
Reedy Island, Del	Feb. 20								14
San Diego, Cal	Feb. 13								5
South Atlantic, Blackbeard Island, Ga.	do							No transactions	
Tortugas, Key West, Fla.	Feb. 6							do	

QUARANTINE REPORTS—Continued.

State and municipal quarantine stations.

[Vessels named only when detained or given treatment at quarantine.]

Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
Boston, Mass	Feb. 13								10
Carabelle, Fla	Feb. 20								4
Charleston, S. C	do							No transactions	
Elizabeth River, Va	do								5
Galveston, Tex	Feb. 13								13
Key West, Fla	do								6
Do	Feb. 20								4
Newport News, Va	do								5
Providence, R. I	do							No transactions	

Reports of States and yearly and monthly reports of cities.

CONNECTICUT.—Month of January, 1897. Reports to the State board of health from 166 towns having an aggregate population of 851,060. Total deaths, 1,123, including phthisis pulmonalis, 99; enteric fever, 7; scarlet fever, 4; measles, 4; diphtheria and croup, 45, and whooping cough, 5.

ILLINOIS—*Chicago.*—Month of January, 1897. Estimated population, 1,750,000. Total deaths, 2,026, including phthisis pulmonalis, 187; enteric fever, 38; scarlet fever, 8; diphtheria, 76; measles, 13, and whooping cough, 9.

IOWA—*Burlington.*—Month of January, 1897. Estimated population, 28,000. Total deaths, 32, including scarlet fever, 2.

Boone.—Month of December, 1896. Estimated population, 8,845. Total deaths, 9, including 3 from phthisis pulmonalis, and 1 from diphtheria.

Month of January, 1897. Total deaths, 10, including 3 from phthisis pulmonalis.

Cedar Rapids.—Month of December, 1896. Estimated population, 21,555. Total deaths, 16, including 1 from diphtheria, and 2 from phthisis pulmonalis.

Month of January, 1897. Total deaths, 19, including diphtheria, 2, and phthisis pulmonalis, 4.

Clinton.—Month of January, 1897. Estimated population, 25,000. Total deaths, 23, including phthisis pulmonalis, 5; enteric fever, 1, and diphtheria, 1.

Creston.—Month of January, 1897. Estimated population, 7,306. Total deaths, 5, including 2 from phthisis pulmonalis.

Davenport.—Month of December, 1896. Estimated population, 35,000. Total deaths, 29, including 2 from phthisis pulmonalis, and 1 from whooping cough.

Decorah.—Month of December, 1896. Estimated population, 3,200. Three deaths, including 1 from phthisis pulmonalis, and 2 from diphtheria.

Des Moines.—Month of December, 1896. Estimated population, 82,600. Total deaths, 46, including phthisis pulmonalis, 3, and diphtheria, 2.

Month of January, 1897. Total deaths, 40, including phthisis pulmonalis, 2; enteric fever, 1, and diphtheria, 1.

Dubuque.—Month of December, 1896. Estimated population, 40,000. Total deaths, 23, including phthisis pulmonalis, 1; diphtheria, 2; enteric fever, 2, and membranous croup, 4.

Eldon.—Month of January, 1897. Estimated population, 1,900. One death. No death from contagious disease.

Keokuk.—Month of December, 1896. Estimated population, 18,000. Total deaths, 19, including phthisis pulmonalis, 4.

Month of January, 1897. Total deaths, 10, including phthisis pulmonalis, 1.

Oskaloosa.—Month of January, 1897. Estimated population, 8,500. Total deaths, 6, including 1 from phthisis pulmonalis.

Ottumwa.—Month of December, 1896. Estimated population, 18,000. Total deaths, 16, including phthisis pulmonalis, 2, and diphtheria, 1.

Month of January, 1897. Total deaths, 18, including phthisis pulmonalis, 2, and enteric fever, 1.

Sioux City.—Month of January, 1897. Estimated population, 27,371. Total deaths, 18, including phthisis pulmonalis, 1; enteric fever, 1; and diphtheria, 2.

MARYLAND—*Baltimore.*—Month of January, 1897. Estimated population—white, 431,054; colored, 75,344; total, 506,398. Deaths—white, 590; colored, 155; total, 745, including phthisis pulmonalis, 89; croup, 2; diphtheria, 44; enteric fever, 6; scarlet fever, 5; measles, 1, and whooping cough, 4.

Cumberland.—Month of January, 1897. Estimated population, ———. Total deaths, 17, including phthisis pulmonalis, 1, and diphtheria, 1.

MASSACHUSETTS—*Fitchburg.*—Month of January, 1897. Estimated population, 26,409. Total deaths, 48, including phthisis pulmonalis, 8, and croup, 3.

MICHIGAN.—Month of February, 1897. Reports to the State board of health from 66 observers indicate that inflammation of kidney decreased in area of prevalence. Phthisis pulmonalis was reported present during the week at 165 places, measles at 44, diphtheria at 33, scarlet fever at 25, enteric fever at 19, and whooping cough at 12 places.

MINNESOTA—*St. Paul.*—Month of January, 1897. Estimated population, 215,582. Total deaths, 100, including phthisis pulmonalis, 16, and diphtheria, 5.

MISSOURI—*Kansas City.*—Month of January, 1897. Estimated population, 165,000, Total deaths, 171, including phthisis pulmonalis, 3; diphtheria, 7, and croup, 3.

NORTH CAROLINA—*Raleigh.*—Month of January, 1897. Estimated population—white, 7,200; colored, 6,000; total, 13,200. Deaths—white, 15; colored, 9; total, 24, including phthisis pulmonalis, 2, and croup, 1.

NEW JERSEY—*Paterson.*—Month of January, 1897. Estimated population, 78,358. Total deaths, 174, including phthisis pulmonalis, 28; enteric fever, 16; diphtheria, 16; croup, 4, and measles, 1.

NEW YORK—*Buffalo.*—Month of January, 1897. Estimated population, 350,000. Total deaths, 432, including phthisis pulmonalis, 37; enteric fever, 2; scarlet fever, 3; diphtheria and croup, 49; measles, 1, and whooping cough 6.

RHODE ISLAND—*Newport.*—Month of January, 1897. Estimated population, 21,500. Total deaths, 24, including phthisis pulmonalis, 4, and whooping cough, 1.

TENNESSEE—*Nashville.*—Month of January, 1897. Estimated population—white, 54,595; colored, 33,159; total, 87,754. Deaths—white, 60; colored, 68; total, 128, including phthisis pulmonalis, 16, and diphtheria, 1.

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.	Varioloid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Allegheny, Pa	Feb. 23	105,287	26	4	.....	.....	.....	.....	.....	2	.....	.....	1	1
Altoona, Pa	Feb. 13	30,337	10	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amesbury, Mass	Feb 20	9,798	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ashtabula, Ohio	do	8,338	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore, Md	do	434,439	198	24	.....	.....	.....	.....	.....	1	2	6	.....	1
Battle Creek, Mich	Feb. 13	13,197	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 20	13,197	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Binghamton, N. Y	do	35,005	16	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Boston, Mass	do	448,477	210	32	.....	.....	.....	.....	.....	.....	6	15	.....	.....
Braddock, Pa	Feb. 6	8,561	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bristol, R. I	Feb. 13	5,478	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brockton, Mass	do	27,294	14	2	.....	.....	.....	.....	.....	.....	.....	2	1	.....
Brooklyn, N. Y	Feb. 20	806,343	432	57	.....	.....	.....	.....	.....	2	13	25	7	2
Brownsville, Tex	Jan. 23	6,134	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 30	6,134	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 6	6,134	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 13	6,134	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cambridge, Mass	Feb. 20	70,028	26	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Carlisle, Pa	Feb. 13	7,620	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Charlestown, S. C	Feb. 6	54,955	35	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 13	54,955	29	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill	do	1,099,850	452	36	.....	.....	.....	.....	.....	10	2	13	11	6
Cincinnati, Ohio	Feb. 19	296,908	118	17	.....	.....	.....	.....	.....	3	.....	2	.....	.....
Cleveland, Ohio	Feb. 20	261,353	101	5	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Columbus, Ohio	do	88,150	23	5	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Do	Feb. 6	88,150	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Denver, Colo	do	106,713	47	12	.....	.....	.....	.....	.....	1	.....	.....	3	.....
Do	Feb. 13	106,713	31	8	.....	.....	.....	.....	.....	.....	1	.....	3	.....
Dunkirk, N. Y	do	9,416	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 20	9,416	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Emporia, Kans	Feb. 13	7,551	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Erie, Pa	do	40,634	16	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Everett, Mass	Feb. 12	11,068	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fall River, Mass	Feb. 20	74,398	38	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fitchburg, Mass	Feb. 13	22,037	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gloucester, Mass	Feb. 6	24,651	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Haverhill, Mass	Feb. 20	27,412	12	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hoboken, N. J	Feb. 13	43,648	19	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Ironton, Ohio	Feb. 20	10,939	8	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Jacksonville, Fla	Feb. 13	17,201	19	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 20	17,201	19	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jersey City, N. J	Feb. 14	163,003	55	3	.....	.....	.....	.....	.....	2	1	3	1	1
Lawrence, Mass	Feb. 30	44,654	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 6	44,654	20	2	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Do	Feb. 13	44,654	27	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lowell, Mass	Feb. 20	77,696	32	4	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Lynchburg, Va	do	19,709	6	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKeesport, Pa	Feb. 13	20,741	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester, N. H	Feb. 21	44,126	28	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....
Massillon, Ohio	Feb. 6	10,092	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do		10,092	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medford, Mass	Feb. 20	11,079	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Michigan, Ind	Feb. 14	10,776	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Middletown, Ohio	Feb. 6	7,681	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 13	7,681	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milwaukee, Wis	Feb. 20	204,468	86	8	.....	.....	.....	.....	.....	.....	.....	3	2	.....
Minneapolis, Minn	Feb. 13	164,738	55	5	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Nashville, Tenn	Feb. 20	76,168	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Bedford, Mass	do	40,733	20	4	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
New Brighton, N. Y	Jan. 30	16,423	9	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Do	Feb. 6	16,423	13	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 13	16,423	12	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newburyport, Mass	do	13,947	3	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
New Orleans, La	do	242,039	145	18	.....	.....	.....	.....	.....	1	.....	6	.....	.....
Newport, R. I	Feb. 20	19,457	11	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York, N. Y	do	1,515,301	835	134	.....	.....	.....	.....	.....	2	9	30	8	5
Norristown, Pa	Feb. 13	19,791	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 20	19,791	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Adams, Mass	do	16,074	6	2	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Oneonta, N. Y	do	6,272	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palmer, Mass	do	6,520	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pensacola, Fla	Feb 13	11,750	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Philadelphia, Pa	Feb. 6	1,046,964	505	54	.....	.....	.....	.....	.....	3	6	27	.....	7

MORTALITY TABLE, CITIES OF THE UNITED STATES—Continued.

Cities.	Week ended.	Population, U. S. Census of 1890.	Total deaths from all causes.	Deaths from—										
				Phthisis pulmonalis.	Yellow fever.	Smallpox.	Varioloid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Pittsfield, Mass	Feb. 13	17,281	6	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Poughkeepsie, N. Y	do	22,206	11	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Providence, R. I	Feb. 20	132,146	81	6	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Pueblo, Colo	Feb. 13	24,558	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reading, Pa	Feb. 22	58,661	25	4	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
St. Louis, Mo	Feb. 13	451,770	210	24	.....	.....	.....	.....	.....	2	.....	1	.....	4
Salt Lake City, Utah	do	44,843	18	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
San Diego, Cal	do	16,159	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Francisco, Cal	do	298,997	144	20	.....	.....	.....	.....	.....	1	.....	.....	2	.....
Santa Barbara, Cal	do	5,864	4	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Spokane, Wash	do	19,922	8	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Stockton, Cal	do	42,424	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Taunton, Mass	Feb. 20	25,448	23	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Utica, N. Y	Feb. 13	44,007	15	3	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Virginia City, Nev	do	8,511	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Do	Feb. 6	8,511	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waltham, Mass	Feb. 13	18,707	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington, D. C	do	230,392	147	21	.....	.....	.....	.....	.....	2	.....	3	.....	1
Winona, Minn	do	18,208	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woburn, Mass	do	13,499	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Worcester, Mass	Feb. 12	84,655	44	4	.....	.....	.....	.....	.....	.....	.....	1	.....	.....

Table of temperature and rainfall, week ended February 15, 1897.

[Received from Department of Agriculture, Weather Bureau.]

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	*Excess.	*Defic'ncy.	Normal.	Excess.	Deficiency.
Atlantic Coast:						
Eastport, Me.	22		4	.91		.91
Portland, Me.	23	0		.91		.51
Northfield, Vt.	17		5	.56		.25
Boston, Mass.	27	0		.84	.04	
Vineyard Haven, Mass.	33		2	.84	.18	
Nantucket, Mass.	31	0		.70	.28	
Woods Hole, Mass.	31		2	.91		.03
Block Island, R. I.	31		1	1.12		.42
New Haven, Conn.	28		2	1.05		.05
Albany, N. Y.	26		7	.69	.24	
New York, N. Y.	32		2	.98	.02	
Harrisburg, Pa.	32		2	.70		.17
Philadelphia, Pa.	35		2	.84		.42
New Brunswick, N. J.	32		2	1.08		.43
Atlantic City, N. J.	34		1	.82		.35
Baltimore, Md.	37		1	.85		.32
Washington, D. C.	36	0		.84	.01	
Lynchburg, Va.	41	1		.91		.38
Cape Henry, Va.	44		3	.84		.58
Norfolk, Va.	44		1	.98		.71
Charlotte, N. C.	46	2		1.12		.02
Raleigh, N. C.	45	0		.98		.38
Kittyhawk, N. C.	46		4	.91		.75
Hatteras, N. C.	48		1	1.07		.54
Wilmington, N. C.	51	2		.77		.39
Columbia, S. C.	50	3		1.03	.52	
Charleston, S. C.	54	2		.83	1.89	
Augusta, Ga.	52	3		.98	.55	
Savannah, Ga.	56	3		.77	1.19	
Jacksonville, Fla.	60	1		.77	2.73	
Jupiter, Fla.	67	5		.63		.41
Key West, Fla.	72	3		.42		.42
Gulf States:						
Atlanta, Ga.	48	3		1.22		.15
Tampa, Fla.	66	2		.69	.52	
Pensacola, Fla.	57	2		.91	4.89	
Mobile, Ala.	56	2		1.14	2.45	
Montgomery, Ala.	53	2		1.33	1.38	
Vicksburg, Miss.	53	2		1.08		1.04
New Orleans, La.	59		1	1.12	1.06	
Shreveport, La.	51	1		1.05		1.05
Fort Smith, Ark.	42	2		.96		.89
Little Rock, Ark.	45	1		1.36		1.22
Palestine, Tex.	52	1		.91		.66
Galveston, Tex.	57	2		.77	1.04	
San Antonio, Tex.	56	2		.49		.36
Corpus Christi, Tex.	59	2		.63		.57
Ohio Valley and Tennessee:						
Memphis, Tenn.	45	4		1.33		1.33
Nashville, Tenn.	42	3		1.33		1.14
Chattanooga, Tenn.	46	4		1.40		.42
Knoxville, Tenn.	43	4		1.33		.82
Louisville, Ky.	39	2		1.12		.95
Indianapolis, Ind.	32	2		.91		.74
Cincinnati, Ohio.	36	2		.98		.89
Columbus, Ohio.	32	5		.98		.90
Parkersburg, W. Va.	37	4		.77		
Pittsburg, Pa.	34	3		.70		.20
Lake Region:						
Oswego, N. Y.	24		2	.63		.26
Rochester, N. Y.	24	0		.70	.03	
Buffalo, N. Y.	24	2		.70	.19	
Erie, Pa.	28	0		.91		.60
Cleveland, Ohio.	28	1		.70		.59
Sandusky, Ohio.	28	2		.77		.64
Toledo, Ohio.	28	1		.55		.19
Detroit, Mich.	27	0		.59	.01	
Lansing, Mich.	25	2		.49	.52	
Port Huron, Mich.	22	3		.63	.21	
Alpena, Mich.	17	6		.49		.01
Sault Ste. Marie, Mich.	12	3		.35		.21
Marquette, Mich.	15	5		.44		.16
Green Bay, Wis.	16	9		.58		.30

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

Table of temperature and rainfall, week ended February 15, 1897—Continued.

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	*Excess.	*Defic'ncy.	Normal.	Excess.	Deficiency.
Lake Region—*Continued.*						
Grand Haven, Mich	24	4		.56		.22
Milwaukee, Wis	22	7		.46	.19	
Chicago, Ill	27	3		.56	.45	
Duluth, Minn	12	9		.28	.69	
Upper Mississippi Valley:						
St. Paul, Minn	14	8		.21	.38	
La Crosse, Wis	17	10		.28		.10
Dubuque, Iowa	21	6		.35	.08	
Davenport, Iowa	24	6		.39	.09	
Des Moines, Iowa	21	7		.31		.20
Keokuk, Iowa	27	6		.42		.11
Springfield, Ill	30	3		.91		.58
Cairo, Ill	39	4		1.02		.90
St. Louis, Mo	35	3		.68		.61
Missouri Valley:						
Columbia, Mo	34	2		.64		.43
Springfield, Mo	36	2		.89		.87
Kansas City, Mo	31	2		.47	.28	
Wichita, Kans	37	2		.28	.13	
Concordia, Kans	28	1		.21	.24	
Lincoln, Nebr	22	7		.28		.17
Omaha, Nebr	23	6		.21		.17
Sioux City, Iowa	19	3		.14	.02	
Yankton, S. Dak	18	3		.18	.54	
Valentine, Nebr	22	2		.19	.57	
Huron, S. Dak	11			.14		
Pierre, S. Dak	13		1	.07	.01	
Moorhead, Minn	3	4		.21	1.11	
Bismarck, N. Dak	7		2	.14	.85	
Williston, N. Dak	7	1		.10		.08
Rocky Mountain Region:						
Havre, Mont	13	1		.14		.10
Helena, Mont	21	6		.21	.11	
Miles City, Mont	15	3		.14		.10
Rapid City, S. Dak	21	4		.14		.11
Spokane, Wash	28	5		.47	.61	
Wallawalla, Wash	34	5		.34	.99	
Baker City, Oreg	23	6		.42	.34	
Winnemucca, Nev	33	1		.22		.14
Salt Lake City, Utah	32		3	.31	.51	
Lander, Wyo	21	2		.14	.45	
Cheyenne, Wyo	27		3	.07		.04
North Platte, Nebr	25	3		.08	.13	
Denver, Colo	33		4	.14	.09	
Pueblo, Colo	33		3	.11	.79	
Dodge City, Kans	31		1	.14	1.28	
Oklahoma City, Okla	39	0		.19	.45	
Amarillo, Tex	33	4		.37		.31
Abilene, Tex	47	3		.35		.33
Santa Fe, N. Mex	32		6	.21		.03
El Paso, Tex	49		3	.13		.13
Phœnix, Ariz	53		6	.27		.27
Pacific Coast:						
Port Angeles, Wash	36	5		.80	.26	
Fort Canby, Wash	42		1	1.59	2.42	
Astoria, Oreg	44		2	1.89	4.02	
Portland, Oreg	41	1		1.54	1.17	
Roseburg, Oreg	43	2		1.28	.53	
Eureka, Cal	46			1.52		
Red Bluff, Cal	49		2	.94		.52
Carson City, Nev	35	0		.36		.26
Sacramento, Cal	50		2	.77		.74
San Francisco, Cal	52		2	.96		.72
Fresno, Cal	49		2	.28		.24
Los Angeles, Cal	55		2	.87		.87
San Diego, Cal	55		1	.60		.59
Yuma, Ariz	59		4	.14		.14

*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, and plague as reported to the Supervising Surgeon-General United States Marine-Hospital Service, December 29, 1896, to February 23, 1897.**

CHOLERA.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Dec. 8–Dec. 15		1	
	Dec. 22–Dec. 29		1	
Calcutta	Nov. 14–Jan. 9		167	
Madras	Nov. 21–Nov. 27		2	
	Nov. 28–Dec. 4		1	
	Dec. 12–Dec. 25		6	
	Dec. 26–Jan. 15		15	
Singapore	Nov. 1–Nov. 30		12	
	Dec. 1–Dec. 31		5	
Ceylon:				
Colombo	Nov. 28–Jan. 2		90	
England:				
Plymouth	Jan. 9		4	On steamship *Nubia*. No cases in city.
Japan:				
Tokyo	Dec. 4–Dec. 29	8	2	
	Dec. 30–Jan. 18	3	3	
Yokohama	Dec. 4–Dec. 29	4	1	
	Dec. 30–Jan. 18	2	2	

YELLOW FEVER.

Brazil:				
Para	Dec. 12–Jan. 2		9	
Rio de Janeiro	Nov. 21–Dec. 26		10	
	Dec. 26–Jan. 9		7	
	Jan. 9–Jan. 23		11	
Cuba:				
Cardenas	Dec. 25–Jan. 23	64	6	
	Jan. 23–Jan. 30	20		
	Jan. 31–Feb. 13		1	
Cienfuegos	Dec. 20–Dec. 27		8	
	Dec. 28–Jan. 17		2	
Habana	Dec. 24–Dec. 31	90	33	
	Jan. 1–Jan. 14	270	96	
	Jan. 14–Jan. 28	130	48	
	Feb. 4–Feb. 11	5	6	
Matanzas	Dec. 9–Dec. 23		8	
	Dec. 23–Jan. 27		19	
	Jan. 27–Feb. 10		2	
Santiago	Dec. 5–Dec. 12		6	
	Dec. 19–Jan. 16		16	
	Jan. 16–Jan. 30		5	
	Jan. 30–Feb. 6		2	
Sagua la Grande	Dec. 19–Dec. 26	50	5	
	Dec. 26–Jan. 9	65	6	
	Jan. 9–Jan. 23	38	5	
	Jan. 23–Jan. 30	7	1	
	Jan. 31–Feb. 13		3	
Ecuador:				
Guayaquil	Dec. 18–Dec. 25		9	
Haiti:				
Port au Prince	Dec. 14			Yellow fever epidemic.
Guadeloupe:				
Basse Terre	Jan. 5	1		

*For table of cholera and yellow fever, as reported to the Supervising Surgeon-General United States Marine-Hospital Service December 26, 1895–December 29, 1896, see PUBLIC HEALTH REPORTS, Vol. XII, No. 1.

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

PLAGUE.

Places.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Dec. 1-Dec. 22		558	This is the number of deaths officially reported. The United States consul estimates the number of deaths for the same period at 2,648.
	Dec. 22-Jan. 5		738	Estimated deaths for this same period, 3,238.
	Jan. 5-Jan. 12		335	Estimated deaths for this same period, 1,388.
	Jan. 12-Jan. 19		470	
Karachi				Jan. 11. Plague epidemic; 220 cases, 214 deaths to date.
China:				
Hongkong	Dec. 13-Dec. 29			A few cases.
Japan:				
Formosa	Nov. 6-Nov. 30	53	37	
	Dec. 4-Dec. 29		15	

BRAZIL.

Sanitary reports from Rio de Janeiro.

RIO DE JANEIRO, *January 18, 1897.*

SIR: I have the honor to transmit report for the week ended January 16, 1897:

There were 7 deaths from accesso pernicioso, a decrease of 6; 8 from yellow fever, an increase of 3; none from smallpox, 1 in the foregoing week; 8 from beriberi, an increase of 4; 45 from tuberculosis, a decrease of 1; none from diphtheria, 1 in the foregoing week, and 276 from all causes, an increase of 1.

The health of the town and port is better than I have ever known it in January. On the 13th there were only 24 deaths from all causes, which would be very low for the healthy months of June and July. There were a few more cases of yellow fever, but nothing like what is usual at this time of the year.

Since last report the following-named ships have been visited or received bills of health from this office: January 11, ship *Sierra Morena*, British, for Savannah, Ga. January 12, steamship *Dulwich*, British, for Santa Lucia, West Indies. January 13, ship *W. H. Corsar*, British, for Ship Island, Mississippi, and steamship *Velleda*, British, for New Orleans, La. January 15, bark *Homeward*, Norwegian, for Pensacola, Fla.; ship *Farniljen*, Swedish, for Savannah, Ga.; steamship *Mozart*, British, for New Orleans, La.; bark *Valuta*, Norwegian, for Pensacola, Fla.; ship *King Cenric*, Norwegian, for Pensacola, Fla., and ship *Louise*, Norwegian, for Ship Island, Mississippi. January 16, bark *Amanda*, British, for Sapelo Sound, Georgia, and steamship *Hevelius*, Belgian, for New York, N. Y. January 18, ship *Columbus*, Finn, for Sapelo Sound, Georgia; steamship *Haverstoc*, British, for Hampton Roads, Virginia, and steamship *Caldy*, British, for New Orleans, La.

Respectfully, yours,

R. CLEARY, M. D.,
Sanitary Inspector, U. S. M. H. S.

RIO DE JANEIRO, *January 25, 1897.*

SIR: I have the honor to send report for the week ended January 23, 1897:

There were 8 deaths from accesso pernicioso, an increase of 1; 3 from yellow fever, a decrease of 5; 8 from beriberi, the same as in the foregoing week; 4 from enteric fever, none in the foregoing week; 33 from tuberculosis, a decrease of 12; and 261 from all causes, a decrease of 9.

So fair a state of health for the end of January I have never before seen in Rio de Janeiro. The strong probabilities are that there will not be any epidemic of yellow fever of great importance this year.

Since last report the following-named ships have been visited or received bills of health from this office: January 19, bark *Odd*, Norwegian, for Savannah, Ga. January 19, steamship *Monrovia*, British, for New Orleans, La., and bark *Ruthin*, German, for Charleston, S. C. January 20, bark *Fiducia*, Italian, for Mobile, Ala. January 21, steamship, *Bellarnoch*, British, to New York, N. Y.; ship *Wandesbek*, German, for New York, N. Y., and bark, *Glamoir*, British, for New York, N. Y. January 23, bark *Prince Frederick*, Norwegian, for Ship Island, Mississippi. January 25, steamship, *Ruskin*, British, for New Orleans. La.

Respectfully, yours,

R. CLEARY, M. D.,
Sanitary Inspector, U. S. M. H. S.

CUBA.

Smallpox and yellow fever in Cuban seaports.

Under date of February 5 the United States sanitary inspector at Habana reports that during the week ended February 11 there were in that city 6 deaths from yellow fever and 210 from smallpox.

Under date of February 15 the United States consul at Sagua la Grande reports that during the two weeks ended February 13 there were 3 deaths from yellow fever.

Under date of February 11 the United States consul at Matanzas reports 2 deaths from yellow fever during the two weeks ended February 10.

HABANA, CUBA, *February 13, 1897.*

SIR: I have the honor to inform you that smallpox still increases in this city and that there were on an average 30 deaths daily from it during the last week, or 210 deaths in the seven days; more than half of the whole number of deaths from all diseases. Yellow fever has diminished very much, as usual at this season of the year, the mortality from it being less in February than in any month of the year.

Mortuary report.—During the week ended February 11 there were 412 deaths in all, 6 of which were caused by yellow fever, with approximately 5 new cases; 210 were caused by smallpox, with 1,930 new cases approximately; 8 were caused by enteric fever, 7 by so-called pernicious fever, 24 by dysentery, 14 by enteritis, 1 by measles, 1 by glanders, 9 by pneumonia, and 29 by tuberculosis.

All of the 6 deaths during the week by yellow fever were among Spanish soldiers in the military hospitals and 4 of the deaths from smallpox, the remaining 206 deaths from smallpox being among civilians.

Very respectfully, your obedient servant,

D. M. BURGESS,
Sanitary Inspector, U. S. M. H. S.

MATANZAS, *January 26, 1897.*

SIR: * * * Smallpox has broken out in this city. Several cases have been reported during the past three days, and likely to become epidemic, as no sanitary regulations exist to prevent spreading of contagious diseases.

I am, sir, A. C. BRICE,
United States Consul.

Hon. ASSISTANT SECRETARY OF STATE.

SANTIAGO DE CUBA, *February 6, 1897.*

SIR: I have the honor of submitting the following report on the sanitary condition of Santiago de Cuba for the week ended February 6: There were 54 deaths reported, of which 2 were from yellow fever and 1 from typhoid, at the military hospital. Among the civilians, there were 5 from remittent fever, 7 from pernicious fever, 4 from dysentery, 12 from tuberculosis, 9 from enteritis, and the rest from noncontagious diseases. We have few soldiers in town just now and no immigration of any kind, so that yellow fever has somewhat abated, although there are still some cases under treatment at the military hospital. Dysentery is very common at present, so are malarial fevers of bad type. Diarrhea prevails to a great extent among the children, and makes many victims.

Respectfully, H. S. CAMINERO, M. D.,
Sanitary Inspector, U. S. M. H. S.

GERMANY.

Denial of reports of cases of plague on vessels arriving at Hamburg.

CONSULATE-GENERAL OF THE UNITED STATES,
Hamburg, January 21, 1897.

SIR: I have the honor to inform you that, in No. 3 of the "Veröffentlichungen des Kaiserlichen Gesundheitsamtes" (publications of the Imperial Sanitary Bureau) of the 20th instant, there appears, under the heading of "Temporary measures against plague," the following notice:

German Empire.—By circulars of the chancellor, dated January 8th and 12th, the governments of the federal states along the seacoast have been requested to allow the port authorities to pay special attention to the sanitary condition of vessels which arrive from Bombay and other ports on the west coast of British India, or from a Persian port.

In this connection, I would add, that the local papers a few days since spread alarming reports regarding the probable outbreak of the disease on vessels in this port, lately arrived from India. I promptly made official inquiry at the medical bureau as well as at the office of the port physician, where I was informed that there was absolutely no truth in the reports, and that they had probably originated on account of several cases of sickness (either beriberi or scorbutus) which were reported from a vessel recently arrived from Bombay. A death which took place on the same vessel was proved to have been caused by pneumonia. The sick are all convalescent.

I am, sir, your obedient servant, CHAS. H. BURKE,
United States Vice and Deputy Consul.

Hon. ASSISTANT SECRETARY OF STATE.

Inspection of vessels at Bremen arriving from Indian ports.

BREMEN, *January 23, 1897.*

SIR: I have the honor to report that, in view of the spread of the bubonic disease in the East, the sanitary authorities at this port have instituted careful supervision of all vessels arriving from ports at or near the existence of the plague.

The North German Lloyd Steamship Company have generously directed the ship surgeons on all the vessels arriving here from far eastern ports to report to this office on the health of the passengers and crews during the homeward voyage, thereby strengthening our knowledge of the sanitary condition of their vessels leaving this port for the United States.

The danger is very slight of this or any other contagious disease reaching the United States from Bremen.

I have, etc.

GEORGE KEENAN,
United States Consul.

JAPAN.

Report of infectious diseases.

YOKOHAMA, *January 28, 1897.*

SIR: I have the honor to forward herewith my regular report of infectious disease in Japan, for period January 19 to January 27, inclusive.

I beg to call your attention to the increased prevalence of smallpox throughout the country, and more especially in Osaka Fu and Kanagawa Ken. In Yokohama, which is in the latter district, there have occurred, during the period reported upon, 76 cases of variola; the authorities are making every effort for the control and limitation of the epidemic, and there are already indications that they will succeed in preventing a very extensive outbreak so far as this city is concerned.

I am, sir, very respectfully, your obedient servant,

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

Report of infectious diseases in Japan from January 19 to January 27, 1897.

Locality.	Plague.		Dysentery.		Smallpox.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Kioto Fu					21	7
Osaka Fu.			7	2	1,002	371
Tokyo Fu.					1,199	189
Aichi Ken					3	
Akita Ken				2		
Awomori Ken						
Chiba Ken					1	1
Fukui Ken					22	4
Fukuoka Ken					108	28
Fukushima Ken					4	
Gifu Ken						
Gumma Ken					7	2
Hiogo Ken					124	44
Hiroshima Ken			2	1	53	12
Ibaraki Ken						
Ishikawa Ken					4	1
Iwate Ken					4	1
Kagawa Ken					15	1
Kagoshima Ken			4	2	8	6
Kanagawa Ken (Yokohama)			2		127	29
Kochi Ken					38	6
Kumamoto Ken					3	1
Miyagi Ken					29	9
Miyazaki Ken						
Miye Ken						
Nagano Ken					8	
Nagasaki Ken				1	7	1
Nara Ken					14	4
Niigata Ken						
Oita Ken						
Oyama Ken			1		26	5
Okinawa Ken					51	(*)
Saga Ken					1	
Saitama Ken			3	1	80	17
Shidzuoka Ken			2	1	22	1
Shiga Ken			2		12	3
Shimane Ken			2	2	7	2
Tochigi Ken						
Tokushima Ken					59	9
Tottori Ken						
Toyama Ken					2	2
Wakayama Ken						
Yamagata Ken					1	1
Yamaguchi Ken						
Yamanashi Ken					2	
Yehime Ken						
The Hokkaido					24	10
Taiwan (Formosa)	8					
Totals	3		25	12	3,088	767

*No report.

TURKEY.

Sanitary report of Constantinople.

[Report No. 168.]

CONSTANTINOPLE, *January 29, 1897.*

SIR: Public health in Constantinople is not so bad as could be believed. In several of my previous reports I have stated that many cases of diphtheria were occurring and many deaths from the same disease were registered. I have to state now that it has been found out that a few physicians in the different suburbs of Constantinople, as well as in Pera, had on purpose, in cases of light and simple sore throats, established the diagnosis of diphtheria and immediately injected antidiphtheritic serum. But, very happily, the authorities have interfered, and, comme par enchantement, the diphtheria epidemic has disappeared, though there is

still a physician, whom the authorities can not control, who claims that he has observed 200 diphtheria cases. Anyhow, the authorities have interfered and the number of deaths attributed to diphtheria have enormously diminished. For instance, from the 11th to the 18th instant 17 diphtheria deaths have been registered, and from the 19th up to the 25th only 2 deaths attributed to diphtheria have been registered. During the latter week, ended 25th instant, there have been registered 5 scarlet fever deaths, 4 from measles, 7 from smallpox, and 10 from typhoid fever.

The sanitary news from the provinces is good. There is no bubonic plague in Beni-Shehir in Yemen, as it has been stated. I have the honor to forward a copy, in French, of a desire expressed by the International Sanitary Commission of Constantinople not to allow ships starting from Indian seaports to enter the Red Sea without undergoing a quarantine with disinfection at Aden, as well as to establish a lazaretto at the entrance of the Persian Gulf at a place to be determined for the ships which, starting from the Indian ports, are bound to the seaports of the latter gulf. At the same time a lazaretto has to be built, according to the decision of the International Sanitary Commission and the orders given by the Turkish Government, at the island of Tao in the mouth of the river Shat-el-Arab. I forward at the same time a copy of the communication made to the International Sanitary Commission by the British sanitary representative on the sanitary steps taken by Indian authorities in order to check the spread of the bubonic plague in Bombay. At the last sitting of the above-mentioned International Sanitary Commission it was decided to forbid the entrance of pilgrims or visitors coming from India and going on pilgrimage to Kerbela and Nejif in Mesapotamia. The latter are Moslem as well, but Sheeits, who are obliged by their religious traditions to go to Kerbela and Nejif, where they have to bury the corpses of their dead.

SPIRIDION C. ZAVITZIANO.

WEST INDIES.

Quarantine regulations in force at Barbados.

BARBADOS, *February 6, 1897.*

SIR: In consequence of the prevalence of yellow fever at Martinique and smallpox and yellow fever at Cuba, those places have been declared infected places within the provisions of the quarantine act of the island. Quarantine is also in force here against Rio de Janeiro, Santos, Pernambuco, and Curacoa. The quarantine against Haiti has been taken off. The public health of this island is excellent.

The legislature of this colony has just passed an act declaring the plague to be an infectious disease under the quarantine act, and fixing the quarantine period therefor at ten days.

Yours, etc.,

JAS. SANDERSON,
Clerk, Quarantine Board.

STATISTICAL REPORTS.

BAHAMAS—*Dunmore Town.*—Two weeks ended February 12, 1897. Estimated population, 1,472. No deaths.

Governors Harbor.—Two weeks ended February 14, 1897. Estimated population, 1,500. No deaths.

Green Turtle Cay—Abaco.—Two weeks ended February 11, 1897. Estimated population, 3,900. No deaths.

BERMUDA.—Week ended February 5, 1897. Estimated population, 15,013. Total deaths, 2. No deaths from contagious diseases.

CUBA—*Manzanillo.*—Month of January, 1897. Estimated population, 14,500. Total deaths, 46, including yellow fever, 2, and typhus fever, 2.

FRANCE—*Nantes.*—Month of January, 1897. Estimated population, 125,757. Total deaths, 282, including 4 from enteric fever.

Roubaix.—Month of January, 1897. Estimated population, 125,000. Total deaths, 218, including enteric fever, 1; diphtheria, 3, and whooping cough, 4.

GREAT BRITAIN—*England and Wales.*—The deaths registered in 33 great towns of England and Wales during the week ended February 6 correspond to an annual rate of 20.8 a thousand of the aggregate population, which is estimated at 10,992,524. The highest rate was recorded in Manchester, viz, 27.2, and the lowest in Huddersfield, viz, 11.3 a thousand.

London.—One thousand five hundred and sixty-four deaths were registered during the week, including measles, 9; scarlet fever, 14; diphtheria, 46; whooping cough, 49; enteric fever, 15, and diarrhea and dysentery, 11. The deaths from all causes correspond to an annual rate of 20.6 a thousand. In greater London 2,263 deaths were registered, corresponding to an annual rate of 18.8 a thousand of the population. In the "outer ring" the deaths included 14 from diphtheria, 6 from measles, 22 from whooping cough, and 2 from scarlet fever.

Ireland.—The average annual death rate represented by the deaths registered during the week ended February 6 in the 16 principal town districts of Ireland was 36.3 a thousand of the population. The lowest rate was recorded in Portadown, viz, 12.4, and the highest in Newry, viz, 48.3 a thousand. In Dublin and suburbs 296 deaths were registered, including scarlet fever, 4; measles, 18; whooping cough, 24; 2 from enteric fever, and 1 from diphtheria.

Scotland.—The deaths registered in 8 principal towns during the week ended February 6, correspond to an annual rate of 26.6 a thousand of the population, which is estimated at 1,549,907. The lowest mortality was recorded in Dundee, viz, 22.3, and the highest in Greenock, viz, 44.0 a thousand. The aggregate number of deaths registered from all causes was 792, including scarlet fever, 7; diphtheria, 5; measles, 228, and whooping cough, 32.

RUSSIA—*Riga.*—Month of November, 1896. Estimated population, 225,000. Total deaths, 483, including phthisis pulmonalis, 40; enteric fever, 13; scarlet fever, 65; measles, 18; croup, 1, and whooping cough, 8.

ST. HELENA.—Five weeks ended January 22, 1897. Estimated population, 3,600. Total deaths, 3. No deaths from contagious diseases.

UNITED STATES OF COLOMBIA—*Barranquilla.*—Month of December,

1896. Estimated population, 40,000. Total deaths, 51, including 6 from phthisis pulmonalis.

Month of January, 1897. Total deaths, 57, including 6 from phthisis pulmonalis and 3 from beriberi.

MORTALITY TABLE, FOREIGN CITIES.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—								
				Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Amapala	Jan. 23	1,500	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 30	1,500	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amherstburg	Feb. 13	2,300	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amsterdam	Feb. 6	494,365	125	.....	.....	.....	.....	2	.....	6	.....	4
Antofagasta	Dec. 31	14,000	13	.....	.....	.....	.....	.....	.....	.....	.....	3
Belize	Dec. 2	13,000	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belleville	Feb. 15	10,459	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bluefields	Feb. 6	3,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bologna	Jan. 30	148,224	72	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bombay	Jan. 19	821,764	*1,758	.....	.....	1	.....	.....	.....	.....	12	.....
Brussels	Jan. 30	507,985	195	.....	.....	.....	.....	3	.....	3	4	.....
Budapest	Feb. 5	560,000	.....	.....	.....	.....	.....	.....	1	1	3	2
Calcutta	Jan. 9	681,560	423	17	.....	.....	.....	.....	.....	.....	.....	1
Callao	Jan. 10	25,000	24	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 17	25,000	22	.....	.....	.....	.....	.....	.....	.....	.....	.....
Catania	Feb. 2	120,000	65	.....	.....	.....	.....	.....	1	1	.....	.....
Chatham	Feb. 15	9,052	2	.....	.....	.....	.....	1	.....	.....	.....	.....
Christiania	Feb. 6	182,856	59	.....	.....	.....	.....	1	.....	2	.....	1
Cienfuegos	Feb. 14	24,030	24	.....	.....	3	.....	.....	.....	.....	1	.....
Copenhagen	Jan. 30	333,714	129	.....	.....	.....	.....	.....	1	2	6	2
Crefeld	do	108,114	42	.....	.....	.....	.....	.....	3	1	.....	.....
Dresden	do	347,485	147	.....	.....	.....	.....	.....	2	3	.....	1
Flushing	Feb. 6	17,193	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Frankfort on the Main	do	236,000	68	.....	.....	.....	.....	.....	1	.....	.....	1
Gibraltar	Jan. 31	23,800	14	.....	.....	.....	.....	.....	.....	.....	.....	.....
Girgenti	Jan. 30	24,428	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 6	24,428	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gothenburg	Jan. 30	115,896	53	.....	.....	.....	.....	.....	.....	1	.....	6
Guayaquil	Feb. 5	50,000	83	.....	.....	1	.....	41	.....	.....	.....	.....
Halifax	Feb. 13	38,700	29	.....	.....	.....	.....	.....	.....	1	.....	.....
Hamburg	Feb. 6	641,780	196	.....	.....	.....	.....	2	.....	3	.....	2
Hanover	Dec. 5	526,212	78	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 12	526,212	75	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hongkong	Jan. 2	232,662	.....	.....	.....	4	.....	.....	.....	.....	.....	.....
Do	Jan. 9	232,662	.....	.....	.....	3	.....	.....	.....	.....	.....	.....
Honolulu	Jan. 30	30,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston, Canada	Feb. 19	19,264	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Konigsberg	Feb. 6	171,700	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Leeds	do	402,449	169	.....	.....	.....	.....	2	2	4	.....	.....
Leghorn	Jan. 30	103,755	44	.....	.....	.....	.....	.....	.....	1	.....	.....
Do	Feb. 6	103,755	51	.....	.....	.....	.....	1	.....	.....	.....	.....
Licata	Jan. 30	20,000	16	.....	.....	.....	1	3	.....	.....	.....	.....
Do	Feb. 6	20,000	11	.....	.....	.....	.....	3	.....	.....	.....	.....
Liege	Jan. 30	163,107	46	.....	.....	.....	.....	1	.....	.....	.....	2
Do	Feb. 6	163,107	54	.....	.....	.....	.....	.....	.....	.....	.....	.....
Livingston	do	2,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
London, Canada	Feb. 13	34,855	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madras	Jan. 15	452,518	354	6	.....	.....	.....	.....	.....	.....	7	.....
Madrid	Jan. 27	482,816	408	.....	.....	9	.....	9	.....	3	6	.....
Do	Feb. 3	482,816	428	.....	.....	6	10	.....	.....	2	3	.....
Maracaibo	Jan. 30	50,000	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Matamoras	Feb. 12	12,000	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Matanzas	Feb. 10	62,000	103	.....	1	3	.....	2	.....	1	19	.....
Mayence	Feb. 6	74,917	33	.....	.....	.....	.....	.....	.....	2	.....	2
Melbourne	Dec. 26	450,000	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Do	Jan. 2	450,000	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Do	Jan. 9	450,000	.....	.....	.....	.....	.....	6	.....	.....	.....	.....
Messina	Feb. 5	107,000	31	.....	.....	1	.....	2	.....	.....	.....	.....
Montevideo	Jan. 16	215,061	56	.....	.....	.....	.....	1	1	.....	.....	.....
Moscow	Jan. 30	800,000	605	.....	.....	1	5	1	17	9	9	2
Munich	do	418,000	159	.....	.....	.....	.....	.....	2	3	3	3
Nagasaki	Jan. 22	71,485	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Naples	Jan. 24	542,396	219	.....	.....	.....	.....	14	.....	.....	.....	.....
Do	Jan. 31	542,396	232	.....	.....	.....	.....	11	.....	.....	.....	.....
Odessa	Jan. 30	353,000	184	.....	.....	9	.....	.....	15	1	4	1
Osaka and Hiogo	Jan. 9	161,120	148	.....	.....	42	.....	2	.....	1	.....	.....
Do	Jan. 16	161,120	126	.....	.....	33	.....	.....	.....	.....	.....	.....
Do	Jan. 23	161,120	126	.....	.....	35	.....	1	.....	.....	1	.....
Palermo	Jan. 30	273,000	158	.....	.....	.....	.....	.....	.....	4	.....	.....
Do	Feb. 6	273,000	165	.....	.....	.....	.....	.....	.....	1	.....	.....
Para	Jan. 23	140,000	33	.....	4	.....	.....	.....	.....	.....	.....	.....

*470 deaths from plague.

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.	Whooping cough.
Pernambuco	Dec. 5	200,000	138	.....	.....	35	.....	.....	.....	.....	2	.....
Do	Dec. 12	200,000	143	.....	.....	28	.....	.....	.....	.....	.....	.....
Do	Dec. 19	200,000	149	.....	.....	32	.....	.....	.....	.....	1	.....
Do	Dec. 26	200,000	141	.....	.....	40	.....	.....	.....	.....	3	.....
Plymouth	Feb. 6	89,686	31	.....	.....	.....	.....	.....	.....	.....	2	2
Port Antonio	do	(*)	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Port au Prince	Jan. 25	60,000	17	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 1	60,000	20	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 8	60,000	18	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puerto Barrios	Feb. 6	1,500	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puerto Cortes	Feb. 10	2,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quebec	Feb. 13	70,000	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Rio de Janeiro	Jan. 16	650,000	276	.....	8	.....	.....	.....	.....	.....	.....	.....
Rome	Jan. 9	476,917	213	.....	.....	.....	.....	2	.....	.....	1	.....
Do	Jan. 16	476,917	180	.....	.....	.....	.....	.....	.....	.....	3	.....
Rotterdam	Feb. 6	286,104	.....	.....	.....	.....	.....	1	.....	2	2	.....
Sagua la Grande	do	18,109	23	.....	1	.....	.....	.....	.....	.....	.....	.....
St. Petersburg	Jan. 30	1,013,000	619	.....	.....	2	.....	26	14	22	8	2
St. Stephens	Feb. 13	3,000	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas, West Indies	Jan. 8	12,019	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 15	12,019	7	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 22	12,019	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schiedam	Feb. 6	26,627	11	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sonneberg	Jan. 23	12,150	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stettin	Jan. 29	140,000	62	.....	.....	.....	.....	.....	1	2	.....	.....
Stockholm	Jan. 30	267,100	94	.....	.....	.....	.....	.....	3	.....	1	1
Tegucigalpa	Jan. 29	12,000	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trapani	Jan. 30	43,095	15	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Feb. 6	43,095	16	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuxpan	Jan. 23	10,280	6	.....	.....	1	.....	.....	.....	.....	.....	.....
Do	Jan. 30	10,280	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Venice	do	163,254	75	.....	.....	.....	.....	1	.....	1	.....	.....
Vera Cruz	Feb. 11	30,000	38	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warsaw	Jan. 30	553,643	270	.....	.....	6	2	1	5	1	1	4
Yarmouth	Feb. 13	6,500	0	.....	.....	.....	.....	.....	.....	.....	.....	.....

* Population not reported.

By authority of the Secretary of the Treasury:

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