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AN OUTBREAK OF TYPHOID FEVER AND GASTROENTERITIS ATTRIBUTED TO THE CONSUMPTION OF RAW OYSTERS [1]

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In the course of routine case investigations of typhoid fever made by the Baltimore City Health Department, it was ascertained, early in January, 1927, that 2 cases which had their onset in December, 1926, were in persons who had attended an oyster roast given by local (trade) union on November 14. About the same time it was reported by the Baltimore County health officer that 4 cases which had occurred in the county, outside the city limits, gave a history of the patients having attended this same function. Since all of these patients gave a history of having eaten raw oysters on this occasion, and since the cases showed no other association with each other, suspicion was directed to the oyster roast as the focus of infection and to oysters as the vehicle. Accordingly, a detailed investigation was undertaken, in which, through the courtesy of the commissioner of health, the staff of the department of epidemiology of the Johns Hopkins University School of Hygiene and Public Health were invited to take part, in cooperation with the Baltimore City Health Department. This study, undertaken originally as an investigation of the group of cases related to this oyster roast, was later extended to include an epidemiological study of all the cases of typhoid fever known to have occurred in the city between October 10, 1926, and February 12, 1927, a total of 50 cases, plus the 4 additional cases above-mentioned which occurred in the county, and a number of cases of gastroenteritis.

As bearing upon the relation of these cases to the consumption of oysters, the principal findings may be briefly summarized as follows:

1. Altogether, 9 cases of typhoid fever (including 4 outside the city limits) were found to have occurred between November 27 and December 11 in persons who had partaken of the oysters served at the oyster roast given by local union B on November 14, at which

[1] From the department of epidemiology, school of hygiene and public health, the Johns Hopkins University.

approximately 200 persons were present. Eleven cases of gastroenteritis also were found to have occurred in this group and within this period, in persons giving a history of having eaten raw oysters on this occasion. These oysters were purchased from dealer X of Baltimore, being a portion (17 barrels) of a shipment of 25 barrels received in the shell from packer Y at S., Va.

2. The remainder of this lot of oysters (8 barrels) was sold by the same dealer to social club C, and was served, chiefly uncooked, at a supper given by that club on November 14. No cases of typhoid fever or gastroenteritis were discovered among those who attended this supper, numbering more than 100.

3. Shell oysters from the same source, packer Y at S., Va., likewise purchased through dealer X, had been served at a supper given on October 24, by lodge A. Of the guests at this supper, about 150 in number, 5 developed typhoid (or paratyphoid) fever between November 1 and November 11. A sixth case of typhoid fever developed about December 10 in another of the guests at this dinner; but, owing to the fatal termination of the illness and to other circumstances, it could not be ascertained whether or not this patient had partaken of raw oysters. One case of gastroenteritis also was discovered to have occurred in this group, the patient stating that he had eaten raw oysters.

4. Among the 39 other cases which occurred in the city from November to February, inclusive, and which could not be connected with either of these suppers, 8 were in persons who gave a history of having recently eaten raw oysters at one or the other of several restaurants which got a part of their supply from packer Y at S., Va.

PROCEDURE OF INVESTIGATION

Visits were made to the homes of all of the cases of typhoid or paratyphoid fever reported to the Baltimore City Health Department between October 10, 1926, and February 12, 1927, inclusive. Four patients who were residents of Baltimore County, but who attended the union B oyster roast, were also visited. A full epidemiological history was obtained from each patient, or, where the case had terminated fatally, from the informants best qualified to give the requisite information.

Of the approximately 200 guests at the union B oyster roast, 104 were interviewed regarding the food they had eaten and their state of health since the dinner. These individuals were also asked whether they knew of any cases of illness among their acquaintances who had attended the dinner. By this means 3 previously unreported cases of typhoid fever and the 11 cases of acute gastroenteritis were discovered. The source of each article of food and drink served was

accurately determined. The two oyster shuckers and all but one of the others who assisted in preparing or serving the meal were visited, and specimens of urine and feces from each one reached were examined.

Thirty of the 150 guests at the lodge A oyster supper were interviewed, and the source of each item on the menu of this occasion was similarly determined. Fourteen guests at the C social club supper were also visited.

Because it seemed probable that the typhoid fever and other illness following the union B oyster roast was associated with oysters coming from packer Y in Virginia, one of us proceeded to S., Va., in company with representatives of the United States Public Health Service and the State Department of Agriculture of Virginia. A survey was made of the oyster industry at S., and the prevalence of typhoid fever in that village and the neighboring territory was investigated.

DESCRIPTION OF CASES

Two of the 6 cases of typhoid fever following the lodge A supper and 3 of the 9 typhoid cases following the union B oyster roast terminated fatally, the cause of death in each instance being perforation and acute peritonitis. Of the 10 remaining cases, 3 were mild and 7 moderately severe.

The cases of acute gastroenteritis following the union B supper were characterized by sudden onset within 24 to 48 hours after the dinner, vomiting being a frequent initial symptom, followed by abdominal pain and diarrhea. The duration of these attacks was from one to three days. Two of the typhoid patients experienced an attack of this character from which they apparently recovered, but developed typhoid fever 12 and 13 days later, respectively.

The results of laboratory tests were collected from the records of various hospitals where the patients were cared for. Five patients were reported as having positive blood cultures, 4 positive feces, and 1 positive urine. The Widal reaction was positive in 6 cases. In one instance an organism identified as *B. paratyphosus* A was reported to have been isolated from the urine and feces, and in another the blood serum was said to have agglutinated organisms of the paratyphoid B group. These two cases were clinically diagnosed typhoid fever, and, as the laboratory findings do not exclude this diagnosis, are included as such in this report.

THE LOCAL UNION B OYSTER ROAST, NOVEMBER 14, 1926

The menu served at the union B oyster roast, together with a record of each article of food and drink consumed by the 20 persons

who subsequently developed typhoid fever or gastroenteritis is shown in Table 1.

TABLE 1.—*Menu of the local union B oyster roast and record of the articles of food and drink consumed by those who suffered attacks of typhoid fever or gastroenteritis*

Menu	9 persons who developed typhoid fever			11 persons who developed acute gastroenteritis		
	Number partaking	Number not partaking	Doubtful	Number partaking	Number not partaking	Doubtful
Raw oysters	9	0	0	9	[1] 1	[1] 1
Stewed oysters	6	2	1	8	3	0
Steamed oysters	4	4	1	8	3	0
Beer	4	3	2	8	3	0
Celery	3	4	2	8	3	1
Sauerkraut	3	4	2	4	6	1
Bread	3	4	2	8	2	1
Sausage	2	5	2	4	6	1
Fried oysters	1	7	1	3	8	0
Horseradish	1	6	2	5	6	0
Butter	1	6	2	6	5	0
Soft drinks	1	7	1	1	10	0
Coffee	0	6	3	3	8	0
Cream	0	6	3	3	8	0
Water	0	5	4	4	7	0
Milk	0	7	2	1	10	0
Pigtails	0	3	6	3	7	1
Catsup	0	7	2	1	10	0

[1] Known to have eaten steamed, partially cooked oysters.

Besides raw or cooked oysters, beer, celery, and bread were the only articles of food and drink partaken of by more than half of the 20 guests who became ill. Of these three articles other than oysters, celery appeared to be the only one likely to have been a vehicle of transmission. The crate of celery used at the union B oyster roast was identified as being one of a carload of 250 crates originally shipped from Sodus, N. Y. It was possible to trace the final destination of 222 of the other crates in the carload. Eventually they reached the establishments of 17 wholesale dealers in Baltimore and near-by cities and were sold by them to an unknown but very much larger number of retail grocers and restaurants. The final distribution of the celery must have been very wide. No other cases of typhoid fever in Baltimore or elsewhere could be connected with this shipment, and, therefore, it appears very improbable that contaminated celery was a cause of the illness following the union B gathering.

All of the 17 barrels of oysters served at the oyster roast were furnished in the shell by dealer X in Baltimore. This dealer purchased them from packer Y at S., Va., the 17 barrels being part of a 25-barrel shipment which reached Baltimore on November 12. The entire shipment remained on the wharf until the following day, when 17 barrels were delivered directly from the wharf to the union B oyster roast. The remaining 8 barrels were sent to the C social club and were used at the oyster supper given by that organization.

Two shuckers regularly employed by dealer X opened oysters at all three gatherings mentioned in this report. As the union B oyster roast was held on the afternoon of November 14 and the C social club supper in the evening, it was possible for the same shuckers to work at both functions. These men are known to have followed the same occupation in Baltimore for the past five years, and during this period they have not been suspected of being typhoid carriers. They both denied that they had ever had typhoid fever, and the results of bacteriological examinations of their urine and feces were negative.

Three women and two waiters assisted in cooking and serving at the oyster roast. Four of these people were examined. The fifth, an itinerant negro waiter, could not be located. None of those examined gave histories of previous typhoid fever, and their urine and feces were negative for typhoid bacilli.

Many of the guests carried oysters and other food home. Sixty-one persons not present at the oyster roast, but who ate oysters or other food carried home to them, were interviewed. One case of typhoid fever and two cases of acute gastroenteritis [2] were found to have occurred among this group. All three of the patients ate raw oysters brought from the oyster roast in the shell and opened at home. Of those interviewed who ate other food carried home but did not eat raw oysters, none was attacked.

Thus raw or steamed (partially cooked) oysters were the only article of food which was common to all the guests who became ill and to all of those attacked who ate food carried home from the oyster roast. No typhoid carrier was found among the shuckers, cooks, and waiters examined. Except for oysters, investigations of the sources of the food and drink served were negative. For these reasons, the outbreak of typhoid fever and other illness following the union B oyster roast was attributed to the consumption of oysters coming from packer Y at S., Va.

THE C SOCIAL CLUB SUPPER, NOVEMBER 14, 1926

Approximately 200 guests attended the supper served at the C social club on the evening of November 14. The oysters served here were 8 barrels from the same 25-barrel lot of which 17 barrels were supplied on the same date to local union B. Moreover, the same two shuckers were employed to open the oysters at both banquets; and at the C social club, as well as at the union B lodge, many of the guests ate the oysters raw. Nevertheless, no evidence could be found of any cases either of typhoid fever or of gastroenteritis among the

[2] The gastroenteritis patients became ill within 24 hours, the typhoid fever patient on the fifteenth day from the date of consumption of oysters.

guests who attended the C social club supper. Had such cases occurred, it is believed that they would have been discovered, for every case of typhoid fever which was reported in the city during four months was investigated, and 14 of the guests at the C social club supper were interviewed. As these persons had a wide acquaintance in the club membership, some of them would almost certainly have known of any cases of serious or unusual illness which might have followed the supper; and it is believed that they would not have withheld the information. If one accepts the evidence indicating that oysters from this same lot were the cause of the outbreak following the union B oyster roast, it must be inferred that some of the 25 barrels of the shipment were not contaminated. This inference derives partial support from the statement of packer Y that this consignment was made up of oysters from at least three different sources.

THE LODGE A OYSTER SUPPER, OCTOBER 24, 1926

At the oyster supper given by lodge A on October 24, 1926, the estimated attendance was 150 persons. The menu served and the articles of food and drink consumed by the 7 guests who are known to have become ill after the dinner are shown in Table 2.

TABLE 2.—*Menu of the lodge A oyster supper and record of the articles of food and drink consumed by those who suffered attacks of typhoid fever or gastroenteritis*

Menu	6 persons who developed typhoid or paratyphoid fever			1 person who developed acute gastroenteritis
	Number partaking	Number not partaking	Doubtful	Number partaking
Raw oysters	5	0	[1] 1	1
Fried oysters	5	0	1	1
Bread	4	0	2	1
Stewed oysters	3	2	1	1
Butter	2	2	2	1
Potato salad	2	2	2	1
Catsup	3	1	2	0
Steamed oysters	2	3	1	0
Oyster fritters	2	3	1	0
Sauerkraut	2	1	3	0
Sausage	2	2	2	0
Celery	1	2	3	0
Horseradish	1	3	2	1
Fresh ham	1	3	2	1
Pickles	1	3	2	0
Soft drinks	1	3	2	0
Coffee	0	4	2	1
Cream	0	4	2	1
Water	1	3	2	0

[1] No information obtainable in this case as to food eaten.

The table shows that raw oysters were eaten by at least 6 of the 7 people who became ill after the supper. Concerning the seventh

patient, a fatal case of typhoid fever, no reliable information could be obtained as to the food eaten.

As regards other items on the menu, even if doubtful histories are considered positive, bread and fried oysters are the only articles of food (except raw oysters) which are shown to have been eaten by as many as 6 of the patients.

It is certain that 2 of the patients did not eat potato salad and that 3 did not eat celery. The salad might well be regarded with suspicion, but no evidence was obtained which incriminated it. The salad was made at the lodge rooms from materials bought at a neighboring store. A sugar, salt, and vinegar dressing was used, and the mixture was prepared by a negro waiter who had served the lodge on similar occasions for at least 10 years. The celery, like that used at the union B oyster roast, was bought from a retail grocer and was a small portion of a lot widely distributed throughout the city.

The oysters served at the supper were purchased from dealer X, and in all probability came from packer Y at S., Va. What is known with certainty is that 5 barrels of shell oysters were received by dealer X from packer Y on October 23 and that these 5 barrels were hauled from the wharf to the store of dealer X, where the oysters were redistributed in the shell. Dealer X believes that the oysters delivered to lodge A came in part or wholly from this shipment.

None of the items on the menu of the lodge A supper was regarded with suspicion except oysters. While the possible presence of a carrier at the supper is not directly excluded, it is known that the oysters used were opened by the two persons already mentioned as being regularly employed as shuckers. The negative results of the examination of stools and urine of these men have been noted previously.

When taken in connection with what has already been related of the outbreak following the union B oyster roast, the facts at hand point to the conclusion that the outbreak following the lodge A supper was also due to the consumption of raw oysters coming from the plant of packer Y at S., Va.

OTHER TYPHOID FEVER CASES IN BALTIMORE

In addition to the patients who were guests at the union B oyster roast and the lodge A supper, the investigation included 39 other cases of typhoid fever in the city of Baltimore with onset between October 10, 1926, and February 12, 1927. Records of these cases, as well as of those associated with the two dinners, are given in Table 3.[3]

[3] The intervals in days between consumption of oysters and onset for the cases associated with the two dinners were as follows: Union B cases—13 (2 cases), 14 (2 cases), 15 (2 cases), 17, 25 and 27 (1 case each); and for the lodge A cases—8, 9 (2 cases each), 11 and 18 (1 case each).

The cases are listed by weeks, according to dates of onset, and the tabulation shows for each week the histories with respect to consumption of raw oysters within 30 days prior to the date of first symptoms.

TABLE 3.—*Typhoid fever, Baltimore, Md., October 10, 1926, to February 12, 1927. Number of cases with onset in each calendar week, classified according to history of consumption of raw oysters within 30 days prior to attack*

Onset, week ending—	Had eaten raw oysters at—			Had not eaten raw oysters	Doubtful	Total
	Lodge A supper Oct. 24	Union B oyster roast Nov. 14 [1]	Other places			
Oct. 16			1	4	0	5
Oct. 23				2	0	2
Oct. 30				3	1	4
Nov. 6	4		2	0	0	6
Nov. 13	1			0	2	3
Nov. 20			2	2	0	4
Nov. 27				0	0	0
Dec. 4		5		3	0	8
Dec. 11				2	1	3
Dec. 18			1	0	1	2
Dec. 25			1	1	0	2
Jan. 1				1	1	2
Jan. 8				0	0	0
Jan. 15			1	0	1	2
Jan. 22			2	1	0	3
Jan. 29			1	1	0	2
Feb. 5				1	0	1
Feb. 12				1	0	1
Totals	5	5	11	22	7	50

[1] Four cases, following the Union B oyster roast, in patients who were residents of Baltimore County have been excluded. The dates of onset of two of these cases fell in the week ending Dec. 4, and of the two others in the week ending Dec. 11.

The table shows groupings following each of the two dinners, and also brings out the fact that a large proportion (14 out of 21) of all cases with onset from October 31 to December 4, inclusive, were in persons who had eaten raw oysters within the probable incubation period of typhoid fever.

Besides those attending the two dinners, 11 patients stated that they had eaten raw oysters within a month prior to onset. None of these individuals gave any history of known contact with a case of typhoid fever or known carrier during the 30 days preceding their first symptoms. Eight of the 11 persons had eaten raw oysters in restaurants or from stores handling oysters from S., Va.

According to records, which are believed to be reliable, only one Baltimore dealer other than dealer X had received shipments from S., and the total volume of the shipments from that source constituted certainly less than 1 per cent of the oysters consumed in Baltimore during October and November. The difficulties encountered in tracing the final distribution of oyster shipments were so great that the exact number of restaurants and retail stores handling oysters coming from S., Va., could not be determined, but the

number of such establishments must have been small. That 8 of the typhoid fever cases not directly connected with the suppers of October 24 and November 14 should give a history of having eaten raw oysters from restaurants and stores handling oysters from this source, appears to be a significant fact, this being a much larger proportion of such individuals than one would expect to find among oyster consumers in Baltimore as a whole.

It seems quite possible that, in addition to the 15 cases in guests at the two public gatherings, several other cases of typhoid fever—perhaps as many as 8—occurring in the city about the same time may, perhaps, have been due to infection contracted by eating oysters which came from S., Va. At least these 8 people can be regarded as probably exposed to infection from this source.

INVESTIGATION OF CONDITIONS AT S., VA.

As soon as it was found, in the preliminary stage of the case investigation, that there was reason to suspect oysters from S., Va., as the source of infection, the Virginia State health authorities and the United States Public Health Service were advised to this effect by the commissioner of health of Maryland; and an investigation of conditions at S. was immediately made by Mr. W. R. Berry, of the Dairy and Food Division, Virginia State Department of Agriculture, and Sanitary Engineer R. E. Tarbett, United States Public Health Service, who were accompanied by one of the writers (G. H. R.).

The village of S., Va., is an isolated community of 700 inhabitants, whose sole industries are fishing and oyster packing. The village is scattered along a mile of highway near the shore, on slightly higher ground than the adjoining marsh. At the western end of the town is a cove approximately 1,200 feet long and 500 feet wide. The shucking and packing plants of packer Y and packer Z, the only two plants located in the community, are situated on opposite shores of this cove.

Both of these plants consist of frame buildings with rather meager equipment, and were not in very good sanitary condition when inspected, each one having an open surface privy about 15 feet from the water line. In seasons of unusually high tide, the ground upon which these privies were located may be covered with water, an occurrence which the county health officer has since observed on at least one occasion.

Oysters are stored in the cove for varying lengths of time by both packers, both of whom plant shells in their respective areas, which are used for growing purposes as well as for storage. These areas are not more than 200 or 300 feet distant from the buildings of the two plants. An abandoned oyster house is the only other building on the shores of the cove, so its waters are not subject to obvious pollution except from the privies of the two packing plants. However, the

industrial life of the community centers around the cove and many residents of S. visit it frequently. On the day of our inspection a number of small boats were anchored in the cove. Apparently, oysters in the storage areas might be contaminated by the discharges of a typhoid fever patient or carrier deposited from a boat or on the adjacent shore, and, at seasons of high tide, from either of the two privies.

Shell oysters were shipped by packer Y only to Baltimore. Packer Z also shipped a small quantity of shell oysters to York, Pa. Both dealers, however, shipped shucked oysters not only to Baltimore but also to York, Pa., and to Peoria, Ill. Investigations made in the latter two cities discovered no cases of typhoid fever attributable to oysters.

According to the records of the county health department, 56 cases of typhoid fever were reported in the county where S. is located from July 1 to December 31, 1926, inclusive. An epidemic occurred in August and September following a carnival attended by people from all over the county and including an unknown number of S. residents.

No typhoid fever cases were reported from S. until December 1. On that date a physician reported the illness of W. E., age 17 years, whose occupation was given as oysterman. The date of onset of this case is recorded as November 20, but both his physician and the boy himself state that he had not been feeling well for a week or 10 days prior to that date. W. E. was employed by his uncle, a tonger, who regularly procured oysters from leased areas on Pocomoke Sound or from "natural rock" for packer Y and sometimes for packer Z.

This tonger, assisted by W. E., furnished part of the oysters used at union B oyster roast and the C social club supper. The remainder of this 25-barrel shipment to Baltimore, which went out from S. on November 12, was made up of oysters from packer Y's storage area in the cove and of an additional lot bought from a second tonger.

A second case of typhoid fever was reported from S. on December 1 in a woman 72 years old. The diagnosis of this case was later said to have been doubtful. No source of infection was found for the woman, nor was it determined how W. E. contracted typhoid fever. The circumstance of one or possibly two residents of such an isolated rural village having typhoid fever is presumptive evidence of contact with a carrier or a previous case in the same community. Typhoid fever is known to have been prevalent throughout the county, and it is probable that there actually were in S. earlier unreported cases. The lodge A dinner in Baltimore on October 24 antedated the onset given for W. E.'s illness by a period of two or three weeks. It may therefore be questioned whether or not specific contamination of the oysters served on this occasion may be attributed, with probability, to this particular individual.

Whatever the ultimate source of the organisms concerned, it has been established that there was an epidemic of typhoid fever in the county during the summer and early fall months of 1926, and that at least one case occurred among those employed in the oyster industry at S. in November. The presence of such potential sources of infection and the dangerous situation of the storage areas of packers Y and Z make it evident that oysters sold by these packers during October and November, 1926, might have been contaminated.

CONCLUSION

From the facts presented, it is concluded that shell oysters from S., Va., contaminated from local sources, were directly responsible for 15 cases of typhoid fever and at least 12 cases of gastroenteritis occurring among those who partook of a supper given October 24 and an oyster roast given November 14, 1926, in Baltimore. Suspicion also attaches to oysters from this source as being possibly responsible for some or all of 8 additional cases in residents of Baltimore; but as to these cases, the evidence, though highly suggestive, is not conclusive.

ACKNOWLEDGMENT

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CURRENT WORLD PREVALENCE OF COMMUNICABLE DISEASES

The United States, July 1–August 18, 1928

Morbidity from communicable diseases.—The prevalence of certain important communicable diseases as indicated by weekly telegraphic reports from State health departments to the Public Health Service from July 1 through August 18 is summarized below.

The influenza rate has reached the usual summer low level. As has already been noted in previous summaries, there was a quite definite epidemic of respiratory conditions reported as influenza in the late spring of this year.

The number of cases of smallpox was practically the same as that for the corresponding periods in 1926 and 1927, although in the early part of 1928 the rate was considerably higher than the rates for the two preceding years. The typhoid fever rate, although experiencing

the usual summer rise, is still considerably below the rates for the two preceding years. The number of cases of poliomyelitis increased considerably in the first part of August, the rate nearly reaching that for 1927.

The number of cases of meningococcus meningitis reported continued to be considerably in excess of the incidence reported for any year since 1918, although considerably fewer than recorded in the early months of 1928.

The prevalence of measles has about reached its seasonal minimum. Although somewhat lower than 1926, measles has been more prevalent than in 1927, following the usual cycle which characterizes the disease. The number of cases of scarlet fever has been lower for May, June, and July than for the preceding two years.

Diphtheria incidence in July and August fell below that for the corresponding months of 1926 and 1927. Apparently the period of increased prevalence of this disease, which has extended over 1926 and 1927 and into the early part of 1928, is about terminated. It may be noted that this period of increased prevalence followed the usual seven-year cycle of the disease, but the crest of the present wave fell far short of that of any previously recorded waves.

Mortality.—Mortality from all causes in 69 large cities during the month of July was slightly higher than that for July, 1927, but it more nearly approximated the favorable 1927 rate than has any other month since January. In August, however, the 1928 rate was again considerably higher than the 1927 rate.

As has been pointed out in earlier reviews, the excess of the 1928 rate was due in large measure to a higher mortality from respiratory diseases, accompanied by some increases in the so-called "degenerative diseases." Provisional mortality data for several States, summarized in tables on pages 2421–2414, show that almost without exception the influenza and pneumonia rates even in May were considerably higher than for the corresponding periods of the preceding two years, which corroborates the indication of an influenza or influenza-like epidemic in the late spring. Increased mortality from diseases of the heart, cerebral hemorrhage and apoplexy, and diabetes were also recorded. The May tuberculosis death rate, on the other hand, was generally lower in 1928 than in 1927. The rate for cancer and nephritis increased slightly in some States and showed no marked change in others. The puerperal death rate in some States exhibited marked decreases, but in others the opposite was true. The Metropolitan Life Insurance Co.'s record indicated a considerable improvement in mortality incident to pregnancy and childbirth for the first half of the year. Mortality from diarrhea and enteritis under 2 years of age was, almost without exception, considerably lower in

May, 1928, than for the same month in 1927. The infant mortality rate, on the other hand, in States for which current records are at present available, showed generally slight increases in May, 1928, as compared with 1927. The July and August records of mortality according to cause are not yet available.

Foreign Countries [1]

The general prevalence of certain epidemic diseases in most foreign countries during May and June is summarized below.

Plague.—On the island of Corfu, Greece, a plague outbreak, resulting in 17 cases and 7 deaths, occurred between June 13 and June 20, in an orphanage. At Patras, one fatal plague case was reported on July 10.

The incidence of plague cases in the Provinces of Minieh and Beni-Suef, in upper Egypt, declined during June. Up to July 7, 205 cases had been reported in the Province of Minieh and 119 in Beni-Suef. No cases were reported during June outside these Provinces; but in the first week in July, 2 cases were reported at Alexandria and 10 cases in the Western Desert at Sidi Barani.

One plague case was reported at Beirut, Syria, on June 22, and two cases were reported during the first week of July. No plague case has been reported in Algeria since the two cases which occurred at Oran on June 7. There was one case at Lisbon on June 29.

The plague incidence in India decreased rapidly in May. The maximum for the year was reached during the week ended April 14, when 5,913 deaths from plague were reported; during the week ended May 5 the number of plague deaths had decreased to 2,835, and during the week ended May 26, to 633. The United Provinces have been the most seriously affected by plague in the current year, and 10 districts have had a death rate from plague of over 200 per 100,000 inhabitants. In the Punjab the incidence of plague has been very favorable; only the district of Ambala has been seriously affected. In Bihar the incidence has been the lowest on record. The heavily infected districts form a belt along the foot of the mountains, while plague has been rare south of the Ganges.

Plague appeared early in July at Musoma, in the Province of Mwanza, on the southern shore of Lake Victoria, in the territory of Tanganyika; 24 deaths were reported. Plague had not appeared in this territory in 1927, but has been continuously prevalent in the districts of Uganda and Kenya, on the northern and eastern shores of the lake.

In Madagascar, 81 cases were reported in June in the central area of the island, as compared with 53 in May. The disease appeared

[1] Data from the Monthly Epidemiological Report of the health section of the League of Nations' Secretariat, July 15, 1928, supplemented by information published in the Public Health Reports.

also at Tamatave on the east coast, where 22 cases were reported; in May there was only 1 case on the east coast. The outbreak at Tamatave decreased in July; three cases were reported during the first week, while none was reported during the second week of the month.

Plague continued to spread in Senegal in June, which is frequently the month of seasonal maximum in this area; 454 cases were reported in June, as compared with 370 in May and 105 in April. The majority of cases occurred in the districts of Thies and Tivaouane. There were also cases at Rufisque and in the district of Baol; two cases were reported in the Dakar district, but outside of the limits of the town.

Sporadic plague cases continued to be reported in June and July in the Argentine Republic, mostly in inland districts of the Province of Santa Fe. There was a case at Buenos Aires during the last week of June and one at Rosario during the first week of July. Five cases occurred early in July in the military barracks of Asuncion, in Paraguay.

Cholera.—In India the incidence of cholera rose markedly early in April, and during the second week of April about 5,000 deaths were reported; the weekly number of deaths continued to be between 5,000 and 6,000 up to the week ended June 9. In Bengal the epidemic reached its height in March and April. A serious outbreak in Bihar followed, with a maximum of 2,614 deaths during the week ended May 5. At the beginning of June there was a very marked increase of cholera in the United Provinces; the number of deaths increased from 1,058 during the week ended April 26 to 2,034 during the week ended June 9. Cholera began to spread in June also in the Punjab. Cholera was not very prevalent, on the other hand, in the Madras Presidency, and there were only sporadic cases in the Bombay Presidency.

Cholera has appeared for the first time this year west of India; the first case was reported on the island of Henjam, in the Strait of Ormuz, on July 14. Six days later, the appearance of cholera was reported at Jask, in Persia.

The incidence of cholera in French Indo-China was slightly lower in June (600 cases) than in May (697 cases). The majority of these cases were reported in Cambodia and Cochin-China.

In Siam, 9 cases were reported in Bangkok during the four weeks ended July 14. A case of cholera was reported on July 17 at Manila, and three other cases were reported in the neighboring Province. Manila had been free from cholera since September, 1927.

A few cholera cases were reported in June and July in ports of southern China, Canton, Swatow, and Pakhoi, but no serious outbreaks have occurred so far.

Yellow fever.—The yellow-fever outbreak at Rio de Janeiro, which began June 4, had continued up to July 21, with a fairly constant number of new cases being reported each week; a total of 82 cases had been reported up to the latter date. In June there were 3 cases at Bahia, 2 at Pernambuco, and 3 at Sergipe.

Two yellow-fever cases were reported at Ibidjan, in the Ivory Coast—one on June 20, the other July 4.

Typhus fever.—Typhus fever was less prevalent in Europe during the first half of 1928 than during the corresponding period of any other year since the war. The decrease was most marked in Rumania, and there was a considerable decrease also in Poland, where, at the same time, the case mortality rate fell from 8.9 to 6.9 per cent. There was an increase of the incidence, on the contrary, in Lithuania and Latvia.

In the Union of Socialistic Soviet Republics the decrease was most marked in central Russia and in the Ukraine. In western Russia the incidence was about the same as last year.

In Korea typhus fever was more prevalent in the early part of 1928 than in previous years; 1,006 cases were reported during the first four months of the year, as compared with 395 cases during the corresponding period of 1927.

Acute poliomyelitis.—No particularly unusual prevalence of poliomyelitis had been reported anywhere up to the end of June. In Germany, 361 cases were reported during the first half of 1928, as against 304 cases during the first half of 1927. The incidence was higher also in Sweden, where 109 cases were reported during the same period, as compared with 36 during the corresponding period of the preceding year.

In Australia, 159 cases were reported up to June 9, as compared with 28 during the same period last year. In New Zealand there were 61 cases up to May 26, as compared with 27 during the corresponding period of 1927.

Lethargic encephalitis.—The League of Nations' Monthly Epidemiological Report for July 15 makes the following comment:

> Lethargic encephalitis seems to have lost its epidemic character, at least for the time being. Its incidence has decreased in all countries in recent years, and its seasonal fluctuation has almost disappeared.
>
> Adding together the returns for six European countries for which fairly reliable data are available since 1920, and where lethargic encephalitis has been epidemic at one time or another—England and Wales, Sweden, Finland, Denmark, Switzerland, and Italy—the following figures are obtained: 7,697 cases in 1920, 4,649 in 1921, 1,273 in 1922, 2,205 in 1923, 6,196 in 1924, 3,766 in 1925, 2,991 in 1926, and 2,168 in 1927. There were, in the same countries, 1,050 cases during the first half of 1928.
>
> The notification of lethargic encephalitis is undoubtedly imperfect in all countries, and a comparison of the case incidence is hardly warranted. A report

recently published by the British Ministry of Health [2] estimates that for every 100 cases notified there are about 50 to 75, mostly mild cases, which escape notification. On the other hand, a proportion of cases notified as lethargic encephalitis are wrongly diagnosed as such. Thus, in Glasgow in 1924, the diagnosis was revised in 118 cases (30 per cent) among 385 cases which were sent to fever hospitals.

Mortality statistics in the few countries where deaths from lethargic encephalitis are specified are probably more nearly complete and comparable than the morbidity records. For the period 1921–1926 the death rate per 100,000 inhabitants for this disease was 2.5 in England and Wales, 2.5 in Scotland, 2.7 in Northern Ireland, 2.6 in Sweden, 2.8 in Switzerland (1920–1925), and 2.6 in Malta. It was somewhat lower in Denmark, 1.6, and in the United States registration area for deaths, 1.5. Still lower rates were obtaining in Australia, 1.0; in New Zealand, 0.8; and in the Netherlands, 0.8. The highest death rates for any single year were reported in 1920 in Switzerland, 7.5, and in 1921 in Sweden, 6.3. In recent years, however, the incidence has been only half as high in Sweden and Switzerland as in the United Kingdom—1.8 in Sweden and Switzerland and 3.5 in England and Wales, 1924-1926.

CURRENT STATE MORTALITY STATISTICS

For the information of public health officials and others interested, the data in the following tables have been compiled from the monthly mortality reports of State health departments for the latest month for which published records are available. Statistics of most communicable diseases are not included, since they are available in other tabulations in the Public Health Reports. Statistics of deaths from other causes are limited for the most part to those causes which appear in the State reports. In the case of States which publish detailed mortality reports each month, the record of only the principal groups of causes and certain important specific causes have been used.

For purposes of comparison, the mortality records for a few preceding years are given, the rates being for the month corresponding to the last month for which the 1928 rate is available.

These tabulations will be enlarged as the current data on mortality from additional States become available.

[2] Ministry of Health: Reports on Public Health and Medical Subjects, No. 49: "Report of an Enquiry into the After-Histories of Persons Attacked by Lethargic Encephalitis," by Allan C. Parsons, 204 pp. London, 1928.

Monthly State mortality statistics

(All rates are on an annual basis, and, with the exception of mortality from all causes and infant mortality, are per 100,000)

	1928						Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	1927	1926	1925	1924
ALL CAUSES: ANNUAL RATE PER 1,000										
Alabama:										
White	10.4	10.1	10.7	9.5	9.5		8.8	8.6		
Colored	14.6	17.3	17.7	17.6	17.8		15.1	15.4		
Connecticut	11.7	12.0	12.0	12.5	13.0		10.5	11.6	11.4	10.3
Indiana	12.4	11.7	13.6	13.6	12.7	11.0	11.4	11.0	10.8	11.0
Iowa	10.2	10.2	12.1	11.2	10.9	9.3				
Kansas	10.9	11.7	13.8							
Minnesota	9.5	9.6	9.6	10.6	10.7	8.3				
New Jersey	11.3	12.4	13.3	13.8						
New York	13.6	14.2	14.4	14.4	14.2		13.6	14.3	15.0	14.7
Oklahoma	10.5									
Pennsylvania	12.4	13.3	13.8	13.7	13.5		11.8	13.2	12.3	12.2
Tennessee	11.8	12.9	12.3	13.6	12.0		11.7			
INFANT MORTALITY: RATE PER 1,000 LIVE BIRTHS										
Alabama:										
White	80	78	78	59	59		55	48		
Colored	126	118	109	100	113		87	85		
Connecticut	68	56	66	83	71		52	79	73	66
Indiana	69	60	68	75	69	56	52	62	54	56
Iowa	75	53	66	58	54	54				
Kansas	70	58	74							
New York	68	72	73	75	73		65	85	73	74
Oklahoma	86									
Pennsylvania	71	81	83	84	89		70	82	71	
INFLUENZA (11)										
Alabama:										
White	89.1	83.9	98.8	78.9	67.3		16.8	43.6		
Colored	86.0	112.8	124.0	107.7	112.1		34.2	57.8		
Connecticut	28.5	25.8	19.7	29.4	71.5		20.0	33.2	25.4	14.1
Indiana	48.1	44.0	69.3	82.0	96.4	27.4	13.9	16.0	10.6	8.3
Iowa	32.5	35.8	79.5	87.2	67.9	24.1				
Kansas	53.3	85.7	139.9							
Minnesota	21.2	22.7	29.8	58.1	104.2	24.1				
New Jersey	12.6	16.1	24.7	28.0						
New York	20.0	20.7	25.3	27.0	34.3		12.9	19.9	18.7	12.2
North Carolina			63.7							
Oklahoma	21.8									
Pennsylvania	37.3	38.2	51.3	47.1	65.0		24.1	51.8	32.1	25.9
South Carolina	49.9	81.7	132.6	50.9	26.5	20.2	15.2			
Tennessee	77.2	89.5	88.5	112.3	74.4		38.9			
TUBERCULOSIS, ALL FORMS (31-37)										
Alabama:										
White	58.1	53.9	57.5	48.5	43.5		53.9	45.8		
Colored	136.9	179.1	162.2	184.0	160.9		192.1	165.6		
Connecticut	63.5	75.1	83.9	77.6	71.5		77.9	87.6	87.7	87.0
Indiana	67.8	67.4	88.2	76.2	81.9	80.6	78.0	87.2	85.7	86.1
Iowa	32.0	32.1	38.8	36.6	45.6	35.6				
Kansas	29.5	52.8	49.4							
Minnesota	51.5	64.7	60.1	55.0	64.0	47.8				
New Jersey	65.0	70.8	78.9	83.1						
New York	66.5	82.1	82.5	88.5	82.5		93.4	93.8	109.6	113.9
North Carolina			86.6							
Oklahoma	59.7									
Pennsylvania	64.7	78.5	78.4	81.9	79.9		80.2	89.5	86.4	92.3
South Carolina	72.6	74.9	87.2	86.8	97.9	80.9	87.7			
Tennessee	121.9	150.9	140.7	159.5	104.9		140.2			

Monthly State mortality statistics—Continued

(All rates are on an annual basis, and, with the exception of mortality from all causes and infant mortality, are per 100,000)

	1928						Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	1927	1926	1925	1924
CANCER, ALL FORMS (43-49)										
Alabama:										
White	46.8	36.0	44.9	49.2	44.9		53.9	39.2		
Colored	41.2	39.5	48.8	36.8	51.4		44.7	42.1		
Connecticut	113.8	106.6	105.8	102.5	84.6		101.7	98.9	117.8	94.0
Indiana	99.3	87.6	117.1	105.3	90.8	104.3	108.9	94.6	95.5	96.0
Iowa	103.8	91.2	121.2	104.2	114.0	110.2				
Kansas	95.6	107.0	104.6							
Minnesota	112.0	94.8	115.1	93.0	108.1	110.0				
New Jersey	99.2	102.4	107.9	104.4						
New York	127.5	121.2	128.6	122.0	121.8		130.7	123.1	119.5	128.5
Oklahoma	58.7									
Pennsylvania	95.5	102.0	95.4	102.0	95.5		95.8	97.3	93.5	93.6
South Carolina	30.3	39.2	51.2	34.6	50.5	39.2	36.3			
Tennessee	58.8	51.3	53.2	67.6	47.5		70.6			
DIABETES (57)										
Alabama:										
White	12.8	6.0	9.8	8.0	7.7		5.1	11.8		
Colored	14.5	14.1	18.5	9.5	7.9		5.3	5.3		
Connecticut			21.9	19.6						
Iowa	15.5	24.4	19.9	25.6	19.4	12.5				
Kansas	24.4	17.1	28.9							
Minnesota	19.9	19.4	24.7	21.0	25.1	15.2				
New York	27.6	27.2	27.4	26.3	28.6		28.1	19.6	26.6	25.8
Oklahoma	12.6									
Pennsylvania	21.7	23.5	27.8	25.3	23.2		19.1	16.5	19.5	16.4
South Carolina	12.6	13.5	11.4	3.3	6.9	4.6	5.9			
DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SPECIAL SENSE (70-86)										
Iowa	125.6	145.1	153.2	145.8	142.6	125.3				
Kansas	146.9	145.4	173.2							
New Jersey	112.5	120.9	126.3	139.5						
New York	159.1	169.8	176.1	172.7	159.9		150.4	160.6	205.9	180.2
Oklahoma	114.5									
CEREBRAL HEMORRHAGE, APOPLEXY (74)										
Alabama:										
White	42.3	47.2	57.5	48.5	56.1		43.0	46.6		
Colored	58.1	84.6	87.1	85.9	75.2		47.4	80.2		
Indiana	121.5	122.5	(1)	134.1	107.5	95.4	106.2	116.4	90.4	
Iowa	97.0	108.3	111.5	102.2	105.7	92.7				
Kansas	114.2	104.3	141.8							
New York	121.0	131.8	134.7	135.3	124.6		112.9	115.5	153.4	136.7
Oklahoma	63.6									
Pennsylvania	100.0	101.0	97.2	101.0	88.2		89.2	87.2	63.9	
DISEASES OF THE CIRCULATORY SYSTEM (87-96)										
Iowa	242.0	253.0	310.8	249.0	238.1	211.5				
Kansas	213.7	210.6	250.9							
New Jersey	272.7	272.4	281.6	306.6						
New York	375.0	399.7	369.1	387.7	379.4		345.8	355.1	350.9	332.8
Oklahoma	90.8									
South Carolina	220.5	278.2	277.9	263.7	341.1	279.4	300.0			

[1] Not available.

Monthly State mortality statistics—Continued

(All rates are on an annual basis, and, with the exception of mortality from all causes and infant mortality, are per 100,000)

	1928						Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	1927	1926	1925	1924
DISEASES OF THE HEART (87-90)										
Alabama:										
White	114.7	116.9	96.0	98.5	101.6		91.8	82.0		
Colored	124.8	150.9	189.9	199.0	188.6		146.0	152.5		
Connecticut	168.5	200.3	198.4	196.8	101.4		187.0	166.2	169.3	149.7
Indiana	[a] 198.5	[a] 158.1	[a] 188.0	[a] 194.6	[a] 180.2	[a] 172.0	[a] 171.9	[a] 148.0	[a] 153.3	[a] 152.8
Iowa	217.3	225.5	279.8	222.0	215.8	186.9				
Kansas	181.6	183.8	215.6							
Minnesota	156.2	165.5	160.9	125.6	154.4	130.1				
New York	328.3	345.5	323.7	342.7	324.3		292.2	306.4	303.7	283.2
Oklahoma	82.0									
Pennsylvania	246.0	256.0	272.0	249.0	233.0		217.0	229.0	180.0	
Tennessee	105.9	137.3	101.9	133.2	122.4		[1]			
PNEUMONIA, ALL FORMS (100, 101)										
Alabama:										
White	167.6	144.6	162.6	120.2	84.8		45.9	70.2		
Colored	191.4	200.2	203.1	170.4	184.7		81.6	115.7		
Connecticut	140.8	148.6	151.7	165.1	183.1		86.1	122.3	81.6	91.7
Indiana	137.0	120.1	151.3	173.2	120.5	58.0	52.5	58.4	47.6	53.2
Iowa	109.6	91.8	98.4	92.2	80.5	41.1				
Kansas	105.9	104.9	56.5							
Minnesota	80.5	77.7	87.4	102.4	76.1	47.8				
New Jersey	80.4	108.7	111.2	104.1						
New York	120.4	131.3	152.8	152.9	126.3		93.6	107.8	122.7	100.8
North Carolina			168.7							
Oklahoma	198.0									
Pennsylvania	131.0	154.0	191.5	166.0	156.0		99.2	138.0	115.0	126.0
South Carolina	178.1	155.3	161.7	124.7	111.2	58.7	56.7			
Tennessee	163.8	163.0	162.8	116.7	104.5		75.3			
DISEASES OF THE DIGESTIVE SYSTEM (108-127)										
Iowa	62.6	62.2	65.5	55.6	61.1	63.1				
Kansas	62.9	60.4	78.3							
New Jersey	[2] 47.5	[2] 58.0	[2] 60.4	[2] 72.9						
New York	69.0	86.2	79.8	72.6	79.5		80.8	91.2	84.2	100.8
Oklahoma	62.1									
DIARRHEA AND ENTERITIS UNDER 2 YEARS (113)										
Alabama:										
White	11.3	6.0	5.6	10.9	16.8		54.7	13.3		
Colored	4.8	9.9	9.2	21.8	18.5		46.1	18.4		
Connecticut	9.5	4.8	3.6	6.0	4.4		5.9	11.3	6.9	13.3
Indiana	7.0	10.7	9.3	6.1	7.8	7.3	7.0	7.8	15.7	14.7
Iowa	3.4	1.0	5.8	3.5	3.4	2.5				
Kansas	7.7	5.5	9.6							
Minnesota	[3] 10.4	[3] 8.8	[3] 10.8	[3] 8.0	[3] 5.2	[3] 4.9				
New Jersey	[4] 9.6	[4] 10.5	[4] 10.2	[4] 12.7						
New York	10.9	11.5	10.3	12.4	10.9		13.1	18.3	16.0	18.9
North Carolina			10.0							
Oklahoma	11.2									
Pennsylvania	16.7	19.0	16.1	16.4	16.5		15.4	19.0	20.6	27.1
South Carolina	[5] 3.8	[5] 8.8	[5] 8.2	[5] 5.9	[5] 38.5	[5] 83.5	[5] 54.1			
Tennessee	4.7	3.5	4.7	3.4	8.9		25.6			

[a] Organic heart.
[1] Not available.
[2] Infantile diarrhea excepted.
[3] Reported as diarrhea of children under 5 years.
[4] Reported as infantile diarrhea.
[5] Reported as intestinal diseases of children under 1 year.

Monthly State mortality statistics—Continued

(All rates are on an annual basis, and, with the exception of mortality from all causes and infant mortality, are per 100,000)

	1928						Corresponding month for—			
	Jan.	Feb.	Mar.	Apr.	May	June	1927	1926	1925	1924
NEPHRITIS (128, 129)										
Alabama:										
White	[5] 74.7	[5] 66.7	[5] 75.7	[5] 73.9	[5] 68.0		[5] 69.2	[5] 80.6		
Colored	[5] 92.1	[5] 90.2	[5] 91.0	[5] 111.8	[5] 124.0		[5] 102.6	[5] 126.2		
Connecticut			71.5	73.1						
Indiana	[6] 70.4	[6] 86.8	[6] 85.6	[6] 90.0	[6] 83.0	[6] 76.1	[6] 96.6	[6] 97.4	[6] 74.7	
Iowa	62.6	54.4	53.8	52.6	52.4	56.1				
Kansas	85.3	96.7	112.9							
Minnesota	[7] 66.2	[7] 62.4	[7] 54.5	[7] 61.7	[7] 54.9	[7] 38.0				
New Jersey	[8] 108.5	[8] 118.6	[8] 124.8	[8] 108.6						
New York	121.8	117.6	120.0	127.0	121.4		126.2	131.8	119.5	128.2
Oklahoma	64.1									
Pennsylvania	117.0	122.0	115.0	122.0	125.0		110.0	114.0	106.0	107.0
South Carolina	[8] 83.4	[8] 99.9	[8] 108.6	[8] 105.7	[8] 95.4	[8] 106.4	[8] 96.9			
PUERPERAL STATE (143–150)										
Alabama:										
White		[9] 21.0	[9] 20.3	[9] 18.1	[9] 14.7		[9] 8.0	[9] 14.8		
Colored		[9] 16.9	[9] 25.1	[9] 31.3	[9] 33.0		[9] 28.9	[9] 26.3		
Connecticut	[10] 9.5	[10] 8.9	[10] 13.1	[10] 21.1	[10] 8.8		[10] 10.4	[10] 9.8	[10] 13.1	[10] 10.2
Indiana	[11] 11.9	[11] 8.7	[11] 11.5	[11] 9.2	[11] 13.3	[11] 10.8	[11] 12.0	[11] 12.1	[11] 15.7	[11] 4.0
Iowa	6.8	11.9	11.2	15.0	10.7	9.5				
Kansas	7.1	21.3	17.3							
Minnesota	[9] 9.5	[9] 10.2	[9] 14.3	[9] 13.0	[9] 12.1	[9] 8.0				
New York	10.9	13.3	12.0	15.2	12.8		10.9	12.7	11.6	16.8
Oklahoma	11.6									
Pennsylvania	[12] 5.3	[12] 5.3	[12] 6.6	[12] 6.7	[12] 7.1		[12] 7.1	[12] 7.4	[12] 5.7	
Tennessee	[11] 6.1	[11] 4.5	[11] 7.1	[11] 5.3	[11] 7.5		[11] 6.2			
CONGENITAL MALFORMATION AND DISEASES OF EARLY INFANCY (159–163)										
Alabama:										
White	67.2	70.4	69.4	57.9	79.2		83.1	64.3		
Colored	69.0	98.7	92.3	80.4	83.1		77.6	52.6		
Iowa	58.7	48.2	61.1	66.6	60.6	66.1				
Kansas	53.9	59.0	65.4							
New York	65.2	70.2	69.4	66.5	72.4		70.5	88.0	92.0	90.6
Oklahoma	86.9									
Pennsylvania	[1] 34.9	[1] 37.6	[1] 35.1	[1] 37.4	[1] 37.7		[1] 36.3	[1] 36.9	[1] 36.3	
AUTOMOBILE ACCIDENTS (188c)										
Alabama:										
White	14.3	14.2	15.4	11.6	12.6		18.9	9.6		
Colored	10.9	7.0	13.2	6.8	6.6		7.9	14.5		
Iowa	10.2	9.3	12.1	10.0	9.7	13.0				
Kansas	10.9	9.6	8.3							
Minnesota	8.7	8.3	5.6	9.4	15.1	15.2				
New Jersey	12.9	17.1	28.0	21.7						
New York	17.0	15.3	15.4	17.8	25.5		28.1	26.0	16.9	19.2
North Carolina			8.8							
Oklahoma	8.7									
Pennsylvania	13.5	12.2	11.8	14.8	16.6		19.0	17.7	17.2	17.6
South Carolina	11.4	10.8	11.4	7.8	11.4	13.7	12.5			
Tennessee	13.2	10.6	9.4	10.7	14.1		11.8			

[1] Rate per 1,000 live births.
[5] Reported as chronic nephritis.
[6] Reported as Bright's disease.
[7] Reported as nephritis.
[8] Reported as kidney diseases.
[9] Puerperal state.
[10] Reported as puerperal diseases.
[11] Reported as puerperal septicemia.
[12] Rate per 1,000 total births.

AMENDMENT TO REGULATIONS CONCERNING LEPERS

The following change in the regulations regarding the control of lepers has been approved by the Secretary of the Treasury:

ADDITION TO REGULATIONS FOR THE APPREHENSION, DETENTION, TREATMENT, AND RELEASE OF LEPERS

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
August 20, 1928.

The regulations for the apprehension, detention, treatment, and release of lepers, approved December 4, 1922, in accordance with sections 2 and 3 of the Public Act No. 299, Sixty-fourth Congress, approved February 3, 1917, are hereby amended by changing paragraphs 4 and 8 to read as follows, respectively:

(4) *Detention of a patient, or release if not a leper.*—If the diagnosis of leprosy is confirmed, the patient shall be detained in the hospital as provided in these regulations; if the diagnosis is not confirmed, the patient shall be discharged.

(8) *Discharge of patients.*—The medical officer in charge of the United States Marine Hospital, Carville, La., shall convene boards of three medical officers skilled in the diagnosis of leprosy, of which he may be chairman, for the purpose of examining patients with a view to recommending their discharge. When in the judgment of the board a patient may be regarded as no longer a menace to the public health, he may be released on probation, as either cured, arrested, or latent, at the discretion of the Surgeon General, to whom the recommendation of the board shall be forwarded.

(Signed) CARL T. SCHUNEMAN,
Acting Secretary of the Treasury.

PUBLIC HEALTH ENGINEERING ABSTRACTS

Report of the Bureau of Sanitary Engineering, Maryland Department of Health, 1927. 21 pages. (Abstract by A. L. Dopmeyer.)

This is a rather comprehensive report of the work carried out by the Bureau of Sanitary Engineering during the year 1927 and covers the following subjects: (1) Introductory remarks—including a summary of activities of the bureau in table form for the year 1927 and comparison with previous years; (2) State institutions—describing assistance rendered in making sanitary improvements to certain of such institutions; (3) water supply; (4) sewerage; (5) general—noting certain changes in legislation; (6) shellfish sanitation—in which is given a description of this work and tables showing results accomplished; (7) stream pollution—in which is described the progress made in determining suitable treatment for certain industrial wastes; (8) special water and sewerage studies—giving a general description of the research work carried out on the subjects and the results obtained; (9) aerial pollution—including dust and gas studies at certain industrial plants; (10) camps, canneries, and milk stations—inspections and sanitary investigations of these places were made; (11) miscellaneous—included in this item is a note that the State board of health on July 1, 1926, passed "Regulations pertaining to cross connections between a potable water supply and supplies of impure or doubtful quality"; an intensive campaign against cross connections was started during the year; (12) typhoid fever—a description of tyhpoid-fever history in this State is given, including statistics for the years from 1910 to 1927.

The St. Louis Water Problem. L. A. Day. Tenth Texas Water Works Short School Proceedings, January, 1928, pp. 105-111. (Abstract by Chester Cohen.)

In discussing the St. Louis water problem Mr. Day describes the source of the supply and explains the method of delivering the water from the Mississippi River at the Chain of Rocks plant through circular brick-lined tunnels to the pump pit or wet well, thence to the grit chamber, and thence to the mixing conduit, where milk of lime and a solution of sulphate of lime are added. The method of preparing the lime and iron solution is explained in detail. Six coagulation basins of 30 m. g. capacity each are provided following the mixing period, which averages about an hour. During the past year, 270,861 tons of solids and added chemicals were removed from the water.

Secondary coagulation has been practiced at this plant since the filters were put in service in 1915. When a turbid water is treated with enough lime to produce considerable softening and sulphate of iron is used as a coagulant, no floc is left in suspension. It is necessary to provide a floc by adding a secondary dose of coagulation if successful operation of the filters is desired. Aluminum sulphate is used as the secondary coagulant, and a decided reduction in the normal carbonate alkalinity results. The reduction in total alkalinity with the use of 1.41 grains per gallon was 13 parts per million, and the normal carbonate alkalinity was reduced from 48 to 17 parts per million. This action of aluminum sulphate prompted its use as a secondary coagulant. The value of secondary coagulation may be seen by a study of the results shown in the annual reports.

The second part of the paper is a description of the Howard Bend plant, located 17 miles west of the St. Louis courthouse, on the Missouri River. This new water works will proyide for primary rapid mixing conduit, circular mixing tanks using the tangential principle and having a detention period of about 26 minutes. Secondary clarifiers will be used, having the same velocity and detention as the primary clarifiers. It is expected that the turbidity of the effluent from the primary clarifier will rarely exceed 500 p. p. m., and that from the secondary rarely 200 p. p. m. Two coagulation basins of 15 m. g. capacity each will follow the secondary clarifiers. Provision has been made for the automatic weighing of the coagulant chemical, use of moving belts, conveyors, slaking tanks and application of carbon-dioxide gas. The filter design differs from the design of those at the Chain of Rocks plant in that a trough will be provided at each end of the filter rather than one trough in the center. Two sewer and two influent valves will therefore be necessary for each filter. In place of the ridge block with bronze strainer, as installed at the old plant, the new strainer system will consist of cast-iron pipes spaced 1 foot on center, 50 to a filter. The sludge removed from the secondary clarifiers will be reused and added to the water entering the primary clarifiers. Some of the advantages expected to be gained from the new plant are as follows:

"The carbonation of the water will eliminate the coating on the filter sand and also stop the deposition of coating upon the service pipes throughout the city.

"The filter sand at the Chain of Rocks is Mississippi River sand graded in the filters. As a result of this method of grading, the effective size of the sand in the various filters varied from 0.31 to 0.45 mm. The sand in the filters being graded sand at the new plant, there should be but little variation in the size.

"The greater positive head that will be available at the new plant will enable the filters to be operated without the packing and breaking up of the filter bed due to filtering at considerable negative head.

"The cast-iron pipe manifold strainers and the tapered underdrain should give a much better distribution of wash water than is obtained with the ridge block strainers at the old plant. Trouble from broken U bolts, loose strainers, and clogged holes in the strainer plate is considerable.

"The filter will be equipped with a device that will permit the opening of the controller valve to any desired rate in any time up to one hour. From a great

many experiments made at the Chain of Rocks we have found that by this means the amount of turbid water passing the filter after washing will be considerably reduced.

"The large storage provided, 100,000,000 gallons, will make it possible to operate the plant continuously at the same rate and thus avoid the disturbing influences of frequent changes of rate."

Sewage-Polluted Surface Waters as a Source of Water Supply. H. W. Streeter. *Public Health Reports*, vol. 43, No. 24, June 15, 1928, pp. 1498–1522. (Abstract by O. C. Hopkins.)

The suitability of sewage-polluted bodies of surface water as a source of water supply is dependent on several factors, including (*a*) the character and extent of their pollution; (*b*) the location of sources of pollution with respect to sources of water supply; (*c*) the degree of protection to these sources afforded by natural agencies, such as dilution and self-purification; (*d*) the extent of further purification afforded by artificial water purification; and (*e*) the practicability and economy of supplementary artificial measures for reinforcing, where necessary, the protection afforded by water purification.

The effects of pollution of sources of water supply are modified by bacterial changes occurring in sewage, by seasonal influences, by dilution, and by self-purification. In any appraisal of conditions of pollution surrounding a given source of water supply account also should be taken of the relative sizes of the various population groups jointly responsible for such conditions and of their respective locations, on a time-distance basis, with respect to that source.

The average well-designed and well-operated rapid sand-filtration plant, aided by chlorination, can produce consistently a final effluent meeting the revised Treasury Department standard from river waters of the Ohio type having an average *B. coli* index not exceeding 5,000 per 100 c. c. For Great Lakes water, the corresponding limit appears to be less than 2,000 per 100 c. c.

Among the supplementary measures currently practiced or proposed for reinforcing existing water purification processes are (*a*) long-time storage; (*b*) double-stage coagulation, sedimentation and filtration; and (*c*) raw water prechlorination.

The total cost of water purification in the United States ranges from 40 cents to $1.40 per capita annually. Although the cost of sewage treatment may range as low as 40 to 95 cents per capita annually, the extra cost of intercepting sewers, where necessary, may increase the total cost of this measure by from $1 to $10 per capita. Exclusive of intercepting sewers, the per capita cost of water purification and of sewage treatment appear to be nearly equal.

Odors and Sewage Sludge Digestion. I. Effect of Sea Water on Hydrogen-Sulfide Production. Willem Rudolfs and P. J. A. Zeller. *Industrial and Engineering Chemistry*, vol. 20, No. 1, January, 1928, pp. 48–50. (Abstract by W. C. Purdy.)

Four problems were involved in this study: (1) Effect upon the rate of sludge digestion of the presence in sea water of sulphates, of sodium chloride, and of a combination of the two; (2) effect upon gas production caused by a possible retardation of the rate of digestion; (3) effect upon the composition of the gas; (4) relation between sulphate reduction and quantity of hydrogen sulphide present in the gas.

The authors thus summarize results: The digestion processes in ripe sludge—fresh solids mixtures treated with sea water and sodium chloride—were slightly retarded; the total quantities of gas produced from the different mixtures varied with the amounts of sea water added, but the percentage of methane was lowest in the gas produced from the mixtures with the largest amounts of added sea water; practically all the sulphates added disappeared from the mixtures, but

only from 0.65 to 5.62 per cent of the sulphur added in the form of sulphates was recovered in the gas as hydrogen sulphide; hydrogen-sulphide production was greatest during and after the peak of gasification had been reached; a large percentage of the sulphur of the sulphate added was changed to elementary sulphur.

Preliminary Results on Relation between Total Acidity, Carbon Dioxide in Solution, Organic Acids, and Colloidal Material in the Course of Fresh Solids Digestion. Willem Rudolfs. Report of the Department of Sewage Disposal of the New Jersey Agricultural Experiment Station for the year ending June 30, 1927, pp. 295–299. (Abstract by Chester Cohen.)

More emphasis has been placed on the digestion of carbohydrate materials, since the decomposition of this material precedes decomposition of the more complex organic nitrogenous matter. "It is well understood now that the more acid materials produced in the course of digestion which are allowed to accumulate, the longer it takes before digestion is complete." For the first 3 days of the experiment the increase in total acidity was practically all accounted for by the carbon dioxide in solution, but after 3 days the organic acids began to accumulate rapidly and during the next 10 to 20 days constituted approximately one-half of the total acidity. This seems to indicate that the decomposition of the carbonaceous substances producing the acids is faster than the decomposition of the acids themselves, with the consequent accumulation of the acid material. After 20 days the organic acids decreased rapidly, and after 30 days only traces were left.

"The more organic acids accumulated the longer was the duration of digestion. Decomposition of nitrogenous substances seemed fastest after the organic acids had disappeared."

Bacteria in Creamery Wastes. M. Levine and L. Soppeland. *Iowa Engin. Expt. Sta. Bul. 77* (1926), p. 72. *Experiment Station Record*, U. S. Department of Agriculture, vol. 58, No. 8, June, 1928, p. 782.

"A systematic study of the organisms isolated from artificial creamery wastes is reported in which 36 species were described. A key for their identification is also presented. Strict anærobes were found to be very rare, only one of the species being in this category. All of the other species were facultative and usually grew much better aerobically. More than half of the species were proteolytic, and digestion of the casein was retarded by acidity and the absence of air. In the presence of an abundant air supply, acid production was depressed and proteolysis was markedly favored."

DEATHS DURING WEEK ENDED SEPTEMBER 1, 1928

Summary of information received by telegraph from industrial insurance companies for the week ended September 1, 1928, and corresponding week of 1927. (From the Weekly Health Index, September 6, 1928, issued by the Bureau of the Census, Department of Commerce)

	Week ended Sept. 1, 1928	Corresponding week, 1927
Policies in force	71, 633, 759	68, 295, 006
Number of death claims	12, 174	10, 417
Death claims per 1,000 policies in force, annual rate	8.9	8.0

Deaths from all causes in certain large cities of the United States during the week ended September 1, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, September 6, 1928, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Sept. 1, 1928		Annual death rate per 1,000, corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Sept. 1, 1928 [2]
	Total deaths	Death rate [1]		Week ended Sept. 1, 1928	Corresponding week, 1927	
Total (68 cities)	6,515	11.2	10.4	753	689	880
Akron	30			1	5	11
Albany [3]	37	16.1	11.8	2	4	41
Atlanta	49	10.0	10.7	9	5	
White	30		7.7	5	1	
Colored	19	(4)	17.6	4	4	
Baltimore [3]	195	12.3	10.8	37	31	118
White	145		9.1	26	18	104
Colored	50	(4)	20.3	11	13	172
Birmingham	65	15.3	13.9	13	8	111
White	25		11.0	5	4	69
Colored	40	(4)	18.5	8	4	180
Boston	182	11.9	13.5	22	34	61
Bridgeport	32			1	1	18
Buffalo	123	11.6	11.9	18	11	77
Cambridge	27	11.2	5.9	3	3	53
Camden	31	12.0	8.2	5	5	80
Canton	27	12.1	9.2	3	1	71
Chicago [3]	642	10.6	10.0	72	52	62
Cincinnati	146	18.5	13.0	15	13	91
Cleveland	175	9.1	8.4	17	17	46
Columbus	76	13.4	11.8	11	6	103
Dallas	65	15.6	9.1	8	6	
White	48		7.6	7	5	
Colored	17	(4)	19.0	1	1	
Dayton	31	8.8	10.7	7	4	116
Denver	84	14.9	14.0	11	8	
Des Moines	20	6.9	9.1	2	3	33
Detroit	277	10.5	9.1	42	36	65
Duluth	16	7.2	8.2	5	0	117
El Paso	26	11.5	16.1	4	10	
Erie	26			3	3	62
Fall River [3]	25	9.7	9.8	2	6	34
Flint	40	14.1	8.4	6	7	77
Fort Worth	34	10.6	11.2	6	4	
White	32		8.7	5	3	
Colored	2	(4)	29.3	1	1	
Grand Rapids	32	10.2	6.8	4	6	60
Houston	64			9	8	
Indianapolis	96	13.1	12.1	15	7	114
White	82		11.7	15	7	131
Colored	14	(4)	15.1	0	0	0
Jersey City	63	10.1	7.6	10	6	75
Kansas City, Kans	30	13.3	13.3	2	2	42
White	24		10.3	2	2	49
Colored	6	(4)	27.1	0	1	0
Kansas City, Mo	68	9.1	10.2	10	1	71
Knoxville	32	15.9	16.3	2	2	43
White	26		15.1	1	2	24
Colored	6	(4)	25.6	1	0	213
Los Angeles	215			16	21	46
Louisville	89	14.1	9.0	9	11	75
White	70		8.3	7	11	67
Colored	19	(4)	12.8	2	0	138
Lowell	19	9.0	10.4	4	8	84
Lynn	17	8.4	8.5	3	4	76
Memphis	68	18.7	19.2	6	8	70
White	35		15.3	2	4	37
Colored	33	(4)	26.3	4	4	125
Milwaukee	89	8.6	7.9	22	7	98
Minneapolis	73	8.5	7.7	7	5	42
Nashville	46	17.4	18.5	5	6	79
White	28		10.0	4	3	85
Colored	18	(4)	40.2	1	3	60

[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] Deaths for week ended Friday, Aug. 31, 1928.
[4] 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; 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 September 1, 1928, infant mortality, annual death rate, and comparison with corresponding week of 1927. (From the Weekly Health Index, September 6, 1928, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Sept. 1, 1928		Annual death rate per 1,000, corresponding week, 1927	Deaths under 1 year		Infant mortality rate, week ended Sept. 1, 1928
	Total deaths	Death rate		Week ended Sept. 1, 1928	Corresponding week, 1927	
New Bedford	24	10.5	10.9	3	0	65
New Haven	31	8.6	9.9	1	2	14
New Orleans	118	14.4	16.3	10	11	48
White	74		12.0	3	6	22
Colored	44	(4)	28.8	7	5	102
New York	1,273	11.1	9.6	147	137	59
Bronx Borough	151	8.3	6.5	16	13	48
Brooklyn Borough	413	9.4	8.9	54	59	54
Manhattan Borough	520	15.5	13.1	61	49	72
Queens Borough	134	8.2	6.7	11	13	44
Richmond Borough	55	19.1	13.5	5	3	90
Newark, N. J	72	7.9	9.4	6	14	31
Oakland	53	10.1	7.4	1	2	11
Oklahoma City	35			6	6	
Omaha	49	11.5	7.6	1	4	12
Paterson	27	9.7	6.9	3	2	52
Philadelphia	440	11.1	10.6	58	47	78
Pittsburgh	159	12.4	13.6	10	30	33
Portland, Oreg	55			2	5	21
Providence	45	8.2	6.5	8	3	70
Richmond	48	12.9	12.0	10	3	131
White	20		8.4	2	2	41
Colored	28	(4)	20.6	8	1	293
Rochester	61	9.7	12.2	2	11	16
St. Louis	195	12.0	11.6	16	22	53
St. Paul	39	8.1	11.0	1	2	10
Salt Lake City [3]	25	9.5	13.8	4	1	65
San Antonio	66	15.8	14.8	10	8	
San Diego	35	15.3	14.5	1	3	19
San Francisco	134	12.0	11.5	5	4	31
Schenectady	17	9.5	9.0	1	0	31
Seattle	61	8.3	6.9	0	3	0
Somerville	17	8.7	7.2	2	2	69
Spokane	15	7.2	10.0	0	3	0
Springfield, Mass	30	10.5	6.0	2	5	32
Syracuse	44	11.5	13.8	4	0	49
Toledo	65	10.9	12.8	4	9	38
Trenton	29	10.9	6.9	4	0	68
Washington, D. C	111	10.5	11.8	7	7	40
White	67		9.0	1	4	8
Colored	44	(4)	19.9	6	3	111
Waterbury	12			0	0	0
Wilmington, Del	35	14.2	7.0	0	1	0
Worcester	34	9.0	13.1	5	3	61
Yonkers	18	7.8	7.9	2	1	46
Youngstown	30	9.0	9.5	6	1	80

[3] Deaths for week ended Friday, Aug. 31, 1928.

[4] 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; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 3; New Orleans, 26; Richmond, 32; and Washington, D. C., 1925.

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 September 8, 1928, and September 10, 1927

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 8, 1928, and September 10, 1927

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927
New England States:								
Maine	1	1			12	3	0	0
New Hampshire					6		0	
Vermont		3				16	0	0
Massachusetts	25	71	3	3	23	40	0	2
Rhode Island	2	8			9		0	0
Connecticut	16	22	2		13	8	0	0
Middle Atlantic States:								
New York	87	140	[1] 6	[1] 4	121	41	17	4
New Jersey	48	70	4	1	10	5	6	2
Pennsylvania	79	106			61	56	12	3
East North Central States:								
Ohio	20		8		20		4	
Indiana	19	22	9	25	4	7	0	0
Illinois	48	79	10	16	14	13	6	6
Michigan	38	48			15	8	2	4
Wisconsin	9	32	8	40	19	71	4	2
West North Central States:								
Minnesota	17	30	2		4	3	1	0
Iowa	3	11				2	0	0
Missouri [2]	28	27		1	15	4	0	0
North Dakota	7	2	9			1	0	1
South Dakota		2				3		0
Nebraska	16	8					0	0
Kansas	9	14	1		5	7	0	1
South Atlantic States:								
Delaware		3					0	0
Maryland [3]	13	27	2	4	10	7	3	0
District of Columbia	8	6	1				0	0
Virginia								
West Virginia	22	14	8	5	13	15	0	0
North Carolina		80				90		1
South Carolina	30	29	209	259	1	30	0	0
Georgia	16	41	49	19		13	0	0
Florida	13	19	49		6	4	1	0
East South Central States:								
Kentucky	3				9		0	
Tennessee	17	47	13	20	2	35	1	2
Alabama	32	76	39	10	5	39	0	0
Mississippi	18	23						

[1] New York City only.
[2] Figures for 1928 are exclusive of Kansas City.
[3] Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended September 8, 1928, and September 10, 1927—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927
West South Central States:								
Arkansas	3	11	23	8	10	11	0	0
Louisiana	11	30	4	6	7	3	0	0
Oklahoma [4]	24	50	47	23	6	15	1	0
Texas	16	42	25	26	1	6	0	0
Mountain States:								
Montana	2	2			1	1	1	0
Idaho							0	0
Wyoming					2	2	0	0
Colorado	8	11			4	1	2	0
New Mexico	4	3			1	7	0	0
Arizona					2		1	0
Utah [3]	1	1	1	2		2	0	0
Pacific States:								
Washington	12	10			11	8	3	1
Oregon	10	3	3	6	5	16	0	0
California	44	88	24	5	12	23	2	3

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927
New England States:								
Maine	2	6	2	16	0	0	2	6
New Hampshire	2		4		0		0	
Vermont	7	1	3	9	0	0	0	0
Massachusetts	33	92	70	56	0	0	12	16
Rhode Island	1	3	6	9	0	0	3	9
Connecticut	4	11	3	13	0	0	2	6
Middle Atlantic States:								
New York	101	71	60	82	1	0	57	73
New Jersey	2	34	18	22	0	1	24	18
Pennsylvania	10	41	66	130	0	0	46	51
East North Central States:								
Ohio	18	[5] 105	48		8		43	
Indiana	0	6	23	52	5	30	18	35
Illinois	4	35	55	86	7	12	31	63
Michigan	7	19	27	83	8	5	16	20
Wisconsin	2	10	44	47	5	3	3	7
West North Central States:								
Minnesota	11	2	30	46	0	1	12	5
Iowa	6	7	8	8	0	16	4	3
Missouri [2]	0	21	24	25	2	7	18	32
North Dakota	3	3	7	16	0	3	2	1
South Dakota		2		8		0		5
Nebraska	6	5	10	20	2	2	5	4
Kansas	2	9	34	51	3	1	18	24
South Atlantic States:								
Delaware	0	0	0	1	0	0	1	3
Maryland [3]	30	0	4	10	0	0	46	20
District of Columbia	2	0	2	8	0	1	3	3
Virginia								
West Virginia	27	17	28	21	9	0	31	32
North Carolina		0		59		7		29
South Carolina	0	6	14	15	1	6	67	94
Georgia	0	0	11	14	0	0	32	69
Florida	0	4	4	3	1	1	6	5
East South Central States:								
Kentucky	0		16		4		16	
Tennessee	1	5	22	34	0	2	85	111
Alabama	1	0	9	44	2	4	48	80
Mississippi	0	1	16	16	0	1	47	16
West South Central States:								
Arkansas	0	0	4	9	0	1	40	56
Louisiana	0	0	7	2	0	0	37	23
Oklahoma [4]	0	10	7	25	6	9	108	110
Texas	1	20	12	15	0	0	24	54

[2] Figures for 1928 are exclusive of Kansas City.
[3] Week ended Friday.
[4] Figures for 1928 are exclusive of Oklahoma City and Tulsa, and for 1927 are exclusive of Tulsa.
[5] Includes 20 of the cases reported for week ended Sept. 6.

Cases of certain communicable disease reported by telegraph by State health officers for weeks ended September 8, 1928, and September 10, 1927—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927	Week ended Sept. 8, 1928	Week ended Sept. 10, 1927
Mountain States:								
Montana	6	0	5	12	1	1	5	8
Idaho	1	0	2	2	0	1	1	0
Wyoming	3	0	8	2	1	0	3	2
Colorado	3	2	6	12	1	3	4	7
New Mexico	0	3	2	7	0	0	8	17
Arizona	0	2	1	0	0	0	0	7
Utah [3]	0	0	0	0	0	0	0	0
Pacific States:								
Washington	33	7	11	8	15	4	9	6
Oregon	1	11	14	4	10	6	5	4
California	6	49	39	47	15	5	15	10

[3] Week ended Friday.

Report for Week Ended August 25, 1928

NORTH CAROLINA

	Cases		Cases
Diphtheria	54	Scarlet fever	16
Measles	6	Smallpox	7
Meningococcus meningitis	1	Typhoid	57
Poliomyelitis	2		

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	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
July, 1928										
Delaware		1			49		1	5	0	3
Kansas	2	16	8	6	69	2	3	107	124	65
Rhode Island	2	29		1	634		1	41	0	2
South Carolina		78	905	1,982	87	1,055	3	15	31	433
August, 1928										
Georgia	3	26	188	602	21	64	1	26	7	190

July, 1928

Chicken pox:	Cases
Delaware	2
Kansas	54
Rhode Island	12
South Carolina	43
Dengue:	
South Carolina	4
Dysentery (amebic):	
Kansas	1
South Carolina	1
German measles:	
Kansas	7
Hookworm disease:	
Kansas	2
South Carolina	105
Impetigo contagiosa:	
Kansas	1
Lethargic encephalitis:	
Kansas	4

July, 1928—Continued

Mumps:	Cases
Delaware	3
Kansas	174
Rhode Island	10
South Carolina	5
Ophthalmia neonatorum:	
South Carolina	12
Paratyphoid fever:	
South Carolina	13
Rabies in animals:	
Rhode Island	6
South Carolina	18
Septic sore throat:	
Kansas	1
Tetanus:	
Kansas	7
Undulant (Malta) fever:	
Kansas	2
Vincent's angina:	
Kansas	7

July, 1928—Continued

Whooping cough:	Cases
Delaware	5
Kansas	333
Rhode Island	21
South Carolina	276

August, 1928

Georgia:	
Ancylostomiasis	1
Anthrax	1
Chicken pox	2

August, 1928—Continued

Georgia—Continued.	Cases
Conjunctivitis	1
Dengue	1
Dysentery	20
Mumps	13
Paratyphoid fever	16
Septic sore throat	23
Tetanus	1
Typhus fever	9
Undulant (Malta) fever	1
Whooping cough	60

Number of Cases of Certain Communicable Diseases Reported for the Month of June, 1928, by State Health Officers

	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid fever	Whooping cough
Maine	156	17	236	104	73	0	21	15	146
New Hampshire		2			51	0		0	
Vermont	63	1	248	42	32	0	23	1	
Massachusetts	569	261	2,919	439	788	0	580	34	517
Rhode Island	24	30	924	47	76	0	29	3	9
Connecticut	204	74	1,408	349	145	5	194	4	492
New York	1,619	1,450	12,551	999	1,435	15	2,002	44	1,558
New Jersey	634	615	5,020		478	1	451	15	553
Pennsylvania [1]									
Ohio	679	269	3,866	342	441	72	865	33	581
Indiana	162	93	1,580	106	231	311	274	14	94
Illinois	1,073	541	853	492	858	92	1,204	41	1,051
Michigan	496	336	3,710	434	930	206	554	23	662
Wisconsin	804	51	193	188	409	53	209	5	348
Minnesota	326	110	205		355	9	249	9	251
Iowa	140	26	30	119	135	140	57	7	35
Missouri	140	117	1,454	192	318	145	361	28	292
North Dakota	15	7	43	4	74	3	22	2	59
South Dakota [1]									
Nebraska	58	24	123	36	140	106	20	10	33
Kansas	156	26	282	230	171	266	143	14	375
Delaware	5	2	59	17	9	2	[2] 3	3	3
Maryland	215	114	966	177	152	0	260	32	328
District of Columbia	38	45	601		126	1	72	1	46
Virginia	282	44	1,513		78	20	[2] 88	79	361
West Virginia	92	30	228		55	54	64	25	22
North Carolina	195	62	1,410		77	160		56	404
South Carolina	118	99	573	6	21	37	195	301	298
Georgia	60	20	231	35	47	12	68	97	108
Florida	35	14	300	14	9	16	101	30	31
Kentucky [3]									
Tennessee	54	30	434	129	68	100	231	106	115
Alabama	103	35	864	79	17	63	470	100	124
Mississippi	326	24	1,484	557	18	17	268	149	1,390
Arkansas	46	11	375	45	21	17	[2] 45	35	68
Louisiana	13	52	264	3	24	48	[2] 192	103	71
Oklahoma [4]	26	41	493	60	107	278	99	84	139
Texas [3]									
Montana	25	15	41		14	46	5	9	8
Idaho	31	4	12	7	22	19	[2] 2	5	4
Wyoming	15	9	28	19	50	5	2	33	14
Colorado	203	17	319	255	72	11	53	7	145
New Mexico [3]									
Arizona	17	15	225	9	15	6	98	10	13
Utah [3]									
Nevada [5]									
Washington	330	46	264	164	99	84	168	25	68
Oregon	133	25	174	53	49	127	66	12	11
California	1,232	330	199	758	509	68	949	52	906

[1] Reports not received at time of going to press.
[2] Pulmonary.
[3] Reports received weekly.
[4] Exclusive of Oklahoma City and Tulsa.
[5] Reports received annually.

Case Rates per 1,000 Population (Annual Basis) for the Month of June, 1928

	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid fever	Whooping cough
Maine	2.39	0.26	3.62	1.60	1.12	0	0.32	0.23	2.24
New Hampshire		.65			1.36	0		0	
Vermont	2.18	.03	8.59	1.45	1.11	0	.80	.03	
Massachusetts	1.62	.74	8.30	1.25	2.24	0	1.65	.10	1.47
Rhode Island	.41	.51	15.74	.80	1.29	0	.49	.05	.15
Connecticut	1.49	.54	10.31	2.55	1.06	.04	1.42	.03	3.60
New York	1.71	1.53	1.33	1.05	1.52	.02	2.11	.05	1.65
New Jersey	2.02	1.96	16.03		1.53	0	1.44	.05	1.77
Pennsylvania [1]									
Ohio	1.21	.48	6.91	.61	.79	.13	1.55	.06	1.04
Indiana	.62	.36	6.07	.41	.89	1.19	1.05	.05	.36
Illinois	1.77	.89	1.41	.81	1.42	.15	1.99	.07	1.73
Michigan	1.32	.89	9.86	1.15	2.47	.55	1.47	.06	1.76
Wisconsin	3.32	.21	.80	.78	1.69	.22	.86	.02	1.44
Minnesota	1.46	.49	.92		1.59	.04	1.12	.04	1.12
Iowa	.70	.13	.15	.60	68	.70	.29	.04	.18
Missouri	.48	.41	5.04	.66	1.10	.50	1.25	.10	1.01
North Dakota	.29	.13	.82	.08	1.41	.06	.42	.04	1.12
South Dakota [1]									
Nebraska	.50	.21	1.07	.31	1.21	.92	.17	.09	.28
Kansas	1.04	.17	1.88	1.53	1.14	1.77	.95	.09	2.49
Delaware	.25	.10	2.95	.85	.45	.10	[2] 1.15	.15	.15
Maryland	1.62	.86	7.29	1.34	1.15	0	1.96	.24	2.48
District of Columbia	.84	.99	13.28		2.78	.02	1.59	.02	1.02
Virginia	1.34	.21	7.17		.37	.09	[2] .42	.37	1.71
West Virginia	.65	.21	1.61		.39	.38	.45	.18	.16
North Carolina	.81	.26	5.85		.32	.66		.23	1.68
South Carolina	.77	.65	3.75	.04	.14	.24	1.28	1.97	1.95
Georgia	.23	.08	.88	.13	.18	.05	.26	.37	.46
Florida	.30	.12	2.59	.12	.08	.14	.87	.26	.27
Kentucky [3]									
Tennessee	.26	.15	2.12	.63	.33	.49	1.13	.52	.56
Alabama	.49	.17	4.10	.37	.08	.30	2.23	.47	.32
Mississippi	2.22	.16	10.11	3.79	.12	.12	1.83	1.02	9.47
Arkansas	.29	.07	2.35	.28	.13	.11	[2] .28	.22	.43
Louisiana	.08	.33	1.65	.02	.15	.30	[2] 1.20	.64	.44
Oklahoma [4]	.15	.23	2.80	.34	.61	1.58	.56	.48	.79
Texas [3]									
Montana	.56	.33	.91		.31	1.02	.11	.20	.19
Idaho	.69	.09	.27	.16	.49	.42	[2] .04	.11	.09
Wyoming	.74	.44	1.38	.94	2.47	.25	.10	1.63	.69
Colorado	2.27	.19	3.57	2.85	.81	.12	.59	.08	1.62
New Mexico [3]									
Arizona	.44	.39	5.79	.23	.39	.15	2.52	.26	.33
Utah [3]									
Nevada [5]									
Washington	2.54	.35	2.03	1.26	.76	.65	1.29	.19	.52
Oregon	1.80	.34	2.35	.72	.66	1.72	.89	.16	.15
California	3.30	.88	.53	2.03	1.36	.18	2.54	.14	2.43

[1] Reports not received at time of going to press.
[2] Pulmonary.
[3] Reports received weekly.
[4] Exclusive of Oklahoma City and Tulsa.
[5] Reports received annually.

PLAGUE IN CALIFORNIA

Death from Plague at Santa Barbara

A death from bubonic plague occurred at Santa Barbara, Calif., on August 30, 1928, diagnosis being confirmed by animal inoculation. The source of the infection was in the Santa Ynez Valley of Santa Barbara County.

Plague-Infected Ground Squirrels

The director of the State Department of Public Health of California reports that plague infection in ground squirrels has been proved by animal inoculation as follows:

San Luis Obispo County.—One lot of ground squirrels from a ranch 5 miles west of San Luis Obispo and one lot from the right of way of the Southern Pacific Railroad, 3½ miles east of National Guard training camp, were proved plague infected August 22, 1928. A squirrel from a ranch 1 mile northeast of the National Guard training camp was proved plague infected August 24, 1928.

Ventura County.—A squirrel from a ranch 2¼ miles west of Ojai was proved plague infected August 30, 1928.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 97 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 31,440,000. The estimated population of the 91 cities reporting deaths is more than 30,745,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended August 25, 1928, and August 27, 1927

	1928	1927	Estimated expectancy
Cases reported			
Diphtheria:			
41 States	630	908	
97 cities	387	478	489
Measles:			
40 States	491	644	
97 cities	170	148	
Poliomyelitis:			
43 States	236	463	
Scarlet fever:			
41 States	546	817	
97 cities	200	318	277
Smallpox:			
41 States	132	114	
97 cities	10	31	18
Cases reported—Continued			
Typhoid fever:			
41 States	968	1,173	
97 cities	186	186	190
Deaths reported			
Influenza and pneumonia:			
91 cities	346	297	
Smallpox:			
91 cities	0	0	

City reports for week ended August 25, 1928

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 1919 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.

Divisions, State, and city	Population, July 1, 1926 estimated	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	76,400	0	0	0	0	0	0	0	0
New Hampshire:									
Concord	[1] 22,546	0	1	0	0	0	1	0	0
Manchester	84,000	0	0	0	0	0	0	0	1
Vermont:									
Barre	[1] 10,008	0	0	0	0	0	0	0	0
Burlington	[1] 24,089	0	0	0	0	0	0	1	0
Massachusetts:									
Boston	787,000	5	27	10	1	0	4	0	9
Fall River	131,000	1	1	0	0	0	2	1	0
Springfield	145,000	1	1	1	0	0	7	0	0
Worcester	193,000	0	2	8	0	0	1	1	0
Rhode Island:									
Pawtucket	71,000		0						
Providence	275,000	0	4	3	0	0	16	0	2
Connecticut:									
Bridgeport	[2]	0	4	1	0	0	1	0	1
Hartford	164,000	1	3	4	0	0	4	0	1
New Haven	182,000	0	2	0	0	1	1	0	4
MIDDLE ATLANTIC									
New York:									
Buffalo	544,000	2	10	8		0	1	2	8
New York	5,924,000	11	88	70	11	1	24	6	80
Rochester	321,000	0	4	2		0	1	1	2
Syracuse	185,000	0	2	1		0	1	3	3
New Jersey:									
Camden	131,000	0	2	0	0	0	1	0	0
Newark	459,000	1	6	18	0	1	2	2	10
Trenton	134,000	1	2	1	0	0	0	0	2
Pennsylvania:									
Philadelphia	2,008,000	0	32	26	0	3	9	3	23
Pittsburgh	637,000	1	12	8	0	1	3	4	9
Reading	114,000	0	2	2	0	0	2	0	2
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	411,000	1	4	4	0	0	0	0	9
Cleveland	960,000	4	23	18	2	1	9	1	9
Columbus	285,000	1	2	0	2	2	3	0	1
Toledo	295,000	2	5	1	0	0	5	0	2
Indiana:									
Fort Wayne	99,900	0	1	3	0	0	0	0	1
Indianapolis	367,000	0	3	1	0	0	1	4	3
South Bend	81,700		1						
Terre Haute	71,900	0	1	0	0	0	0	0	1
Illinois:									
Chicago	3,048,000	12	43	43	2	1	11	2	22
Springfield	64,700	0	0	1	0	0	0	0	0
Michigan:									
Detroit	[3] 1,242,044	13	27	30	1	0	9	4	13
Flint	136,000	0	4	0	0	0	0	0	0
Grand Rapids	156,000	0	2	1	0	0	3	0	0

[1] Estimated, July 1, 1925. [2] No estimate made. [3] Special census.

City reports for week ended August 25, 1928—Continued

Divisions, State, and city	Population, July 1, 1926 estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued									
Wisconsin:									
Kenosha	52,700	0	1	0	0	0	0	0	0
Milwaukee	517,000	4	8	1	0	0	11	0	2
Racine	69,400	0	1	0	0	0	0	0	0
Superior	[1] 39,671	0	0	0	0	0	1	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	113,000	0	1	6	0	0	0	0	0
Minneapolis	434,000	4	11	7	0	0	0	0	2
St. Paul	248,000	0	10	1	0	0	1	0	6
Iowa:									
Davenport	[1] 52,469	0	0	1	0	-------	0	0	-------
Des Moines	146,000	0	1	1	0	-------	0	0	-------
Sioux City	78,000	1	0	1	0	-------	0	0	-------
Waterloo	36,900	0	0	0	0	-------	0	0	-------
Missouri:									
Kansas City	375,000	0	3	1	0	0	0	1	3
St. Joseph	78,400	0	0	0	0	0	0	0	1
St. Louis	830,000	3	18	14	0	0	4	2	-------
North Dakota:									
Fargo	[1] 26,403	0	0	0	0	0	0	0	0
Grand Forks	[1] 14,811	0	0	0	0	-------	0	0	-------
South Dakota:									
Aberdeen	[1] 15,036	0	0	0	0	-------	0	0	-------
Sioux Falls	[1] 30,127	0	0	0	0	-------	0	0	-------
Nebraska:									
Lincoln	62,000	2	0	0	0	0	0	1	0
Omaha	216,000	1	4	3	0	0	2	0	4
Kansas:									
Topeka	56,500	0	0	0	0	0	1	0	0
Wichita	92,500	1	0	0	0	0	0	10	2
SOUTH ATLANTIC									
Delaware:									
Wilmington	124,000	0	1	0	0	0	0	0	1
Maryland:									
Baltimore	808,000	1	14	10	0	1	1	3	14
Cumberland	[1] 33,741	0	0	0	0	0	2	0	0
Frederick	[1] 12,035	0	0	3	0	0	10	0	0
District of Columbia:									
Washington	528,000	1	5	22	0	0	3	0	5
Virginia:									
Lynchburg	[3] 38,493	0	0	2	0	0	0	0	0
Norfolk	174,000	0	1	0	0	0	0	0	2
Richmond	189,000	1	7	3	0	2	1	0	1
Roanoke	61,900	0	2	0	0	0	0	0	0
West Virginia:									
Charleston	50,700	0	1	0	0	0	0	0	0
Wheeling	[1] 56,208	0	1	0	0	0	0	0	0
North Carolina:									
Raleigh	[1] 30,371	0	1	1	0	0	0	0	1
Wilmington	37,700	0	0	0	0	0	0	0	0
Winston-Salem	71,800	0	1	1	0	0	0	0	0
South Carolina:									
Charleston	74,100	0	0	0	11	1	0	0	0
Columbia	41,800	0	1	0	0	0	0	0	2
Greenville	[1] 27,311	-------	0	-------	-------	-------	-------	-------	-------
Georgia:									
Atlanta	(2)	0	2	2	5	0	0	0	6
Brunswick	[1] 16,809	0	0	0	0	0	1	0	0
Savannah	94,900	0	1	0	2	0	0	0	1
Florida:									
Miami	[3] 131,286	0	1	0	3	0	0	1	1
St. Petersburg	[3] 47,629	-------	0	-------	-------	0	-------	-------	0
Tampa	102,000	0	1	1	0	1	0	0	

[1] Estimated, July 1, 1925. [2] No estimate made. [3] Special census.

City reports for week ended August 25, 1928—Continued

Divisions, State, and city	Population, July 1, 1926 estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,500	0	0	0	0	0	0	0	1
Louisville	311,000	0	3	0	0	0	0	0	8
Tennessee:									
Memphis	177,000	0	3	0	0	0	0	0	1
Nashville	137,000	0	2	4	0	0	2	0	3
Alabama:									
Birmingham	211,000	0	3	2	0	0	0	2	3
Mobile	66,800	0	0	0	0	0	0	0	0
Montgomery	47,000	0	1	1	0	-------	0	0	-------
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	[1] 31,643	1	0	0	0	-------	0	0	-------
Little Rock	75,900	0	0	0	0	0	0	0	2
Louisiana:									
New Orleans	419,000	0	5	3	3	4	0	1	10
Shreveport	59,500	0	0	0	0	0	0	0	0
Oklahoma:									
Oklahoma City	[2]	0	2	0	0	0	0	0	3
Tulsa	133,000	0	0	1	0	-------	0	0	-------
Texas:									
Dallas	203,000	0	4	6	0	0	0	0	1
Fort Worth	159,000	0	2	0	0	0	0	0	0
Galveston	49,100	0	0	0	0	0	0	0	2
Houston	[1] 164,954	0	2	7	0	0	0	0	3
San Antonio	205,000	0	1	0	0	0	0	0	3
MOUNTAIN									
Montana:									
Billings	[1] 17,971	0	0	0	0	0	0	0	0
Great Falls	[1] 29,883	1	1	0	0	0	0	0	1
Helena	[1] 12,037	0	0	0	0	0	0	0	0
Missoula	[1] 12,668	0	0	0	0	0	0	0	0
Idaho:									
Boise	[1] 23,042	-------	0	-------	-------	-------	-------	-------	-------
Colorado:									
Denver	285,000	3	9	2	-------	0	0	4	3
Pueblo	43,900	0	1	1	0	0	0	0	0
New Mexico:									
Albuquerque	[1] 21,000	0	0	0	0	0	0	0	0
Utah:									
Salt Lake City	133,000	2	2	2	0	0	1	3	0
Nevada:									
Reno	[1] 12,665	0	0	0	1	0	0	0	1
PACIFIC									
Washington:									
Seattle	[2]	3	2	0	0	-------	1	0	-------
Spokane	109,000	0	2	0	0	-------	3	0	-------
Tacoma	106,000	1	1	0	0	0	1	7	0
Oregon:									
Portland	[1] 282,383	1	4	2	0	0	2	0	4
California:									
Los Angeles	[2]	5	24	12	1	0	4	4	11
Sacramento	73,400	2	2	0	0	0	2	0	1
San Francisco	567,000	10	10	4	1	1	1	1	3

[1] Estimated, July 1, 1925.

[2] No estimate made.

City reports for week ended August 25, 1928—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		
NEW ENGLAND											
Maine:											
Portland	0	1	0	0	0	0	1	0	0	0	13
New Hampshire:											
Concord	0	0	0	0	0	0	0	0	0	0	4
Manchester	1	0	0	0	0	0	0	0	0	0	14
Vermont:											
Barre	1	0	0	0	0	0	0	0	0	0	1
Burlington	0	0	0	0	0	0	0	0	0	0	3
Massachusetts:											
Boston	14	9	0	0	0	11	4	4	0	29	152
Fall River	1	0	0	0	0	0	1	0	0	4	17
Springfield	1	0	0	0	0	1	1	0	0	2	20
Worcester	2	0	0	0	0	1	1	0	0	7	38
Rhode Island:											
Pawtucket	0		0				0				
Providence	2	1	0	0	0	5	1	1	0	0	62
Connecticut:											
Bridgeport	2	0	0	0	0	0	0	1	1	5	40
Hartford	2	0	0	0	0	1	0	1	0	12	28
New Haven	1	2	0	0	0	1	3	0	0	15	33
MIDDLE ATLANTIC											
New York:											
Buffalo	5	5	0	0	0	7	2	0	0	38	117
New York	26	14	0	1	0	93	40	37	1	76	1,184
Rochester	2	0	0	0	0	2	1	0	0	6	81
Syracuse	3	0	0	0	0	1	0	0	0	17	35
New Jersey:											
Camden	1	0	0	0	0	0	0	3	0	1	20
Newark	3	1	0	0	0	9	2	1	0	22	93
Trenton	1	1	0	0	0	3	1	1	0	4	30
Pennsylvania:											
Philadelphia	19	9	0	0	0	16	11	1	1	77	380
Pittsburgh	9	6	0	0	0	9	2	4	0	20	150
Reading	0	0	0	0	0	0	1	1	0	12	22
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	4	5	0	0	0	6	2	0	0	8	163
Cleveland	11	1	0	0	0	13	5	0	0	69	173
Columbus	2	3	0	0	0	4	1	1	1	4	77
Toledo	4	2	0	0	0	5	2	3	0	12	64
Indiana:											
Fort Wayne	0	0	0	0	0	1	1	13	0	0	11
Indianapolis	2	1	0	0	0	2	2	5	1	0	89
South Bend	1		0				0				
Terre Haute	0	0	0	0	0	1	1	2	0	0	22
Illinois:											
Chicago	25	23	0	5	0	42	7	1	1	90	537
Springfield	1	0	0	1	0	1	0	1	0	1	18
Michigan:											
Detroit	24	17	2	0	0	23	5	4	1	222	251
Flint	4	4	0	1	0	0	0	0	0	7	18
Grand Rapids	3	2	0	0	0	0	1	0	0	5	20
Wisconsin:											
Kenosha	0	0	1	0	0	0	0	0	0	1	9
Milwaukee	6	10	0	1	0	9	0	0	0	123	81
Racine	1	0	0	0	0	1	0	0	0	3	
Superior	1	0	0	0	0	1	0	0	0	0	6
WEST NORTH CENTRAL											
Minnesota:											
Duluth	4	4	0	0	0	0	0	0	0	0	15
Minneapolis	12	2	1	0	0	3	1	2	0	0	68
St. Paul	5	4	1	0	0	5	0	0	0	16	42

City reports for week ended August 25, 1928—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		
WEST NORTH CENTRAL—continued											
Iowa:											
Davenport	0	1	0	0	----	----	0	0	----	1	----
Des Moines	3	2	0	1	----	----	0	0	----	0	19
Sioux City	0	0	0	0	----	----	0	1	----	3	----
Waterloo	0	0	0	0	----	----	0	0	----	0	----
Missouri:											
Kansas City	2	4	0	0	0	11	3	2	1	17	84
St. Joseph	0	1	0	0	0	0	0	0	0	0	21
St. Louis	9	6	0	0	0	15	7	7	0	4	209
North Dakota:											
Fargo	0	2	0	0	0	0	0	0	0	2	4
Grand Forks	0	0	0	0	----	----	0	0	----	1	----
South Dakota:											
Aberdeen	1	0	0	0	----	----	0	0	----	0	----
Sioux Falls	0	0	0	0	----	----	0	0	----	0	6
Nebraska:											
Lincoln	0	0	0	0	0	0	0	1	0	2	12
Omaha	2	1	0	0	0	2	0	1	1	3	56
Kansas:											
Topeka	1	0	0	0	0	2	1	0	0	12	15
Wichita	1	1	0	0	0	0	1	0	1	11	19
SOUTH ATLANTIC											
Delaware:											
Wilmington	0	0	0	0	0	2	0	0	0	1	20
Maryland:											
Baltimore	6	2	0	0	0	12	10	2	2	124	177
Cumberland	1	0	0	0	0	1	0	1	0	0	9
Frederick	0	0	0	0	0	0	0	0	0	0	----
District of Col.:											
Washington	4	1	0	0	0	12	4	0	0	15	126
Virginia:											
Lynchburg	0	0	0	0	0	1	1	2	0	0	18
Norfolk	0	0	0	0	0	0	1	1	0	0	----
Richmond	3	4	0	0	0	3	3	1	0	2	421
Roanoke	1	5	0	0	0	0	2	0	1	0	17
West Virginia:											
Charleston	0	1	0	0	0	1	1	3	1	0	18
Wheeling	1	0	0	0	0	0	1	0	0	0	9
North Carolina:											
Raleigh	0	1	0	0	0	2	1	1	0	0	10
Wilmington	1	0	0	0	0	1	0	0	0	0	8
Winston-Salem	0	0	1	0	0	11	2	4	0	0	18
South Carolina:											
Charleston	1	0	0	0	0	3	2	4	0	2	26
Columbia	0	0	1	0	0	0	0	3	0	4	15
Greenville	1	----	0	----	----	----	0	----	----	----	----
Georgia:											
Atlanta	4	4	0	0	0	3	4	3	2	2	76
Brunswick	0	0	0	0	0	0	0	1	0	0	4
Savannah	0	0	1	0	0	1	1	2	0	0	24
Florida:											
Miami	0	0	0	0	0	1	1	0	0	0	23
St. Petersburg	0	----	0	----	0	0	0	----	0	----	13
Tampa	1	0	0	0	0	2	1	0	0	1	22
EAST SOUTH CENTRAL											
Kentucky:											
Covington	0	0	0	0	0	0	0	0	0	0	23
Louisville	2	3	1	0	0	11	5	10	1	0	84
Tennessee:											
Memphis	1	5	1	0	0	5	6	4	2	0	70
Nashville	1	0	0	0	0	1	7	7	1	2	38
Alabama:											
Birmingham	3	1	0	0	0	4	5	11	1	2	65
Mobile	0	0	1	0	0	0	1	1	0	0	15
Montgomery	0	0	0	0	----	----	0	0	----	0	

City reports for week ended August 25, 1928—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		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	0	0	0			1	3		0	
Little Rock	0	0	0	0	0	0	0	0	0	0	
Louisiana:											
New Orleans	1	3	0	0	0	10	4	2	1	0	158
Shreveport	0	0	0	0	0	1	1	0	0	0	23
Oklahoma:											
Oklahoma City	2	0	0	0	0	2	2	0	1	0	34
Tulsa	1	1	0	1			3	4		3	
Texas:											
Dallas	2	5	0	0	0	5	3	5	3	3	53
Fort Worth	1	1	0	0	0	3	2	0	0	0	31
Galveston	0	0	0	0	0	1	0	1	0	0	10
Houston	1	4	0	0	0	5	1	0	0	0	52
San Antonio	1	1	0	0	0	4	1	2	0	0	48
MOUNTAIN											
Montana:											
Billings	0	0	1	0	0	0	0	0	0	0	4
Great Falls	0	0	1	0	0	0	0	0	1	1	10
Helena	0	0	0	0	0	0	0	0	0	0	4
Missoula	0	1	0	1	0	0	0	1	0	0	6
Idaho:											
Boise	0		0				0				
Colorado:											
Denver	3	4	1	0	0	7	2	3	0	26	60
Pueblo	0	0	0	0	0	0	0	0	0	0	8
New Mexico:											
Albuquerque	0	2	0	0	0	2	1	0	0	0	10
Utah:											
Salt Lake City	1	2	0	0	0	2	1	2	0	8	19
Nevada:											
Reno	0	0	0	0	0	0	0	1	0	0	6
PACIFIC											
Washington:											
Seattle	3	0	0	0			2	0		5	
Spokane	3	1	0	0			0	2		0	
Tacoma	1	1	1	0	0	0	0	2	0	1	19
Oregon:											
Portland	2	5	4	12	0	0	1	1	0	0	54
California:											
Los Angeles	8	7	2	0	0	24	3	1	0	41	221
Sacramento	1	3	1	0	0	1	2	4	1	3	
San Francisco	5	1	1	0	0	10	1	1	1	4	158

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									
Vermont:									
Barre	0	0	0	0	0	0	0	1	0
Massachusetts:									
Boston [1]	3	1	0	0	0	0	2	[2]7	0
Fall River	1	1	0	0	0	0	0	1	0
Rhode Island:									
Providence	0	0	0	0	0	0	0	1	1

[1] Rabies (in man): 1 case and 1 death at Boston, Mass.
[2] 5 cases nonresident at Boston, Mass.

City reports for week ended August 25, 1928—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—continued									
Connecticut:									
Bridgeport	0	1	0	0	0	0	0	0	0
Hartford	0	0	0	0	1	0	0	0	0
MIDDLE ATLANTIC									
New York:									
Buffalo	0	0	1	0	0	0	1	0	0
New York [1]	32	15	6	1	0	0	10	65	14
Syracuse	0	0	0	0	0	0	1	5	0
New Jersey:									
Newark	1	1	0	0	0	0	0	0	0
Pennsylvania:									
Philadelphia	6	0	1	1	0	0	1	0	0
Pittsburgh [2]	0	0	0	0	0	0	1	0	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	1	1	0	0	0	0	0	0	0
Cleveland	2	1	0	0	0	0	1	8	1
Columbus	0	0	0	0	0	0	0	2	2
Illinois:									
Chicago	10	5	0	0	0	0	4	2	0
Michigan:									
Detroit	1	2	1	0	0	0	1	0	2
Wisconsin:									
Milwaukee	1	0	0	0	0	0	0	0	0
Racine	1	[3] 2	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis	0	0	0	0	0	0	1	1	0
St. Paul	0	0	0	0	0	0	0	1	0
Iowa:									
Des Moines	0	0	0	0	0	0	0	2	0
Missouri:									
Kansas City	1	2	0	2	1	0	1	0	0
St. Louis	3	1	0	0	0	0	1	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore	0	0	1	0	0	0	1	25	0
Cumberland	0	0	0	0	0	0	0	1	1
North Carolina:									
Winston-Salem	0	0	0	0	0	0	0	0	1
South Carolina:									
Charleston [4]	0	1	0	0	0	0	0	0	0
Columbia	0	0	0	0	0	1	0	0	0
Georgia:									
Savannah [5]	0	0	0	0	1	1	0	0	0
Florida:									
Tampa [5]	1	0	0	0	0	0	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis	0	0	0	0	1	0	0	0	0
Nashville	1	1	0	0	4	0	0	0	0
Alabama:									
Birmingham	0	0	0	0	1	1	0	0	0
Mobile	0	0	0	0	0	0	0	0	1

[1] Typhus fever: 1 case at New York City, N. Y.
[2] Rabies (in man): 1 death at Pittsburgh, Pa.
[3] 1 death nonresident at Racine, Wis.
[4] Dengue: 1 case at Charleston, S. C.
[5] Typhus fever: 6 cases at Savannah, Ga.; 1 case and 1 death at Tampa, Fla.

City reports for week ended August 25, 1928—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans	0	0	0	0	2	1	0	0	0
Oklahoma:									
Oklahoma City	0	0	0	0	0	1	0	0	0
Texas:									
Dallas	0	0	0	0	1	1	0	2	0
Galveston	0	0	0	0	0	0	0	1	1
Houston	0	0	0	0	0	1	0	0	0
San Antonio	0	0	0	0	0	1	1	0	0
MOUNTAIN									
Montana:									
Missoula	0	0	0	0	0	0	1	1	0
Colorado:									
Denver	1	1	0	1	0	0	1	0	0
Pueblo	1	0	0	0	0	0	0	0	0
Nevada:									
Reno	0	0	0	1	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	0	0	0	0	0	0	0	10	0
Spokane	0	0	0	0	0	0	0	4	0
California:									
Los Angeles	1	0	0	0	1	0	1	3	1
Sacramento	0	0	0	0	1	1	0	0	0
San Francisco	0	0	0	0	0	0	1	1	0

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended August 25, 1928, compared with those for a like period ended August 27, 1927. The population figures used in computing the rates are approximate estimates as of July 1, 1928 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 31,657,000 in 1928 and 31,050,000 in 1927. The 95 cities reporting deaths had nearly 30,961,000 estimated population in 1928 and nearly 30,370,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, July 22 to August 25, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	July 28, 1928	July 30, 1927	Aug. 4, 1928	Aug. 6, 1927	Aug. 11, 1928	Aug. 13, 1927	Aug. 18, 1928	Aug. 20, 1927	Aug. 25, 1928	Aug. 27, 1927
101 cities	[2] 67	[2] 94	[2] 65	78	60	90	[5] 55	80	[4] 64	81
New England	46	91	57	63	60	70	48	112	[5] 64	86
Middle Atlantic	81	103	67	92	60	97	55	94	66	78
East North Central	64	102	73	80	73	94	[6] 60	85	[7] 67	81
West North Central	58	55	66	42	58	67	57	44	64	53
South Atlantic	61	88	51	65	49	81	[8] 64	61	[9] 80	88
East South Central	50	30	20	30	10	25	40	51	35	61
West South Central	68	70	40	91	52	91	44	74	64	95
Mountain	62	117	35	134	35	179	27	54	[10] 46	134
Pacific	[2] 57	[2] 121	[2] 84	76	69	107	46	60	41	94

MEASLES CASE RATES

101 cities	[2] 128	[2] 58	[2] 99	48	58	28	[3] 36	32	[4] 28	25
New England	651	170	526	93	248	63	64	84	[5] 88	58
Middle Atlantic	126	45	78	43	51	28	40	34	21	24
East North Central	83	47	84	29	63	19	[6] 40	13	[7] 32	13
West North Central	29	40	14	34	18	22	21	22	16	16
South Atlantic	70	69	56	38	23	14	[8] 30	27	[9] 32	31
East South Central	80	46	20	10	25	15	20	5	10	25
West South Central	0	58	0	54	4	21	28	41	0	17
Mountain	80	63	97	45	44	36	44	18	[10] 9	27
Pacific	[2] 54	[2] 66	[2] 30	144	20	60	8	71	31	52

SCARLET FEVER CASE RATES

101 cities	[2] 42	[2] 63	[2] 48	51	36	57	[3] 30	50	[4] 33	54
New England	57	107	53	51	67	93	39	51	[5] 31	81
Middle Atlantic	27	39	28	35	21	39	20	31	18	37
East North Central	56	87	58	75	42	73	[6] 37	78	[7] 44	61
West North Central	60	79	68	61	68	75	60	63	49	61
South Atlantic	35	40	42	27	26	32	[8] 20	41	[9] 32	63
East South Central	30	41	65	51	35	35	25	20	45	86
West South Central	20	25	76	25	36	58	16	50	52	58
Mountain	27	152	27	126	18	117	27	81	[10] 64	63
Pacific	[2] 71	[2] 66	[2] 68	60	38	63	36	42	33	37

SMALLPOX CASE RATES

101 cities	[2] 2	[2] 5	[2] 4	6	1	4	[3] 0	5	[4] 2	5
New England	0	0	0	0	0	0	0	0	[5] 0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	1	9	7	9	1	5	[6] 1	7	[7] 5	6
West North Central	4	6	0	0	2	4	0	10	0	4
South Atlantic	0	4	2	9	2	5	[8] 0	4	[9] 0	0
East South Central	25	10	15	5	0	0	0	25	0	25
West South Central	9	12	0	17	0	0	0	4	0	0
Mountain	18	27	35	18	0	9	0	18	[10] 9	27
Pacific	[2] 3	[2] 10	[2] 10	21	8	24	3	13	0	31

[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, 1928 and 1927, respectively.
[2] Seattle, Wash., and Spokane, Wash., not included.
[3] Racine, Wis., Greenville, S. C., and Brunswick, Ga., not included.
[4] Pawtucket, R. I., South Bend, Ind., Greenville, S. C., and Boise, Idaho, not included.
[5] Pawtucket, R. I., not included.
[6] Racine, Wis., not included.
[7] South Bend, Ind., not included.
[8] Greenville, S. C., and Brunswick, Ga., not included.
[9] Greenville, S. C., not included.
[10] Boise, Idaho, not included.

Summary of weekly reports from cities, July 22 to August 25, 1928—Annual rates per 100,000 population compared with rates for the corresponding period of 1927—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	July 28, 1928	July 30, 1927	Aug. 4, 1928	Aug. 6, 1927	Aug. 11, 1928	Aug. 13, 1927	Aug. 18, 1928	Aug. 20, 1927	Aug. 25, 1928	Aug. 27, 1927
101 cities	[2] 22	[2] 21	[2] 22	25	27	25	[3] 27	37	[4] 31	31
New England	11	9	5	7	16	30	16	30	[5] 17	33
Middle Atlantic	17	13	17	13	15	15	17	20	23	21
East North Central	5	11	10	9	14	14	[6] 18	19	[7] 18	11
West North Central	23	16	8	26	25	22	41	38	25	20
South Atlantic	35	[8] 36	44	58	53	45	[8] 32	81	[9] 50	58
East South Central	120	117	110	183	175	96	95	218	165	203
West South Central	104	54	60	50	72	87	96	79	52	74
Mountain	27	72	0	45	9	36	35	27	[10] 64	45
Pacific	[2] 17	[2] 24	[2] 27	13	15	10	26	31	26	21

INFLUENZA DEATH RATES

95 cities	4	3	6	2	5	3	[3] 3	4	[4] 4	5
New England	5	2	2	0	0	2	2	2	[5] 2	2
Middle Atlantic	2	4	6	1	5	2	0	2	3	2
East North Central	6	1	3	0	1	2	[6] 4	2	[7] 3	3
West North Central	2	0	2	2	4	6	0	0	0	2
South Atlantic	5	2	14	5	7	4	[8] 0	5	[9] 9	11
East South Central	16	11	0	5	10	5	0	11	0	16
West South Central	12	8	12	4	29	13	29	30	16	21
Mountain	9	0	0	9	9	0	0	0	[10] 0	9
Pacific	0	3	10	3	0	3	10	0	3	7

PNEUMONIA DEATH RATES

95 cities	43	49	52	47	61	55	[3] 55	45	[4] 55	46
New England	34	49	57	33	48	77	37	49	[5] 40	51
Middle Atlantic	51	56	60	46	72	57	66	47	68	55
East North Central	29	42	31	44	33	41	[6] 42	35	[7] 40	34
West North Central	20	17	47	43	53	43	31	25	35	31
South Atlantic	84	43	49	52	58	70	[8] 55	52	[9] 60	36
East South Central	105	48	68	53	110	69	115	69	84	69
West South Central	57	85	86	68	107	55	57	68	86	64
Mountain	80	36	62	54	71	63	62	36	[10] 46	36
Pacific	10	79	78	62	57	55	61	72	51	62

[2] Seattle, Wash., and Spokane, Wash., not included.
[3] Racine, Wis., Greenville, S. C., and Brunswick, Ga., not included.
[4] Pawtucket, R. I., South Bend, Ind., Greenville, S. C., and Boise, Idaho, not included.
[5] Pawtucket, R. I., not included.
[6] Racine, Wis., not included.
[7] South Bend, Ind., not included.
[8] Greenville, S. C., and Brunswick, Ga., not included.
[9] Greenville, S. C., not included.
[10] Boise, Idaho, not included.

Number of cities included in summary of weekly reports, and aggregate population of cities of each group, approximated as of July 1, 1928 and 1927, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1928	1927	1928	1927
Total	101	95	31,657,000	31,050,300	30,960,700	30,369,500
New England	12	12	2,274,400	2,242,700	2,274,400	2,242,700
Middle Atlantic	10	10	10,732,400	10,594,700	10,732,400	10,594,700
East North Central	16	16	7,991,400	7,820,700	7,991,400	7,820,700
West North Central	12	10	2,683,500	2,634,500	2,566,400	2,518,500
South Atlantic	21	21	2,981,900	2,890,700	2,981,900	2,890,700
East South Central	7	6	1,048,300	1,028,300	1,000,100	980,700
West South Central	8	7	1,307,600	1,260,700	1,274,100	1,227,800
Mountain	9	9	591,100	581,600	591,100	581,600
Pacific	6	4	2,046,400	1,996,400	1,548,900	1,512,100

FOREIGN AND INSULAR

THE FAR EAST

Report for the week ended August 18, 1928.—The following report for the week ended August 18, 1928, was transmitted by the Eastern Bureau of the Health Section of the Secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva.

Plague, cholera, or smallpox was reported at the following ports:

PLAGUE

India.—Bombay, Calcutta, Rangoon.
Indo-China.—Pnompenh.

CHOLERA

India.—Bombay, Calcutta, Madras, Rangoon, Vizagapatam.
French India.—Pondicherry.
Siam.—Bangkok.
Indo-China.—Pnompenh.
Dutch East Indies.—Batavia.
China.—Canton.

SMALLPOX

India.—Bombay, Calcutta, Madras, Moulmein, Negapatam, Vizagapatam.
French India.—Pondicherry.
Indo-China.—Pnompenh.
Dutch East Indies.—Belawan Deli, Pontianak, Surabaya.
China.—Hong Kong.
Kwantung.—Dairen.

ANGOLA

Communicable diseases—May, 1928.—During the month of May, 1928, communicable diseases were reported in Angola as follows:

Disease	Coast District	Land Frontier	Interior	Total
Ancylostomiasis	5	29	9	43
Beriberi	44		9	53
Bilharzia	10		36	46
Chicken pox	16	3	4	23
Conjunctivitis	38	9		47
Dengue	3			3
Dysentery	41	11	8	60
Influenza	147	166	138	451
Leprosy	6	2		8
Malaria	528	456	266	1,250
Malarial hemoglobinuria	20	2	8	30
Measles	47	3		50
Meningitis	8			8
Mumps	3		5	8
Pneumonia	26	5	16	47
Puerperal fever	3	1		4
Relapsing fever		4		4
Scabies		4		4
Smallpox		1		1
Tetanus	2			2
Trypanosomiasis	125	459	39	623
Tuberculosis	33	2	5	40
Venereal disease	151	81	41	273
Whooping cough	4		9	13
Yaws	134	139	62	335

BRAZIL

Bahia—Yellow fever—September 4, 1928.—A death from yellow fever was reported September 4, 1928, from Bahia, Brazil. The mosquito index of the city was said to be 5.6 per cent on September 1, 1928.

CANADA

Provinces—Communicable diseases—Week ended August 18, 1928.—The Canadian Ministry of Health reports cases of certain communicable diseases from seven Provinces of Canada for the week ended August 18, 1928, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever			1				1	2
Influenza	9			2	1			12
Poliomyelitis			1	1	24		8	34
Smallpox		2	5	1			4	12
Typhoid fever		3	7	18	6	3	1	38

Quebec—Communicable diseases—Week ended August 25, 1928.—The bureau of health of the Province of Quebec reports cases of certain communicable diseases for the week ended August 25, 1928, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	1	Scarlet fever	39
Diphtheria	37	Smallpox	8
Influenza	1	Tuberculosis	41
Lethargic encephalitis	1	Typhoid fever	18
Measles	1	Whooping cough	4
Poliomyelitis	2		

GREAT BRITAIN

England and Wales—Vital statistics—April–June, 1928.—During the second quarter of the year 1928, 171,241 births and 114,748 deaths were registered in England and Wales, giving a birth rate on an annual basis, of 17.5 per 1,000 population and a death rate of 11.7 per 1,000. The infant mortality rate was 60 per 1,000 births.

During the 13 weeks ended June 30, 1928, communicable diseases were notified in England and Wales as follows:

Disease	Cases	Disease	Cases
Diphtheria	13,163	Scarlet fever	21,045
Ophthalmia neonatorum	1,441	Smallpox	3,938
Pneumonia	15,427	Typhoid fever	701
Puerperal fever	618	Typhus fever	3
Puerperal pyrexia	1,338		

Scotland—Vital statistics—April–June, 1928.—The Registrar General of Scotland has published statistics for the second quarter of 1928 which show that the birth rate for Scotland for that quarter was 21.2 per 1,000 population, the death rate 13.6 per 1,000, and the death rate of infants under 1 year of age was 82 per 1,000 births.

The following items are taken from quarterly returns of births, deaths, and marriages registered in Scotland during the quarter ended June 30, 1928:

Births	25,716
Marriages	7,907
Deaths (total)	16,567
Deaths under 1 year	2,112
Deaths from—	
Bronchitis	747
Broncho-pneumonia	608
Cancer	1,723
Cerebrospinal meningitis	39
Diabetes	131
Diarrhea and enteritis under 2 years	166
Diphtheria	106
Dysentery	5
Heart disease	2,214
Influenza—	
Sole cause	43
With other causes	150
Lethargic encephalitis	36
Malaria	3
Measles	364
Nephritis (acute)	72
Nephritis (chronic)	427
Paratyphoid fever	5
Pneumonia	759
Poliomyelitis	2
Puerperal sepsis	48
Scarlet fever	33
Syphilis	34
Tetanus	6
Tuberculosis (pulmonary)	901
Tuberculosis (all other forms)	412
Typhoid fever	9
Whooping cough	395

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

From medical officers of the Public Health Service, American consuls, health section of the League of Nations, and other sources. The reports contained in the following table must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given:

CHOLERA

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	Week ended— June, 1928				July, 1928				August, 1928		
							9	16	23	30	7	14	21	28	4	11	18
Ceylon: Colombo	C										1						
	D										1						
China:																	
Canton	C			2		1	1			1	2	2	1	3		2	2
	D			2		1	1			1	2	2	1	3		1	1
Shanghai	C														2	1	P
Swatow	C									3	7						
Dutch East Indies:																	
Java—Batavia	C																1
India	C	12,391	13,236	21,279	32,564	30,177	7,479	8,174	8,028	7,665	9,840	11,184					
	D	6,750	7,282	11,877	20,432	20,162	5,361	5,355	5,054	4,344	5,468	6,005					
Bassein	D	1	2	51	41	40		8									
Bombay	C	1	1	3		1					1		2				
	D		1	3							3		2	6		1	
Calcutta	C	203	341	664	446	552	135	133	119	75	65	62	48	31			
	D	112	241	442	428	410	83	85	97	58	45	42	26	20	8	11	
Madras	C	2	14	10	22	27		3	14	12	13	4	10	45	111		
	D	4	18	4	18	16	6	1	5	9	5	3	6	17	56	99	
Madras Presidency	C	4,681	2,961	1,433		1,314	978										
	D	2,660	1,618	812		675	460										
Negapatam	C	4	4														
	D	6	4		2					13						1	
Rangoon	C	6	29	22	23	7	8	2	4				1			1	
	D	2	18	16	15	5	5	2	2				1		5	2	
Tuticorin	C			10	110											1	
	D			9	71												
Vizagapatam	D											4	1	2	6	12	

India (French):																	
Chandernagor	C	6	5	7									2	1			
	D	1	5	6									1	1			
Karikal	C	32	6		1									1			
	D	19	5		1									1			
Pondicherry	C	12	33	1	8							1	2	8	1		
	D	10	19	1	8							1	2	6			2
Indo-China (see also table below):																	
Pnompenh	C										1	2	1	1		1	
	D										1	2	1	1		1	
Saigon	C	4	16	96	116	15	5	1					2				
	D	1	8	59	76	9	1						1				
Tourane	C							1									
	D							1									
Kwangchow-Wan (see table below).																	
Persian Gulf:																	
Island of Henjam	C												1				
Jask	C													1			
Philippine Islands:																	
Cebu port	C													1			
Manila	C											4			1		
Siam	C	200	295	291	349	202	51	49	43	60	58	35	10	60			
	D	139	214	218	234	127	36	30	30	48	39	29	7	48			
Ayudhaya	C						2								1	15	2
	D						1									16	2
Bangkok	C	101	60	60	74	50	3	3	1		3	5	1		1	1	1
	D	66	36	33	35	26		2	2			2	1				
Trad	C							1									
Straits Settlements: Singapore	C	3		2	1												
	D	1		2	1												
On vessel:																	
S. S. Hawaii Maru at Singapore from Saigon, French Indo-China	C			11													
	D			7													
S. S. Kambangan at Batavia from Jeddah via Sabang and Palembang	C																1

Place		July–September, 1927	October–December, 1927	January–March, 1928	April, 1928	May, 1928			June, 1928			July, 1928	
						1–10	11–20	21–31	1–10	11–20	21–30	1–10	11–20
Indo-China (French) (see also table above):													
Annam	C	3,179	370	389	46	4	26	13	22	8	9	8	5
Cambodia	C	251	337	312	196	34	47	20	28	82	111	92	25
Cochin-China	C	469	391	1,407	933	140	139	125	143	109	77	65	55
Laos	C	246	77										
Tonkin	C	1,297	3	1	6	9	1	16	8	2	1	5	1
Kwangchow-Wan	C	16					16						1

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

PLAGUE

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	Week ended— July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept 1, 1928
Algeria (see also table below):																
Algiers	C				1											
Oran	C					1	2									
Arabia: Aden	C	178	343	651	224	7	1									
	D	104	206	529	191	9	1									
Plague-infected rats		P	P													
Argentina:																
Avellaneda	C					1										
	D					1										
Buenos Aires	C	2				6	1									
	D					3	2									
Cordoba Province	C				5											
Entre Rios	C						5									
Loreto	C					3										
Rosario	C	4	1			1		1								
Sante Fe	C						9	1								
Santiago del Estero	C		1				10	1								
Suardi	C					2										
Azores: St. Michaels Island	C	8	3	3	5	1	1									
	D	4	1	2	2	1	1									
Bolivia: Valle Grande	C											P				
Brazil:																
Bahia	C	5	24	28	6	3										
	D	4	19	21	6	3										
Porto Alegre	C		1													
Rio de Janeiro	C	4	3	3												
	D	1	2	3												
Plague-infected rats		1														
British East Africa (see also table below):																
Tanganyiki	C	2	3							4						
	D	2	3		10			24		3						
Uganda	C	23	13			84	105									
	D	18	10			70	85									

Canary Islands:																
Arrecife	C					1										
	D					1										
Lanzarote Village	C					1										
Las Palmas	C	1	1	4												
	D	1	1													
Palma Island	C														7	
	D														3	
Teneriffe	C		10													
	D		4													
Ceylon: Colombo	C	3	11	7	1	4	2									
	D	2	6	5	1	2	2									
Plague-infected rats		5	6													
China:																
Amoy	C					5			P							
Hong Kong	C				2		1				1					
	D						1									
Dutch East Indies:																
Celebes—Makassar	C	5	1													
	D	5	1													
Java	D	737	454													
Batavia and West Java	C	137	103	80	47	65	61	6	7	10						
	D	135	103	80	47	65	61	6	7	10						
Plague-infected rats				3	7	9	4			1	1					
East Java and Madura	C	7		4	4			1								
	D	7		4	4			1								
Kedoe Residency	C				4			P								
Surabaya Residency	C		1	1	1											
	D			1	1											
Ecuador (see also table below):																
Alausi	C					1										
Egypt:																
Alexandria	C	2	1			1		2				1	1			1
	D	2	1			2										
Amrieh District	C													13	13	4
Assiout Province	C								1	1						1
	D									1						1
Beheira	C											1	1			
Beni-Souef	C				12	79	25	11	3	5	6	1	1	1	3	5
	D				3	27	9		1	1	3				2	1
Maghagha District	C				1											
	D				1											
Menufia	C					11										
	D					2										
Minieh Province	C				48	76	76	1	11		1					
	D				9	17	24	1	2							
Port Said	C										1	1				1
Sidi Barani	C							10	1		1	10				
	D								7		1	1	1			
Suez	C	4	13	14	5	3										
	D	2	9		13	1										
Plague-infected rats				2												
Tanta	C					1		1			1	1	1			
	D					1										

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

PLAGUE—Continued

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	Week ended— July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept. 1, 1928
Greece:																
Corfu	C						15					1				
	D						3									
Patras	C										1		1			
	D								1							
Hawaii Territory: Hawaii:																
Hamakua District—																
Hamakua	D		1													
Plague-infected rats						1							1			
Honokaa—Plague-infected rats						1										
Kukuihaele	D												1			
Plague-infected rats										1						
Kukalau—Plague-infected rats													3			
Paaullo	D										1		1			
India	C	12,652	23,174	26,079	18,518	3,272	367	79	110							
	D	8,521	16,998	20,907	17,074	3,183	345	50	72							
Bassein	D	8	12	22	13	3	14		1	2						
Bombay	C	14	33	69	43	39	14									
	D	9	33	61	69	38	8				1	2	2			
Calcutta	D	1		2												
Madras Presidency	C	452	271	62	21	12	54	14	21							
	D	256	212	48	12	6	25	9	12							
Rangoon	C	35	48	30	16	14	31	9	12	11	11					
	D	30	43	26	14	15	23	10	11	10	8	7	8			
Vizagapatam	D						1									
Indo-China (see also table below).																
Pnompenh	C							3		1				1		
	D							3		1				1		
Saigon	C						5									
	D						1									
Plague-infected rats							2									

Iraq:																
Baghdad	C	4	2	5	11	13	9				1					
	D	2	2	5	6	3	4									
Plague-infected rats					4	3										
Dulaim Liwa	C	1			1											
Kwangchow-Wan (see table below).																
Madagascar (see also table below):																
Tamatave	C					1	20	3				4				
	D						8	3								
Nigeria (see also table below):																
Lagos	C	10	8	7	17	28	43	15	14	14	10	14	12			
	D	11	8	6	18	28	42	15	14	14	9	15	11			
Plague-infected rats					8	55	57	23								
Paraguay: Ascuncion	C						5									
	D						2	2								
Peru (see table below).																
Portugal: Lisbon	C						1									
Senegal (see also table below):																
Thies and vicinity	C			8		72	52									
	D			4		40	40									
Siam	C	20	42	33	27	15	6	3	6	1						
	D	12	36	30	13	11	7	2	5	1						
Ayudhaya	C						2	2								
	D						1	2								
Bangkok	C	2	1	1	4											
	D	2	1	1	2											
Nagara	C					1	2									
Straits Settlements: Singapore	C	1	3	1												
	D	1	2	1												
Syria (see also table below):																
Beirut	C						1	2	1	1	1					
Tunisia: Bengardane region	C			8												
	D			6												
Turkey: Adalia	C										1					
Union of South Africa:																
Cape Province	C	1														
	D	1														
Orange Free State	C	5	5	5				P								
	D	4	1	5												
Union of Socialist Soviet Republics: Astrakhan—																
Axary District	C						3									
	D						2									
Venezuela: State of Miranda—Tacata and Cua	C		P													
On vessel: S. S. Tymeric, at Barbados, from New Orleans	C					1										

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

PLAGUE—Continued

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

Place		October–December, 1927	January–March, 1928	April, 1928	May, 1928	June, 1928	July, 1928	August, 1928
Algeria (see also table above):								
Algiers	C	2	-------	------	1	------	------	------
Angola	C	3	-------	------	------	------	------	------
British East Africa (see also table above):								
Kenya	C	62	65	17	11	58	------	------
	D	-------	-------	5	------	------	------	------
Ecuador: Guayaquil	C	18	20	------	1	5	------	------
	D	5	8	------	------	2	------	------
Plague-infected rats		31	75	------	1	4	7	------
Indo-China (see also table above)	C	10	12	9	16	------	------	------
Kwangchow-Wan	C	-------	18	17	10	------	------	------
Madagascar (see also table above)	C	692	940	95	------	104	------	------
	D	605	864	90	------	94	------	------
Ambositra Province	C	25	202	25	13	------	------	------
	D	17	191	25	10	------	------	------
Antisirabe Province	C	109	281	35	14	19	------	------
	D	108	279	34	14	19	------	------
Itasy Province	C	104	55	1	------	------	------	------
	D	94	49	1	------	------	------	------
Moramanga Province	C	95	56	------	------	------	------	------
	D	83	55	------	------	------	------	------
Madagascar—Continued.								
Tamatave	C	-------	-------	------	1	7	------	------
	D	-------	-------	------	------	7	4	------
Tananarive Province	C	408	348	34	20	17	------	------
	D	354	292	30	30	17	------	------
Nigeria (see also table above)	C	63	41	18	30	------	------	------
	D	61	41	17	30	------	------	------
Peru	C	34	93	------	20	------	------	------
	D	11	23	------	4	------	------	------
Callao	D	3	-------	------	------	------	------	------
Lima	C	7	6	------	4	------	------	------
	D	3	-------	------	2	------	------	------
Senegal (see also table above)	C	-------	30	81	216	151	------	------
	D	-------	17	40	115	91	------	------
Rufisque	C	-------	-------	------	17	29	18	2
	D	-------	-------	------	9	22	7	------
Thies	C	-------	-------	30	72	243	103	78
	D	-------	-------	23	40	174	64	52
Tivaouane	C	-------	-------	51	105	169	84	9
	D	-------	-------	28	57	90	70	------
Syria: Beirut (see also table above)	C	2	-------	------	------	1	4	------

PLAGUE RATS ON VESSELS

S. S. *Modemi* at Goteborg, Sweden, from Bahia and Buenos Aires via Cape Verde Islands, December 22, 1927.
S. S. *Gydevore* at Landskrona, Sweden, from Rosario via Canary Islands, January 22, 1928.
S. S. *Dryden* at Liverpool from La Plata River ports, January 20, 1928.
S. S. *Sicily* at Liverpool from Buenos Aires and Rosario, June 8, 1928, 7 plague-infected rats.

SMALLPOX

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	Week ended— July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept. 1, 1928
Algeria (see also table below)	C	71	72	3	12											
Algiers	C	15	10	5	4	5	15	1		2						
Oran	C	11	5	12	17	5	4			5	3	5				
Angola (see table below).																
Arabia: Aden	C		1				1					1				
	D											1				
Brazil (see also table below):																
Pernambuco	D					1										
Rio de Janeiro	C			1				1								
	D			1												
British East Africa (see also table below):																
Kenya—Mombasa	C			2	1											
Tanganyiki	D	5														
British South Africa:																
Northern Rhodesia	C	233	297	67	628	195	15	4	44							
	D	23	42	9	51	17	1		3							
Southern Rhodesia	C	3	7	7	24	13	36		1	2	19					
	D		1		10		4				4					
Canada:																
Alberta	C	27	27	47	12	44	9			1	2			4		
Calgary	C			1												
Edmonton	C	2	9	7	3				1	1	2					
British Columbia—Vancouver	C	26	10	17	24	11	4	3	2	2	4					
Manitoba	C	1			7	4	10				4					
Winnipeg	C	2														
New Brunswick	C		1			1	7					1	2	2		
Ontario	C	243	147	83	50	41	33			6	5	2		1		
Kingston	C	1			3					2					1	
Ottawa	C	68	22	26	4	6	1								1	
Toronto	C	20	14	9	11	12	3				1					
Quebec	C	26	54	112	83	78	81	21	16	12	13	5	9	5	8	
Montreal	C	8	9	9	9	3	11	3	1	1				2		
Quebec	C	16	13	10	23	47	52	21	9	7	7	4	3	4		
Sherbrooke	C			3			4									
Saskatchewan	C	97	22	33	52	28	16					4	1			
Moose Jaw	C	11	13	7	3	1		1								
Regina	C			3	8	1	1									
Saskatoon	C	15	2													

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

SMALLPOX—Continued

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	Week ended— July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept. 1, 1928
Ceylon: Colombo	C	4	6	1												
	D	1		1												
China:																
Amoy	C		1	6	9	3										
Antung	C				3											
Canton	C		2	7	2	2										
Chefoo	C			P		P	P	P								
	D		1													
Foochow	C	P	P	P	P		P		P							
Hong Kong	C	2	7	32	25	30	14	3	3	1	4	6	3	6		
	D	2	4	19	26	23	19	2	2		1	5	1	5		
Manchuria—																
Changchun	C	4			4	6					1					
Dairen	C	15	13	15	16	35	48	4	11	3	3			1		
	D	8	7	8			20	4	4	3	1			1		
Fushun	C						6		1			1				
	D								1							
Harbin	C	5	7	7	10	27	31	7	2	2						
Kwantung	C						14					1				
Mukden	C	4	21	1	4	3	6									
	D						1									
Pensihu	C						1									
	D						1									
Port Arthur	C								1			1				
	D											1				
South Manchuria Railway Zone	C						5									
Shanghai—																
Foreigners only	C	5	6	7	3	11	7	1	1			1	1			
Including natives	D	11	19	9	9	19	11	6	4			1		1		
Tientsin	C	48	20	13	17	9	14		1							
Chosen (see table below).																
Curacao (alastrim)	C	2	3													
Dominican Republic: Santo Domingo	C			2	1											

Dutch East Indies:																
Balikpapan	C							7								
	D							2								
Belawan Deli	C						11		2		2	5	1	2		
	D						3		1			2	1			
Borneo—Pontianak	C		1									3		1		
	D												1			
Java—																
Batavia and West Java	C	4	2	5	1	2										
East Java and Madura	C	2	9		2		2									
	D		1		2											
Surabaya	C											1	3			
	D											1				
Palembang	C								1							
Sumatra—Medan	C	23	14	7	2	10	4		2	1	2					
	D	11	2	5	3	5			1	1						
Ecuador (see table below).																
Egypt	C	1	2	52	12	1										
	D			33	7	1										
Behera Province	C								1							
Cairo	C	1														
France (see table below).																
Gold Coast (see table below).																
Great Britain:																
England and Wales	C	1,530	1,473	1,341	1,344	1,199	1,146	182	177	173	149	126	111	114		
Birmingham	C	44	3	1	1		2		1							
Bradford	C	24	12	19	14	17	10	2								
Bristol	C	3	4	12	17	10	2									
Cardiff	C			5	3	2										
Castleford	C		4	36	69	24	18	2	5	4	3	6	2	1		
Hull	C						1	1	20	3		6	2	3		
Leeds	C	3	9	14	1		8		1			1				
Liverpool	C		1													
London	C	4	14	17	42	25	96	4	3	9	3	3		5		
Manchester	C	25	8	14	8	5	1									
Newcastle-on-Tyne	C	27	12	9	4	12	6		28				1			
Nottingham	C	27	11	13	17	20	3	2	1		3		3	5		
Plymouth	C													6		
Sheffield	C	8	6	1	14	4	2	1			1			1		
Stoke-on-Trent	C	1	15	12	32	24	14		3		2	4	4			
Weymouth	C								1							
Greece (see table below).																
Hedjaz	C	35	115			6	14	8		5	5					
	D	23	46			2	1	1		2	3					
India	C	17,777	18,850	28,034	30,436	21,489	13,497	3,106	2,536							
	D	3,709	3,826	5,540	6,672	5,046	3,760	859	730							
Bassein	C	1			1											
Bombay	C	61	149	218	200	136	71	17	27	11	12	19	13			
	D	24	73	120	118	78	46	6	16	6	5	9	8			
Calcutta	C	58	71	134	171	130	61	19	15	11	7	10	3			
	D	34	50	104	130	101	50	13	10	8	4	9	1			

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

SMALLPOX—Continued

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	Week ended— July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept. 1, 1928
India—Continued.																
Karachi	C		1	1	2	3			2		1					
	D		1		1	1			1		1					
Madras	C	74	100	183	169	59	35	10	11	8	10	9	11			
	D	8	19	29	38	18	10	3	4	6	5	2	2			
Moulmein	C						1		2	2	5		3			
	D						1		1	1	4					
Negapatam	C	8	3		7	8	19		2	8	16	4	13			
	D	3			3	1	7		1	1	2		1			
Rangoon	C	275	377	320	167	36	30	2	1	4		1	1			
	D	64	104	102	79	13	6	1	1	1	1	1				
Tuticorin	C					3										
Vizagapatam	C	10	2	3	2	3	8		2	1						
	D	8				1	3		1	2						
India (French):																
Chandernagor	C			5	5						1					
	D			1	1						1					
Pondicherry	C	47	9	18	36	32	13		3	5	4	4				
	D	47	9	18	36	23	13		3	5	4	4	11	2		
Indo-China (see also table below):																
Pnompenh	C													2		
	D													2		
Saigon	C		3													
Iraq:																
Baghdad	C	19	7	5	5	16	16	7	10	2	5		4	2	1	5
	D	11	4	4	3	6	10	3	6	2	4		1	1		2
Basra	C	1	7	5	4	3	2	6							2	
	D			2	2	3	2	2							1	
Italy:																
Leghorn	C		1	1												
Palermo	C			5	10	6	10			4		6				
Rome and vicinity	C	3														
Ivory Coast (see table below).																
Jamaica (outside Kingston) (alastrim)	C	5	10	13	4	2	3	1							1	

Japan:																
Kobe	C					11										
Nagoya	C				6	2					1					
Osaka	C						4									
Tokyo City	C	4	4	15	8	2										
	D	1	2	1	1											
Tokyo prefecture (outside city)	C			24	1	1										
	D			1	2											
Yokohama	C				2	3										
	D					1										
Latvia (see table below).																
Mauretania	C		P													
Mexico (see also table below):																
Acapulco	C					2										
	D					2										
Jalisco (State)	C		P	P	P		21									
Guadelajara	D		1	2	12	13	10	1	1	3	4	1	4			
Manzanillo	D			1												
Mazatlan	D					3	2									
Mexico City and surrounding territory	C	2	1		1	2		1	2							
	D						1									
Reynosa	C									1						
Saltillo	D					2	2									
Tampico	C		1													
Morocco (see table below).																
Nigeria (see also table below):																
Lagos	C			1			1									
Southern Provinces	C		7	93			51									
	D			35			12									
Palestine: Jerusalem	C	1														
	D	1														
Persia (see table below).																
Poland	C	3	1	1	9	1	3			2						
	D				1											
Portugal (see also table below):																
Lisbon	C	12	20	5	6	7	7	3	1	1	3					
	D		1													
Oporto	C				1											
Senegal (see also table below): Dakar	C		34	29	16	29	8									
	D			20	8	7										
Siam	C	35	12	28	10	8	3	1								
	D	4	3	4	3	1	1									
Bangkok	C				1											
	D					1										
Spain (see also table below): Valencia	C		1	2												
Straits Settlements: Singapore	C	1	1	1	3		1									
Sudan (Anglo-Egyptian)	C	85	109	332	160	168	206	32	63		49	31	78	78	65	56
	D	48	27	100	32	20	37	5	18		12	9	6	6	13	7
Sudan (French) (see table below).																
Syria (see table below).																
Taiwan: Keelung	C						1									
Tunisia: Tunis	C	3	14	4	6	3	2	5		1		4				

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

SMALLPOX—Continued

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	June 3–30, 1928	Week ended— July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept. 1, 1928[a]
Union of South Africa:																
Cape Province	C	P					1									
Natal	C	P	P	P												
Orange Free State	C	P		P		P	P	P								
Transvaal	C				P	P	P									
Union of Socialist Soviet Republics (see table below).																
Upper Volta	C		5	2	9								33			
	D												8			
Venezuela: Maracaibo	C	1														
	D	1	1										1			
On vessel:																
S. S. Arendskerk at Singapore, from Amoy, China	C			P												
S. S. Kashgar at Kobe, from Shanghai	C				P											
S. S. Ronna at Penang, from Negapatam	C					P										
S. S. Theseus, from Jeddah to Penang	C								1							
S. S. Tjileboet at Hong Kong, from Shanghai	C				P											
S. S. Yarmouth at Kingston, Jamaica, from Habana, Cuba	C			1												
S. S. Victoria at Nome, Alaska	C						8									

Place		October–December, 1927	January–March, 1928	April, 1928	May, 1928 1–10	11–20	21–31	June, 1928 1–10	11–20	21–30	July, 1928 1–10	11–20	21–31
Algeria (see also table above)	C	682											
Oran	C	11											
Indo-China (French) (see also table above)	C	97	426	35	36	6	37	47		36	8	3	
Ivory Coast	C					7						4	5
Senegal (see also table above)	C			51			20	23	14	2			
	D			7			9						

Dakar	C			11	12	7	5	4	1	3				
	D			8	4	3								
Sudan (French)	C		15	4	30	P	P	20					17	
	D				6									
Syria:														
Aleppo	C	1	1						1	2				
Beirut	C	2	75	9	2	3	2	1	7	2	4	1		
	D		2											
Damascus	C	47	14											

Place		October-December, 1927	January-March, 1928	April, 1928	May, 1928	June, 1928	July, 1928
Angola	C	151	47	7	1		
	D	2					
Congo	C	77	36				
Cuanza-Norte	C		1				
Cuanza-Sul	C	9	10				
Zaire	C	5					
Brazil (see also table above): Porto Alegre	C	5	1				
British East Africa (see also table above): Zanzibar	C	2					
	D	1					
Chosen	C	4	48	20	152		
	D	1	16	6	38		
Seoul	C		1				
Ecuador: Guayaquil	C	6	35	19	31	11	35
	D		1				
France	C	25	34	6	15	21	
Gold Coast	C	4	4				

Place		October-December, 1927	January-March, 1928	April, 1928	May, 1928	June, 1928	July, 1928
Greece	C	9	36	1	22	31	9
	D		4		1	2	1
Latvia	C	2	1				
Mexico (see also table above)	D	346	256				
Morocco	C	622	132	19	25	10	
Nigeria (see also table above)	C	316	592				
	D	81	84				
Persia	D	2	7				
Portugal (see also table above)	C		258		98	74	
	D		30		9	3	
Spain (see also table above): Madrid	D	1					
Union of Socialist Soviet Republics:							
Railways, etc	C	33	38				
Other territories in Europe	C	1,255	998				
Transcaucasus, Siberia, and Central Asia	C	81					
Ukraine	C	48	17				

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

TYPHUS FEVER

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

Place		Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	Week ended— June, 1928 9	16	23	30	July, 1928 7	14	21	28	August, 1928 4	11	18	25	Sept 1, 1928
Algeria (see also table below):																			
Algiers	C	1	3	9	4	13	28	1	2	1	1		2		1	4			
	D		1		2		6												
Oran	C	2	10	4	11	4	5	1		1	2	6	6	2	1	1			
	D				1			1											
Austria: Vienna	C	1																	
Bulgaria (see also table below):																			
Kustendil Department	C										2								
Sofia	C	1		20	1	20	3	10	1		1								
	D						2	3	1										
Chile:																			
Iquique	C													1					
	D												1						
Talcahuano	D			1															
Valparaiso	C		1					1					2						
	D						2	1											
China (see also table below):																			
Manchuria—																			
Dairen	C				10														
Harbin	C				2	16	7	9	4	3									
Kwantung	C				17	293	135	223	181			213	138						
South Manchuria Railway Zone	C							7	3			5	1						
Tientsin	C					2				2									
Chosen (see table below).																			
Czechoslovakia (see table below).																			
Egypt	C	9	17	2	3	11			7										
	D	2	8	1	1	2			3										
Alexandria	C											1			1				
Assiout Province	C						1			1	1	1							
Assouan Province	C						1			1									
Behera Province	C			29	32	43	3		3	1	2								
	D				7	7	2												
Cairo	C			2	4							1							
	D			1	4							1							
Dakalieh	C						1				1								

Gharbieh Province	C			23	14	5	2			2		1							
	D				5		1		1	1									
Keneh Province	C			5	38				1										
	D				7				1										
Menoufieh Province	C				28	9	3		1	1									
	D				3	3	1		1										
Port Said	C											1	1			4	3	1	
Suez	C					1						1	1	2	1	1	1		
	D					1													
Great Britain: London County	C						1	1											
Greece: Piræus	C								1										
Hungary: Budapest	D								2					2					
Ireland:																			
Belfast	C					2	1												
	D						1												
Irish Free State	C	1			1	4													
Cork County	C				1														
Galway County—Oughterard	C													10					
Kerry County—Cahirciveen	C														1				
Japan (see table below):																			
Hiogo	C								1										
Yamagata	C					2		2				1	1						
Latvia (see table below).																			
Lithuania (see table below).																			
Mexico (see also table below):																			
Durango	D										1								
Guadalajara	D					1													
Mexico City, including municipalities in Federal District	C	5	8	12	8	19	4	3	5	2	6	2	1	1	4	2			
	D		4	3	1	2					2		1		2				
Monterey	D			1															
Morocco (see also table below)	C	1,051	316	748	591	280	40	44	55	75	40	50	49	39	2				
Palestine	C	5	10	7	6	4	2	1	3	2	1	3	3		2	3	3	2	2
Peru (see table below).																			
Poland	C	346	265	382	144	226	28	39	35	32	25	30	15	26	7				
	D	19	26	25	12	17		3	2	1	1		2	2					
Portugal (see also table below): Oporto	C	1									1								
Rumania	C	39	68	141	142	99	36	21	18	5	8	8	8	9					
	D	9	5	11	12	8	6	4	1			1							
Syria (see also table below): Aleppo	C							2											
Tunisia	C	4	1	18	19	7		4	3										
Union of South Africa:																			
Cape Province	C	1	P		P	P		P	P	P	P	P	P						
Natal	C	1	2		P	3		P		P	P	P							
Orange Free State	C	P			P	P		P	P	P	P	P	P						
Transvaal	C					1													
Union of Socialist Soviet Republics (see table below).																			
Yugoslavia (see table below).																			
On vessel S. S. Gaika at Durban, Natal, from Mauritius	C		1																

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

TYPHUS FEVER—Continued

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

Place		1927		January, 1928	February, 1928	March, 1928	April, 1928			May, 1928			June, 1928			July, 1928		
		July–September	October–December				1–10	11–20	21–30	1–10	11–20	21–31	1–10	11–20	21–30	1–10	11–20	21–31
Algeria (see also table above)	C	110	12															
	D	13	1															
Algiers	C	10	2															
Bulgaria (see also table above)	C	43	4	13	26					26			16				1	3
	D	3	2	1	5								2					
Morocco (see also table above)	C	231	123															

Place		January–March 1928	April, 1928	May, 1928	June, 1928	July, 1928	August, 1928
Chosen	C	896		241			
	D	88		32			
Chemulpo	C	2		2			
Gensan	C	1					
	D	1					
Seoul	C	10	28	18			
	D	1	2	4			
Czechoslovakia	C	25					
Greece: Athens	C	4	13	11	9	6	
	D		2	2	1	1	
Japan	C			21			
Latvia	C	27	4	65	2		
Lithuania	C	223	66	64	10	8	11
	D	22	3	3			

Place		January–March 1928	April, 1928	May, 1928	June, 1928	July, 1928	August, 1928
Mexico (see also table above)	D	46					
Peru:							
Arequipa	D	2	1				
La Oroya	C	P					
Turkey	C	17		7	2	6	
	D	1		1			
Union of Socialist Soviet Republics:							
Railways, etc	C	148					
Transcaucasus, Siberia, and Central Asia	C	7					
Ukraine	C	992					
Other territories in Europe	C	1,853					
Yugoslavia	C	34	10	19	16	12	
	D	3	1	3	1	3	

YELLOW FEVER

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

Place		Nov. 20–Dec. 17, 1927	Dec. 18, 1927–Jan. 14, 1928	Jan. 15–Feb. 11, 1928	Feb. 12–Mar. 10, 1928	Mar. 11–Apr. 7, 1928	Apr. 8–May 5, 1928	May 6–June 2, 1928	Week ended— June, 1928 9	16	23	30	July, 1928 7	14	21	28	August, 1928 4	11	18
Belgian Congo:																			
Boma	C		3																
	D		2																
Matadi	C		29	14	1		2	2											
	D		16	13															
Brazil:																			
Aracaju	D							2											
Bahia [1]	C									1	3								
Estancia	C				1														
Pernambuco	C								1										
Rio de Janeiro	C							2	4	16	14	14	10	12	10	8	6	4	4
	D							2			6	9	5	7	9				
Sao Felix	C									P									
Dahomey: Grand Popo	C	1							1	2									
	D								1	1									
Gold Coast	C	1						2											
Ivory Coast	C		1								1								
	D		1								1								
Abidjan	C										1		1						
Ferkes-Sedougou	D																1		
Senegal: Dakar	C	7	2																
	D	7	2																

[1] 1 death from yellow fever, Sept. 4, 1928, at Bahia, Brazil.