

PUBLIC HEALTH REPORTS

VOL. 45

APRIL 11, 1930

NO. 15

PSITTACOSIS: RICKETTSIA-LIKE INCLUSIONS IN MAN AND IN EXPERIMENTAL ANIMALS¹

¹ Submitted for publication Apr. 4, 1930.

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In the course of the experimental work on psittacosis by Armstrong and McCoy initiated at the Hygienic Laboratory early in the recent outbreak of that disease, tissues from 14 parrots and parakeets used in that work were submitted to the writer for examination. The experimental work resulted in a laboratory outbreak of the disease. This, in itself, is important evidence that the virus (*sensu lato*) of psittacosis was being worked with.

In three parrots of this group there were encountered focal lesions and minute intracellular coccoid and bacilliform inclusions. The lesions were paralleled by some of those seen in material from the first human case of our laboratory outbreak, and precisely similar inclusions were seen in the lungs of that case. This autopsy is being reported elsewhere by Lieutenant Commander Wildman, Medical Corps, United States Navy, to whom the writer is indebted for the material referred to.

PARROT NO. 3

On January 16, parrot No. 3, was placed in a cage with part of the carcass of a sick parrot which had been killed on January 15, and which had been associated with a typical human case in Baltimore. On February 1 the drinking water for this bird was contaminated with the sputum of another human case. Death occurred on February 20. The autopsy was done by Surg. G. W. McCoy and the tissues were fixed in Orth's fluid.

Grossly there were fine hemorrhagic spots in the omentum, the liver was enlarged, its edges rounded. There was clear yellow serous fluid in the pleuro-peritoneal and pericardial cavities.

The histologic findings were as follows:

Lung.—There are scattered areas of alveolar wall anemia, in which the capillaries are occluded and blood-free, many of the cell nuclei

have disappeared and other large leptochromatic nuclei are well preserved. There appears to be some interstitial serous exudate. No inclusions are seen. Another section of lung appears normal. In a third section what appears to be visceral pleura shows marked irregular thickening with several layers of large opaque or finely vacuolated polygonal cells among which are some erythrocytes and a few leucocytes. The polygonal cells at the surface are partly rounded up and some free rounded cells lie on the surface. Frequently these mesothelial cells contain minute deeply basophil coccoid and bipolar bacillary inclusions. Numbers of rather small cocci in irregularly packed masses are also seen in and among these cells. Both the cocci and the inclusions are Gram-negative.

Voluntary muscle.—Cloudy, granular, striation obscured. Some transverse fragmentation.

Heart.—Fibers mostly plainly striated; strings of oxyphil granules between fibrillae and in the cytoplasm at the poles of the nuclei. A moderate amount of fat in the epicardium.

Omentum.—Superficial mesothelial thickening and proliferation, exudate of necrobiotic cells on surface; beneath, considerable infiltration by coarsely granular eosinophil leucocytes, lymphoid cells and coarsely vacuolar macrophages.

Bone marrow.—An occasional small patch of serous exudation, sometimes with minute bacilli in the exudate. Other points show isolated cells filled by very minute inclusion bodies like those described in the liver. No focal necroses. Coarsely granular eosinophil myelocytes predominate.

Small intestine.—Moderate surface desquamation of epithelial cells of the villi.

Kidney.—Epithelium in secreting tubules moderately cloudy and granular. The fibrous cores of the glomeruli contain numerous nuclei and appear larger than usual. The glomeruli contain little blood, and the epithelium is in one to two layers on the surface.

Liver.—Scattered focal coagulation necroses in which liver cells are oxyphil, hyalinized, without nuclei or with karyolysis near the margins. In some of the cells (apparently Kupffer cells) in the lesions are masses of very minute deep blue stained inclusions, some appearing as points, others as minute rods. Masses of fibrin appear in parts of the necrotic foci. In some areas well stained endothelial cells remain between necrotic liver acini. Margination of the foci against surviving tissue is abrupt. Diffusely there is a little patchy lymphoid cell infiltration between the acini. The Kupffer cells are often swollen and vacuolated, often contain yellowish-brown pigment, and frequently clumps of the same very minute coccoid and bacillary inclusions.

Bile duct epithelium shows considerable desquamation within dilated ducts, the desquamated cells being large, round, vacuolated, with swollen nuclei and clumped chromatin.

There are focal nodules of lymphoid cell infiltration and others of proliferation of pale staining, vacuolated, poorly defined spindle cells with pale vesicular nuclei containing a few medium-sized chromatin granules. Such nodules may also contain clumps of the minute inclusion bodies.

PARROT 5

On January 18, parrot No. 5, apparently healthy, was placed in a clean cage with part of the carcass of a parrot which had given rise to typical human cases of psittacosis in Zanesville, Ohio. No noticeable symptoms occurred. The bird was found dead in its cage on February 14. No gross pathology was noted by Surg. G. W. McCoy. The histological findings were as follows (Orth's fluid fixation):

Lung.—Appears congested. Apparently no focal lesions. Here and there groups of mononuclear cells and fibroblasts containing irregular black (carbon) granules.

Muscle.—Fibers cloudy, part hyaline, part granular, with indistinct cross striation and much fragmentation.

Small intestine.—Lumen filled by poorly stained desquamated epithelial cells, villi covered by columnar epithelium. Prominent reticulum cells in a lymph follicle.

Pancreas.—Numerous islets, cells partly separated. Acini appear normal.

Heart.—Muscle fibers cloudy and granular; cross striation indistinct.

Liver.—Congested. There are small foci of coagulation necrosis of the liver cells abutting either directly upon surviving liver tissue or on a zone of lymphoid cell infiltration. There are reticulated masses of large vacuolated or narrow-bodied compact cells with vesicular nuclei and one to three prominent nucleoli. These foci may contain fragments of oxyphil, necrotic liver cells; others are densely packed with polymorphonuclear leucocytes or their fragments. There are also patches of interstitial infiltration with lymphoid cells. There were seen two small cysts lined with flattened epithelium and filled with large round cells containing pyknotic and fragmented nuclei. The Kupffer cells generally are enlarged, often containing hemosiderin. With phloxin, orange G and polychrome methylene blue there are found clumps of very minute deep blue stained intracellular coccoid and bacilliform inclusions in the Kupffer cells and in the epithelioid nodules. The bacilliform inclusions sometimes show polar granules. No other bacteria are seen.

TRENTON PARROT

A third bird, the "Trenton parrot," was received from Camden, N. J., where it had been associated with human cases. Owing to the then prevailing low temperatures, decomposition was much less than might have been expected. Autopsy was performed at once by Surg. G. W. McCoy and the material fixed in Orth's fluid.

Striated muscle.—Fibers waxy, hyaline, cross striation suppressed in places.

Heart muscle.—Fibers cloudy and granular, their cross striation apparent only on oblique illumination.

Lung.—Air spaces small, considerable blood in vessels, no focal lesions.

Marrow.—No focal lesions. Many myelocytes show coarse cytoplasmic vacuolation among their granules and denser staining nuclei than others.

Liver.—The acini are much broken up, their polygonal or wedge-shaped cells, often partly separated. Their cytoplasm is basophil, mottled, and moth-eaten in appearance. What appear to be ducts contain desquamated cells with karyorrhectic or swollen pale nuclei—in the latter often with densely stained clumps of chromatin. The capillaries and interacinous spaces contain numerous large and small lymphoid cells. The Kupffer cells are often swollen, vacuolated, or filled with yellowish-brown granular pigment, and not infrequently contain clumps of very minute coccoid or bacillary inclusions which stain deeply with polychrome methylene blue. Their diameter appears to be in the neighborhood of 0.2μ to 0.4μ , their length possibly twice that; most of them are coccoid, sometimes occurring in pairs.

There are foci of necrosis in which liver cell acini become oxyphil, their nuclei disappear, the cells then break down into amorphous oxyphilic masses, a network of fibrin appearing among them. In these foci the interacinous spaces are infiltrated with pyknotic and karyorrhectic lymphocytes, fibrin, centrally with cell debris. No leucocytes are present. There are other foci in which the liver cells have disappeared altogether and a net of fibrin includes more or less broken down lymphoid and endothelial cells.

One apparently fairly recent focal necrosis contains several clumps of very numerous extremely minute coccoid inclusions which apparently fill a cell in the margin of a sinusoidal space in one instance. Some of the organisms appear as definite rods about one micron long with deeper stained polar granules.

HUMAN CASE

In the human case (H. A., exposed to sick parrots, taken sick January 25 and died February 8) also the liver showed focal coagulation

necroses. These were usually infiltrated with polymorphonuclear leucocytes. The epithelioid cell nodules seen in the parrots were present also in the human case, here containing multinucleate giant cells of rather unusual type. No inclusions were found. However, in the pneumonic lung, where the exudate was composed largely of fat-laden large mononuclear cells, a few of these large mononuclear cells, both in the exudate and in the alveolar walls, were filled with closely packed very minute coccoid and bacilliform inclusions stained deep blue by Giemsa. These were estimated as between 0.2 and 0.3 μ in diameter and possibly 1.0 μ in length. A tendency to denser polar granule formation was noted.

COMMENT

In the other parrots and parrakeets in which no focal lesions were found no such inclusion bodies could be demonstrated.

Morphologically the inclusions seen in the three parrots and in the human case were closely similar. In all they were Gram-negative, stained well by methods such as Giemsa or phloxin, orange G, and methylene blue; and often the formation of distinct deep blue polar granules in a light blue rod could be made out. In the parrot and in man they occurred in dense masses within cells of the monocyte, reticulo-endothelial or mesothelial type.

No reference to any such inclusions has been found in the accounts of any of the autopsies of human cases. However, most of the older cases were studied by methods unsuitable for the demonstration of such inclusions.

The small cocci described by Eberth (1880) and Wolff (1883) in parrots were extracellular, occupying the capillary lumina and invading the tissues. Some of these were described as oval, one-half micron long by half that width. While this size is not greatly different from that of the inclusions under consideration, their figures show distinctly larger cocci. The focal necroses of the liver described by Wolff were of the coagulative type, packed with organisms, lacking suppuration. In the illustration the cellular infiltration so prominent in our parrots was entirely lacking. The author feels justified in concluding that the condition studied by those authors, unassociated with human cases of psittacosis, is definitely not the same as that herein above described.

While no etiologic relationship to psittacosis is claimed for these inclusion bodies at this time, their presence in presumably infected parrots and in the human case is suggestive and merits further study.

To facilitate future reference to these inclusions it was thought advisable to name them. Such minute intracellular coccoid and rod-shaped Gram-negative organisms which have not been cultivated are usually designated as *Rickettsia*, in which genus it would appear

that they should provisionally be included. The specific name *psittaci* was chosen as indicating a connection with parrots. The name *Rickettsia psittaci* is herewith proposed and the species is defined as "minute Gram-negative intracellular coccoid and bipolar bacilli-form bodies of about 0.2μ to 0.3μ diameter, found in reticulo-endothelial cells, mesothelial cells, and large mononuclear cells of the parrot (probably *Amazon* sp.¹) and in large mononuclear cells in man, associated with, but without established relationship to, psittacosis."

SUMMARY AND CONCLUSIONS

The lesions seen in three parrots associated directly or indirectly with human cases of psittacosis are described and briefly compared with those in a human case.

Minute intracellular inclusions are described in human lesions and in the lesions in the parrots, and the name *Rickettsia psittaci* is proposed for them.

The evidence of a laboratory outbreak of the disease indicates that the virus (*sensu lato*) of psittacosis was present in some of the birds under investigation.

REFERENCES

- Eberth, C. J.: Zur Kenntnis der Mycosen by Thieren. Virchows Archiv, LXXX, 311, 1880.
 Wolff, M.: Eine weit-verbreitete thierische Mycose. Virchows Archiv, XCII, 252, 1883.

SEAMEN WITH VENEREAL DISEASE IN THE PORT OF NEW YORK²

A COOPERATIVE STUDY PARTICIPATED IN BY THE AMERICAN SOCIAL HYGIENE ASSOCIATION, THE NEW YORK TUBERCULOSIS AND HEALTH ASSOCIATION, THE WELFARE COUNCIL OF NEW YORK CITY, AND THE UNITED STATES PUBLIC HEALTH SERVICE

Report prepared by ANNABEL M. STEWART, Research Bureau of the Welfare Council of New York City

FOREWORD

This report on seamen with venereal disease in the port of New York is more than a report in the ordinary sense. It contains all the data one may be led to expect from its title, and will undoubtedly be of great value as a reference document to all agencies concerned with the health and welfare of seamen. Much of it is new information, with a new point of view, and incidentally it illustrates how difficult it often is to learn what "the party of the first part" really

¹ This genus comprises some fifty species of which about thirty-five are imported commercially into the United States.

² This report is being published in consecutive issues of Public Health Reports. It will later be assembled and reprinted as a separate publication under the designation of "Reprint No. 1265."

thinks about plans for his welfare. In addition, the report presents an account of interesting teamwork among official and voluntary organizations for securing and preparing for publication needed information.

Fortunately, the United States Public Health Service, the American Social Hygiene Association, the Welfare Council of New York City, and the New York Tuberculosis and Health Association were all desirous of obtaining not only the facts, but the sailor's view of underlying explanations of the situation disclosed. The work has been done by drawing upon the combined facilities and personnel of these agencies, and setting up a working advisory committee representative of the health authorities and social and religious agencies concerned. They have had cooperation from seamen and shipowners, and representatives from these groups stand ready to help in putting into action such recommendations as grow out of the report. Every effort has been made to keep in view the seaman as a human being living his life under great difficulties and bewildering changes of environment. The essential data will be found readily accessible in the usual form of such medico-sociological studies. It is the hope of the advisory committee, however, that the report may also add something to the methodology of this type of inquiry.

The international conferences on health and welfare of seamen have impressed representatives from this country as having available a great deal of information about regulations and views on this subject of Government officers, shipowners, captains, and ship surgeons, but very little of opinions of the men themselves. One of the purposes of this study, therefore, has been to provide some data about alien seamen. About one-half of those interviewed were aliens, or at least foreign-born American citizens, invited to furnish information because of their knowledge of the international aspects of the problem.

Syphilis and gonorrhoea are human contact diseases. Any factors, therefore, which increase or decrease the contacts of seamen in seaports or other cities affect the incidence of these diseases among the group. Such factors include, among others, education, familial relations, recreation facilities, availability of proper medical care, and law enforcement measures directed against commercialized vice. Our Federal Public Health Service has struggled with this many-sided problem from colonial days; shipowners and officers have been concerned with the ravages of these diseases; officials of seamen's unions have devoted their best efforts to devising a solution; and other official and voluntary agencies have helped in every way possible. It is evident that further advancement must come largely through organized cooperation of the community as a whole with the agencies

mentioned. The practical situation is not unlike that faced by the armies and navies of nations. Infections do not take place in the military reservations or on shipboard; and preventive and protective measures must be applied in the community in which soldiers and sailors find themselves when off duty. In the case of the seamen, however, diagnosis, medical treatment, and social service follow-up must likewise be arranged for by the community in a large proportion of cases.

The advisory committee hopes that this report, which has had the benefit of being prepared by the Research Bureau of the Welfare Council of New York City and the advantage of being published by the United States Public Health Service, will prove to be a useful contribution both to national and international studies leading to more effective provisions for reducing the morbidity and mortality of syphilis and gonorrhea among that great class of the population of all countries—the men who follow the sea. In dealing effectively with these diseases, this means protection of women and children as well as of men.

It has not been practicable in the body of the report to make personal acknowledgment of the willing assistance and cooperation, sometimes at considerable sacrifice, of the many agencies and individuals who have participated. Those directly concerned with the report are particularly indebted to the seamen themselves for their frank and friendly aid in supplying case histories and supplementary data.

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CHAPTER I

INTRODUCTION

This study of seamen with venereal disease in the port of New York is a cooperative undertaking of the United States Public Health Service, the American Social Hygiene Association, the New York Tuberculosis and Health Association, and the Welfare Council of New York City. The subject was discussed in the Seamen's Service Conference of the Port of New York after its organization in 1924, and later in the Seamen's Section of the Welfare Council. Soon after this section was organized in 1927, to unite for common action the agencies working for seamen in and about New York City, it appointed a committee on venereal disease¹ "to look thoroughly into the ques-

¹ Members of this committee were Capt. Fritz Nelson (chairman), Salvation Army; Miss Madeline Oldfield, U. S. Marine Hospital, Hudson Street; and Miss Zdenka A. Polakova, U. S. Marine Hospital, Ellis Island.

tion of venereal diseases as relating to seamen and to prepare definite recommendations on the question of helping infected seamen to carry through to a finish the necessary medical treatment." From discussions in meetings of this committee and of the section as a whole, there gradually evolved the project for a questionnaire study of the merchant seamen who were under treatment for venereal disease in the three United States marine hospitals in the port of New York. The United States Public Health Service agreed to undertake this. Later the American Social Hygiene Association, the Social Hygiene Committee of the New York Tuberculosis and Health Association, and the Research Bureau of the Welfare Council of New York City assumed responsibility for various phases of the study and the expense involved therein. An advisory committee, consisting of the original committee on venereal disease and representatives of the cooperating agencies,² was constituted to "help in the administration of the study and in the evaluation of the material from time to time."

Tentative drafts of the schedule³ to be used in the study were submitted for criticism and revision to the members of the advisory committee and to others with technical knowledge of the subject.

Four carefully selected and well-trained workers, with experience in the field of social hygiene, were assigned to the study.⁴ One of these gave half time, carrying on the study in connection with her regular work at the hospital.

Field work began the 1st of February, 1928, and continued until the 1st of July. The plan was that the workers should interview all the venereally diseased patients in the hospitals during the period covered; that the hospital records and those of the social service department should be consulted, and, when necessary, that there should be conference with the physicians in charge of the case. Space was provided on the schedule for additional comments by the workers. These were often voluminous; they gave much additional material not required by the schedule and proved a source of valuable information. The lack of data as to certain particulars in the physical condition of the patients is due to incomplete hospital records. In other matters it is largely due to the fact that at Hudson Street Hospital it was difficult to secure answers to all the items on the schedule, since the men had to be interviewed when they reported to the clinic for treat-

² This committee consisted of Dr. Walter Clarke and Miss Mary S. Edwards, American Social Hygiene Association; Dr. Walter M. Brunet and Dr. Philip S. Platt, New York Tuberculosis and Health Association; Dr. C. H. Lavinder (chairman) and Dr. E. K. Sprague, U. S. Public Health Service; Miss Madeline Oldfield, U. S. Marine Hospital, Hudson Street; Miss Zdenka A. Polakova, U. S. Marine Hospital, Ellis Island; Rev. James C. Healey (chairman of seamen's section), American Seamen's Friend Society; Capt. Fritz Nelson, Salvation Army; and Miss Adaline A. Buffington and Miss Mary C. Jarrett, Welfare Council.

³ See Appendix.

⁴ These workers were Mr. Samuel Auerbach, Miss Madeline Oldfield, Miss Zdenka A. Polakova, and Mrs. Berthe M. Rice.

ment and the time they could spare was often limited. At the other two hospitals the patients were living in the institution and so were more easily seen.

The plan at first proposed to confine the study to seamen of the American merchant marine. Later it was decided to include 102 seamen employed on foreign ships, who were detained at Ellis Island by Bureau of Immigration officials for repatriation because of venereal-disease infections, 60 members of the United States Coast Guard, and 10 others, scattered among employees of the United States Army Transport Service, Harbor Engineering Corps, and the Lighthouse Service. But the study is predominantly concerned with merchant seamen, since they constituted 82 per cent of the total. No consideration has been given to the problems of women employed at sea. As compared with men, their numbers are small. They are eligible for treatment under the same terms as for men.

The many difficulties encountered and the time involved in lengthy interviews with the men, interpreters at times being required, made progress slower than had been anticipated. By July 1, 1928, 888 schedules had been completed; but as the advisory committee was of the opinion that a larger sample was desirable, arrangements were made for two of the workers to give sufficient additional time to bring the number of schedules up to at least 1,000. Some of the completed schedules were later eliminated as not being sufficiently detailed in essential items, and the number in the final tabulation was 961. Percentages have generally not been calculated in the tables throughout the report, since the number of cases is so near 1,000 that in most instances the figures themselves very nearly indicate the percentages.

When the questionnaires had been completed, the cooperating agencies decided to enlarge the scope of the study and include in the report such other phases of the subject as number of seamen in the port, number of cases under treatment in the hospitals and venereal-disease clinics, United States laws and regulations relating to provision for treatment, practice of shipping companies in the employment of venereally infected seamen, social facilities available in the port, and work of international organizations directed against the venereal diseases, particularly as this relates to seamen. The further data required were not always available through the cooperating agencies, and the research bureau of the Welfare Council had to undertake the collection of this information in addition to the writing of the report.

In the preparation of the report valuable assistance was given by Mrs. John G. Rolph, who prepared the accompanying map, and by various members of the advisory committee, in particular Miss Polakova, Miss Oldfield, and the Rev. Mr. Healey.

It has not been possible to ascertain what ratio the sample of 961 cases bears to the total number of patients under treatment in the marine hospitals for the period covered by the study or for the year as a whole; hospital figures for the fiscal year 1928 gave numbers of cases and not numbers of individuals treated, since patients discharged from treatment and readmitted during the course of the year were counted as new cases; but during the more than five months devoted to the questionnaire study the great majority of patients under treatment were interviewed and the sample is considered typical of the whole body of hospital cases of venereally diseased seamen.

CHAPTER II

NUMBER OF SEAMEN IN THE PORT

In a study relating to seamen in the port of New York the question naturally arises as to the number of these men who enter and leave the port during any particular period or who might be found there on an average day. Such figures are not available, but there are statistics which cover certain groups. Seamen's agencies have made estimates of the average number to be found in port daily, and in connection with this study an attempt was made to verify these estimates and to arrive at as definite a figure as possible.

As commonly used, the term "seaman" is a comprehensive one and includes the men employed on the thousands of vessels, from "tramps" to the famous liners; which arrive and clear, carrying passengers and freight in the foreign, intercoastal, and coastwise services. Then to these must be added the employees on local yachts, excursion boats, towboats, barges, and fishing boats. In this report the term is used in this broad way, for it has been provided in legislation relating to the Marine Hospital Service that the "term 'seaman' shall be held to include any person employed on board in the care, preservation, or navigation of any vessel, or in the service, on board, of those engaged in such care, preservation, or navigation;" and "the term 'vessel' includes every description of water craft or other artificial contrivance used, or capable of being used, as a means of transportation on water."

The seamen's act defines a seaman in the following terms: "Every person (apprentices excepted) who shall be employed or engaged to serve in any capacity on board any vessel belonging to any citizen of the United States shall be deemed and taken to be a seaman; and the term 'vessel' shall be understood to comprehend every description of vessel navigating on any sea or channel, lake or river."

The seamen's unions apply the term only to men whose work is on the sea in foreign and coastwise services and designate the others as harbor workers. Except in the case of the industrial union for all

marine workers, seamen and harbor workers are organized in separate unions.

The area comprised in the port of New York, as defined in the act which in 1921 created the Port of New York District and the Port of New York Authority, includes almost 1,500 square miles. It is located in the two States of New York and New Jersey, comprises some 200 municipalities, and has a waterfront of 771 miles. The accompanying map includes only the part of this area in which the seamen's agencies are particularly interested.

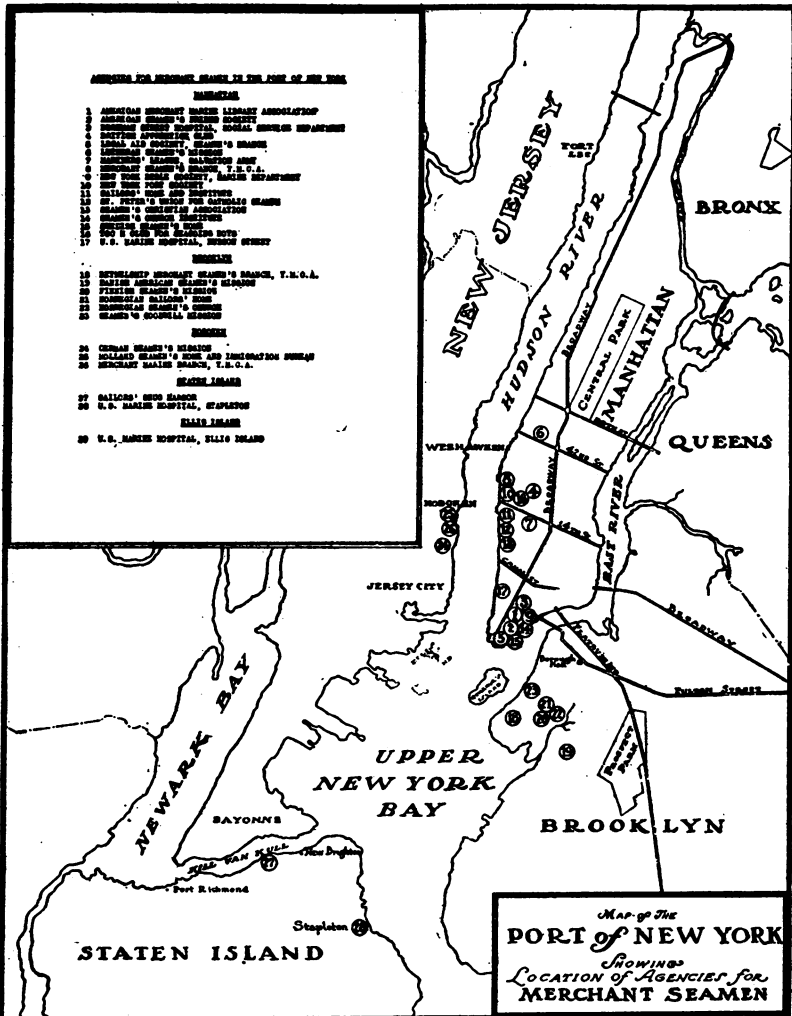
Most of the great trans-Atlantic liners dock along the Hudson River on the New York side from Fourteenth to Fifty-ninth Street, with the Cunard and White Star piers at the lower end of this stretch and the Italia America at the upper. If the projected improvements on the Manhattan waterfront from Thirty-ninth to Fifty-ninth Street are carried out and the piers lengthened to dock vessels a thousand feet long, this will become a very important section, and may result in the relocation of the piers for some liners. Many steamship companies are located in Hoboken, among these the Holland-America, the Scandinavian American, and the United States Lines. Most of the freight lines dock in Brooklyn, and some passenger ships, notably the North German Lloyd's *Bremen*. The "banana trade" is centered on the Manhattan side of the East River. From there such well-known lines as Munson, Ward, United Fruit, and Atlantic Navigation serve the West Indies and Central America.

The map indicates in a general way the strategic location of the seamen's agencies, which may be easily reached from all points at which seamen may land along the many miles of wharfage in the port.

The seamen's occupation is largely a seasonal one, especially in the trans-Atlantic passenger service, in which the season is from June to October, although the increasing number of winter cruises helps to take up the slack. In winter many vessels are laid up in dry dock for repairs. The closing of the Great Lakes about the 1st of December throws hundreds of seamen out of work; for the only hands employed until the opening of navigation the next May are watchmen for the laid-up passenger steamers and freighters. Many of these men come to New York and live there through the winter, picking up an occasional berth at sea or odd jobs on land. Whether shipping is brisk or slack, seamen tend to congregate in the port of New York.

Actual figures as to the numbers of seamen to be found in the port are not available and can not be secured, since the various sources of official information enumerated below do not cover the whole situation.

An enumeration made in connection with the 1920 census showed 302 "boats" in New York City on January 1, 1920, and 20,104 seamen



Agencies for merchant seamen in the port of New York. *Manhattan:* 1, American Merchant Marine Library Association; 2, American Seamen's Friend Society; 3, Beekman Street Hospital, Social Service Department; 4, British Apprentice Club; 5, Legal Aid Society, Seamen's Branch; 6, Lutheran Seamen's Mission; 7, Mariners' League, Salvation Army; 8, Merchant Seamen's Branch, Y. M. C. A.; 9, New York Bible Society, Marine Department; 10, New York Port Society; 11, Sailors' Home and Institute; 12, St. Peter's Union for Catholic Seamen; 13, Seamen's Christian Association; 14, Seamen's Church Institute; 15, Swedish Seamen's Home; 16, Toc H Club for Seagoing Boys; 17, U. S. Marine Hospital, Hudson Street. *Brooklyn:* 18, Bethelship Merchant Seamen's Branch Y. M. C. A.; 19, Danish American Seamen's Mission; 20, Finnish Seamen's Mission; 21, Norwegian Sailors' Home; 22, Norwegian Seamen's Church; 23, Seamen's Goodwill Mission. *Hoboken:* 24, German Seamen's Mission; 25, Holland Seamen's Home and Immigration Bureau; 26, Merchant Marine Branch, Y. M. C. A. *Staten Island:* 27, Sailors' Snug Harbor; 28, U. S. Marine Hospital, Stapleton. *Ellis Island:* 29, U. S. Marine Hospital, Ellis Island.

and harbor workers comprising their crews. The figures for the personnel of these boats, it is reported, were secured by the enumerators from the offices of the shipping companies, and the assembly districts were then credited with the number represented by crews of vessels tied up at docks in their respective districts. These men were obviously not all residents of New York City, since foreign as well as American vessels were in port. Similar figures were not secured for the other towns and cities which form part of the port of New York, particularly those across the Hudson River in New Jersey, so that in the 1920 census a figure is not available for the port of New York, but only that part comprised in New York City.

The 1920 census gave figures also for those living in New York City who were engaged in "water transportation." The total was 21,278, and similar figures for other cities and towns within the area of the port of New York added 3,113 to this number. These more than 24,000 men come and go, although presumably New York is their home port. They are only a part of the great army of seamen to be found in New York at any given time. Many others who have sailed from other ports of the United States or from foreign ports on ships of foreign registry are here, some for only a few days, others for a much longer time. Shipping has greatly increased since 1920, and the 1930 census will undoubtedly show a larger number of residents engaged in these occupations.

The Maritime Register compiles figures on numbers of vessels arriving and sailing from the port of New York, classified as foreign, American, and coastwise, and prints each week the list of vessels in port on the day of publication. But for any given period these figures count a vessel each time it enters and leaves the port. In July, 1929, it reported 991 vessels entering the port. From foreign ports there were 598, of which 377 were of foreign and 221 of American registry; from coastwise ports there were 393, of which 372 were American and 21 "foreign coastwise." In these figures there are duplications with more than one sailing during the month of trans-Atlantic liners and coastwise vessels and the daily schedule of sailings, for instance, between New York and Boston. All of the coastwise vessels were not included in the above figures, nor were the local excursion boats, tug boats, lighters, barges, and scows in the harbor. Numbers in the crews are not published.

The United States shipping commissioner, at the Barge Office, discharges, ships, and reships crews on all vessels flying the American flag which sail to foreign ports and to ports on the Pacific Ocean, and on some coastwise vessels. Through this office, 149,755 seamen were shipped or reshipped (that is, "signed on" the ship from which they had just received their discharge, for its next voyage) during the year ended June 30, 1929. The figure for July, 1929, was 11,208.

Here again there are duplications, for a man is counted as many times as his vessel is in port. The figures include none of the local boats and only a part of the coastwise vessels, since the signing of shipping articles and of discharges at the commissioner's office is optional for coastwise vessels.

The Immigration Service at Ellis Island has a record of the number of alien seamen who enter the port, since they all must undergo a physical and mental examination. For the fiscal year ended June 30, 1929, there were 550,852 alien seamen entering the port. For the month of July, 1929, the figure was 50,928. These figures include aliens on American ships as well as the crews of foreign ships and count a sailor each time he enters the port.

The United States customhouse at Bowling Green enters and clears all vessels in the foreign trade and those in the coastwise trade which carry bonded goods. Their records contain the number of the crew. For the year ended June 30, 1929, the vessels that entered numbered 11,063 (6,934 foreign and 4,129 coastwise) and those that cleared, 10,997 (7,044 foreign and 3,953 coastwise). In July, 1929, the entrances were 991 (598 foreign and 393 coastwise) and the clearances 947 (593 foreign and 354 coastwise).

Various estimates have been given by the seamen's agencies as to the number of seamen in the port of New York, the most common being that on any one day an average of 20,000 seamen enter the port. Some have estimated the average stay in port of the vessels on which they arrived as three days, so that on any given day the number of seamen in port may be 60,000.

A very different figure is contained in the estimate made in the office of the Port of New York Authority at the request of one of the seamen's agencies. On October 3, 1928, considered to be an average day, the Maritime Register listed 259 vessels in port. The average stay of these vessels was estimated to be from 7 to 10 days and the average of the crews between 80 and 90. From these figures it was concluded that, roughly, some 3,000 seamen arrived in port daily and that from 20,000 to 25,000 might be in port on a given day. These figures did not take into account workers in the harbor service, since, as has previously been indicated, figures for these boats are not included in the Maritime Register figures.

The Seamen's Service Conference, in a report for 1918-1919 stated: "It is generally estimated that when shipping is normal, approximately 100,000 seamen a month come to this port." An estimate in 1927, from another source, stated that foreign vessels coming into the United States carried about 1,000,000 seamen annually, 450,000 of whom came into the port of New York. This gave a monthly average of 37,500 foreign seamen.

In connection with this report it was decided to attempt a calculation to obtain as accurate a figure as possible as to the number of seamen arriving in port during a particular month and the average number to be found there on any one day. The month of July, 1929, was chosen, after consultation with several persons versed in maritime affairs, as a good average month. While this might represent the height of the trans-Atlantic tourist traffic, the increasing number of winter cruises and the number of ships required in December and January in the sugar trade tend to make the volume of shipping more regular throughout the year.

The list of vessels arriving during the month was secured from the Journal of Commerce and the New York Herald-Tribune, the newspapers in New York City which publish the most complete maritime news. They print each day a transcript of the customhouse record of all vessels which entered and cleared on the previous day, and to this list add as many names as possible of coastwise vessels that are not required to enter or clear through the customhouse. All coastwise vessels are not listed.

By courtesy of officials at the customhouse, the number recorded for the crew of each vessel was obtained. The date of sailing was then ascertained and from it the number of days the ship remained in port. For crews of the coastwise ships which appeared in the newspaper lists but which were not required to observe customs formalities, recourse was had to "Merchant Vessels of the United States." This 1,000-page volume, published by the Bureau of Navigation of the Department of Commerce, lists alphabetically the vessels of the United States belonging to the merchant marine and gives their home port and number in the crew.

The crews on vessels of foreign registry return with their ships. For American ships the personnel of passenger vessels does not change greatly. This is true also for tankers and certain of the freight services. The shifting from one vessel to another occurs most frequently in the cases of freighters that remain in port several weeks or that have returned from long voyages. The number of these and the size of their crews are both small in comparison with totals for vessels and crews and would affect the daily averages only slightly.

Allowance was also made, as far as possible, for vessels which had entered port before the 1st of July and which cleared during the month. There is no way of ascertaining the number of seamen who arrived in port before the 1st of the month or during the month but who remained for medical treatment or because they could not secure another berth, or the number of those discharged in other ports who made their way to New York other than as members of a crew.

This compilation gave the number of arrivals of seamen in the port during the month and the number of "seamen-days in port" for these

arrivals, with allowance also for those whose vessels had come in before the 1st of the month and cleared during the month. It showed 1,135 vessels arriving during the month, or a daily average of 37.

Numbers of members of the crews were obtained for all but 26 of the 1,135 vessels. These were freighters, with possibly one exception. The total crew arrivals for the month was 93,755 (43,937 on vessels of American registry and 49,818 on vessels of foreign registry), or a daily average of 3,024 (1,417 American and 1,607 foreign).

If to this were added crews of the 60 vessels which arrived before July 1 but cleared during the month, the total becomes 98,725 (46,384 American and 52,341 foreign), or a daily average of 3,184 (1,496 American and 1,688 foreign).

These vessels remain in port varying numbers of days and a multiplication of the number in the crew by number of days in port gave figures for "seamen-days in port." For the crews of 83 of the vessels these "seamen-days in port" could not be calculated, because either the number in the crew or the number of days in port was lacking. These vessels were freighters with but very few exceptions.

This tabulation gave a total of 353,862 "seamen-days in port" (141,030 American and 212,832 foreign), or a daily average of 11,415 (4,549 American and 6,866 foreign).

The "seamen-days in port" for vessels which had arrived before the 1st of the month and cleared during the month added to the above figures for arrivals during the month gave a total of 368,026 (146,763 American and 221,263 foreign), or a daily average of 11,872 (4,734 American and 7,138 foreign).

The workers on boats in the harbor, who also are entitled to the facilities of the Public Health Service and of the seamen's agencies, were estimated, after consultation with employer and employee groups among them, to number from 13,000 to 14,000. These men, perhaps, are not so important in a consideration of the problems involved with seamen in the port, for they are likely to be established locally and to have their own community relationships. Long-shoremen are not included among "harbor workers."

Although the figures are not complete, particularly because all coastwise vessels are not included, the compilation represents, as far as could be learned, the first serious effort to secure a fairly accurate figure on the number of seamen in the port. While the fluctuations from day to day are considerable, the compilation shows that at least some 3,200 seamen on an average arrive in the port of New York daily, and that on any day an average of at least some 11,500 may be found in port.

CHAPTER III

NUMBERS TREATED AND ANALYSIS OF CASES

EMPLOYMENT DISQUALIFICATION A FACTOR IN REDUCING NUMBER TREATED

Each year the annual reports issued by the United States Public Health Service record the venereal diseases "as contributing the largest single factor among the conditions which bring merchant seamen and other beneficiaries of the Public Health Service under its care in the United States marine hospitals and out-patient offices."

The seamen's act of 1915 requires, with certain modifications, that of the seamen manning an American vessel at least 65 per cent of the deck crew must approach a satisfactory health standard and be physically competent to perform certain emergency duties. Before a sailor can be certified by boards of local inspectors as an "able seaman," he must be given a physical examination under rules prescribed by the Department of Commerce. While the wording can be construed to cover examination and rejection for venereal disease, no provision is made in the act for the examination contemplated, and it is assumed that the burden of demonstrating the physical fitness of seamen falls upon the owner of the vessel. The Public Health Service, however, at the request of the owner, may examine a seaman already in service.

Interstate quarantine regulations of the United States provide that on a vessel in operation in interstate traffic "no person shall serve as a cook, waiter, or in any other capacity in the preparation or serving of food * * * who is known or suspected to have any communicable disease." All persons employed for service of this kind are required to undergo a physical examination by a competent physician before being assigned to service and at such other times during their period of service as may be necessary to determine their freedom from such diseases.

Foreign steamships entering the port of New York are careful regarding the employment of venereally diseased seamen, since the immigration laws of the United States impose a fine on the owner of any vessel bringing to the United States from a foreign country any alien afflicted with a venereal disease when the existence of such disease might have been detected by means of a competent medical examination at the time when the alien was taken on board the vessel. These provisions of the immigration law have the effect of bringing about frequent examination of seamen employed on vessels of foreign registry plying between the United States and other countries and of excluding from the United States seamen found infected.

A number of steamship companies require a physical examination of applicants for employment and certain of them reject men infected with a venereal disease. The United States Shipping Board, for ex-

ample, through its sea service bureau, established for its fleet the policy of not employing men having a venereal disease, and the Standard Oil Co. of New Jersey, operating one of the largest fleets of steamers under the American flag, has "a very strict rule that all applicants for employment on any vessel of their fleet, whether licensed or unlicensed seamen, shall be physically examined before they are accepted. This includes an examination for venereal disease."

In addition to the two organizations mentioned above, 10 others out of the 19 interviewed in a survey of venereal-disease control measures in the shipping industry at the port of New York, made in January, 1929, by the United States Public Health Service as a part of this study, reported that examinations were made before employment and men with venereal infections were rejected. In the cases of two companies, this applied only to the crews of their passenger ships and no examination was made of crews of the freight ships. Seven lines operating freighters, cargo boats, or tankers took on their crews without examination.

The report on this survey summarized the situation with reference to examinations as follows:

One of the outstanding facts brought out by the survey is that there is no uniformity of practice in the control of venereal diseases on ships operating out of New York. While a number of the companies make physical examinations of crews and others have made arrangements to have the examinations made by outside firms furnishing medical examination service, there are some which make no examinations whatever. This is of particular importance for the reason that the exclusion of venereal disease cases from employment can not be expected to become effective as a preventive measure until enough companies have adopted the practice to make it difficult for the infected seamen to find work.

From the information obtained in the interviews with medical officers it is believed that where medical examinations and inspections are made they can be expected, under present conditions, to be only fairly effective in the weeding out of venereal disease cases among seamen employed or applying for employment. Laboratory examinations are said in most instances to be made only in special cases, and the 3-glass test for gonorrhoea is made only when the disease is suspected from other objective findings. In most cases the frequency of the inspections appeared to be sufficient if their character were improved. It is probable, however, that the companies making the examinations pick up a large proportion of the acute cases of gonorrhoea and its complications and most of the "open" cases of syphilis. Medical examination and inspection should be arranged for by every company, and if they are to be made highly effective in the detection of venereal disease, they should include at least the routine employment of the urine test for gonorrhoea.

It may be added that even though the general policy of a steamship company might require an examination before employment and the rejection of men suffering with venereal disease, there would probably be a less strict application of the policy at the height of the season when sailors were in demand and it was difficult to secure a crew.

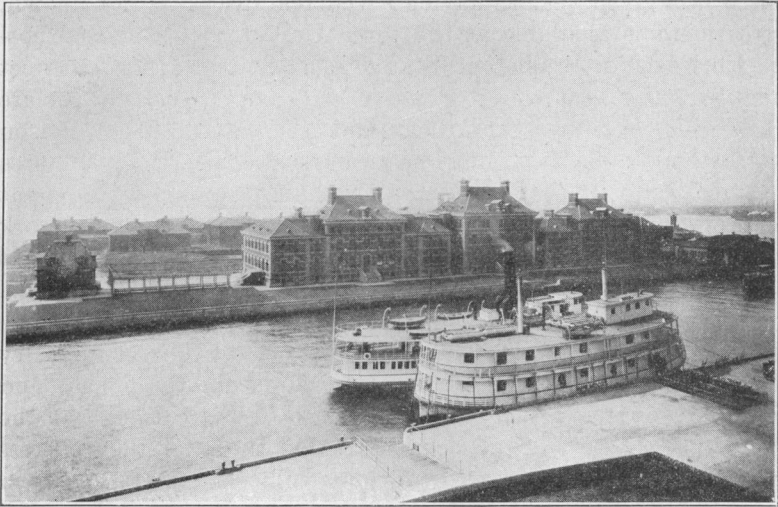
NUMBERS OF PATIENTS TREATED IN 1928

The total number of seamen in the port of New York who are diagnosed in a given year as having a venereal disease is not known. Free treatment is available at the three United States marine hospitals—Ellis Island, Stapleton (Staten Island), and Hudson Street (Manhattan)—for seamen on ships of American registry who are suffering from syphilis, gonorrhoea, and chancroid. The Hudson Street Hospital is operated solely as an out-patient service. Figures for the fiscal year 1928 are available for these hospitals. The great majority of seamen receiving any treatment in the port of New York undoubtedly secure it at the marine hospitals; but it is known that some are treated at venereal disease clinics and at other hospitals. Figures for the clinics were secured for the calendar year 1928.

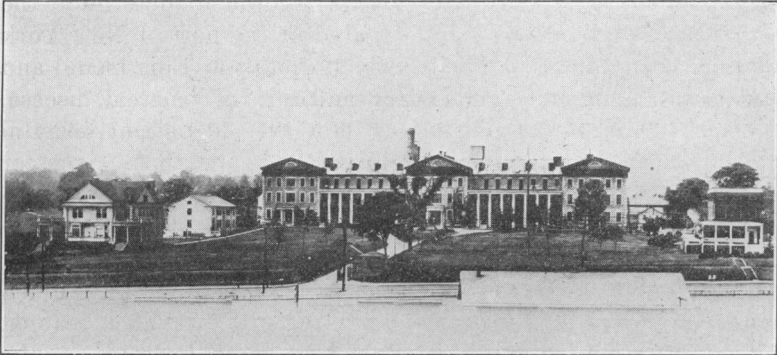
While certain of the steamship companies of foreign registry maintain "contract wards" at various hospitals for the officers and men of their ships who are not eligible for free treatment at the marine hospitals, the number of men treated there for the venereal diseases was undoubtedly small. Some officers and men from American vessels, entitled to treatment at the marine hospitals, prefer to secure that treatment from private physicians or at other hospitals. The desirability of obtaining the number of such seamen was recognized when the study was being planned. It would have involved the examination of records for thousands of patients to sort out those for seamen, and expense prohibited the undertaking.

Patients at United States marine hospitals.—The Public Health Service has made a special study of its records to determine the number of cases of venereal disease treated at the port of New York for the fiscal year 1928. Figures for the hospitals at Ellis Island and at Stapleton, classified by beneficiary and type of venereal disease, are given in the accompanying table. For the out-patient hospital at Hudson Street the figures were less detailed, and those given for admissions to the clinics include cases of seamen entering for treatment for other skin and genito-urinary diseases as well as for the venereal diseases.

It was not found practicable to obtain the number of foreign seamen (or seamen employed on vessels of foreign registry) and alien seamen (or immigrant seamen) given relief by the United States Public Health Service; but it is known that the number of foreign seamen, exclusive of aliens, treated in the course of a year is comparatively small. The Hudson Street Station estimates that it treats not more than three or four foreign patients in a month. The two hospitals mentioned above also report a small number of patients in this class. While data on alien seamen treated were not readily available, it was estimated that the number of venereally diseased patients among aliens treated daily at the Ellis Island Hospital averages about 30.



UNITED STATES MARINE HOSPITAL AT ELLIS ISLAND, N. Y.



UNITED STATES MARINE HOSPITAL AT STAPLETON (STATEN ISLAND), N. Y.



UNITED STATES MARINE HOSPITAL, 67 HUDSON STREET, NEW YORK CITY

The patients were classified according to beneficiary and type of venereal disease. The number of patients so classified who had a diagnosis of one or two of the other venereal diseases is indicated.

TABLE 1.—All discharged hospital cases treated at Ellis Island and Stapleton marine hospitals during the fiscal year 1928,¹ classified according to beneficiary and type of venereal disease

ELLIS ISLAND HOSPITAL

Beneficiary	Total	Gonococcus infection	Syphilis	Chancroidal infection
Total.....	654	357	165	132
American seamen.....	490	227	140	113
Coast Guard.....	166	125	23	18
All others.....	8	5	2	1
Number of patients whose diagnosis showed more than 1 venereal disease.....	157	25	59	73

STAPLETON HOSPITAL

Beneficiary	Total	Gonococcus infection	Syphilis	Chancroidal infection
Total.....	532	260	196	76
American seamen.....	487	234	183	70
Coast Guard.....	18	13	3	2
All others.....	27	13	10	4
Number of patients whose diagnosis showed more than 1 venereal disease.....	58	4	25	29

¹ July 1, 1927–June 30, 1928.

² Data not available for alien seamen detained for deportation.

TABLE 2.—All patients treated at Hudson Street Hospital during the fiscal year 1928¹

Cases admitted skin and syphilis clinic.....	4,828
Cases admitted genito-urinary clinic.....	2,000
Cases treated as syphilis.....	517
Cases treated as gonorrhoea.....	1,500

¹ July 1, 1927–June 30, 1928.

² Estimated.

It would thus appear that the two hospitals at Ellis Island and Stapleton treated 617 cases of gonorrhoea, 361 cases of syphilis, and 208 chancroidal infections in a year. Hudson Street Hospital estimated that it treated 1,500 cases of gonorrhoea and 517 cases of syphilis. Thus 2,117 cases of gonorrhoea, 878 cases of syphilis, and 208 cases of chancroid were reported. It is probable that there is some duplication of "cases" between these three institutions and that one man may have been more than one "case" in the course of the year even in the same institution. The number of men therefore is somewhat less than these figures would indicate. Perhaps we may assume that possibly 2,500 different men are represented. Against a background of thousands of seamen in the port who are eligible to receive free treatment when needed, it would seem that comparatively

few men in a given year are receiving treatment for these diseases at the hands of the United States Public Health Service.

Patients at locally maintained venereal-disease clinics.—As a part of this study, the Associated Out-Patient Clinics Committee of the New York Tuberculosis and Health Association made a survey of the venereal-disease clinics in New York City to which seamen might apply for treatment. The main purpose of the inquiry was to ascertain the extent of available facilities and the number of seamen treated annually for the venereal diseases. A further attempt was made to secure additional information that might throw light on the subject as a whole.

Forty-two institutions in New York City maintaining out-patient service for the treatment of syphilis and gonorrhea were approached. The questions on a prepared list were answered quite fully by the several institutions which had treated any considerable number of seamen. Those institutions were able to answer the questions satisfactorily which had records on file in the clinic or which had a cross-index file designating "occupation" kept in the clinic or social service department. The staff of the New York Tuberculosis and Health Association assisted in compiling the information from four clinics that claimed to be treating an appreciable number of seamen but did not have staff available to check the records and ascertain the number. The detailed list of these clinics and number of cases reported for each is given in the appendix.

Where records were not accessible and where such information was given as, "We rarely treat seamen and remember only one or two who were treated during the past year," the estimate of the institution was accepted, as it was not considered practicable to spend the time required to check thousands of records for so few patients.

The clinics were asked whether there had been an increase or decrease in the number of seamen applying for treatment within the past year. The majority of the answers reported no marked change. A few reported a decrease but none reported an increase.

This inquiry brought to light 299 as the total number of seamen treated during the calendar year 1928 for gonorrhea and syphilis at other venereal-disease clinics in New York City than those of the Public Health Service at Hudson Street and its substation at Seamen's Church Institute. Approximately one-quarter were cases of gonorrhea; three-quarters of syphilis. During this same period approximately 2,000 cases were treated at the Hudson Street clinic alone. Figures were not obtained for venereal-disease clinics in other parts of the port. Thus there were some 2,300 clinic cases, and at Ellis Island and Stapleton Hospitals perhaps as many as 1,200 hospital cases, a total of some 3,500 cases of seamen treated for

the venereal diseases in clinics and marine hospitals in the port of New York during the calendar year 1928. The numbers would be somewhat larger were figures at hand for the other clinics in the port.

CHARACTER AND HISTORY OF INFECTIONS FOR PATIENTS STUDIED

The sample study was undertaken in the hope of finding out something of the sailors' points of view as well as all the significant social and physical characteristics of a group of infected seamen who are threatened with incapacity in the future and who are a menace as disease-carriers to those with whom they come into close personal contact. It sought to discover the kind of men they were, their ages, nationalities, other characteristics, and primarily the diseases with which they were affected.

Disease and stage of infections.—Table 3² indicates the distribution of these seamen according to the diagnosis at the time they were interviewed for this study. It will be seen from the table that in this body of 961 men there were 629 with gonorrhoeal infection, 331 with syphilitic infection, and 81 with chancroid only. In 80 cases the men were diagnosed as having both gonorrhoea and syphilis. In 12 instances the men had acute gonorrhoea and early syphilis. Over one-fourth of the men were chronic cases of one or both diseases—153 had chronic gonorrhoea, 114 late syphilis, 15 both diseases in the later stages, and one had both diseases in the later stages combined with chancroid. In 88 cases the schedules failed to report the stage of the disease found alone or in combination.

TABLE 3.—*Patients studied classified according to disease and stage of infections*

Disease and stage of infection	Number of patients
Total	961
Gonorrhoea only	527
Stage—	
Not specified	41
Acute	333
Chronic	153
Syphilis only	226
Stage—	
Not specified	14
Early	96
Late	114
Gonorrhoea and syphilis	75
Stage—	
Gonorrhoea	
Syphilis	
Not specified	3
Not specified	4
Acute	16
Acute	10
Acute	18
Chronic	2
Chronic	7
Chronic	15
Chancroid only	81

² Material relating to physical condition of the patients was analyzed and tabulated in the office of the Social Hygiene Committee of the New York Tuberculosis and Health Association.

TABLE 3.—Patients studied classified according to disease and stage of infections—
Continued

Disease and stage of infection	Number of patients
Gonorrhea and chancroid.....	22
Stage—	
Not specified.....	2
Early.....	17
Chronic.....	3
Syphilis and chancroid.....	25
Stage—	
Not specified.....	4
Early.....	20
Late.....	1
Gonorrhea, syphilis, and chancroid.....	5
Stage—	
<u>Gonorrhea</u> <u>Syphilis</u>	
Not specified.. Early.....	1
Acute..... Not specified.....	1
Acute..... Early.....	2
Chronic..... Late.....	1

Symptoms.—The course of the venereal diseases is of such a nature that in some stages symptoms may be of a disabling nature while at other times the presence of the disease may be detected only by means of tests of discharges or laboratory examinations of the blood or other fluids of the body. The stage of the diseases at which these seamen sought hospital and clinic care is indicated in Tables 4 and 5.

The symptoms for the 629 patients with gonorrhea were classified as follows:

TABLE 4.—Patients with gonorrhea classified according to symptoms

Symptoms	Number of patients
Total.....	629
Discharge.....	391
Joint involvements.....	12
Other gonorrhoeal symptoms.....	25
Discharge and joint involvements.....	19
Discharge and other symptoms.....	58
Discharge, joint involvements, and other.....	2
Joint involvements and other.....	1
None specified.....	121

Joint involvements were recorded as symptoms among the 629 men with gonorrhea in only 34 cases, or 5 per cent, and discharge in 470 cases, or 75 per cent.

The symptoms for the 331 patients with a diagnosis of syphilis were given in greater detail and were as follows:

TABLE 5.—*Patients with syphilis classified according to symptoms*

Symptoms	Number of patients
Total.....	331
Open lesion.....	87
Rash.....	23
Open lesion and rash.....	22
Paresis.....	2
Locomotor ataxia.....	2
Other nervous involvements.....	14
Aneurysm.....	2
Hemiplegia.....	2
Other vascular involvements.....	2
Visceral involvements.....	1
Open lesion and vascular involvements.....	2
Rash and vascular involvements.....	1
Open lesion and other nervous involvements.....	2
Locomotor ataxia and vascular involvements.....	1
Other nervous and vascular involvements.....	2
Other nervous and visceral involvements.....	1
Open lesion, rash, and other nervous involvements.....	1
None specified.....	164

In nearly 50 per cent of the cases there was no description of the manifestations of the disease. Among the other half (167 cases), 138 were described as having open lesions or rash or both. In 35 cases, or 11 per cent, it was reported that the disease had attacked the nervous or vascular systems or the viscera.

Number of previous infections.—The men reported the number of previous infections of gonorrhoea and syphilis they had received prior to the infection, or combination of infections, which had brought them to the hospital at the time of the study. It is likely that most of the men who reported second infections of syphilis had a recrudescence of their original infection after a latent period. Four hundred and fifty-seven reported previous infections of gonorrhoea and 124 of syphilis, although 355 of the former group and 119 of the latter stated they had received only one previous infection. Six men reported five or more previous infections of gonorrhoea. There is an overlapping in these figures since some of the men reported previous infections of both diseases.

Diagnosis of first and subsequent infections.—An attempt was made to see the history of these cases from the beginning. Data on early infections are on the word of the sailor and he may have described as a subsequent reinfection what was really a case of long standing. Table 6 indicates the diagnosis at time of first infection, as reported by the patient, and this has been related to subsequent infections. The men have been classified into those who had gonorrhoea or syphilis but reported no subsequent infection, and those who had one or the other of these diseases and reported subsequent infections of the same or the other.

TABLE 6.—*Diagnosis at time of first and subsequent infections*

Diagnosis	Number of patients
Total.....	961
Gonorrhoea.....	303
Gonorrhoea with subsequent syphilis.....	219
Gonorrhoea with subsequent gonorrhoea.....	178
Syphilis.....	174
Syphilis with subsequent gonorrhoea.....	63
Syphilis with subsequent syphilis.....	24

The number of those who at the time of the interview were suffering from the first infection was nearly the same as the number who reported they had received subsequent infections—477 in the former condition and 484 in the latter.

From Table 6 it appears that 303 of the 700 men with an original infection of gonorrhoea had only that one infection, while 178 stated that they were later reinfected with it and 219 contracted syphilis also. Of the 261 men first infected with syphilis, 174 continued with that one infection only, while 63 later contracted gonorrhoea, and 24 stated that they were reinfected with syphilis.

Probable time since first infection.—Those who drew up the schedule were interested to learn how long a time had elapsed since the first experiences of the men with these diseases. The probable time since first infection was reported by all but 30 of them.

TABLE 7.—*Probable time since first infection*

Time	Number of patients
Total.....	961
Less than 1 year.....	380
1 year.....	50
2 years.....	81
3 to 5 years.....	124
5 to 9 years.....	142
10 to 20 years.....	106
20 years and over.....	31
Not known.....	17
No data.....	30

Table 7 shows that almost two-fifths had received their first infection within a year, and two-thirds of them within five years.

Since many of these men had received previous treatment, both here and in other ports, no inferences can be drawn from these facts regarding the promptness with which treatment was sought. The fact that 29 per cent had been infected for the first time over five years before may mean that previous treatment was for some reason ineffective or that the men had exposed themselves to reinfection. Probably both conditions obtained.

Age at first infection.—The men were asked with which of the diseases they had first become infected and other particulars about that infection, such as the year, port, and source. The age at first infection was calculated from the items of date of birth and date of first infection, both recorded on the schedule. All but 13 specified which infection had been received first—gonorrhoea, syphilis, or chancroid. On some schedules both syphilis and gonorrhoea were checked, the seaman evidently not being sure which had been the earlier. On 9 schedules there were no data at all as to first infection, and on 47 it was recorded that the men did not recall when first they became infected.

TABLE 8.—*Age at first infection*

Age	Disease					
	Total	Gonorrhoea	Syphilis	Chan-croid	Syphilis and gonorrhoea	No data
Total.....	961	638	197	58	55	13
14 and under.....	10	9		1		
15.....	11	10			1	
16.....	22	16	4		2	
17.....	52	43	6	1	2	
18.....	49	35	7	4	3	
19.....	80	61	14	3	2	
20.....	96	70	18	4	3	1
21.....	88	62	15	9	2	
22.....	74	47	12	4	11	
23.....	87	58	20	5	4	
24.....	52	31	13	4	4	
25.....	49	28	11	6	2	2
26.....	32	19	9	2	2	
27.....	35	20	7	4	4	
28.....	30	21	6	1	1	1
29.....	19	12	6		1	
30 to 39.....	98	65	19	8	6	
40 to 49.....	20	10	8	1	1	
50 to 58.....	2	1			1	
Not known.....	55	20	22	1	3	9

It will be observed that the first infection (in some cases the only infection) was specified as gonorrhoea in 638 instances, or two-thirds of the cases, and this was likely the first infection also for some of the 55 who had found themselves suffering from both diseases. The ages at which the infections were most commonly received were the nine years from 17 through 25, with a decided decrease in numbers both before and after these years. These nine years accounted for 627 of the cases. Ninety-six of the men, the largest number of any one year, received their first infection at 20 years of age. This year had the largest number for cases of gonorrhoea also.

SOCIAL CHARACTERISTICS OF THE PATIENTS

Those who have been engaged in efforts to bring the venereal diseases under control in the United States have for years clearly recognized that social and psychological elements in the infected

individual are of as much importance in that endeavor as the element of sheer physical transmissibility. Education as to the nature of the diseases and the manner of their transmission and treatment, psychological elements in self-control which enables the infected person to avoid the deliberate exposure of another, the social milieu which develops social personalities, sensitive to social responsibilities of this kind—these are all elements in a broadly conceived plan to reduce and, perhaps, in time, eliminate these diseases or at least the more disastrous manifestations of them.

It has been a tenet in this creed³ that promiscuous sex relations, especially under the conditions found in commercialized vice districts, whether or not under police regulation, promote the spread of these diseases. Conversely, conditions which make for happy conjugal relationships and for vigorous normal healthy life are allies in their reduction. This point of view has received such widespread emphasis in the United States that it is sometimes referred to as a peculiarly American program.

It is therefore of importance to learn as much as may be of the social characteristics found within this highly cosmopolitan group of men who have contracted these diseases and received treatment at the hands of the United States Government.

Country of birth and citizenship status.—Table 9 gives both country of birth and the citizenship status of the men at the time they were interviewed. Citizens of the United States have been classified as native citizens and those who had become citizens by naturalization, and aliens as those who had filed first papers, those who had not filed first papers, and those who were illegally in the country. The latter group is composed of men who stated they had not paid the head tax required of aliens who enter the United States with the intention of becoming residents, and of others who had deserted their ships in United States ports.

³ Prostitution in Europe, by Abraham Flexner. Chapter XI.

TABLE 9.—Country of birth and citizenship status

Country of birth	Citizenship status							
	Total	Citizens			Aliens			
		Total	Native	Naturalized	Total	With first papers	Without first papers	Illegally in country
Total.....	961	605	527	78	356	133	1 208	15
North America.....	571	537	527	10	34	9	24	1
United States.....	527	455	455					
United States (outlying possessions).....		72	72					
Alaska.....		2	2					
Canal Zone.....		1	1					
Hawaii.....		5	5					
Philippine Islands.....		23	23					
Porto Rico.....		36	36					
Virgin Islands.....		5	5					
Canada.....	15	5		5	10	3	6	1
Mexico.....	2				2	1	1	
Newfoundland.....	4	2		2	2	1	1	
West Indies.....	23	3		3	20	4	16	
Central America.....	9				9	2	7	
British Honduras.....	1				1		1	
Costa Rica.....	2				2	1	1	
Honduras.....	4				4	1	3	
Panama, C.....	2				2		2	
South America.....	38	5		5	33	8	25	
Argentina.....	3				3		3	
Brazil.....	9				9	1	8	
Chile.....	9	2		2	7	1	6	
Colombia.....	2				2	2		
Dutch Guiana.....	1				1		1	
Dutch West Indies.....	9	2		2	7	4	3	
Ecuador.....	1				1		1	
Nicaragua.....	1				1		1	
Peru.....	1				1		1	
Uruguay.....	1	1		1				
Venezuela.....	1				1		1	
Europe.....	330	63		63	267	113	140	14
Austria.....	3				3	3		
Belgium.....	2				2	2		
British Isles.....	61	15		15	46	20	25	1
England.....	32	2		2	30	13	17	
Ireland.....	19	8		8	11	4	6	1
Scotland.....	9	5		5	4	2	2	
Wales.....	1				1	1		
Czechoslovakia.....	1				1	1		
Denmark.....	21	7		7	14	4	8	2
Estonia.....	6	1		1	5	1	3	1
Finland.....	4	1		1	3	1	2	
France.....	5	2		2	3	1	2	
Germany.....	59	5		5	54	20	29	5
Greece.....	9	2		2	7	2	5	
Hungary.....	2				2		2	
Italy.....	5				5	4	1	
Latvia.....	4	2		2	2		1	1
Malta.....	3	1		1	2	2		
Netherlands.....	7	1		1	6		5	1
Norway.....	34	7		7	27	11	14	2
Poland.....	1	1		1				
Portugal.....	7	1		1	6	5	1	
Rumania.....	2				2	1	1	
Russia.....	14	6		6	8	6	1	1
Spain.....	44	4		4	40	14	26	
Sweden.....	28	5		5	23	9	14	
Switzerland.....	7	2		2	5	5		
Turkey.....	1				1	1		

¹ 102 detained at Ellis Island by Immigration Bureau were to be repatriated.

TABLE 9.—Country of birth and citizenship status—Continued

Country of birth	Total	Citizenship status						
		Citizens			Aliens			
		Total	Native	Naturalized	Total	With first papers	Without first papers	Illegally in country
Asia.....	3				3		3	
Arabia.....	1				1		1	
China.....	2				2		2	
Africa.....	9				9		9	
Algeria.....	2				2		2	
British West Africa.....	1				1		1	
Canary Islands.....	1				1		1	
Senegal.....	4				4		4	
Unspecified.....	1				1		1	
Australia.....	1				1	1		

The 455 who were born in the United States constituted 47 per cent of the whole group. Europe, with 330, accounted for another 34 per cent; South America, with 38, for 4 per cent; and the remainder were widely scattered.

The 1920 census reported⁴ that there were 1,737,043 males of 21 years of age and over in New York City. Of these, 749,387, or 43 per cent, were native-born white; 927,742, or 53 per cent, were foreign-born white; and 53,614, or 3 per cent, were negroes. Other colored constituted only a fraction of 1 per cent. While the classifications are not precisely comparable, since a small percentage of the seamen studied were under 21, the general similarity is such that one can say that this group of seamen was not disproportionately large in foreign-born members.

Citizens of the United States numbered 605, nearly two-thirds of the 961. Of this number, 527 were native citizens, 72 were born in the outlying possessions, and 78 were naturalized citizens. In this last group Irishmen were the most numerous, with eight who had been naturalized. Denmark and Norway had seven each, and Russia had six in these groups.

More than one-third of the aliens had filed first papers, and of the remainder, as has previously been pointed out, 102 were detained at Ellis Island by Immigration Service officials because of venereal disease and were to be repatriated. At least 15 were illegally in the country, for they stated that they had deserted their ship at an American port or had entered without payment of the head tax.

According to the immigration quota law of 1924, no alien seaman or other alien, exclusive of those entering under the provisions of the

⁴ State Compendium, New York, p. 62.

immigration act, may land in the United States for permanent residence. Those coming in under the act must have visas issued by the United States consular officers abroad and be included in the quota allocated to their countries. The provisions of the act of 1924, which set the quotas according to national origins, had been postponed until July 1, 1929. On that date the old quotas, which had been arbitrarily based on the census of 1890, were discarded and the new system put into force by proclamation of the President. But visas are not required of bona fide alien seamen serving as such on vessels arriving at United States ports and seeking to enter the United States temporarily and solely in pursuit of their calling as seamen.

In one particular, seamen have easier requirements for naturalization than others seeking citizenship, since alien seamen who have been lawfully landed and who have served three years on board a merchant vessel of the United States are protected as United States citizens after declaring their intention to be naturalized. If not eligible under this provision, seamen may, of course, become naturalized in the usual fashion.

The first papers for some of these men had become outlawed, since more than seven years had elapsed from the date of filing. Others may have taken them out only because some ships required that seamen have first papers before being signed on.

Judging from past experience in the naturalization of seamen, it is altogether likely that some of the 133 who had filed first papers may have done so without having previously paid the head tax required. There is now a stricter enforcement of the law in this regard and therefore less likelihood of the applicant for citizenship learning, on application for final papers, that he is not eligible because of nonpayment of head tax and being required to return to his native land and enter the United States under its quota.

Foreign-born seamen who entered the United States prior to June 3, 1921, when the first quota law became effective, and have encountered difficulties in securing citizenship papers due to question as to their legal entry into the country, may now secure such papers, if they are otherwise acceptable, by applying for them in the usual manner after being registered by the Immigration Service. (Act of March 2, 1929.) The law now authorizes the making of a record on behalf of an alien for whom no record of admission to the United States for permanent residence exists or can be found, provided that such alien can prove that he or she entered the country before June 3, 1921, and has since resided continuously in the United States.

Comparison with country of birth of all discharged patients.—The question as to whether or not this sample, with regard to national backgrounds, is characteristic of the general run of patients who receive hospital treatment for the same diseases may be answered

by a comparison of Tables 9 and 10. Data on nativity were available for all the discharged hospital patients who were under treatment during the fiscal year 1928 at Ellis Island and Stapleton Hospitals. This information is presented in Table 10. Country of birth for the 961 seamen studied is given in Table 9.

TABLE 10.—*Nativity of all discharged hospital patients treated for venereal disease at Ellis Island⁵ and Stapleton marine hospitals during the fiscal year 1928⁶*

Total.....	1,186
North America.....	810
United States.....	647
United States—Outlying possessions.....	102
Canada.....	20
Mexico.....	4
West Indies.....	37
Central America ⁷	5
South America ⁷	29
Europe.....	315
Austria.....	8
British Isles.....	60
England.....	31
Ireland.....	22
Scotland.....	7
Denmark.....	25
Finland.....	5
France.....	1
Germany.....	40
Greece.....	17
Hungary.....	1
Italy.....	9
Netherlands.....	5
Norway.....	38
Poland.....	2
Rumania.....	3
Russia.....	17
Spain.....	53
Sweden.....	26
Switzerland.....	5
Asia.....	1
China.....	1
Africa.....	4
South Africa.....	4
All others.....	22

⁵ Data not available for alien seamen detained for deportation.

⁶ July 1, 1927–June 30, 1928.

⁷ Country not indicated.

Of the 1,186 discharged hospital patients who had been under treatment for venereal disease at Ellis Island or Stapleton, 647, or 55 per cent, were born in the United States, a somewhat higher figure

than the 47 per cent in the sample. Those born in Europe constituted 27 per cent of the discharged patients, as contrasted with 34 per cent for the sample, and the remaining 10 per cent of those born in other countries, exclusive of the outlying possessions of the United States, were widely scattered, as was the corresponding 11 per cent group of the sample.

Among the European countries, Spain furnished the largest group for the discharged patients, with Germany, Norway, England, Sweden, and Denmark following in the order named. For the sample, the order was the same except that Germany was first and Spain second.

While these data indicate the wide range of social backgrounds which will be found by any one seeking to understand these seamen, the figures furnish no enlightenment on the relative proportions of venereally diseased patients among sailors of the various nationalities. No one knows the size of the nationality groups of seamen from which these men were drawn. Moreover, there is no way of measuring possible differences in the attitude and practices of the men of the various groups in seeking treatment at all institutions of the kinds here studied. It is possible that persons born in maritime nations, like Great Britain, Germany, and the Scandinavian countries, are both more likely to become seamen, perhaps on American ships, and also more likely to understand the necessity for treatment when they become infected than are men of other nationalities. They would, therefore, in a group such as this, be thrown into a prominence which does not represent a true picture of the prevalence of venereal disease among these nationalities.

It must also be remembered that the alien seaman comes under the scrutiny of the immigration authorities on each entry into port and that symptoms of the disease discovered in such examination would lead to his being hospitalized at Ellis Island before deportation. The American seaman is not required to undergo such scrutiny and is more free to follow his own judgment in treatment.

Race.—Table 11 groups the men according to race.

TABLE 11.—*Race*

Race	Number
Total.....	961
White.....	784
Negro.....	147
Other.....	30

Most of those represented in the miscellaneous group of 30 were from the Philippine Islands. The others were Hawaiians, Chinese, and American Indians. Here is brought out the fact that in this

group of seamen there was a fairly high percentage, as compared with New York City as a whole, of colored persons. As has been said, among all males of 21 years and over the negroes furnished three per cent in 1920. In this sample, they are 15 per cent. But here again we are handicapped in drawing any inferences regarding prevalence among these groups. About all that can be said is that those who deal with venereal disease among seamen must be equipped to take care of a good many cases of colored as well as white men. Moreover they will also find an appreciable number from the Philippine and Hawaiian Islands.

Age.—The following table gives age distribution for the men. The ages from 20 to 40 accounted for 817, or 85 per cent, and the 5-year group from 20 to 24 years was the largest.

TABLE 12.—*Age distribution*

Age groups	Number	Per cent
Total.....	961	100.0
Under 20.....	56	5.8
20 to 24.....	337	85.0
25 to 29.....	271	
30 to 39.....	209	
40 to 49.....	64	
50 to 59.....	18	9.2
60 to 69.....	6	

The oldest man was 69 and the next oldest, 62. The former had a pension from his previous occupation and had bought and was operating a tugboat. His small earnings and the pension provided him with a living.

A boy of 16, the youngest in the group, was an American lad, described as refined and well dressed. He said he was the only child in the family and ran away to sea to avoid working in his father's business. Of those under 20 years, eight were 17 years old. With the exception of two aliens who were to be repatriated, these were American-born, one colored and five white. One of the five white seamen had been sailing with his father since he was 8 years of age.

Action by the International Labor Organization with reference to the employment of young persons at sea is of interest here. The Genoa International Labor Conference in 1920 adopted a draft convention providing that children under the age of 14 years should not be employed or work on vessels other than those on which only members of the same family are employed. According to the articles of the peace treaty which set up the International Labor Organization, composed of members of the League of Nations, the members undertake to submit recommendations and draft conventions of the International Labor Conferences within a year to their competent legislative authority or authorities. By January, 1929, this convention had been ratified by 21 member nations.

In 1921, at the conference held in Geneva, further draft conventions along this line were adopted. These provided that the employment of any child or young person under 18 years of age on any vessel other than vessels on which only members of the same family were employed, should be conditional on the production of a medical certificate to be renewed annually and that young persons under 18 years of age should not be employed as trimmers or stokers. Twenty nations, by January, 1929, had ratified both of these conventions.

Marital status.—Although a large proportion of these men were between 25 and 60 years of age, few were married. Of the 961 men, 840, or 87 per cent, were single. Of the remainder, there were 67 who were married and living with their wives; 30 were divorced or separated; one stated he was a deserter from his family; and 23 were widowers. While one-fourth of the negroes were married, the proportion, both for the white and other races, was about one-tenth.

TABLE 13.—*Marital status by race*

Race	Marital status						
	Total	Single	Married				
			Total	Married	Divorced or separated	Deserter	Widower
Total.....	961	840	121	67	30	1	23
White.....	784	702	82	43	20	1	18
Negro.....	147	111	36	22	10		4
Other.....	30	27	3	2			1

The large proportion of single men is perhaps not surprising in view of the very nature of the seamen's calling, involving, as it does, a constant change of abode, and of the other conditions adverse to family life under which men work who follow the sea.

Number of children.—Questions were included on the schedules as to the number of children of the men, grouped as over and under 16 years. Table 14 shows the number of men with specified numbers of children.

TABLE 14.—*Number of children*

Number of children	Number of men with specified numbers of children			
	Total	Under 16	16 and over	Both under and over 16
Total.....	53	39	10	4
1 child.....	22	16	6	
2 children.....	22	17	2	3
3 children.....	3	2	1	
4 children.....	4	2	1	1
6 children.....	1	1		
Not specified.....	1	1		

Only 53 of the 121 married men reported any children, and in these 53 families there were in the neighborhood of 100 children, or an average to a family of less than two. Only one man, a negro from the Barbados, reported six children.

Religion.—Information as to religion was secured from the social service records in the case of the out-patient department at Hudson Street Hospital and otherwise from the man himself at the time of the interview.

Over 45 per cent of the men stated that they were Protestants and 40 per cent that they were Roman Catholics. The 23 men of the miscellaneous groups included those who were adherents of the Greek Church, Mohammedans, and two Chinese who were checked as of other than the Christian religion.

TABLE 15.—*Religion*

Religion	Number
Total.....	961
Protestant.....	440
Roman Catholic.....	386
None.....	46
Jewish.....	18
Other.....	23
Not reported.....	48

(Chapters IV and V, dealing with provisions for treatment and with the social factors in the problem, will be published in the following issue of PUBLIC HEALTH REPORTS.)

COURT DECISION RELATING TO PUBLIC HEALTH

Labeling of mattresses to indicate whether filling was new or second-hand.—(Massachusetts Supreme Judicial Court; *Commonwealth v. National Mattress Co. Inc.*, 170 N. E. 63; decided Jan. 31, 1930.) The defendant company manufactured and sold mattresses which were labeled “manufactured of new material.” These mattresses were filled with material containing “garnetted clippings.” Such clippings were made as follows: Manufacturers of clothing cut from bolts or rolls of cotton or woolen cloth the patterns out of which articles of clothing were to be made, leaving small parts of the original cloth, commonly known as “clips.” These clips were gathered together and placed in a machine which shredded the material, such shredded material being called “garnetted clippings.”

The statutes required that an article of bedding, manufactured for purposes of sale, should be labeled as containing “secondhand” filling, if the material had been previously used, and, if none of the filling material had been previously used, it should be labeled as being “manufactured of new material.” “New” referred to any material which had not been used as a part or portion of another manufactured

article or used for any other purpose, and "previously used," "previously been used," or "been used before" referred to material which had been used as a part or portion of another manufactured article or used for any other purpose.

The defendant corporation was charged with violating the above-mentioned statutory provisions, it being contended that mattresses filled with garnetted clippings were required to be labeled as containing "secondhand" filling instead of being labeled "manufactured of new material." The action of the trial court in finding the defendant guilty was upheld by the supreme court, which latter court said, in part:

The apparent purpose of the part of the statute upon which the complaint is based was to regulate the manufacture and sale of the articles coming within its scope so that a purchaser might be informed when buying such article whether it had been filled with new material or used material. The "clips" had been a portion of a bolt or roll of cloth and this cloth had been put to the use for which it was made by being cut into patterns for articles of clothing. The "clips" had so far been changed by this process that they could no longer be employed for the purpose for which the cloth was manufactured. After their usefulness for clothing had ceased their character as cloth was changed by being put through the mill and shredded so that they might be used for a purpose to which they were not adaptable as cloth. In our opinion the judge was justified in reaching the conclusion that the material constituting the filling of the mattress had been previously used for another purpose within the meaning of the statute and in finding the defendant guilty.

DEATHS DURING WEEK ENDED MARCH 29, 1930

Summary of information received by telegraph from industrial insurance companies for the week ended March 29, 1930, and corresponding week of 1929. (From the Weekly Health Index, April 2, 1930, issued by the Bureau of the Census, Department of Commerce)

	Week ended Mar. 29, 1930	Corresponding week, 1929
Policies in force.....	75, 656, 614	73, 734, 291
Number of death claims.....	15, 087	13, 268
Death claims per 1,000 policies in force, annual rate..	10. 4	9. 4

Deaths from all causes in certain large cities of the United States during the week ended March 29, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929. (From the Weekly Health Index, April 2, 1930, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Mar 29, 1930		Annual death rate per 1,000, corresponding week, 1929	Deaths under 1 year		Infant mortality rate, week ended Mar. 29, 1930 ²
	Total deaths	Death rate ¹		Week ended Mar. 29, 1930	Corresponding week, 1929	
Total (64 cities).....	7,817	13.8	13.3	810	755	71
Akron.....	37			5	7	46
Albany ⁴	36	15.6	16.5	5	7	109
Atlanta.....	83	17.0	12.9	8	7	85
White.....	37			4	3	127
Colored.....	46	(⁵)	(⁵)	4	4	63
Baltimore ⁴	234	14.7	13.1	13	23	44
White.....	175			10	15	43
Colored.....	59	(⁵)	(⁵)	3	8	49
Birmingham.....	84	19.7	18.1	5	11	47
White.....	34			0	6	0
Colored.....	50	(⁵)	(⁵)	5	5	118
Boston.....	248	16.2	14.5	30	28	85
Bridgeport.....	49			6	7	103
Buffalo.....	158	14.8	13.7	12	14	53
Cambridge.....	35	14.5	13.3	1	2	19
Camden.....	44	16.9	11.6	9	7	163
Canton.....	21	9.4	12.5	5	3	124
Chicago ⁴	664	11.0	12.5	73	72	65
Cincinnati.....	157			9	16	53
Cleveland.....	228	11.8	11.0	23	20	69
Columbus.....	84	14.6	13.3	7	7	68
Dallas.....	66	15.8	13.2	9	6	
White.....	51			7	6	
Colored.....	15	(⁵)	(⁵)	2	0	
Dayton.....	45	12.7	14.1	5	6	74
Denver.....	77	13.6	14.7	11	8	115
Des Moines.....	31	10.6	14.1	1	5	17
Detroit.....	293	11.1	14.3	42	42	65
Duluth.....	14	6.2	8.5	2	0	54
El Paso.....	31	13.7	18.6	7	11	
Erie.....	20			3	4	64
Fall River ⁴	36	14.0	8.9	7	3	160
Flint.....	34	11.9	10.2	10	3	117
Fort Worth.....	33	10.1	11.3	0	4	
White.....	24			0	4	
Colored.....	9	(⁵)	(⁵)	0	0	
Grand Rapids.....	47	14.9	9.8	4	3	61
Houston.....	64			4	7	
White.....	41			3	5	
Colored.....	23	(⁵)	(⁵)	1	2	
Indianapolis.....	125	17.1	15.6	4	8	30
White.....	99			2	7	17
Colored.....	26	(⁵)	(⁵)	2	1	108
Jersey City.....	83	13.3	14.1	7	13	61
Kansas City, Kans.....	31	13.7	13.2	4	3	95
White.....	25			3	3	80
Colored.....	6	(⁵)	(⁵)	1	0	217
Kansas City, Mo.....	108	14.4	17.2	14	14	109
Knoxville.....	59	29.2	17.3	7	2	164
White.....	48			6	1	156
Colored.....	11	(⁵)	(⁵)	1	1	247
Los Angeles.....	325			15	21	46
Louisville.....	93	14.7	15.7	7	6	61
White.....	64			6	5	59
Colored.....	29	(⁵)	(⁵)	1	1	72
Lowell.....	23			2	2	47
Lynn.....	19	9.4	10.4	5	3	126
Memphis.....	88	24.1	24.7	11	15	131
White.....	34			5	6	92
Colored.....	54	(⁵)	(⁵)	6	9	202
Milwaukee.....	115	11.0	12.2	17	18	86

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.

³ Data for 72 cities.

⁴ Deaths for week ended Friday.

⁵ In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

Deaths from all causes in certain large cities of the United States during the week ended March 29, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929. (From the Weekly Health Index, April 2, 1930, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Mar. 29, 1930		Annual death rate per 1,000, corresponding week, 1929	Deaths under 1 year		Infant mortality rate, week ended Mar. 29, 1930
	Total deaths	Death rate		Week ended Mar. 29, 1930	Corresponding week, 1929	
Minneapolis.....	90	10.3	9.7	4	5	26
Nashville.....	67	25.0	17.6	8	5	124
White.....	35			7	4	144
Colored.....	32	(⁹)	(⁹)	1	1	63
New Bedford.....	23			4	1	103
New Haven.....	46	12.8	9.4	4	7	78
New Orleans.....	153	18.6	15.9	10	9	5
White.....	89			6	5	53
Colored.....	64	(⁹)	(⁹)	4	4	67
New York.....	1,703	14.8	13.6	194	156	82
Bronx Borough.....	228	12.5	11.0	28	18	66
Brooklyn Borough.....	586	13.2	12.1	71	49	76
Manhattan Borough.....	681	20.3	19.2	78	72	123
Queens Borough.....	169	10.3	9.2	14	15	41
Richmond Borough.....	39	13.5	13.8	3	2	56
Newark, N. J.....	103	11.3	12.0	16	14	84
Oakland.....	66	12.6	12.0	4	3	48
Oklahoma City.....	40			6	1	118
Omaha.....	57	13.3	11.7	5	8	57
Paterson.....	35	12.6	15.8	1	5	17
Philadelphia.....	544	13.7	11.2	57	41	84
Pittsburgh.....	212	16.4	13.5	25	24	92
Portland, Oreg.....	76			0	0	0
Providence.....	73	13.3	14.2	9	9	83
Richmond.....	50	13.4	14.5	4	6	59
White.....	30			2	2	45
Colored.....	20	(⁹)	(⁹)	2	4	87
Rochester.....	89	14.1	15.6	8	12	71
St. Louis.....	218	13.4	14.0	8	9	26
St. Paul.....	60			4	5	41
Salt Lake City ⁴	42	15.9	15.5	5	1	79
San Antonio.....	82	19.6	14.8	11	10	—
San Diego.....	47			3	5	63
San Francisco.....	146	13.0	15.9	5	7	34
Schenectady.....	21	11.7	11.2	4	2	125
Seattle.....	74	10.1	9.9	3	4	30
Somerville.....	32	16.2	10.7	5	4	163
Spokane.....	37	17.7	10.5	2	0	52
Springfield, Mass.....	37	12.9	12.9	6	2	95
Syracuse.....	40	10.5	20.4	8	10	99
Tacoma.....	27	12.7	9.4	1	1	26
Toledo.....	77	12.8	12.8	8	8	73
Trenton.....	41	15.4	16.9	4	3	74
Utica.....	46	23.0	16.5	5	2	142
Washington, D. C.....	153	14.5	12.7	13	12	75
White.....	92			7	8	60
Colored.....	61	(⁹)	(⁹)	6	4	103
Waterbury.....	19			1	0	26
Wilmington, Del.....	29	11.8	11.4	4	2	90
Worcester.....	57	15.0	10.6	3	0	39
Yonkers.....	23	9.9	9.9	1	0	24

⁴ Deaths for week ended Friday.

⁵ In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 26; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 28; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended March 29, 1930, and March 30, 1929

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 29, 1930, and March 30, 1929

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929
New England States:								
Maine.....	5	4	18	5	77	204	0	0
New Hampshire.....	1	2	11	9	4	26	0	0
Vermont.....	2				60		0	0
Massachusetts.....	67	72	20	40	1,006	331	5	3
Rhode Island.....	7	7		1	7	52	0	0
Connecticut.....	14	15	12	23	13	449	1	3
Middle Atlantic States:								
New York.....	125	320	162	133	1,012	1,195	24	17
New Jersey.....	112	93	21	9	747	273	4	4
Pennsylvania.....	105	123			1,272	1,712	7	6
East North Central States:								
Ohio.....	77	67	38	73	709	2,006	11	8
Indiana.....	22	26			95	566		0
Illinois.....	158	145	176	322	727	1,732	22	15
Michigan.....	81	124	2	9	1,221	657	38	88
Wisconsin.....	14	14	40	22	787	863	7	12
West North Central States:								
Minnesota.....	19	14	4		230	426	3	0
Iowa.....	13	9			603	84	4	2
Missouri.....	33	73	9	7	66	522	19	25
North Dakota.....	2	4			22	39	5	2
South Dakota.....	5	6	1		102	35	1	0
Nebraska.....	14	10		5	411	68	2	0
Kansas.....	13	16	14	28	731	313	8	1
South Atlantic States:								
Delaware.....	2	1			8	34	0	0
Maryland ¹	18	15	55	22	48	78	1	0
District of Columbia.....	15	13	2		10	18	0	0
West Virginia.....	5	14	28	40	79	340	0	1
North Carolina.....	31	13	14		29	76	2	0
South Carolina.....	22	16	832	671	30	8	0	0
Georgia.....	5	8	137	82	196	41	7	4
Florida.....	3	11	2	5	424	85	0	0
East South Central States:								
Kentucky.....							1	2
Tennessee.....	15	13	71	91	186	12	25	2
Alabama.....	22	11	76	76	265	121	4	1
Mississippi.....	13	6					21	1
West South Central States:								
Arkansas.....	15	2	105	31	25	95	9	2
Louisiana.....	23	16	9	40	154	112	6	4
Oklahoma ²	15	15	65	93	101	62	1	6
Texas.....	31	21	129	73	134	119	1	2
Mountain States:								
Montana.....	1	7				70	2	1
Idaho.....	2			2	75	1	1	11
Wyoming.....	1	3	1		5	34	0	2
Colorado.....	9	8	2	7	487	24	2	10
New Mexico.....	17	4		16	144	2	4	1
Arizona.....	7	2	11		53	1	5	10
Utah ³		3	2	4	276		10	15
Pacific States:								
Washington.....	8	7		3	282	94	7	21
Oregon.....	17	8	44	71	130	180	0	2
California.....	51	33	38	84	2,173	61	6	47

¹ New York City only.
³ Week ended Friday.

² Figures for 1930 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended March 29, 1930, and March 30, 1929—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929	Week ended Mar. 29, 1930	Week ended Mar. 30, 1929
New England States:								
Maine.....	0	1	32	37	0	9	6	3
New Hampshire.....	1	0	16	14	0	1	2	0
Vermont.....	0	0	7	5	4	4	0	0
Massachusetts.....	0	0	274	307	0	0	2	5
Rhode Island.....	0	0	23	31	0	0	0	1
Connecticut.....	0	0	115	67	0	4	2	0
Middle Atlantic States:								
New York.....	2	0	607	626	3	0	34	17
New Jersey.....	0	0	270	150	0	0	2	3
Pennsylvania.....	0	0	432	410	1	6	14	8
East North Central States:								
Ohio.....	0	1	564	427	186	47	9	12
Indiana.....	0	0	176	304	162	88	3	26
Illinois.....	0	2	515	482	122	94	8	6
Michigan.....	1	1	292	573	123	66	0	10
Wisconsin.....	0	1	118	187	38	12	1	3
West North Central States:								
Minnesota.....	0	0	146	110	4	1	3	3
Iowa.....	0	0	95	165	99	30	1	0
Missouri.....	0	0	105	133	51	14	4	5
North Dakota.....	0	0	21	28	18	3	3	2
South Dakota.....	0	1	8	21	70	13	0	0
Nebraska.....	0	0	54	112	39	85	0	0
Kansas.....	0	0	136	152	88	49	2	4
South Atlantic States:								
Delaware.....	0	0	11	3	0	0	1	0
Maryland ²	0	0	116	53	0	0	3	2
District of Columbia.....	0	0	13	23	0	0	0	1
West Virginia.....	0	0	24	40	22	13	17	2
North Carolina.....	3	0	37	40	40	16	2	1
South Carolina.....	0	1	12	18	1	0	3	9
Georgia.....	0	0	25	6	0	0	1	9
Florida.....	0	1	11	9	1	0	2	3
East South Central States:								
Kentucky.....	0	0	75	88	19	38	3	0
Tennessee.....	1	1	78	57	9	2	6	2
Alabama.....	0	1	21	9	11	5	6	8
Mississippi.....	0	0	10	9	6	1	2	9
West South Central States:								
Arkansas.....	0	0	22	6	10	1	1	1
Louisiana.....	0	0	25	54	2	6	8	6
Oklahoma ¹	0	0	29	59	101	102	4	7
Texas.....	3	1	63	72	86	104	2	0
Mountain States:								
Montana.....	0	0	39	20	17	6	3	8
Idaho.....	0	0	5	3	12	18	1	0
Wyoming.....	0	0	5	9	2	1	0	0
Colorado.....	0	0	29	41	6	28	2	1
New Mexico.....	0	0	10	14	21	2	0	1
Arizona.....	0	0	16	8	23	29	4	2
Utah ²	0	0	18	5	0	4	0	0
Pacific States:								
Washington.....	0	0	40	30	83	50	2	2
Oregon.....	0	1	37	34	23	19	0	3
California.....	2	0	180	334	120	56	1	5

¹ Week ended Friday.² Figures for 1930 are exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pella- gra	Poli- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>February, 1930</i>										
California.....	44	276	220	2	4,798	2	3	1,221	467	32
Iowa.....	17	41	28				0	441	300	3
Mississippi.....	91	80	5,904	1,934	385	418	1	79	28	31
Montana.....	7	3	26		129		0	172	43	9
Nevada.....	5	4	40		66			24	5	
Oregon.....	3	32	374		79		0	185	65	10
South Dakota.....	7	12	26		608		1	226	295	3
Virginia.....	19	174	2,840	27	1,572	33	3	268	27	9
Washington.....	26	43	47		788		0	281	314	33
Wisconsin.....	23	84	210		4,273		3	727	158	7

<i>February, 1930</i>		Cases	Mumps—Continued.	Cases
Botulism:			South Dakota.....	32
California.....		1	Washington.....	453
Chicken pox:			Wisconsin.....	823
California.....		2,355	Ophthalmia neonatorum:	
Mississippi.....		1,131	Mississippi.....	13
Montana.....		44	Wisconsin.....	1
Nevada.....		42	Paratyphoid fever:	
Oregon.....		190	California.....	2
South Dakota.....		75	Puerperal septicemia:	
Virginia.....		753	Mississippi.....	52
Washington.....		540	Washington.....	4
Wisconsin.....		1,329	Rabies in animals:	
Dengue:			California.....	57
Mississippi.....		5	Mississippi.....	6
Dysentery:			Oregon.....	1
California (amebic).....		4	Scabies:	
California (bacillary).....		6	Oregon.....	2
Mississippi (amebic).....		52	Washington.....	1
Mississippi (bacillary).....		416	Septic sore throat:	
Dysentery and diarrhea:			Oregon.....	13
Virginia.....		139	Washington.....	1
Food poisoning:			Tetanus:	
California.....		100	California.....	7
German measles:			Trachoma:	
California.....		189	California.....	9
Washington.....		50	Mississippi.....	7
Wisconsin.....		9	South Dakota.....	2
Granuloma, coccidioidal:			Wisconsin.....	1
California.....		2	Trichinosis:	
Hookworm disease:			California.....	19
California.....		1	Undulant fever:	
Mississippi.....		254	California.....	8
Impetigo contagiosa:			Iowa.....	14
Oregon.....		13	Oregon.....	2
Jaundice:			Washington.....	3
California.....		2	Wisconsin.....	3
Leprosy:			Vincent's angina:	
California.....		1	Oregon.....	8
Lethargic encephalitis:			Washington.....	11
California.....		3	Whooping cough:	
Oregon.....		1	California.....	623
Washington.....		2	Mississippi.....	1,202
Wisconsin.....		1	Montana.....	21
Mumps:			Nevada.....	1
California.....		3,076	Oregon.....	153
Mississippi.....		608	South Dakota.....	39
Montana.....		525	Virginia.....	1,079
Nevada.....		9	Washington.....	229
Oregon.....		175	Wisconsin.....	963

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 32,165,000. The estimated population of the 91 cities reporting deaths is more than 30,570,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended March 22, 1930, and March 23, 1929

	1930	1929	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
46 States.....	1,250	1,494	
98 cities.....	614	819	913
Measles:			
45 States.....	14,751	13,154	
98 cities.....	4,893	4,500	
Meningococcus meningitis:			
46 States.....	295	323	
98 cities.....	121	149	
Poliomyelitis:			
47 States.....	14	26	
Scarlet fever:			
46 States.....	5,105	5,685	
98 cities.....	1,994	2,095	1,586
Smallpox:			
46 States.....	1,429	1,127	
98 cities.....	153	66	87
Typhoid fever:			
46 States.....	203	199	
98 cities.....	52	42	34
<i>Deaths reported</i>			
Influenza and pneumonia:			
91 cities.....	1,063	1,129	
Smallpox:			
91 cities.....	0	0	

City reports for week ended March 22, 1930

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1921 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND								
Maine:								
Portland.....	11	1	0	1	0	0	25	7
New Hampshire:								
Concord.....	0	0	0		0	2	0	2
Vermont:								
Barre.....	12	0	0		0	0	0	0
Burlington.....	0	0	0		0	0	0	0
Massachusetts:								
Boston.....	46	37	15	3	0	331	73	38
Fall River.....	7	3	5		0	1	2	3
Springfield.....	4	4	2		0	3	7	2
Worcester.....	9	4	0		0	87	0	1
Rhode Island:								
Pawtucket.....	8	1	3		0	0	0	3
Providence.....	7	8	1		0	0	0	11
Connecticut:								
Bridgeport.....	0	6	0		1	0	0	5
Hartford.....	4	6	1	1	0	2	1	10
New Haven.....	37	1	0		0	0	9	8

City reports for week ended March 22, 1930—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MIDDLE ATLANTIC								
New York:								
Buffalo.....	26	13	9	1	5	15	24	
New York.....	257	242	93	40	14	507	207	
Rochester.....	23	9	1	2	26	2	5	
Syracuse.....	26	6	0	0	4	80	4	
New Jersey:								
Camden.....	2	6	7	2	0	0	4	
Newark.....	54	16	44	3	278	22	16	
Trenton.....	8	3	4	0	21	0	1	
Pennsylvania:								
Philadelphia.....	68	69	29	2	9	109	63	
Pittsburgh.....	30	18	27	1	2	238	13	
Reading.....	17	3	0	0	1	0	3	
Scranton.....	6	3	1	0	0	0	0	
EAST NORTH CENTRAL								
Ohio:								
Cincinnati.....	17	9	1	0	30	0	9	
Cleveland.....	144	29	17	15	3	8	35	
Columbus.....	22	3	5	0	0	58	10	
Toledo.....	29	5	5	1	1	158	19	
Indiana:								
Fort Wayne.....	0	2	1	0	0	0	3	
Indianapolis.....	19	5	0	0	5	5	17	
South Bend.....	0	1	3	0	1	0	5	
Terre Haute.....	5	0	0	0	0	0	1	
Illinois:								
Chicago.....	102	99	133	5	9	35	90	
Springfield.....	18	1	0	1	1	2	0	
Michigan:								
Detroit.....	88	48	45	2	1	700	60	
Flint.....	27	3	5	0	0	8	6	
Grand Rapids.....	1	2	0	1	1	1	7	
Wisconsin:								
Kaneisha.....	10	1	0	0	2	0	2	
Madison.....	2	1	1	0	78	0	0	
Milwaukee.....	183	16	3	0	8	68	16	
Racine.....	1	2	0	0	2	1	0	
Superior.....	2	0	0	0	7	0	0	
WEST NORTH CENTRAL								
Minnesota:								
Duluth.....	2	0	0	0	102	0	3	
Minneapolis.....	43	14	4	3	24	48	10	
St. Paul.....	45	10	0	0	5	13	5	
Iowa:								
Davenport.....	0	1	0	0	31	2	0	
Des Moines.....	0	1	0	0	29	2	0	
Sioux City.....	4	1	0	0	105	15	0	
Waterloo.....	14	0	1	0	55	0	0	
Missouri:								
Kansas City.....	32	5	6	1	9	1	3	
St. Joseph.....	2	0	0	0	0	0	2	
St. Louis.....	32	41	21	1	18	17	0	
North Dakota:								
Fargo.....	9	0	0	0	0	12	0	
Grand Forks.....	0	0	0	0	1	0	0	
South Dakota:								
Aberdeen.....	23	0	1	0	0	2	0	
Sioux Falls.....	0	0	0	0	11	0	0	
Nebraska:								
Omaha.....	8	3	4	0	84	1	10	
Kansas:								
Topeka.....	7	1	0	1	0	100	2	
Wichita.....	18	2	2	0	11	1	6	

City reports for week ended March 22, 1930—Continued

Division, State, and city	Chick- en pox, cases re- ported	Diphtheria		Influenza		Meas- sles, cases re- ported	Mumps, cases re- ported	Pneu- monia, deaths re- ported
		Cases, esti- mated expect- ancy	Cases reported	Cases reported	Deaths reported			
SOUTH ATLANTIC								
Delaware:								
Wilmington.....	6	2	2		0	3	0	7
Maryland:								
Baltimore.....	159	25	13	15	3	3	15	47
Cumberland.....	0	0	0		0	0	0	0
Frederick.....	0	0	0		0	1	0	0
District of Columbia:								
Washington.....	22	12	16		0	1	0	17
Virginia:								
Lynchburg.....	19	1	4		0	112	11	2
Norfolk.....	0	1	2		0	4	22	7
Richmond.....	4	3	4		3	3	4	5
Roanoke.....	2	1	2		0	87	0	1
West Virginia:								
Charleston.....	13	1	0		0	12	1	1
Wheeling.....	10	0	0		0	0	0	2
North Carolina:								
Raleigh.....	16	0	1		0	0	0	3
Wilmington.....	13	0	0		0	0	0	2
Winston-Salem.....	16	0	1	2	0	0	11	4
South Carolina:								
Charleston.....	3	0	0	21	1	0	2	1
Columbia.....	19	0	0		0	0	4	3
Georgia:								
Atlanta.....	15	2	1	15	3	27	17	9
Brunswick.....	0	0	0		0	0	5	0
Savannah.....	3	0	1	11	4	1	0	3
Florida:								
Miami.....	7	3	5	1	0	1	1	1
St. Petersburg.....								
Tampa.....	9	1	0		0	58	12	4
EAST SOUTH CENTRAL								
Kentucky:								
Covington.....	4	1	0		0	2	0	3
Tennessee:								
Memphis.....	9	4	4		3	3	19	16
Nashville.....	0	1	1		1	4	0	3
Alabama:								
Birmingham.....	8	2	1	7	4	3	2	3
Mobile.....	2	1	0		4	6	1	4
Montgomery.....	5	0	0	2		198	0	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith.....	0	0	0			5	1	
Little Rock.....	18	0	1		0	10	0	3
Louisiana:								
New Orleans.....	3	11	15	5	3	35	0	19
Shreveport.....	12	1	0		0	0	15	7
Oklahoma:								
Oklahoma City.....	6	2	0		0	32	8	14
Tulsa.....	15	1	1			263	1	
Texas:								
Dallas.....	7	4	8	1	2	107	2	8
Fort Worth.....	12	3	3	1	0	8	0	0
Galveston.....	0	0	0		0	0	0	3
Houston.....	4	4	11		1	0	1	9
San Antonio.....	7	3	4		1	0	0	7
MOUNTAIN								
Montana:								
Billings.....	0	0	0		0	0	12	1
Great Falls.....	2	0	0		0	0	29	2
Helena.....	0	0	0		0	0	3	1
Missoula.....	0	0	0		0	3	0	4
Idaho:								
Boise.....	0	0	0		0	0	0	0

City reports for week ended March 22, 1930—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MOUNTAIN—contd.								
Colorado:								
Denver.....	58	8	7		4	190	27	7
Pueblo.....	16	1	0		1	3	60	2
New Mexico:								
Albuquerque.....	7	0	0		0	17	19	0
Arizona:								
Phoenix.....	2	1	0		0	7	3	1
Utah:								
Salt Lake City.....	5	2	3		2	122	9	5
Nevada:								
Reno.....	0	0	0		0	1	1	0
PACIFIC								
Washington:								
Seattle.....	58	4	0			167	89	
Spokane.....	24	2	0			2	0	
Tacoma.....	3	1	3		1	24	0	1
Oregon:								
Portland.....	24	9	6		0	8	18	5
Salem.....	10	0	0		0	0	15	0
California:								
Los Angeles.....	141	41	14	24	2	386	53	16
Sacramento.....	12	2	0		0	3	48	5
San Francisco.....	53	18	5	1	0	307	90	9

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland.....	4	2	0	0	0	2	0	0	0	1	27
New Hampshire:											
Concord.....	1	3	0	0	0	0	0	0	0	0	10
Vermont:											
Barre.....	1	0	0	0	0	0	0	0	0	0	1
Burlington.....	2	0	0	0	0	0	0	0	0	0	5
Massachusetts:											
Boston.....	85	78	0	0	0	10	1	0	0	46	265
Fall River.....	5	3	0	0	0	3	0	0	0	4	32
Springfield.....	8	4	0	0	0	3	0	0	0	15	42
Worcester.....	10	13	0	0	0	1	0	0	0	22	50
Rhode Island:											
Pawtucket.....	2	5	0	0	0	0	0	1	6	20	
Providence.....	12	13	0	0	0	3	1	0	11	68	
Connecticut:											
Bridgeport.....	13	17	0	0	0	1	0	0	0	33	
Hartford.....	6	7	0	0	0	1	0	0	2	51	
New Haven.....	9	9	0	0	0	0	0	0	12	46	
MIDDLE ATLANTIC											
New York:											
Buffalo.....	29	29	0	0	0	11	1	0	0	19	149
New York.....	378	344	0	0	0	121	7	12	1	79	1,618
Rochester.....	14	7	0	0	0	1	1	0	0	3	75
Syracuse.....	11	28	0	0	0	1	0	0	0	56	42
New Jersey:											
Camden.....	7	5	0	0	0	1	0	1	0	0	30
Newark.....	42	52	0	0	0	11	1	0	0	27	123
Trenton.....	5	10	0	0	0	6	0	0	0	1	40
Pennsylvania:											
Philadelphia.....	104	138	0	0	0	33	2	1	0	18	544
Pittsburgh.....	31	35	0	0	0	15	1	0	0	41	185
Reading.....	6	1	0	0	0	3	0	0	0	12	34
Scranton.....	3	5	0	0	0	0	0		2		

City reports for week ended March 22, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
SOUTH ATLANTIC—continued											
South Carolina:											
Charleston.....	0	0	0	0	0	3	0	0	0	0	26
Columbia.....	0	0	0	0	0	4	1	0	0	12	24
Georgia:											
Atlanta.....	5	14	4	0	0	4	0	0	0	2	88
Brunswick.....	0	0	0	0	0	0	0	0	0	0	3
Savannah.....	0	1	1	0	0	1	0	0	0	2	30
Florida:											
Miami.....	1	4	0	0	0	3	0	0	0	2	42
Tampa.....	1	2	0	0	0	2	1	0	0	0	34
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	2	1	0	1	0	1	0	0	0	0	16
Tennessee:											
Memphis.....	9	21	2	0	0	6	1	12	0	12	102
Nashville.....	4	5	1	0	0	5	1	0	0	0	52
Alabama:											
Birmingham.....	3	0	5	0	0	3	1	0	1	3	66
Mobile.....	0	1	1	0	0	0	0	0	0	0	24
Montgomery.....	0	2	0	0	0	0	0	2	0	0	0
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	0	0	0	0	0	0	0	0	0	2	0
Little Rock.....	1	1	0	1	0	1	0	1	0	0	0
Louisiana:											
New Orleans.....	7	18	1	0	0	21	2	1	0	1	173
Shreveport.....	1	0	1	0	0	2	0	0	1	3	38
Oklahoma:											
Oklahoma City.....	2	9	3	4	0	2	0	0	0	0	42
Tulsa.....	1	3	2	8	0	0	0	1	0	17	0
Texas:											
Dallas.....	5	5	4	0	0	2	0	0	0	0	56
Fort Worth.....	1	2	3	1	0	0	0	0	0	0	0
Galveston.....	0	1	0	0	0	1	1	0	0	0	18
Houston.....	1	6	2	9	0	7	0	1	0	0	62
San Antonio.....	0	0	0	4	0	13	0	0	0	0	59
MOUNTAIN											
Montana:											
Billings.....	1	2	0	0	0	0	0	0	0	0	6
Great Falls.....	1	17	1	0	0	0	0	0	0	0	9
Helena.....	0	0	0	0	0	0	0	0	0	4	2
Missoula.....	1	0	0	2	0	0	0	0	1	0	10
Idaho:											
Boise.....	0	1	1	0	0	0	0	0	0	2	7
Colorado:											
Denver.....	13	14	0	0	0	10	0	0	0	30	94
Fueblo.....	1	0	1	0	0	0	0	2	0	0	8
New Mexico:											
Albuquerque.....	2	3	0	0	0	2	0	0	0	2	7
Arizona:											
Phoenix.....	1	2	1	9	0	4	0	0	0	0	0
Utah:											
Salt Lake City.....	3	4	2	0	0	0	0	0	0	28	39
Nevada:											
Reno.....	0	2	1	2	0	0	0	0	0	0	4
PACIFIC											
Washington:											
Seattle.....	9	17	2	14	0	0	1	3	0	10	0
Spokane.....	7	1	8	16	0	0	0	1	0	7	0
Tacoma.....	3	0	4	8	0	0	0	0	0	7	37
Oregon:											
Portland.....	5	8	12	5	0	2	0	1	0	11	91
Salem.....	0	1	0	0	0	0	0	0	0	4	0
California:											
Los Angeles.....	34	53	2	7	0	36	1	1	1	36	311
Sacramento.....	3	4	1	6	0	4	1	0	0	4	29
San Francisco.....	22	25	2	0	0	18	1	0	0	1	169

City reports for week ended March 22, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Maine:									
Portland.....	0	0	1	0	0	0	0	0	0
Massachusetts:									
Boston.....	2	1	0	0	0	0	0	0	0
Worcester.....	1	0	0	0	0	0	0	0	0
Connecticut:									
Bridgeport.....	1	1	0	0	0	0	0	0	0
New Haven.....	0	3	0	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York City.....	19	5	3	0	0	0	1	1	0
New Jersey:									
Newark.....	1	0	0	0	0	0	1	0	0
Trenton.....	0	0	0	1	0	0	0	0	0
Pennsylvania:									
Philadelphia.....	4	2	1	0	0	0	0	0	0
Pittsburgh.....	2	2	0	0	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cleveland.....	4	1	0	0	0	0	0	0	0
Columbus.....	2	0	0	0	0	0	0	0	0
Indiana:									
Fort Wayne.....	1	1	0	0	0	0	0	0	0
Indianapolis.....	3	3	0	0	0	0	0	0	0
Terre Haute.....	0	2	0	0	0	0	0	0	0
Illinois:									
Chicago.....	5	6	0	2	0	0	0	0	0
Michigan:									
Detroit.....	24	9	1	0	0	0	0	0	0
Wisconsin:									
Milwaukee.....	1	1	0	0	0	0	0	0	0
Racine.....	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
St. Paul.....	1	0	0	0	0	0	0	0	0
Iowa:									
Sioux City.....	1	11	0	0	0	0	0	0	0
Waterloo.....	3	0	0	0	0	0	0	0	0
Missouri:									
Kansas City.....	5	1	0	0	0	0	0	0	0
St. Joseph.....	1	0	0	0	0	0	0	0	0
St. Louis.....	4	2	0	0	0	0	0	0	0
North Dakota:									
Fargo.....	1	0	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	1	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	1	1	1	0	0	0	0	0	0
District of Columbia:									
Washington.....	0	0	0	0	1	0	0	1	0
North Carolina:									
Raleigh.....	0	0	0	0	1	0	0	0	0
Winston-Salem.....	0	0	0	0	2	0	0	0	0
South Carolina:									
Charleston ¹	0	0	0	0	1	1	0	0	0
Columbia.....	0	0	0	0	0	2	0	0	0
Georgia:									
Atlanta.....	9	1	0	0	0	0	0	1	1
Savannah.....	0	0	0	0	3	0	0	0	0

¹ Nonresident.

City reports for week ended March 22, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	0	8	0	0	0	1	0	0	0
Nashville.....	1	0	0	0	0	0	0	0	0
Alabama:									
Mobile.....	1	0	0	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans.....	0	0	0	0	7	1	0	0	0
Texas:									
Dallas.....	0	0	0	0	2	1	0	0	0
Houston.....	0	0	0	0	1	0	0	0	0
MOUNTAIN									
Colorado:									
Denver.....	1	0	0	0	0	0	0	0	0
Utah:									
Salt Lake City.....	4	2	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	7	0	0	0	0	0	0	0	0
Spokane.....	1	0	0	0	0	0	0	0	0
California:									
Los Angeles.....	5	1	0	0	0	0	0	1	0
San Francisco.....	3	1	1	0	1	0	0	0	0

¹ Dengue: 1 case at Charleston, S. C.

The following tables gives the rates per 100,000 population for 98 cities for the 5-week period ended March 22, 1930, compared with those for a like period ended March 23, 1929. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have an estimated aggregate population of more than 32,000,000. The 91 cities reporting deaths have more than 30,500,000 estimated population.

Summary of weekly reports from cities, February 16 to March 22, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period or 1929 ¹

DIPHTHERIA CASE RATES

	Week ended—									
	Feb. 22, 1930	Feb. 23, 1929	Mar. 1, 1930	Mar. 2, 1929	Mar. 8, 1930	Mar. 9, 1929	Mar. 15, 1930	Mar. 16, 1929	Mar. 22, 1930	Mar. 23, 1929
98 cities.....	93	118	¹ 107	121	90	133	² 104	126	100	135
New England.....	100	117	111	123	84	108	84	135	60	119
Middle Atlantic.....	87	139	109	140	89	185	99	159	102	180
East North Central.....	102	106	⁴ 125	131	95	130	135	121	133	142
West North Central.....	93	131	118	135	116	144	108	152	72	131
South Atlantic.....	110	67	88	64	71	67	³ 99	84	82	60
East South Central.....	108	68	61	55	40	68	27	55	40	41
West South Central.....	86	175	108	145	153	114	120	95	146	118
Mountain.....	69	44	⁵ 0	61	86	61	26	44	86	35
Pacific.....	61	106	73	72	45	36	73	65	52	68

¹ The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1930 and 1929, respectively.

² South Bend, Ind., and Denver, Colo., not included.

³ Charleston, W. Va., and Savannah, Ga., not included.

⁴ South Bend, Ind., not included.

Summary of weekly reports from cities, February 16 to March 22, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929—Continued

MEASLES CASE RATES

	Week ended—									
	Feb. 22, 1930	Feb. 23, 1929	Mar. 1, 1930	Mar. 2, 1929	Mar. 8, 1930	Mar. 9, 1929	Mar. 15, 1930	Mar. 16, 1929	Mar. 22, 1930	Mar. 23, 1929
	98 cities.....	456	456	¹ 548	578	634	537	² 662	679	793
New England.....	383	382	463	635	543	424	690	617	944	563
Middle Atlantic.....	267	140	364	158	440	162	418	135	568	179
East North Central.....	269	883	³ 851	1,142	447	⁴ 963	476	1,387	543	1,595
West North Central.....	759	1,253	920	1,555	918	1,699	765	1,967	973	1,882
South Atlantic.....	403	167	136	197	489	234	⁵ 449	380	564	451
East South Central.....	681	0	850	62	810	62	715	41	1,457	137
West South Central.....	799	80	755	57	542	103	661	141	587	190
Mountain.....	747	923	⁶ 2,004	697	2,051	818	2,386	636	2,815	766
Pacific.....	1,483	145	1,908	229	1,845	142	2,194	133	2,100	239

SCARLET FEVER CASE RATES

98 cities.....	301	261	¹ 367	296	329	296	² 346	324	323	345
New England.....	374	292	368	337	394	306	390	368	341	364
Middle Atlantic.....	255	202	325	230	298	228	345	266	310	308
East North Central.....	425	341	³ 513	402	452	411	466	418	422	495
West North Central.....	321	373	334	321	338	356	302	368	328	292
South Atlantic.....	216	144	236	137	189	155	⁴ 206	146	262	159
East South Central.....	169	185	196	219	196	198	108	232	202	308
West South Central.....	101	270	116	202	149	270	179	366	116	270
Mountain.....	300	113	⁵ 685	218	292	157	369	157	343	113
Pacific.....	236	292	411	493	281	410	267	444	236	367

SMALLPOX CASE RATES

98 cities.....	24	12	¹ 31	16	25	12	² 25	12	25	11
New England.....	0	0	0	2	2	0	0	4	0	7
Middle Atlantic.....	0	0	0	0	0	0	0	0	0	0
East North Central.....	20	15	³ 40	24	24	18	30	20	20	12
West North Central.....	91	15	89	15	78	6	68	31	95	12
South Atlantic.....	2	4	2	7	2	6	⁴ 4	6	2	0
East South Central.....	13	0	7	7	20	7	27	7	7	7
West South Central.....	56	95	120	107	67	95	26	42	52	99
Mountain.....	17	35	⁵ 51	87	9	44	9	17	34	44
Pacific.....	118	19	102	24	123	17	135	22	120	14

TYPHOID FEVER CASE RATES

98 cities.....	5	4	¹ 8	4	8	5	² 6	5	8	7
New England.....	4	9	0	2	2	4	4	2	0	7
Middle Atlantic.....	7	4	4	2	4	4	4	4	7	6
East North Central.....	1	2	³ 1	0	3	3	5	1	1	4
West North Central.....	2	6	6	8	8	4	4	2	9	6
South Atlantic.....	13	4	55	2	37	6	⁴ 2	7	13	6
East South Central.....	7	7	34	14	13	7	27	7	94	27
West South Central.....	4	8	0	19	34	19	7	11	11	8
Mountain.....	9	0	⁵ 0	9	0	0	51	26	17	9
Pacific.....	12	5	7	7	7	17	12	10	12	19

¹ South Bend, Ind., and Denver, Colo., not included.

² Charleston, W. Va., and Savannah, Ga., not included.

³ South Bend, Ind., not included.

⁴ Denver, Colo., not included.

Summary of weekly reports from cities, February 16 to March 22, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929—Continued

INFLUENZA DEATH RATES

	Week ended—									
	Feb. 22, 1930	Feb. 23, 1929	Mar. 1, 1930	Mar. 2, 1929	Mar. 8, 1930	Mar. 9, 1929	Mar. 15, 1930	Mar. 16, 1929	Mar. 22, 1930	Mar. 23, 1929
91 cities.....	20	45	20	39	17	34	14	33	16	27
New England.....	16	40	11	20	18	16	2	25	2	4
Middle Atlantic.....	16	35	17	30	13	25	12	31	14	23
East North Central.....	16	33	16	31	13	31	9	23	9	20
West North Central.....	12	45	15	39	3	21	6	27	12	30
South Atlantic.....	20	69	26	67	33	47	18	37	26	30
East South Central.....	81	82	59	149	66	75	96	119	88	90
West South Central.....	73	133	69	86	34	117	46	102	27	74
Mountain.....	26	78	34	52	34	61	17	35	60	78
Pacific.....	3	38	12	31	3	22	3	16	9	31

PNEUMONIA DEATH RATES

91 cities.....	182	193	198	222	170	203	164	184	165	168
New England.....	221	233	213	272	202	218	155	200	199	186
Middle Atlantic.....	200	192	230	240	191	233	204	197	168	190
East North Central.....	153	170	180	180	142	160	128	155	150	141
West North Central.....	151	207	136	228	127	195	142	180	121	189
South Atlantic.....	203	238	216	255	203	234	183	196	203	185
East South Central.....	272	157	199	284	243	239	265	201	214	172
West South Central.....	188	250	190	207	172	226	158	230	214	78
Mountain.....	240	226	223	279	146	183	120	252	189	165
Pacific.....	83	129	77	148	92	138	80	135	95	163

¹ South Bend, Ind., and Denver, Colo., not included.
² Charleston, W. Va., and Savannah, Ga., not included.
³ South Bend, Ind., not included.
⁴ Denver, Colo., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended March 8, 1930.—
The Department of Pensions and National Health reports cases of certain communicable diseases in the provinces of Canada for the week ended March 8, 1930, as follows:

Provinces	Cerebro- spinal fever	Influ- enza	Lethargic enceph- alitis	Small- pox	Typhoid fever
Prince Edward Island.....		20			
Nova Scotia.....		3			
New Brunswick.....	1				3
Quebec.....	3				20
Ontario.....		10		50	13
Manitoba ¹			3		
Saskatchewan.....				10	3
Alberta.....	1				1
British Columbia.....	2			6	1
Total.....	7	33	3	66	41

¹ No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended March 22, 1930.—During the week ended March 22, 1930 cases of certain communicable diseases were reported in the Province of Quebec, Canada, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	4	Mumps.....	152
Chicken pox.....	97	Scarlet fever.....	126
Diphtheria.....	43	Smallpox.....	1
Erysipelas.....	13	Tuberculosis (pulmonary).....	77
German measles.....	16	Typhoid fever.....	19
Influenza.....	7	Whooping cough.....	70
Measles.....	140		

Quebec Province—Vital statistics—January, 1930.—Births, deaths, and marriages for the month of January, 1930, in the Province of Quebec, Canada, with deaths from certain principal causes, are shown in the following table:

Estimated population.....	2,735,000	Deaths from—Continued.	
Births.....	6,504	Heart disease.....	379
Birth rate per 1,000 population.....	28.0	Influenza.....	85
Deaths.....	3,143	Measles.....	115
Death rate per 1,000 population.....	13.5	Pneumonia.....	338
Marriages.....	1,079	Poliomyelitis.....	3
Deaths under 1 year.....	810	Scarlet fever.....	23
Deaths under 1 year per 1,000 births.....	124.5	Syphilis.....	11
Deaths from—		Tuberculosis (pulmonary).....	190
Cancer.....	185	Tuberculosis (other forms).....	54
Cerebrospinal meningitis.....	14	Typhoid fever.....	15
Diabetes.....	20	Violence.....	76
Diarrhea.....	123	Whooping cough.....	45
Diphtheria.....	50		

CHINA

Meningitis.—During the week ended March 28, 1930, 29 cases of meningitis were reported at Shanghai, China.

CZECHOSLOVAKIA

Communicable diseases—December, 1929—January, 1930.—During the months of December, 1929, and January, 1930, certain communicable diseases were reported in Czechoslovakia, as follows:

Disease	December, 1929		January, 1930	
	Cases	Deaths	Cases	Deaths
Anthrax.....	2		5	
Cerebrospinal meningitis.....	11	4	18	5
Diphtheria.....	2,827	185	2,306	150
Dysentery.....	35	1	48	12
Malaria.....			2	
Paratyphoid fever.....	6	1	6	2
Puerperal fever.....	56	24	63	19
Scarlet fever.....	2,545	88	1,855	58
Trachoma.....	215		164	
Typhoid fever.....	711	77	563	48
Typhus fever.....	2		10	2

ITALY

Communicable diseases—Four weeks ended November 24, 1929.—During the four weeks ended November 24, 1929, communicable diseases were reported in the Kingdom of Italy, as follows:

Disease	Oct. 28-Nov. 3		Nov. 4-10		Nov. 11-17		Nov. 18-24	
	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected
Anthrax.....	41	35	37	33	58	38	18	16
Cerebrospinal meningitis.....	6	6	14	14	13	11	4	4
Chicken pox.....	172	79	168	89	306	114	356	88
Diphtheria.....	863	384	833	386	856	416	594	322
Dysentery.....	18	13	17	12	11	8	16	11
Lethargic encephalitis.....	2	2	3	3	2	2	1	1
Measles.....	1,240	215	1,081	213	1,754	234	1,098	207
Poliomyelitis.....	13	11	29	20	15	13	13	11
Scarlet fever.....	705	249	671	233	782	228	473	187
Typhoid fever.....	1,124	541	1,000	481	917	465	681	358

PORTO RICO

San Juan—Communicable diseases—Five weeks ended February 15, 1930.—During the five weeks ended February 15, 1930, cases of certain communicable diseases were reported in San Juan, P. R., as follows:

Disease	Cases	Disease	Cases
Diphtheria.....	5	Puerperal fever.....	2
Filariasis.....	2	Tetanus.....	4
Leprosy.....	1	Tuberculosis.....	103
Malaria.....	34	Typhoid fever.....	4
Measles.....	1	Whooping cough.....	9

YUGOSLAVIA

Communicable diseases—February, 1930.—During the month of February, 1930, certain communicable diseases were reported in Yugoslavia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	27	3	Measles.....	1,886	23
Cerebrospinal meningitis.....	21	6	Polio-myelitis.....	1	-----
Diphtheria and croup.....	541	77	Scarlet fever.....	1,039	173
Dysentery.....	31	3	Tetanus.....	13	10
Glanders.....	2	2	Typhoid fever.....	244	41
Lethargic encephalitis.....	2	2	Typhus fever.....	33	5

India (Portuguese).....	2	1																		
Indo-China (see also table below):																				
Prompent.....	3	61	45	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Saigon and Cholon.....	2	53	37	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Japan.....																				
Kobe.....	9	34																		
Kobe.....	3																			
Osaka.....	41	14																		
Shimonoseki.....	2																			
Sham.....	26	9		7	11	2														
Ayudhya.....	19	4		4	3	2														
Bangkok.....	10	4		6	9	2														
Bangkok.....	6	2		2	1															
Dhannapuri.....	5	2		1	1															
Dhannapuri.....	3	2																		
Lobpur.....	3	2																		
Lobpur.....	2																			
Negara Rajama.....	3	2																		
Negara Rajama.....	2																			
On vessel:																				
S. S. Shimei, at Shanghai.....	3																			
S. S. at Suva, Fiji Islands.....																				
S. S. Sutley, at Batavia, from Calcutta.....																				

Place	September, 1929		October, 1929		November, 1929		December, 1929			January, 1930			February, 1930		
	1-10	11-31	1-10	11-31	1-10	11-31	1-10	11-31	1-10	11-31	1-10	11-31	1-10	11-31	
Indo-China (French) (see also table above):															
Annam.....	1				2										
Cambodia.....	38		221		43										
Cochin-China.....	45		3		15										
Laos.....	12														

1 Reports incomplete.

Place	Aug- ust, 1929	Sep- tem- ber, 1929	Octo- ber, 1929	Nov- em- ber, 1929	De- cem- ber, 1929	Jan- uary, 1930	Aug- ust, 1929	Sep- tem- ber, 1929	Octo- ber, 1929	Nov- em- ber, 1929	De- cem- ber, 1929	Jan- uary, 1930
British East Africa (see also table above):												
Kenya.....	19	28	140	157	54	84	C					
Uganda.....	806	511	384	179	216	57	C					
Ecuador: Guayaquil.....	740	461	851	164	199	73	D					
Plague-infected rats.....	0	7	12	14	17	8	D					
Greece (see also table above).....	1	3	4	8	6	4	D					
Indo-China (see also table above).....	4	8	5	9	13	4	D					
Madagascar (see also table above).....	2	2	2	2	1		D					
Ambohitra Province.....	9	196	208	182	10	10	D					
Antsirabe Province.....	48	182	169	163		232	D					
Itasy Province.....	9	9	2	42		258	D					
Majunga Province.....	9	9	2	33			D					
Miarinarivo.....	1	13	17	5			D					
Madinavao.....	1	13	17	5			D					
Mafanuafo.....	5	5		10			D					
Mafanuafo.....	2	2		10			D					
Mafanuafo.....	2	11	12	5			D					
Mafanuafo.....	11	11	11	5			D					
Mafanuafo.....	11	11	11	5			D					
Madagascar—Continued.												
Moramanga Province.....	2	5	27	4			C					
Tamatave Province.....	2	4	27	3			D					
Tananarive Province.....	38	141	141	108			D					
Peru.....	34	136	132	93			D					
Senegal:	5	5					D					
Baol.....	32	42	45	23			C					
Dakar.....	13	24	13	16			D					
Louga.....	76	25	3	17			C					
Rufisque.....	60	17	2	5			D					
Thies.....	121	108	41	24			D					
Tivaouane.....	70	64	24	1			D					
Tivaouane.....	53	84	3	3			D					
Tivaouane.....	33	28	3	3			D					
Tivaouane.....	188	119	41	8			D					
Tivaouane.....	119	56	21	4			D					

1 Incomplete reports.

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

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	Sept. 22- 19, 1929	Oct. 20- 16, 1929	Nov. 17- 14, 1929	Dec. 15- 11, 1929	Week ended—															
					January, 1930		February, 1930			March, 1930										
					18	26	1	8	15	22	1	8	15	22						
Great Britain:																				
England and Wales.....	490	643	994	1,005	414	313	354	374	322	376	439	393	433							
Ashton under Lyne.....	2	3	3	3	2															
Bradford.....	6	13	20	8																
Cardiff.....	1	1	1																	
Leeds.....																				
London.....	156	174	321	480	168	127	157	166	138	193	183	185	219							
London and Great Towns.....	332	442	783	799	298	239	281	283	255	312	292	297	323							
Newcastle-on-Tyne.....	1		1		1															
Stoke-on-Trent.....	7	9	1	12	3	6		3	2	10	20	9	18							
Greece: Patras.....																				
Hedjaz.....																				
Honduras: Choluteca.....																				
India.....	3,111	3,337	7,644	12,789	4,765	6,461	7,662													
Bombay.....	661	120	1,963	3,730	1,255	1,339	1,751													
Calcutta.....	11	8	14	57	33	25	50	56	57	74	86	97	112							
Cochin.....	12	6	54	88	41	35	54	55	74	73	70	74	95							
Karachi.....	11	4	39	62	28	28	40	34	63	52	56	66	116							
Madras.....	13	96	387	224	68	61	58	57	62	17	31	74								
Moulmein.....	10	2	7	17	6	5	11	6	8	5	8	8								
Negapatam.....	3	1	2	7	7	6	11	6	5	11	6	5								
Raigoon.....	79	58	64	85	10	22	34	39	39	47	4	4								
Tuticorin.....	3	3	11	16	3	3	4	6	5	4	12	8								
Visagapatam.....	1	1	3	9	2	8	2	6	6	10	7	11	12							
Total.....	1	1	1	2	2	3	2	3	2	1	1	1	1							
Total.....				2	1	1	1	1	1	1	1	1	1							
Total.....				2	2	2	2	2	2	2	2	2	2							

Place	December, 1959					January, 1960			February, 1960						
	Novem-ber, 1959	11-20		21-31		1-10	11-20		21-31		1-10	11-20		21-28	
		1-10	11-20	21-31	1-10		11-20	21-31	1-10	11-20		21-28			
Belgian Congo.....		42	41	33											
Dahomey.....		2	4												
Indo-China (see also table above).....		19	19												
Ivory Coast.....		4													
Sudan (French).....		263	64	128	245	186	140	184		148	286				
Syria: Beirut.....		2													
		29	37	2	28	17	4	225	12	46	4	12	4	P	201
					1	6	6		6			4		7	7
Place	Sep-tem-ber, 1959	Octo-ber, 1959	Novem-ber, 1959	Decem-ber, 1959	Jan-uary, 1960	Feb-ruary, 1960	Place	Sep-tem-ber, 1959	Octo-ber, 1959	Novem-ber, 1959	Decem-ber, 1959	Jan-uary, 1960	Feb-ruary, 1960		
Bolivia: La Paz.....							Nigeris.....	189	233	228	293				
British East Africa (see also table above):							Kenya.....	84	47	45	79				
Kenya.....							Persia.....	62	57		P				
Chosen.....	66						Mexico.....	188	188	57					
Mexico: Durango (see also table above).....							Morocco.....	41	100	136		215			
Morocco.....	3	12	41	84	29	74		9	29	12		66			

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

TYPHUS FEVER

(C indicates cases; D, deaths; P, present)

Place	Week ended—															
	December, 1929			January, 1930			February, 1930			March, 1930						
	21	28		4	11	18	25	1	8	15	22	1	8	15	22	
Algeria:																
Algiers.....																
Constantine Department.....					13			2	1	3				1		
Oran.....				1	1	1	2		1	3	2					
Bolivia: La Paz.....																
Brazil: Sao Paulo.....																
Bulgaria.....					41											
Sofia.....					2				1							
Chile:																
Talcahuano.....																
Valparaiso.....						1		1								
China: Tientsin.....																
Chosen (see table below).....																
Czechoslovakia (see table below).....																
Egypt:																
Alexandria.....																
Assuan.....					9											
Beheira Province.....					7									5	13	
Cairo.....					4									6	6	
Dakahlieh.....																
Port Said.....									4	7						
Suez.....									2					1		
Greece (see table below).....																
Iraq: Baghdad Liwa.....																
Ireland (Irish Free State): Donegal County—Dunfanaghy.....									1							
									1							
									1							

Place	Septem-ber, 1929	Octo-ber, 1929	Novem-ber, 1929	Decem-ber, 1929	Janu-ary, 1930	Febru-ary, 1930	March, 1930	April, 1930	May, 1930	June, 1930	July, 1930	Aug., 1930	Septem-ber, 1930	Octo-ber, 1930	Novem-ber, 1930	Decem-ber, 1930	Janu-ary, 1931	Febru-ary, 1931	
Latvia (see table below)																			
Lithuania (see table below)																			
Mexico: Mexico City, including municipalities in Federal district	C																		
Morocco	D																		
Palestine	C																		
Peru: Arequipa (see table below)	C																		
Poland	C																		
Portugal: Oporto	C																		
Rumania	C																		
Rumania	C																		
Rumania	C																		
Tunisia	C																		
Turkey (see table below)	C																		
Union of South Africa	C																		
Capo Province	C																		
Natal	C																		
Orange Free State	C																		
Transvaal	C																		
Yugoslavia (see table below)	C																		

¹ Press reports show that 10 deaths from typhus fever occurred in Sao Paulo, Brazil, from Nov. 3 to 30, 1929.

Place	Septem-ber, 1929	Octo-ber, 1929	Novem-ber, 1929	Decem-ber, 1929	Janu-ary, 1930	Febru-ary, 1930	Place	Septem-ber, 1929	Octo-ber, 1929	Novem-ber, 1929	Decem-ber, 1929	Janu-ary, 1930	Febru-ary, 1930
Chosen: Seoul	C	1				17	Peru: Arequipa	D	1	1			
Czechoslovakia	C	1			10		Turkey	C	4	10	2	4	2
France	C	1			12		Yugoslavia	C	1			6	28
Greece: Athens	C	3	7								1	1	3
Latvia	C	2	0		2	70							
Lithuania	C	8	0			5							
	D		1		1								

YELLOW FEVER

During the month of September, 1929, cases of yellow fever were reported as follows: Nictheroy, Brazil, 1 case; Rio de Janeiro, Brazil, 2 cases; Monrovia, Liberia, 1 case.