

PUBLIC HEALTH REPORTS

VOL. 42

SEPTEMBER 2, 1927

NO. 35

PELLAGRA

ITS NATURE AND PREVENTION¹

By JOSEPH GOLDBERGER, *Surgeon, United States Public Health Service*

In the following pages an attempt is made to answer as simply as possible some of the more important questions which the general public frequently asks in regard to pellagra.

SYMPTOMS

Although the fully developed disease makes a picture which, when once seen, can hardly ever fail to be recognized even by one who is not a physician, the diagnosis of the disease is by no means always easy, because the fully developed cases form only a small proportion of the total. Difficulties may arise also in that other conditions at times present signs or symptoms which the untrained and inexperienced may mistake for those of pellagra.

The following sketch of the symptoms is presented, therefore, not with the idea that it will enable the untrained to recognize the disease, but rather to call attention to those symptoms or combinations of symptoms which should be looked upon as suspicious and as calling for the simple and effective measures of prevention to be outlined.

In a fairly well developed though not advanced case the disease shows itself by a variety of symptoms, of which an eruption, weakness, nervousness, and indigestion form the most distinctive combination.

Eruption.—The eruption is the most characteristic telltale of the disease and the main reliance in its recognition. When the eruption first shows itself it may look very much like, and frequently is mistaken for, a sunburn. The sunburned appearance soon changes and in many cases the reddened skin turns to a somewhat dirty brown and frequently acquires a parchmentlike appearance, then quickly becomes rough and scaly, or cracks and peels. In some instances, however, the beginning redness is not noticed or perhaps does not

¹ This, in part, is a revision of Reprint No. 461 from the Public Health Reports.

occur, the first and possibly the only thing observed being the dirty-looking scaly patch of skin appearing very much like and frequently thought to be no more than a simple weathering or chapping.

Among the most distinctive peculiarities of the eruption is its preference for certain parts of the body surface. The backs of the hands, forearms, and the backs of the feet are its favorite sites. Other parts not infrequently attacked are the sides or front of the neck or both, the face, arms, elbows, legs, and knees. Another marked peculiarity of the eruption is its tendency to appear at about the same time and to cover similar areas, both as to extent and peculiarities of outline, on both sides of the body. Thus it may be stated as the rule that if the back of one hand or of one foot, one elbow, one knee, one side of the neck, one cheek, or the lid of one eye is affected, then the corresponding part on the other side of the body is, or soon becomes, similarly affected, and affected to almost exactly the same extent. This rule, however, is not without many exceptions. It must not be hastily assumed, therefore, that the possibility of pellagra is necessarily excluded because the back of one hand or of one foot or of one side of the neck alone seems to be involved, or is involved to so slight an extent as to be almost nothing in comparison with the involvement of the other side.

Suspicious symptoms.—Although the main reliance in the recognition of the disease, the eruption of pellagra not infrequently is very tardy in making its appearance. While it is ordinarily impossible to determine the presence or absence of the disease with certainty until the eruption appears, a shrewd suspicion may, nevertheless, be formed from a careful consideration of the other symptoms. This applies only to a limited extent to children, in most of whom the manifestations of the disease, other than the eruption, are slight and frequently difficult or impossible to make out. Notwithstanding this, however, careful questioning of the mother, if she be observant, not infrequently develops the fact that the child seems to her less active than common; in some cases it is evidently listless or fretful, and the mother may also recognize that it has fallen off in weight. In older individuals a complaint of loss of strength with indigestion or nervousness, or both, coming on or made worse in the late winter or spring and improving in the fall, are very frequently met with. The patient may complain of being "worked out" or of having "blind staggers" (dizziness, vertigo), of discomfort or pain in the pit of the stomach, frequently of headache, sometimes of wakefulness, frequently also of sluggishness of the bowels requiring, possibly, the habitual use of medicine to move them. Although, as has already been said, these symptoms alone or even with the addition of such symptoms as a burning or scalded feeling of the mouth, reddened tongue, burning of the hands or feet, and loose bowels, are not enough

to distinguish pellagra from other conditions, they are ample to justify a suspicion of the disease, especially if such individual is known to be finicky or a nibbler about food, or has been living on a diet made up largely of biscuits, corn bread, grits, gravy, and sirup, with little or no milk or lean meat and but a small amount of vegetables and fruit.

The suspicion of pellagra may with confidence be dismissed in one who is known to be, and to have been, a habitual milk drinker and meat eater. It is well to be warned, however, that it is very easy to be misled about what and, particularly, as to how much the individual actually eats. The question of quantity is of the utmost importance. It isn't enough merely to nibble; one must consume a substantial quantity of these or other preventive foods to supply fully the body's needs.

Insanity.—In a small proportion of cases, fortunately much smaller than is commonly believed, the mind is affected to a degree requiring asylum care. Many of these cases get well under treatment. Recovery of the mind is not to be expected, however, when, as frequently happens, the pellagra occurs in a person whose mental disturbance is due to some other (incurable) cause.

IMPORTANCE AND DISTRIBUTION

Under proper treatment and with careful nursing, only a small percentage of cases die; nevertheless, the actual number of deaths is deplorably large. As deplorable, if not even more so, is the great amount of sickness and debility, much of it vague and ill-defined and thus frequently unrecognized, which pellagra must be charged with causing. It is probable that in each year for every death attributed to the disease there are fully 20 persons with clearly recognizable attacks and probably as many more with debility from the same cause but not definitely marked as such.

In the United States the disease occurs most frequently in the area south of the Potomac and Ohio Rivers. Indeed, in many of the Southern States pellagra still is one of the foremost causes of death. In other parts of the country the disease is very much less common. This difference is due mainly to the different dietary habits of the people in the northern and western part of the country and to the better conditions of food supply.

RELATION TO LIVING COST

The disease may occur anywhere and in anyone, but it is the poor man who is the chief sufferer from it. This explains why hard times, especially when accompanied by rising food prices, are likely to be followed by an increase in the disease. This is well illustrated by

the great increase that took place in 1915 following the hard times brought on by the outbreak of the war in Europe in the summer of 1914, and by the great decrease in 1916 following the improvement in conditions that developed during 1915. Unfortunately, the upward trend of living cost in the fall and winter of 1916 brought about an increase of pellagra in 1917 in many localities. Similarly, the postwar deflation of 1920 was followed by an increase of pellagra in many localities in 1921.

CAUSE

Pellagra not "catching."—Experimental tests and careful observations show that pellagra is not a communicable disease. No germ that can properly be considered its cause has ever been found. Attempts to give persons pellagra by inoculations of blood or saliva and of other body discharges from severe cases of pellagra have failed completely. On the other hand, when 11 convicts were fed on an unbalanced diet composed mainly of biscuit, corn bread, grits, rice, gravy, and sirup, with only a moderate amount of vegetables and no milk, meat, or fruit, at least six developed the disease. Furthermore, it was observed that in an asylum where many of the inmates developed pellagra year after year the nurses and helpers who lived with them never developed the disease. The only discoverable reason for the exemption of the nurses and helpers was a better diet. The nurses and helpers had a liberal allowance of lean meat and some milk, while the inmates had very little or none. When this observation was tested by giving the inmates a better diet—that is, by giving them more meat, milk, fruit, and vegetables—it was found that they stopped having pellagra. This test was also carried out at three orphanages where there had been many cases in the children every spring for several years, and always with the same result. After the diet was improved, although no other change was made, pellagra disappeared. Attempts to prevent pellagra by other means have succeeded only when a change in diet (whether intentional or not) was also made.

Unbalanced diet.—The foregoing facts, together with others which can not be here set forth, show that pellagra is caused by subsisting on a special kind of faulty or unbalanced diet, and that people who consume a mixed, well-balanced, and varied diet—such, for example, as that furnished to our soldiers and sailors—do not have the disease. Stated more specifically, it may be said that pellagra results from a deficiency in the diet of a pellagra-preventing dietary essential or vitamin, which has been named vitamin P-P. This deficiency arises when the diet does not include *enough* of the foods which carry the vitamin P-P to supply the needs of the body for this food factor. This does not mean that the diet that leads to pellagra is entirely devoid of this essential vitamin. On the contrary, it is probable that what may be called a pellagra-producing diet always contains

some but not *enough* for the nutritive needs of some or all of those living on it.

The main, or basic, portion of the diet of the rural population of the South is made up of the following foods: Cornmeal, hominy grits, white wheat flour, white rice, dried beans, "white meat" (salt pork), sorghum or cane molasses, and collards, or "greens." Because of the three principal components, namely, meal, "meat," and molasses, to which this diet in hard times tends to be restricted, it is designated in common parlance as the "Three M's." This basic diet, when made up in conventional proportions, is pellagra producing. It contains some vitamin P-P derived from the cornmeal, dried beans, and collards, but ordinarily this is much too little to prevent pellagra. A sufficient increase in the beans and collards, or, much better, the addition of some other food or foods containing this vitamin, would tend to diminish or altogether prevent the occurrence of the disease.

When the disease develops it may be taken as a certain indication that for some reason there has not been included in the diet *enough* of the foods containing vitamin P-P. This reason may be any one or some combination of the following:

1. Individual peculiarity or eccentricity of taste, particularly under circumstances affording but little variety of P-P rich foods from which to choose. This may be exemplified by some of those (including certain types of insane) who may have a dislike for milk, for eggs, for fowl, etc. In this connection may be mentioned also the improper dieting that may accompany a prolonged alcoholic debauch.

2. A short available supply of the P-P rich foods, resulting from (a) inaccessibility to market, (b) difficulties of transportation, particularly of the perishable foods, (c) an epizootic among some of the domestic animals (milch cows, poultry, swine), (d) fencing laws which may make it impracticable for many to keep milch cows, or (e) destructive storms or overflows which may lead directly or indirectly to a reduction in the number of domestic animals (milch cows, goats, poultry, or swine) and to a shortage of fresh vegetables from the loss of gardens, etc.

3. Insufficient cash or credit available for the purchase of such food, resulting from unemployment, insufficient income from crops, extravagance with respect to expenditures for purposes (amusements, automobiles) other than for food, shiftlessness.

PREVENTION AND TREATMENT

The pellagra-preventing vitamin is believed to be present in nearly, if not quite, all natural foods except the oils and fats, but in very greatly varying amounts. Thus there is very little in corn meal, white flour, or rice; somewhat more in wheat middlings, and a great

deal in lean meat and powdered yeast. Unfortunately, it is not yet known just how much each food contains nor how much the body must have for the maintenance of health. In considering prevention and treatment it is, therefore, necessary to proceed on general principles, guided by such knowledge of relative values as we already have.

Milk.—Although not rich in the pellagra-preventing vitamin, milk, whether as sweet milk or buttermilk, is one of the most valuable single foods for the prevention and cure of pellagra. But when lean meat, powdered yeast, vegetables, and fruits are not included in the diet or only infrequently, or in small amounts, it must be taken in liberal quantities—at least three or four glassfuls (about 2 pints) daily—in order to insure an adequate preventive effect.

Ownership of a good milch cow is a valuable means of insuring an adequate supply of milk for the family and thus of preventing pellagra, and should be encouraged to the utmost.

Lean meat (beef, mutton, pork, fish, fowl, etc.).—Lean beef has been found to be quite rich in the pellagra-preventing vitamin. The same is very probably true of such other lean animal flesh foods as those of mutton, pork (ham, shoulder, liver, kidneys), fresh or canned fish (as, for example, salmon), and poultry. For pellagra-preventive purposes, when it is the main reliance, an adult will need nearly half a pound of a lean meat a day.

Powdered yeast.—Dried pure yeast is the richest “P-P” containing food at present known. It is also very rich in protein and in the beriberi-preventing vitamin, so that it should rate high as a food. This yeast is a microscopic plant cell used in baking and brewing. For use as a food the yeast plant should preferably be dead. In the home it may readily be killed by stirring the dry powder into some water and then boiling for about one minute. In the adult, 1 ounce a day (or two teaspoonfuls three times a day) of the pure powdered yeast will of itself suffice to prevent pellagra. It may be taken in any way that is most convenient as, for example, in water, in milk, in tomato juice, in sirup or molasses, etc.

The valuable dietary properties of powdered yeast suggest the importance of its consideration for general inclusion in the dietary.

Eggs.—There is reason to believe that eggs contain the pellagra-preventing vitamin which is probably present exclusively in the yolk. As a preventive food, eggs are probably inferior to lean meat.

Vegetables and fruits.—There is reason to believe that all vegetables—potatoes, turnips, string beans, tomatoes, cabbage, collards, turnip greens, spinach—and the fruits contain the pellagra-preventing vitamin, but, probably like milk, in small amounts. Thus, it probably requires nearly 2 pounds of tomatoes (about 1 quart of canned tomato juice) to produce about the same preventive effect

as a quart of buttermilk or as about half a pound of lean meat, or as 1 ounce of powdered yeast. Notwithstanding this, however, the vegetables are valuable foods for balancing the diet, but must be eaten in liberal amounts.

The cultivation of more and better gardens in the area of pellagra endemicity would be very helpful in the prevention and eradication of pellagra and should be encouraged in all possible ways.

The foods that have preventive action have, of course, also curative value; but in the face of an actual or impending attack of pellagra, it is manifestly advantageous to begin the treatment with foods that are rich in the P-P vitamin and that at the same time are within the digestive capacity of the patient. With these considerations in mind, powdered yeast, milk (sweet or buttermilk), lean meat (fresh meat juice, scraped beef), egg yolk, tomato juice (fresh or canned tomatoes) should be given preference.

The foods of first choice, in suitable quantities, should be given at regular intervals just as is done with medicine. Indeed, for the prevention and cure of pellagra the only medicine we have is food. There is no drug known that actually serves any useful purpose in this disease unless it is to mitigate or relieve painful or disturbing symptoms.

Care must be taken to see that the food prescribed is actually eaten. It is to be borne in mind that some individuals must be educated or reeducated to proper food habits. Unsatisfactory results from treatment are frequently attributable to a failure to bear this in mind and to take precautions accordingly.

Of the powdered yeast, 1 ounce a day will ordinarily be enough for an adult, or half of this for a child under 12 years of age. More may be given in cases of exceptional gravity. It may be advantageously administered (one or two teaspoonfuls three to six times a day) in milk, tomato juice, fruit juice, or sirup. Where yeast happens not to be available, and in cases where solid food can not for any reason be taken, milk and tomato juice may be depended on. The juice pressed from fresh beef, or raw egg yolk, or both, may, and if practicable should, be given in addition to the milk and the tomato juice. A bean or pea soup (purée), with or without milk or meat juice, may be used as a palatable and valuable addition to the liquid diet.

As the ability to take solid food returns, scraped or finely minced beef or other lean meat may be included in the feeding. The diet should be increased as rapidly as the digestive ability of the patient permits. In the average case the patient, if carefully fed, will be fully convalescent in from six to twelve weeks.

RECURRENCE

Recovery from an attack does not mean, however, that thereafter the disease will not recur. It may or will return if one's diet again becomes faulty in the special way above described. To avoid having a return of the disease there is one and only one known way, and that is by a proper diet at all times and at all seasons. In order to assure this for those in the area of pellagra endemicity, every effort must be made by the individual and by persons in positions of influence to improve available food supplies by the promotion of diversified farming, the ownership of good milch cows, and the cultivation of more and better gardens.

**REPORT OF AN INVESTIGATION OF THE POLLUTION OF
LAKE MICHIGAN IN THE VICINITY OF SOUTH CHICAGO
AND INDIANA HARBORS**

In the summer of 1924 the official heads of the Sanitary District of Chicago, the Chicago City Health Department, and the State departments of health of Indiana and Illinois, jointly requested the Surgeon General of the Public Health Service to cooperate with them in a study of the sewage pollution of Lake Michigan in the area adjacent to the Calumet district, lying along the southern end of the lake, partly in Illinois and partly in Indiana. As the result of this request, the investigation was undertaken, with the cooperation of the four bodies named, along the following lines:

1. A sanitary survey of the drainage area of the Calumet Rivers.
2. A bacteriological study of the waters of Lake Michigan in this region and of the public water supplies taken from it.
3. The collection and analysis of available data relative to the influence of existing pollution of these water supplies on the public health.

This general plan of study was carried out under the general direction of two officers of the Public Health Service, a sanitary engineer and a bacteriologist, the latter in charge of a special laboratory established for the study, and with the joint participation of the laboratories of the Sanitary District of Chicago and the Chicago City Health Department. Laboratory methods among the three cooperating laboratories were carefully standardized so as to give mutually comparable results.

The so-called Calumet district of Illinois and Indiana is the area drained by the Little Calumet and Grand Calumet Rivers and by the Calumet River which is formed by their confluence. Within this area lie the southeastern part of the city of Chicago, several other Illinois municipalities adjacent to Chicago, and, on the Indiana side, likewise adjacent to Chicago, the cities of Hammond, Whiting, East

Chicago, and Gary. The district is essentially industrial, especially identified with the steel industry, which has been developed to great proportions within the last 20 years with consequent great increase in population, which now approximates 250,000 to 300,000.

Under natural conditions the Calumet River discharges into Lake Michigan, but under the conditions prevailing at the time of the study the natural drainage was modified by the diversion of part of the flow through the Calumet-Sag artificial channel connecting the Little Calumet River with the Chicago Main Drainage Canal. Under ordinary conditions, owing to the flat topography, the flow of the upper Calumet River is generally away from the lake, but under other conditions, usually coincident with flood flows or a lowered lake level, the current is reversed into the lake, the outward movement being increased by offshore winds or by unusual lowering of the lake level. Wastes discharged into the Calumet near its mouth reach the lake to some extent under ordinary conditions; and wastes discharged into the upper Grand Calumet or into the Indiana Harbor Ship Canal constantly reach the lake through the canal.

From a sanitary survey of the Calumet district it is estimated that in 1925 the sewered population draining into the Calumet Rivers or into the lake in this district was about 261,400, of which 78,500 were located in Illinois and 182,900 in Indiana. Of the 123 industrial plants located in the district, 109 were discharging wastes of no importance as contributing to pollution. Of the remaining 14 plants, 7 coke and oil refinery plants discharge wastes causing tastes and odors in water supplies contaminated by them.

As would be expected, the foregoing conditions have resulted in the gross pollution of Lake Michigan in the immediate vicinity of the Calumet district shore, with the zone of pollution extending some distance into the lake. Laboratory data, collected during the period October, 1924, to November, 1925, from samples of lake water collected regularly at 70-odd stations distributed over a lake area of about 90 square miles, have shown that an area of constant gross pollution extends nearly a mile into the lake from the mouth of the Calumet River to the vicinity of the Indiana Harbor Ship Canal. Under favorable conditions of wind this zone of gross pollution is extended east as far as the Gary Light and north beyond the line of the Sixty-eighth Street and Dunne cribs. Evidence of occasional slight sewage pollution was found as far out as 10 miles east of Jackson Park, Chicago. Water of bacteriological quality conforming to the United States Treasury Department standards for drinking water was found consistently only at a distance of about 4 miles east of the Dunne and Sixty-eighth Street cribs and nearly 7.5 miles northeast from the Indiana Harbor Ship Canal. The intensity of

pollution in the lake at any given point, except the outer margin of the area studied, was found to vary enormously from month to month and even from day to day, due apparently to changes in the direction and velocity of winds. Observations made in a zone about 5 miles wide, extending from Sixty-eighth Street, Chicago, to Evanston, Ill., showed much less pollution than was found opposite the Calumet district.

Bacteriological tests indicated that the raw water supplies received at the intakes of Evanston, Chicago, and Gary are suitable for use after appropriate artificial purification. The waters received at the intakes of Waukegan, Lake Forest, Hammond, Whiting, and East Chicago, however, showed such high bacterial content as to impose what is considered an excessive load on a modern water purification plant providing for filtration and chlorination. The treated water supplies of Evanston and Chicago were found to be of consistently good bacterial quality, but those of Waukegan, Lake Forest, Hammond, Whiting, East Chicago, and Gary failed to conform to high standards of quality, due in part to inadequacy of the treatment used.

From the studies it is concluded:

1. That the pollution of Lake Michigan by sewage and industrial wastes discharged from the Calumet district, especially from the Indiana portion, is such as to render the sources of water supply of Hammond, Whiting, and East Chicago unfit for that purpose, even with efficient purification.

2. That the source of water supply of Gary, though located outside the zone of grossest pollution, is seriously contaminated, but not beyond the capacity of modern water purification.

3. That the sources of water supply of Chicago at the Dunne and Sixty-eighth Street cribs are affected and at times endangered by sewage pollution from the Calumet district.

4. That the existing water intakes in the lake, north of the Dunne and Sixty-eighth Street cribs, appear to be beyond the zone of pollution from the Calumet district and are receiving water of such quality that it can be satisfactorily purified by artificial processes, excepting the supplies of Waukegan and Lake Forest.

5. That if the use of the lake as a source of water supply for the southern portion of Chicago and for the Calumet district is to be continued, it is necessary, in the interest of public health, that the water supply intakes in this locality be protected, primarily through the abatement of existing pollution reaching the lake through the Calumet River and Indiana Harbor Ship Canal.

The report of this investigation has been published as Public Health Bulletin No. 170, which may be purchased through the Superintendent of Documents, Washington, D. C., at 25 cents per copy.

DEATH RATES IN A GROUP OF INSURED PERSONS

RATES¹ FOR PRINCIPAL CAUSES FOR JUNE, 1927, AND COMPARISON BY WHITE AND COLORED FOR THE FIRST SIX MONTHS OF 1925, 1926, AND 1927

The accompanying tables are taken from the Statistical Bulletin for July, 1927, published by the Metropolitan Life Insurance Co. They present the mortality experience of the industrial department of the company for June, 1927, as compared with May, 1927, and with June, 1926, and compare the rates for white and colored policyholders for the first six months of the years 1925, 1926, and 1927. The rates for 1926 and 1927 are based on a strength of approximately 18,000,000 insured persons in the United States and Canada.

The death rate for June for this group of persons was 9.3 per 1,000, as compared with 8.7 for May and 9.6 for June, 1926. A lower death rate has been recorded each month of the first half year of 1927 than for the corresponding month last year.

The most pronounced declines, as compared with June of last year, were for measles, 62.5 per cent; whooping cough, 34.3 per cent; influenza, 43.9 per cent; tuberculosis, 10.9 per cent; and pneumonia, 17.7 per cent. On the other hand, typhoid fever showed an increase of nearly 100 per cent, which, it was stated, is due almost entirely to the Montreal epidemic, and the diphtheria rate was 10.4 per 100,000, as compared with 9.1 for June last year. In each month of the current year diphtheria has registered a higher death rate than in the corresponding month of 1926.

Suicides were more numerous than they were in June of last year; and five of the first six months of the present year have shown this unfavorable comparison. All accidents combined and automobile fatalities also registered higher death rates in June, 1927, than in June a year ago.

¹ It should be borne in mind that the death rates in the group of persons here considered are uniformly lower than the rates for the general population, varying between 82 and 87 per cent of the rate for the registration area from 1911 to 1919, inclusive, and from 72 to 75 per cent in the years 1920 to 1925, inclusive. In 1924 and 1925 the rates for the insured group were 72 per cent of the rates for the registration area.

Death rates (annual basis) for principal causes per 100,000 lives exposed, May and June, 1927, and June and year, 1926

[Industrial department, Metropolitan Life Insurance Co.]

Causes of death	Rate per 100,000 lives exposed ¹			
	June, 1927	May, 1927	June, 1926	Year 1926 ²
Total, all causes.....	923.2	874.8	964.3	942.7
Typhoid fever.....	6.1	5.2	3.1	4.2
Measles.....	5.7	7.5	15.2	10.2
Scarlet fever.....	3.5	3.5	4.9	3.4
Whooping cough.....	6.9	6.5	10.5	9.6
Diphtheria.....	10.4	10.6	9.1	9.7
Influenza.....	12.0	18.7	21.4	31.0
Tuberculosis (all forms).....	99.8	96.4	112.0	98.7
Tuberculosis of respiratory system.....	80.9	81.5	99.2	86.5
Cancer.....	74.0	68.4	75.2	73.5
Diabetes mellitus.....	16.9	16.0	15.7	16.7
Cerebral hemorrhage.....	57.5	49.3	54.9	55.5
Organic diseases of the heart.....	138.7	130.8	137.8	133.9
Pneumonia (all forms).....	69.7	84.3	84.7	97.9
Other respiratory diseases.....	16.7	16.3	13.3	13.1
Diarrhea and enteritis.....	22.0	17.7	24.0	29.8
Bright's disease (chronic nephritis).....	75.5	70.1	75.0	73.3
Puerperal state.....	16.3	14.7	16.5	15.3
Suicides.....	8.6	7.6	8.0	7.6
Homicides.....	7.6	7.6	7.7	7.0
Other external causes (excluding suicides and homicides).....	69.0	53.6	66.7	62.2
Traumatism by automobiles.....	19.5	13.0	19.0	16.7
All other causes.....	206.3	189.8	208.8	190.4

¹ All figures include infants insured under 1 year of age.

² Based on provisional estimate of lives exposed to risk in 1926.

FIRST SIX MONTHS OF 1925, 1926, AND 1927

The health conditions among this group of industrial policyholders for the first six months of 1927, as revealed by the mortality records, were better than those for any other corresponding six-month period in the history of the company. The death rate for the half year among the white policyholders was 8.6 per 1,000, as compared with 9.7 in 1926, and 8.9 in 1925. The nearest approach to the 1927 rate was 8.7 per 1,000 in the first half of 1921; but the improvement in 1927 over this previous minimum is greater than is apparent from a comparison of the crude rates, since in 1921 no insurance was placed on infants by the company, whereas in 1927 a mean of about 492,000 infant lives were insured.

The death rate for colored persons in this group was 15.4 per 1,000, which also shows a pronounced reduction from the rates for the first half of 1926 (16.5 per 100,000) and of 1925 (16.1 per 100,000). Lower rates were recorded for the colored, however, in both 1921 and 1922.

Three of the four principal epidemic diseases of childhood—measles, scarlet fever, and whooping cough—show reduced rates as compared with 1926; whereas diphtheria registered a considerable increase among the white and a small rise among the colored policyholders. With regard to this increase in diphtheria the Bulletin states:

There has been a disposition on the part of those opposed to toxin-antitoxin immunization to make capital out of the rise in the diphtheria death rate so far

this year in the face of the increased number of persons immunized. The unfavorable situation so far this year is probably only a temporary phase in a situation that has been marked by continuous improvement for six years. Coincident with the increasing use of toxin-antitoxin since 1921, the diphtheria death rate among children insured in the Metropolitan declined from 23.8 per 100,000 in 1921, to 9.5 in 1926, a reduction of 60.1 per cent. Public health workers have become so accustomed to seeing the diphtheria death rate decline, without any interruption, that * * * the small increase observed this year caused some anxiety among those public health workers who have been most active in conducting an earnest campaign for the immunization of children against this disease. It must be remembered that the 1927 diphtheria rate, to date, is lower than it has ever been before, at this time of the year, with the single exception of 1926. The slight increase will serve as an incentive to the public health authorities to concentrate their campaign for immunization in those communities where the mortality shows that redoubled efforts are most needed.

The increase in typhoid fever during the first half of the year is attributed almost entirely to the Montreal outbreak.

The outstanding feature of the 1927 health record so far is the further reduction in tuberculosis mortality. As the season for the highest death rate for this cause has now passed, it is predicted that the year will register a considerable decline and a new low figure for this disease.

Improvement in the death rate for influenza and the respiratory diseases was accompanied by lower mortality from "degenerative" conditions, accounting, in part, at least, for the notable reduction in the death rates for cerebral hemorrhage, organic heart disease, and chronic nephritis during the first half of 1927.

The death rate for cancer shows a small increase among the white policyholders and a larger increase among the colored.

The mortality from automobile accidents, which has been increasing for more than a score of years, again shows a rise. The death rate for this cause among the white persons was 15.1 per 100,000 for the first six months of 1927, as compared with 14.5 in 1926 and 13.6 in 1925. During the first half of 1927 about one-fourth of all lives lost in accidents in the group of persons here reported on were the result of automobile accidents. It is pointed out that the only encouraging item in the situation is that in individual communities success has attended the efforts directed toward prevention by means of restrictive traffic regulations.

Death rates (annual basis) for principal causes per 100,000 persons exposed for first six months of 1925, 1926, and 1927—Comparison of rates for white and colored policyholders

[Industrial department, Metropolitan Life Insurance Co.]

Cause of death	Death rates per 100,000 persons exposed					
	White			Colored		
	January-June, 1927	January-June, 1926	January-June, 1925	January-June, 1927	January-June, 1926	January-June, 1925
All causes of death.....	856.8	966.7	894.2	1,540.4	1,654.6	1,612.9
Typhoid fever.....	4.2	2.5	2.3	6.5	4.5	6.3
Measles.....	7.1	18.0	4.4	3.6	13.0	3.2
Scarlet fever.....	4.4	5.0	5.4	1.4	1.5	1.2
Whooping cough.....	6.9	11.1	7.1	9.4	13.6	13.7
Diphtheria.....	11.8	10.1	12.7	6.7	6.2	5.3
Influenza.....	21.6	45.9	29.0	52.4	91.5	71.4
Meningococcus meningitis.....	1.3	.9	1.0	1.8	.6	.7
Tuberculosis (all forms).....	80.4	88.1	88.9	237.6	240.8	239.2
Tuberculosis of respiratory system.....	70.3	77.5	77.9	208.3	210.8	208.3
Tuberculosis of meninges, etc.....	5.0	5.1	5.4	7.4	7.7	9.1
Other forms of tuberculosis.....	5.1	5.5	5.6	21.8	22.3	21.7
Cancer.....	74.5	74.3	70.7	71.8	67.0	72.8
Diabetes.....	17.3	18.2	16.9	19.4	16.3	15.9
Alcoholism.....	3.1	3.4	2.8	5.0	4.8	4.2
Cerebral hemorrhage, apoplexy.....	51.5	55.3	53.3	97.7	101.1	91.0
Organic diseases of the heart.....	130.0	142.3	128.1	217.4	219.5	232.1
Total respiratory diseases.....	102.7	140.6	118.0	209.8	276.3	239.0
Bronchitis.....	4.6	5.9	6.1	8.1	10.7	9.8
Bronchopneumonia.....	39.2	58.2	44.5	68.0	97.0	74.8
Pneumonia (lobar and undefined).....	50.9	68.2	58.9	121.9	155.6	139.3
Other diseases of respiratory system.....	8.0	8.3	8.4	11.7	13.0	15.0
Diarrhea and enteritis.....	16.5	18.0	19.8	19.6	20.1	27.1
Under 2 years.....	13.3	15.2	16.7	13.3	14.9	19.5
2 years and over.....	3.2	2.8	3.1	6.3	5.2	7.6
Acute nephritis.....	4.0	4.6	5.0	15.3	16.9	16.0
Chronic nephritis.....	66.0	72.2	67.6	129.6	137.0	131.9
Total puerperal state.....	14.5	15.8	17.0	25.5	24.5	25.5
Puerperal septicemia.....	5.9	6.0	6.5	13.4	11.4	11.6
Puerperal albuminuria and convulsions.....	2.8	3.5	3.8	4.6	5.9	5.6
Other diseases of puerperal state.....	5.9	6.3	6.8	7.5	7.2	8.3
Total external causes.....	68.2	66.5	70.8	115.5	110.4	109.9
Suicides.....	8.5	7.8	7.2	7.0	5.7	4.3
Homicides.....	3.1	3.1	3.5	36.6	33.1	33.0
Accidental and unspecified violence.....	56.6	55.6	60.1	71.9	71.6	72.6
Accidental drowning.....	4.5	4.1	4.6	6.5	3.4	5.2
Automobile accidents.....	15.1	14.5	13.6	14.7	13.1	11.3
All other and ill-defined causes of death.....	170.7	173.8	173.1	294.7	288.9	306.5

PUBLIC HEALTH ENGINEERING ABSTRACTS

Experimental Work on Dengue. Anon. *Indian Medical Gazette*, vol. 61, No. 12, December, 1926, pp. 613-617. (Abstract by Fred Almquist.)

This article gives an account of the exhaustive study of dengue by Lieut. Col. J. F. Siler, and Maj. M. W. Hall and A. P. Hitchens, begun in 1924 in the Philippines. This study printed in a set of papers is made into a volume of 476 pages.

Part I deals with the history of dengue, calling attention to the resemblance between dengue and the milder forms of yellow fever. Attention is also called to the fact that the transmitting agent for both is *Aedes aegypti* and that *Culex quinquefasciatus* is not a vector.

Part II describes the actual experiments on 64 volunteers. Dengue was produced in 81 per cent of the volunteers. From the experiments it was shown, among other things, that the incubation period of 11 days was fixed; the stage in which dengue patients are infective to *Aedes aegypti* is the first three days;

and that, once capable of transmitting the disease, the mosquito retains this ability through its life.

A third section deals with the epidemiology, of which a complete account is given. This is followed by a summary of the clinical aspects of dengue, then a discussion on immunity, in which it is stated that the natives are naturally immune. A list of preventive methods is given by the authors with the plea that the stamping out of the *Aedes aegypti* mosquito is the first important step.

Biological Experiments Proving the Identity of American and Asiatic *Aedes Aegypti*. W. H. Hoffman. *Sanidad y Beneficencia*, Habana, vol. 32, Nos. 1, 2, 3, January, February, and March, 1927. (Abstract by L. M. Fisher.)

On several occasions, eggs of mosquitoes from the Far East have been examined and studied by such authorities as Stanton, Brug, and Christopheres in like manner as the author studied material from Java. While individual variations in the species were observed, no morphological differences were encountered.

On February 15, 1927, eggs were received from Dr. S. L. Brug, of Batavia. They had been laid December 6, 1926. From these, on March 3, developed four female adults. A male mosquito from Cuba was placed in the cage with them. They were permitted to feed on the author, and more than 100 eggs were laid from which a new generation of mosquitoes developed by March 21.

The experiment proves that the Cuban and the Javanese mosquitoes belong to the same species.

The author believes the present cosmopolitan species originated in West Africa and has been carried by commerce to America and Eastern Asia.

Activated Sludge Practices in Canada. Frederick A. Dallyn. *Proceedings of Ninth Texas Water Works Short School*, pp. 342-349. (Abstract by Chester Cohen.)

"Climate, especially temperature, plays a very definite rôle in the activated sludge process." The author is of the opinion that biological fermentation arrests rather than assists the treatment process. When high temperatures exist, causing oxygen demand in excess of the ability of the mechanism to supply, the process of sewage digestion is thrown out of balance. The design of Canadian plants recognizes the part that physical geography plays in the operation of the activated sludge units. Preliminary treatment might well consist of screens, grit chambers, disintegration chambers, and preliminary sedimentation. The reasons for these preliminary units are obvious, since they serve to lighten the load on the activation tanks.

The saw-tooth bottom activation channel has been abandoned in favor of flat bottom with diffuser plates parallel to the sides and off center. Experimental work demonstrates that the absorption of the oxygen by the liquid media takes place in three ways: (1) By diffusion of the air introduced by the diffuser plates; (2) from the surface of the liquid; (3) from the excess oxygen in the returned sludge. It is estimated that only 5 per cent of the air introduced by the diffusers in the aeration tanks is utilized and only about 25 or 30 per cent of the oxygen in the system can be attributed to the air introduced in this manner. The storage time in the aeration channels varies from six hours to three hours and less; and the presence of some iron in the system greatly increases the oxygen transference and permits lessening of the contact period. The storage period in sedimentation tanks in Canada varies widely, being anywhere from three-fourths to two and one-half hours. The question of disposing of the activated sludge not required in the system has not proved a serious problem; first, because the actual bulk has not been as great as is reported in the early literature; and, second, by recognition of the advantage of sludge storage and behavior of such sludge, favorable consideration was early given to this method of disposal.

The cost of the treatment totals \$21.60 per million gallons, which is made up of detailed costs as follows: Power, \$3.50; labor, \$5; sludge removal and drying, 60 cents; repairs and alterations, 50 cents; capital charges (including retirements), \$12.

The Changes in the Bacterial Content of Stored Normal and Typhoid Feces. E. O. Jordan, *Journal of Infectious Diseases*, 1926, vol. 38, pp. 306-322. (Abstract by W. W. C. Topley in the *Bulletin of Hygiene*, vol. 2, No. 3, March, 1927, p. 228.)

"The author has studied the changes which occur in the bacterial content of feces on storage. His results show that the number of viable bacteria increases steadily during the first 24 to 48 hours, during which time there may be a hundredfold increase or more. The viable count then diminishes, at first rapidly and then more slowly; but it may be many weeks before it sinks to its original figure. The *B. coli* count rises sharply during the first few days of storage; indeed, the early increase in the viable count appears to be largely due to the multiplication of this organism; it then falls rapidly and continuously, and during the later period of storage *B. coli* is largely replaced by other bacteria, the nature of which has not yet been determined."

Stream Pollution. Report of Bureau of Sanitary Engineering, Maryland State Department of Health, 1926. 19 pages. (Abstract by I. W. Mendelsohn.)

Studies in stream pollution included the following: (1) Dissolved oxygen and pH tests to determine whether deposits from an industrial alcohol plant and chemical works already on the bottom of Curtis Bay and Marley and Furnace Creeks were partially responsible for intermittent high fish mortality; (2) operation of a tannery waste disposal plant; (3) investigation of all paper and pulp mills in the State to determine the waste losses and the degree of stream pollution; (4) a plant to treat wastes from a congoeum works, and to include large settling tank with return of supernatant liquid to paper machines for reuse; coagulation basins for alum treatment at 15 grains per gallon; discharge of settled effluent into body of water; centrifuging and dumping sludge on low ground; (5) disposal of wastes from a rolling mill by the recovery of sulphuric acid and ferrous sulphate by refrigeration; (6) disposal of wastes from steel and tin-plate mills and wire-nail mill; (7) coagulation tests on milk wastes; and (8) treatment of tomato-canning wastes with iron and lime.

Intermittent Sand Filters. Ernest Boyce. Bulletin 86 of the Engineering Extension Department, Iowa State College, vol. 25, No. 35, January 26, 1927. 7 pages. (Abstract by W. L. Havens.)

This paper, presented at the eighth conference on sewage treatment at Ames, Iowa, November, 1926, outlines the use, construction, and operation of intermittent sand filters. The author, who is chief sanitary engineer of the Kansas State Board of Health, suggests that sand filters may come into greater use with chlorination as a finishing process designed to effect bacterial improvement. It is stated that 28 sand filters are found in the 93 treatment plants in Kansas. Narrower spacing of underdrains—5 to 6 feet—is favored. Flap-valve protection against backwater is advised, as well as protection from silting through erosion of banks. Distribution devices show little change; the open concrete flume with adjustable lateral ports is favored.

Burning Gas from Imhoff Tanks at Decatur, Illinois. William D. Hatfield, superintendent and chemist, Decatur Sanitary District. *Water Works*, vol. 66, No 3, March, 1927, pp. 99-101. (Abstract by D. E. Kepner.)

Due to the strength and high temperature of the Decatur sewage, bacterial decomposition and putrefaction take place rapidly in the sewers and in the Imhoff tank, producing large quantities of odorous gases. A collecting arrangement has been provided by means of which about 100,000 cubic feet of gas per

day is now caught, having a heat value of 700 British thermal units per cubic foot. By burning this gas, the odor nuisance about the treatment plant was immediately reduced. Details are given regarding the composition of the gas under different conditions.

Sewerage. Report of Bureau of Sanitary Engineering, Maryland State Department of Health, 1926. 19 pages. (Abstract by I. W. Mendelsohn.)

Sewerage improvements were made in various cities in the State. Special sewage treatment studies were made, such as the best method of bringing about rapid digestion of sewage sludge in primary settling tanks; utilization of sewage gases; operation of activated sludge plant with certain coagulants and catalytic agents; and digestion of activated sludge with hydrogen ion control.

Report of Bureau of Sanitary Engineering, Maryland State Department of Health, 1926. 19 pages. (Abstract by I. W. Mendelsohn.)

Water supply.—Installation of public waterworks systems progressed during the year. A table is given showing comparative data on water supplies in Maryland for 1916 and 1926. The percentage of population using public water supplies increased from 62 in 1916 to 71.6 per cent in 1926. The number of treated water supplies increased and the per cent of the total population of the State using these supplies increased from 54.9 to 66.3.

On July 1, 1926, the State board of health passed regulations stating that "no physical connection shall be permitted between a potable water supply and an industrial, fire, or other auxiliary or emergency water supply. This prohibition applies to all piping systems either inside or outside of any building or buildings. All existing cross-connections between a potable water supply and an industrial, fire, or other auxiliary or emergency water supply shall be removed on or before October 1, 1926."

Typhoid Outbreak at Watseka, Ill. Anon. *Engineering News-Record*, vol. 99, No. 2, July 14, 1927, p. 53. (Abstract by Arthur P. Miller.)

In October-November, 1926, Watseka, Ill., with a population of 5,000, only 750 of whom used city water, had a typhoid fever epidemic resulting in 34 cases and 3 deaths. The city water has repeatedly been classed as unsafe, and, although not proved, the epidemic was attributed to it. The theoretical cause of the epidemic was that a surcharged sewer had polluted the ground near the public wells. The wells are pumped by direct suction, and periodical examinations showed water of doubtful and sometimes unsafe quality. As is often the case, a chlorinator installed November, 1926, was put into operation only after the epidemic was under way.

Studies on the Bacteriophage of D'Herelle. On the Particulate Nature of Bacteriophage. J. Bronfenbrenner. *Journal of Experimental Medicine*, vol. 45, No. 5, May 1, 1927, pp. 873-886. (Abstract by C. T. Butterfield.)

When bacteriophage filtrates are subjected to prolonged dialysis under osmotic pressure against water, dialysis occurs only during the first few days. The bulk of the original lytic agent remains inside the membrane and will no longer diffuse through it even if the membrane is replaced with a fresh one of similar permeability.

The preparation of an ultrafilter is described. When bacteriophage filtrates were subjected to ultrafiltration under pressure, the residue on the filter was washed with water repeatedly without passing any more of the active agent. If broth was substituted for water as the washing liquid, additional amounts of the active agent would pass through the filter.

The author interprets the results as indicating "that the colloidal particles present in the lytic filtrates (and apparently endowed with properties of bacterio-

phage) do not represent autonomous units of the active agent, but merely serve as a vehicle on which the agent is absorbed. They vary in size within limits wide enough to permit fractionation by means of ultrafiltration. When the coarser particles retained by the ultrafilter are washed with broth, some of the active agent is detached from its coarse vehicle particles. This agent, now more highly dispersed, is capable of passing the filter which held it back previously."

Studies on the Bacteriophage of D'Herelle. The mechanism of Lysis of Dead Bacteria in the Presence of Bacteriophage. J. Bronfenbrenner and R. Muckenfuss. *Journal of Experimental Medicine*, vol. 45, No. 5, May 1, 1927, pp. 887-909. (Abstract by C. T. Butterfield.)

Dead staphylococci were autolyzed in the presence of the specific bacteriophage only when some living staphylococci were present. The lysis must be initiated on the living cocci. It is necessary to control the proportions of live and dead bacteria and of bacteriophage in the mixture. If an excess of dead bacteria is present, no lysis will take place. The authors interpret this as indicating that all of the lytic agent is adsorbed by the dead cells and the necessary initiatory lysis of living cells can not take place.

The authors further show that the agent causing the lysis of dead staphylococci does not pass through a suitable semipermeable membrane. The lytic agent for the living cocci did diffuse readily. They also demonstrated the difference between the two lytic agents by filtration and adsorption. A similar lytic agent for dead staphylococci was found in staphylococcus cultures undergoing spontaneous autolysis in the absence of bacteriophage.

A lytic agent for dead cells of *B. coli* and *B. dysenteriae* was not satisfactorily demonstrated.

Some Relations between Sewage Treatment and Water Purification. Paul Hansen. *The American City*, vol. 36, No. 6, June, 1927, pp. 765-768. (Abstract by W. L. Havens.)

In 1912 the International Joint Commission on the Pollution of Boundary Waters between the United States and Canada arrived at the tentative conclusion that raw water delivered to water purification works should not contain, as a yearly average, more than 500 *B. coli* per 100 c. c.

As the result of a statistical study of the performance of 25 water purification plants in the central west, made by H. W. Streeter in 1921 and 1922, it was concluded that, in order to obtain a purified water complying with the old United States Treasury standard for purity of drinking water on interstate carriers (a *B. coli* content of 2 per 100 c. c.), the raw water should not have an average *B. coli* content of more than 650 per c. c. Later studies by Streeter in 1923 on the performance of 10 Ohio River plants resulted in the conclusion that chlorination of the filtered water is necessary in order to meet the new Treasury standard when the raw waters contain *B. coli* to the extent of 100 per 100 c. c. and even less. In the light of these studies the Public Health Service has indicated a content of 100 *B. coli* per 100 c. c. in the raw water as a maximum average limit where filtration without sterilization is employed. Adherence to these standards may mean in certain cases the selection of a water supply less subject to pollution, an elaboration of the purification process, or treatment of the sewage discharged above waterworks intakes.

In arriving at any balance between water purification and sewage treatment, it is important to note that main dependence should be placed upon water purification rather than upon sewage treatment as a means of obtaining a safe public water supply. Even in the case of Great Lakes cities which use the Lakes both for water supply and for receiving sewage, there is little doubt that the maximum of health protection can be gained through water purification, even though this treatment involve aeration, double coagulation, double sedi-

mentation, double filtration, and double chlorination. At Portsmouth, Ohio, and in the various communities comprising the North Shore Sanitary District, local conditions have indicated that sewage treatment comprising sedimentation followed by chlorination represents the economic maximum to which sewage treatment is warranted at the present time.

It is concluded in this article that, first, water supplies taken from streams and other bodies of water with populations on their watersheds must be purified; second, cities discharging sewage into streams used below as sources of public water supply may be required to purify their sewage to a degree which will not place too great a burden on the water purification works (now tentatively measured by an average *B. coli* content not in excess of 500 per 100 c. c.); third, further study is merited of the subject of the desirability of more water purification to meet more stream pollution than permitted by present tentative standards; and, fourth, there should be maintained a degree of stream-pollution control which will prevent the streams from becoming unsightly and malodorous and destructive of fish life.

DEATHS DURING WEEK ENDED AUGUST 20, 1927

Summary of information received by telegraph from industrial insurance companies for week ended August 20, 1927, and corresponding week of 1926. (From the Weekly Health Index, August 24, 1927, issued by the Bureau of the Census, Department of Commerce)

	Week ended Aug. 20, 1927	Corresponding week 1926
Policies in force.....	68, 209, 364	65, 099, 898
Number of death claims.....	11, 025	10, 020
Death claims per 1,000 policies in force, annual rate.....	8. 4	8. 0

Deaths from all causes in certain large cities of the United States during the week ended August 20, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, August 24, 1927, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Aug. 20, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Aug. 20, 1927 ²
	Total deaths	Death rate ¹		Week ended Aug. 20, 1927	Corresponding week 1926	
Total (67 cities).....	5, 438	10. 0	10. 6	604	782	4 53
Albany ⁴	20	8. 7	11. 8	1	3	21
Atlanta.....	62			12	9	
White.....	40			9	5	
Colored.....	22	(⁵)		3	4	
Baltimore ⁴	190	12. 1	13. 7	31	34	93
White.....	145		11. 7	23	26	89
Colored.....	45	(⁵)	25. 4	8	8	124
Birmingham.....	69	16. 7	14. 1	11	5	
White.....	36		9. 4	5	1	
Colored.....	33	(⁵)	21. 4	6	4	
Boston.....	192	12. 6	11. 7	32	37	89
Bridgeport.....	27			2	2	37
Buffalo.....	116	11. 0	11. 2	16	18	67
Cambridge.....	22	9. 3	7. 7	3	4	53
Camden.....	20	7. 8	10. 7	2	4	34
Canton.....	23	10. 6	8. 1	2	3	47
Chicago ¹	550	9. 2	9. 2	49	58	42
Cincinnati.....	107	13. 5	17. 9	11	22	69
Cleveland.....	147	7. 8	8. 9	13	19	34
Columbus.....	67	12. 0	11. 3	8	11	74

Footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended August 20, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926—Continued

City	Week ended Aug. 20, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Aug. 20, 1927 ²
	Total deaths	Death rate ¹		Week ended Aug. 20, 1927	Corresponding week 1926	
Dallas	49	12.2	13.9	3	13	
White	42		12.7	3	12	
Colored	7	(⁶)	21.2	0	1	
Dayton	26	7.5	7.4	2	4	33
Denver	62	11.1	11.9	7	1	
Des Moines	18	6.3	9.3	3	1	50
Duluth	16	7.3	10.6	1	1	22
El Paso	31	14.2	16.7	7	4	
Fall River ³	16	6.3	12.3	7	7	124
Flint	26	9.5	6.1	5	1	82
Fort Worth	30	9.5	8.5	3	8	
White	20		7.8	3	7	
Colored	10	(⁶)	13.7	0	1	
Grand Rapids	25	8.2	11.4	2	4	29
Houston	65			7	5	
White	47			5	4	
Colored	18	(⁶)		2	1	
Indianapolis	87	12.1	13.2	12	11	94
White	78		12.9	9	8	81
Colored	9	(⁶)	15.4	3	3	183
Jersey City	50	8.1	9.2	7	5	52
Kansas City, Kans.	25	11.1	11.6	3	2	58
White	18		9.7	1	2	22
Colored	7	(⁶)	20.3	2	0	304
Kansas City, Mo.	70	9.5	12.9	6	12	
Knoxville	26	13.3		2		
White	24			0		
Colored	2	(⁶)				
Los Angeles	200			19	19	54
Louisville	65	10.6	15.3	15	7	128
White	51		14.4	13	7	126
Colored	14	(⁶)	20.0	2	0	140
Lowell	19	9.0	11.8	3	5	58
Lynn	20	9.9	8.0	3	4	79
Memphis	74	21.6	14.4	8	8	
White	37		10.1	5	6	
Colored	37	(⁶)	22.3	3	2	
Milwaukee	87	8.5	7.7	11	15	51
Minneapolis	65	7.7	8.8	8	7	45
Nashville ⁴	37	14.0	14.8	3	4	
White	18		12.8	2	2	
Colored	19	(⁶)	20.1	1	2	
New Bedford	22	9.6	9.6	3	4	52
New Haven	48	13.5	6.3	1	2	14
New Orleans	161	18.6	18.2	16	19	
White	83		15.1	6	11	
Colored	68	(⁶)	26.8	10	8	
New York	1,066	9.3	9.4	115	163	48
Bronx borough	124	7.0	6.4	10	7	32
Brooklyn borough	378	8.7	9.0	49	67	51
Manhattan borough	423	12.2	12.4	43	79	50
Queens borough	108	7.0	6.9	10	8	43
Richmond borough	33	11.7	9.1	3	2	56
Newark, N. J.	64	7.2	9.9	10	18	50
Oakland	50	9.8	8.8	1	6	12
Oklahoma City	26			5	6	
Omaha	40	9.5	11.3	3	4	33
Paterson	30	10.9	10.9	2	1	35
Philadelphia	356	9.1	10.5	29	54	39
Pittsburgh	142	11.5	10.0	23	26	80
Portland, Oreg.	68			8	2	84
Providence	52	9.6	11.9	7	11	59
Richmond	46	12.5	13.8	10	9	132
White	24		9.7	4	5	81
Colored	22	(⁶)	23.7	6	4	228
Rochester	66	10.6	9.6	10	5	84
St. Louis	150	9.3	10.2	6	18	
St. Paul ⁵	55	11.5	10.7	2	4	18
Salt Lake City ⁶	26	10.0	12.5	1	5	15

Footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended August 20, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926—Continued

City	Week ended Aug. 20, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Aug. 20, 1927 ²
	Total deaths	Death rate ¹		Week ended Aug. 20, 1927	Corresponding week 1926	
San Antonio.....	64	15.8	15.3	13	18	-----
San Diego.....	36	16.3	13.3	2	1	43
San Francisco.....	107	9.7	13.9	3	1	19
Schenectady.....	14	7.8	11.2	0	7	0
Seattle.....	53	-----	-----	3	3	31
Somerville.....	14	7.2	5.2	1	2	36
Spokane.....	16	7.7	12.0	0	2	0
Springfield, Mass.....	25	8.9	8.3	1	4	15
Syracuse.....	43	11.4	11.8	4	4	51
Tacoma.....	25	12.2	14.3	0	1	0
Toledo.....	37	6.3	12.9	3	11	29
Trenton.....	28	10.7	11.7	4	2	70
Utica.....	22	11.1	6.6	1	2	23
Washington, D. C.....	105	10.1	8.9	16	17	93
White.....	68	-----	6.7	9	7	76
Colored.....	37	(6)	15.2	7	10	129
Waterbury.....	14	-----	-----	1	4	24
Wilmington, Del.....	14	5.8	10.1	4	5	99
Worcester.....	36	9.6	7.6	4	3	48
Yonkers.....	14	6.1	7.6	3	3	68
Youngstown.....	27	8.3	8.5	6	8	84

¹ Annual rate per 1,000 population.

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

³ Data for 66 cities.

⁴ Data for 60 cities.

⁵ Deaths for week ended Friday, Aug. 19, 1927.

⁶ In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

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 Week Ended August 27, 1927

DIPHTHERIA		Cases	INFLUENZA		Cases
Alabama	.....	38	Alabama	.....	12
Arkansas	.....	6	Arkansas	.....	14
California	.....	67	California	.....	5
Colorado	.....	13	Connecticut	.....	1
Connecticut	.....	19	Florida	.....	5
Delaware	.....	1	Georgia	.....	20
Florida	.....	13	Illinois	.....	6
Georgia	.....	25	Indiana	.....	16
Illinois	.....	55	Louisiana	.....	5
Indiana	.....	23	Maryland ¹	.....	8
Kansas	.....	9	Massachusetts	.....	4
Louisiana	.....	12	Michigan	.....	1
Maine	.....	5	New Jersey	.....	2
Maryland ¹	.....	30	Oklahoma ³	.....	5
Massachusetts	.....	52	Oregon	.....	2
Michigan	.....	53	South Carolina	.....	155
Minnesota	.....	27	Tennessee	.....	5
Mississippi	.....	27	Texas	.....	25
Missouri	.....	24	West Virginia	.....	4
Montana	.....	4	Wisconsin	.....	10
Nebraska	.....	4			
New Jersey	.....	69			
New Mexico	.....	3			
New York ²	.....	53			
North Carolina	.....	65			
Oklahoma ³	.....	35			
Oregon	.....	1			
Pennsylvania	.....	125			
Rhode Island	.....	6			
South Carolina	.....	21			
Tennessee	.....	21			
Texas	.....	18			
Utah ¹	.....	2			
Vermont	.....	2			
Washington	.....	8			
West Virginia	.....	7			
Wisconsin	.....	14			

MEASLES		Cases
Alabama	.....	60
Arizona	.....	2
Arkansas	.....	17
California	.....	38
Colorado	.....	1
Connecticut	.....	11
Delaware	.....	1
Florida	.....	7
Georgia	.....	2
Idaho	.....	1
Illinois	.....	17
Indiana	.....	8
Kansas	.....	17
Louisiana	.....	6
Maryland ¹	.....	5

¹ Week ended Friday.

² Exclusive of New York City.

³ Exclusive of Oklahoma City and Tulsa.

¹ Week end Friday.

² Exclusive of Oklahoma City and Tulsa.

MEASLES—continued		POLIOMYELITIS—continued	
	Cases		Cases
Massachusetts.....	39	Tennessee.....	4
Michigan.....	12	Texas.....	12
Minnesota.....	7	Washington.....	3
Missouri.....	6	West Virginia.....	11
Montana.....	2	Wisconsin.....	2
Nebraska.....	1	Wyoming.....	1
New Jersey.....	6		
New Mexico.....	4	SCARLET FEVER	
New York ¹	43	Alabama.....	15
North Carolina.....	164	Arizona.....	2
Oklahoma ²	18	Arkansas.....	2
Oregon.....	7	California.....	43
Pennsylvania.....	58	Colorado.....	13
South Carolina.....	42	Connecticut.....	8
Tennessee.....	11	Delaware.....	2
Utah ¹	1	Florida.....	2
Vermont.....	9	Georgia.....	20
Washington.....	10	Idaho.....	1
West Virginia.....	6	Illinois.....	60
Wisconsin.....	42	Indiana.....	30
Wyoming.....	1	Kansas.....	27
MENINGOCOCCUS MENINGITIS		Louisiana.....	6
Alabama.....	4	Maine.....	8
California.....	3	Maryland ¹	16
Colorado.....	1	Massachusetts.....	55
Maryland ¹	1	Michigan.....	68
Minnesota.....	4	Minnesota.....	42
Missouri.....	1	Mississippi.....	5
Montana.....	1	Missouri.....	27
Oklahoma ²	1	Montana.....	17
Oregon.....	2	Nebraska.....	8
Tennessee.....	1	New Jersey.....	29
Texas.....	1	New Mexico.....	2
Washington.....	1	New York ²	57
West Virginia.....	1	New Jersey.....	29
Wisconsin.....	4	Oklahoma ³	12
POLIOMYELITIS		Oregon.....	11
Alabama.....	1	Pennsylvania.....	109
Arkansas.....	2	Rhode Island.....	7
California.....	48	South Carolina.....	14
Colorado.....	2	South Dakota.....	3
Connecticut.....	12	Tennessee.....	16
Florida.....	2	Texas.....	5
Illinois.....	24	Utah ¹	2
Indiana.....	4	Vermont.....	6
Kansas.....	3	Washington.....	6
Louisiana.....	2	West Virginia.....	24
Maine.....	7	Wisconsin.....	28
Massachusetts.....	55	Wyoming.....	5
Michigan.....	10		
Minnesota.....	3	SMALLPOX	
Mississippi.....	2	Arkansas.....	1
Missouri.....	6	California.....	3
Nebraska.....	4	Idaho.....	1
New Jersey.....	20	Illinois.....	7
New Mexico.....	6	Indiana.....	13
New York ²	23	Kansas.....	1
Ohio ⁴	225	Michigan.....	14
Oklahoma ²	11	Missouri.....	11
Oregon.....	3	Nebraska.....	1
Pennsylvania.....	8	New York ²	1
Rhode Island.....	4	North Carolina.....	6
South Dakota.....	1	Oklahoma ²	3

¹ Week ended Friday.² Exclusive of New York City.³ Exclusive of Oklahoma City and Tulsa.⁴ Cases reported from Aug. 1 to Aug. 30.¹ Week ended Friday.² Exclusive of New York City.³ Exclusive Oklahoma City and Tulsa.

SMALLPOX—continued

	Cases
Oregon.....	8
South Carolina.....	4
South Dakota.....	5
Tennessee.....	7
Texas.....	4
Utah ¹	3
Washington.....	9
West Virginia.....	7
Wisconsin.....	6

TYPHOID FEVER

Alabama.....	105
Arkansas.....	45
California.....	15
Colorado.....	15
Connecticut.....	2
Delaware.....	1
Florida.....	15
Georgia.....	68
Idaho.....	1
Illinois.....	64
Indiana.....	22
Kansas.....	19
Louisiana.....	39
Maine.....	15
Maryland ¹	50

¹ Week ended Friday.

TYPHOID FEVER—continued

	Cases
Massachusetts.....	27
Michigan.....	30
Minnesota.....	4
Mississippi.....	29
Missouri.....	18
Montana ¹	8
Nebraska.....	6
New Jersey.....	9
New Mexico.....	14
New York ²	24
North Carolina.....	58
Oklahoma ³	112
Oregon.....	4
Pennsylvania.....	49
Rhode Island.....	4
South Carolina.....	101
Tennessee.....	153
Texas.....	11
Utah ¹	4
Washington.....	3
West Virginia.....	40
Wisconsin.....	10
Wyoming.....	1

¹ Week ended Friday.

² Exclusive of New York City.

³ Exclusive of Oklahoma City and Tulsa.

⁴ Includes 3 cases in delayed report.

Reports for Week Ended August 20, 1927

DIPHTHERIA

	Cases
District of Columbia.....	8
North Dakota.....	6

INFLUENZA

District of Columbia.....	1
---------------------------	---

MEASLES

District of Columbia.....	1
---------------------------	---

SCARLET FEVER

	Cases
District of Columbia.....	5
North Dakota.....	11

SMALLPOX

District of Columbia.....	1
North Dakota.....	1

TYPHOID FEVER

District of Columbia.....	4
---------------------------	---

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	Polio-myelitis	Scarlet fever	Smallpox	Typhoid fever
<i>June, 1927</i>										
Delaware.....		6			20		0	10	0	3
<i>July, 1927</i>										
Alabama.....	1	71	53	530	228	127	2	36	66	414
Florida.....	3	21	12	25	64	1	4	14	24	59
Illinois.....	20	377	121	11	562	3	26	397	67	141
Indiana.....	3	89	15		149		1	142	284	41
Louisiana.....	1	52	26	279	154	127	20	18	13	146
Maryland.....	2	150	7	3	56	3	0	87	0	64
Minnesota.....	13	90	7		104		7	286	12	16
Missouri.....	4	92		18	171		4	120	61	84
Ohio.....	5	291	16		166		32	373	95	85
Oklahoma ¹	6	32	33	463	236	120	16	59	98	372
Rhode Island.....	2	29			6		0	52	0	4
South Carolina.....	0	94	510	1,597	535	789	8	34	35	542
West Virginia.....	2	50	7		214		2	128	116	89
Wisconsin.....	33	142	58		1,170		5	290	83	15
Wyoming.....	0	2	3		40		1	27	15	1

¹ Exclusive of Oklahoma City and Tulsa.

June, 1927		July, 1927—Continued	
Delaware:	Cases	Mumps—Continued.	Cases
Chicken pox.....	12	Illinois.....	526
Mumps.....	1	Indiana.....	26
Whooping cough.....	2	Louisiana.....	7
		Maryland.....	34
		Missouri.....	188
		Ohio.....	330
		Oklahoma.....	10
		Rhode Island.....	8
		Wisconsin.....	343
		Ophthalmia neonatorum:	
Actinomycoosis:		Illinois.....	54
Illinois.....	1	Maryland.....	1
Anthrax:		Ohio.....	117
Oklahoma.....	1	Oklahoma.....	1
Chicken pox:		Rhode Island.....	2
Alabama.....	15	Paratyphoid fever:	
Florida.....	3	Louisiana.....	2
Illinois.....	422	Ohio.....	5
Indiana.....	68	South Carolina.....	37
Louisiana.....	1	Puerperal fever:	
Maryland.....	123	Illinois.....	13
Minnesota.....	321	Rabies in animals:	
Missouri.....	36	Maryland.....	8
Ohio.....	402	Missouri.....	2
Oklahoma.....	21	South Carolina.....	16
Rhode Island.....	17	Rabies in man:	
South Carolina.....	64	Illinois.....	1
West Virginia.....	45	Indiana.....	1
Wisconsin.....	397	Wisconsin.....	1
Wyoming.....	9	Rocky Mountain spotted or tick fever:	
Dengue:		Wyoming.....	19
Alabama.....	6	Scabies:	
South Carolina.....	22	Oklahoma.....	1
Dysentery:		Septic sore throat:	
Florida.....	2	Illinois.....	4
Illinois.....	48	Louisiana.....	2
Louisiana.....	8	Maryland.....	3
Maryland.....	12	Missouri.....	18
Minnesota.....	3	Ohio.....	54
Oklahoma.....	142	Rhode Island.....	2
German measles:		Tetanus:	
Illinois.....	17	Florida.....	8
Maryland.....	6	Illinois.....	12
Ohio.....	13	Louisiana.....	4
Rhode Island.....	4	Maryland.....	5
Wisconsin.....	47	Missouri.....	4
Hookworm disease:		Oklahoma.....	2
Florida.....	308	Trachoma:	
Louisiana.....	7	Illinois.....	7
South Carolina.....	131	Louisiana.....	1
Impetigo contagiosa:		Minnesota.....	1
Maryland.....	1	Missouri.....	5
Lead poisoning:		Ohio.....	3
Illinois.....	12	Oklahoma.....	6
Ohio.....	21	Wisconsin.....	1
Leprosy:		Wyoming.....	2
Louisiana.....	1	Tularaemia:	
Minnesota.....	1	Louisiana.....	1
Lethargic encephalitis:		Wyoming.....	3
Alabama.....	3	Typhus fever:	
Illinois.....	11	Alabama.....	9
Louisiana.....	4	Florida.....	5
Maryland.....	1	Oklahoma.....	1
Minnesota.....	3	Vincent's angina:	
Ohio.....	4	Maryland.....	4
Wisconsin.....	1	Oklahoma.....	1
Malta fever:			
Minnesota.....	1		
Mumps:			
Alabama.....	33		
Florida.....	8		

July, 1927—Continued		July, 1927—Continued	
Whooping cough:	Cases	Whooping cough—Continued.	Cases
Alabama.....	206	Ohio.....	643
Florida.....	41	Oklahoma.....	75
Illinois.....	1,224	Rhode Island.....	15
Indiana.....	247	South Carolina.....	53
Louisiana.....	41	West Virginia.....	151
Maryland.....	278	Wisconsin.....	508
Minnesota.....	76	Wyoming.....	31
Missouri.....	348		

POLIOMYELITIS IN OHIO

The State health officer of Ohio, under date of August 30, 1927, reports 225 cases of poliomyelitis with 24 deaths in Ohio since August 1. About 40 counties were involved.

RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of July, 1927, to other State health departments by departments of health of certain States

Referred by—	Chick- en pox	Diph- theria	Dysen- tery	Lep- rosy	Scarlet fever	Small- pox	Tuber- culosis	Ty- phoid fever	Whoop- ing cough
Connecticut.....		1						1	1
Illinois.....		1				5	7	7	1
Minnesota.....	1		1	1			30		
New York.....		1			3			2	
Rhode Island.....							1		
Washington.....						2			

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 30,530,000. The estimated population of the 91 cities reporting deaths is more than 29,860,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended August 13, 1927, and August 14, 1926

	1927	1926	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
42 States.....	997	829	
97 cities.....	533	396	405
Measles:			
41 States.....	887	1,415	
97 cities.....	159	333	
Poliomyelitis:			
42 States.....	248	89	
Scarlet fever:			
42 States.....	941	969	
97 cities.....	356	294	250
Smallpox:			
42 States.....	222	310	
97 cities.....	22	38	29
Typhoid fever:			
42 States.....	1,188	1,361	
97 cities.....	145	194	192
<i>Deaths reported</i>			
Influenza and pneumonia:			
91 cities.....	337	283	
Smallpox:			
91 cities.....	0	0	

City reports for week ended August 13, 1927

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 week 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 reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1918 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population July 1, 1925, 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.....	75,333	0	1	10	0	0	0	0	0
New Hampshire:									
Concord.....	22,546	0	0	0	0	0	1	0	1
Manchester.....	83,097	0	0	0	0	0	0	0	0
Nashua.....	29,723	0	0	0	0	0	0	0	1
Vermont:									
Barre.....	10,008	0	0	0	0	0	0	0	0
Burlington.....	24,089	3	0	0	0	0	1	1	0
Massachusetts:									
Boston.....	779,620	9	29	8	0	1	22	9	15
Fall River.....	128,993	0	2	0	0	0	0	0	3
Springfield.....	142,065	0	1	0	0	0	0	1	0
Worcester.....	190,757	0	3	1	0	0	0	0	2
Rhode Island:									
Pawtucket.....	69,760	0	0	0	0	0	0	0	3
Providence.....	267,918	0	3	4	0	0	1	0	2
Connecticut:									
Bridgeport.....	(1)	0	4	7	0	0	0	0	2
Hartford.....	160,197	0	2	0	0	0	0	1	2
New Haven.....	178,927	0	1	0	0	0	3	0	3

¹ No estimate made.

City reports for week ended August 13, 1927—Continued

Division, State, and city	Population July 1, 1925, estimated	Chick-en pox, cases re-ported	Diphtheria		Influenza		Meas-les, cases re-ported	Mumps, cases re-ported	Pneu-monia, deaths re-ported
			Cases, esti-mated expect-ancy	Cases re-ported	Cases re-ported	Deaths re-ported			
MIDDLE ATLANTIC									
New York:									
Buffalo.....	538, 016	1	10	4	-----	0	8	3	3
New York.....	5, 873, 356	19	102	127	7	3	14	16	75
Rochester.....	316, 786	0	4	2	-----	0	0	2	1
Syracuse.....	182, 003	4	2	1	-----	0	3	0	2
New Jersey:									
Camden.....	128, 642	0	2	2	0	0	0	2	1
Newark.....	452, 513	12	6	9	0	0	4	4	3
Trenton.....	132, 020	0	1	2	0	0	0	0	0
Pennsylvania:									
Philadelphia.....	1, 979, 364	17	33	28	-----	1	6	12	17
Pittsburgh.....	631, 563	7	12	21	-----	0	15	2	13
Reading.....	112, 707	2	2	1	-----	0	7	1	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	409, 333	1	5	4	0	0	1	0	5
Cleveland.....	936, 485	13	18	41	2	0	3	23	8
Columbus.....	279, 836	0	2	1	0	1	0	0	5
Toledo.....	287, 380	3	4	3	0	2	1	2	2
Indiana:									
Fort Wayne.....	97, 846	0	1	0	0	0	0	0	2
Indianapolis.....	358, 819	4	3	3	0	0	0	6	1
South Bend.....	80, 091	0	1	1	0	0	0	0	0
Terre Haute.....	71, 071	0	0	0	0	0	0	0	0
Illinois:									
Chicago.....	2, 995, 239	32	48	58	0	1	5	12	26
Springfield.....	63, 923	0	0	1	0	0	1	0	1
Michigan:									
Detroit.....	1, 245, 824	17	30	23	0	1	4	1	10
Flint.....	130, 316	0	4	5	0	0	0	0	1
Grand Rapids.....	153, 698	0	2	0	0	0	5	0	0
Wisconsin:									
Kenosha.....	50, 891	0	0	0	0	0	0	2	0
Madison.....	46, 385	0	0	0	0	0	0	1	0
Milwaukee.....	509, 192	6	9	4	0	0	9	4	2
Racine.....	67, 707	0	1	0	0	0	0	0	0
Superior.....	39, 671	0	0	0	0	0	0	0	1
WEST NORTH CENTRAL									
Minnesota:									
Duluth.....	110, 502	2	1	1	0	0	0	1	0
Minneapolis.....	425, 435	9	12	12	0	0	1	0	3
St. Paul.....	246, 001	1	11	6	0	2	3	1	4
Iowa:									
Davenport.....	52, 469	0	0	2	0	-----	0	0	-----
Des Moines.....	141, 441	0	2	0	0	-----	0	0	-----
Sioux City.....	76, 411	0	1	0	0	-----	1	0	-----
Waterloo.....	36, 771	0	0	0	0	-----	1	0	-----
Missouri:									
Kansas City.....	367, 481	1	2	6	0	0	1	1	9
St. Joseph.....	78, 342	0	0	0	0	0	0	1	1
St. Louis.....	821, 543	3	19	7	0	0	2	8	-----
North Dakota:									
Fargo.....	26, 403	0	0	0	0	0	0	0	0
Grand Forks.....	14, 811	0	0	0	0	-----	0	0	-----
South Dakota:									
Sioux Falls.....	30, 127	0	0	0	0	-----	0	0	-----
Nebraska:									
Lincoln.....	60, 941	0	0	3	0	0	2	4	0
Omaha.....	211, 768	1	5	1	0	0	0	1	2
Kansas:									
Topeka.....	55, 411	2	0	1	1	1	1	2	0
Wichita.....	88, 367	0	0	0	0	0	1	0	2

City reports for week ended August 13, 1927—Continued

Division, State, and city	Population July 1, 1925, estimated	Chick-en pox, cases re-ported	Diphtheria		Influenza		Mea-sles, cases re-ported	Mumps, cases re-ported	Pneu-monia, deaths re-ported
			Cases, esti-mated expect-ancy	Cases re-ported	Cases re-ported	Deaths re-ported			
SOUTH ATLANTIC									
Delaware:									
Wilmington.....	122, 049	1	1	0	0	0	0	0	2
Maryland:									
Baltimore.....	796, 296	4	11	18	0	1	0	0	9
Cumberland.....	33, 741	0	0	1	0	0	0	0	2
Frederick.....	12, 035	0	0	0	0	0	0	0	0
District of Columbia:									
Washington.....	497, 906	0	4	13	0	0	0	0	5
Virginia:									
Lynchburg.....	30, 395	0	0	0	0	0	0	0	0
Norfolk.....	(1)	0	0	0	1	0	0	0	0
Richmond.....	186, 403	0	4	2	0	0	0	1	0
Roanoke.....	58, 208	0	1	0	0	0	0	0	0
West Virginia:									
Charleston.....	49, 019	0	0	0	0	1	0	0	2
Wheeling.....	56, 208	0	0	0	0	0	0	0	1
North Carolina:									
Raleigh.....	30, 371	0	1	2	0	0	0	0	1
Wilmington.....	37, 061	0	0	0	0	0	0	0	4
Winston-Salem.....	69, 031	0	1	1	0	0	1	6	0
South Carolina:									
Charleston.....	73, 125	0	0	0	1	0	1	0	3
Columbia.....	41, 225	0	0	0	0	0	4	0	2
Greenville.....	27, 311	0	0	0	0	0	0	0	2
Georgia:									
Atlanta.....	(1)	0	2	4	7	0	1	0	6
Brunswick.....	16, 809	0	0	0	0	0	0	0	1
Savannah.....	93, 134		0						
Florida:									
Miami.....	69, 754	0		0	1	0	0	0	3
St. Petersburg.....	26, 847		0			0			0
Tampa.....	94, 743	1	0	3	0	0	0	0	1
EAST SOUTH CENTRAL									
Kentucky:									
Covington.....	58, 309	0	0	0	0	0	0	0	0
Lexington.....	46, 895	0		0	0	0	0	3	0
Louisville.....	305, 935	0	2	0	0	0	1	3	6
Tennessee:									
Memphis.....	174, 533	0	3	0	0	0	1	0	1
Nashville.....	136, 220	0	1	2	0	1	0	0	2
Alabama:									
Birmingham.....	205, 670	0	2	3	3	0	1	0	4
Mobile.....	65, 955	0	0	0	0	0	0	0	0
Montgomery.....	46, 481	0	1	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith.....	31, 643	1	0	0	0		0	0	
Little Rock.....	74, 216	0	0	0	0	0	4	0	0
Louisiana:									
New Orleans.....	414, 493	0	5	4	6	3	0	0	7
Shreveport.....	57, 857	0	1	2	0	0	1	4	0
Oklahoma:									
Oklahoma City.....	(1)	0	1	4	10	0	0	0	3
Tulsa.....	124, 478	0		0	0		1	1	
Texas:									
Dallas.....	194, 450	1	3	4	0	0	0	1	1
Galveston.....	48, 375	0	0	0	0	0	0	0	1
Houston.....	164, 954	0	2	6	0	0	0	1	3
San Antonio.....	198, 069	0	1	6	0	0	0	0	1
MOUNTAIN									
Montana:									
Billings.....	17, 971	0	0	0	0	0	0	0	0
Great Falls.....	29, 883	1	1	0	0	0	0		1
Helena.....	12, 037	0	0	0	0	0	0	0	0
Missoula.....	12, 668	0	0	0	0	0	1	0	0

1 No estimate made.

City reports for week ended August 13, 1927—Continued

Division, State, and city	Population July 1, 1925, estimated	Chick-en pox, cases re-ported	Diphtheria		Influenza		Meas-les, cases re-ported	Mumps, cases re-ported	Pneu-monia, deaths re-ported
			Cases, esti-mated expect-ancy	Cases re-ported	Cases re-ported	Deaths re-ported			
MOUNTAIN—contd.									
Idaho:									
Boise.....	23, 042	0	0	0	0	0	0	0	0
Colorado:									
Denver.....	280, 911	2	9	15	0	0	2	2	5
Pueblo.....	43, 787	0	1	1	0	0	0	0	1
New Mexico:									
Albuquerque.....	21, 000	0	0	0	0	0	0	0	0
Utah:									
Salt Lake City.....	130, 948	11	2	4	0	0	1	3	0
Nevada:									
Reno.....	12, 665	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	(1)	6	3	4	0	0	14	1	0
Spokane.....	108, 897	5	2	4	0	0	1	0	0
Tacoma.....	104, 455	2	2	5	0	0	0	0	0
Oregon:									
Portland.....	282, 383	2	4	2	0	0	3	0	1
California:									
Los Angeles.....	(1)	2	24	21	1	1	5	1	9
Sacramento.....	72, 260	0	2	0	0	0	0	0	3
San Francisco.....	557, 530	5	12	7	2	0	3	6	4

Division, State, and city	Scarlet fever		Smallpox			Tuber-culosis, deaths re-ported	Typhoid fever			Whoop-ing cough, cases re-ported	Deaths, all causes
	Cases, esti-mated expect-ancy	Cases re-ported	Cases, esti-mated expect-ancy	Cases re-ported	Deaths re-ported		Cases, esti-mated expect-ancy	Cases re-ported	Deaths re-ported		
NEW ENGLAND											
Maine:											
Portland.....	0	0	0	0	0	0	1	3	0	0	22
New Hampshire:											
Concord.....	0	1	0	0	0	1	0	0	0	0	7
Manchester.....	1	0	0	0	0	0	0	0	0	0	13
Nashua.....	0	0	0	0	0	0	0	0	0	0	5
Vermont:											
Barre.....	0	0	0	0	0	2	0	0	0	0	4
Burlington.....	1	0	0	0	0	1	0	0	0	0	6
Massachusetts:											
Boston.....	15	27	0	0	0	10	3	7	0	12	171
Fall River.....	0	1	0	0	0	2	1	2	0	0	18
Springfield.....	1	1	0	0	0	1	1	0	0	3	28
Worcester.....	2	1	0	0	0	7	0	0	0	3	46
Rhode Island:											
Pawtucket.....	0	0	0	0	0	0	0	0	0	0	17
Providence.....	2	6	0	0	0	4	0	1	0	9	46
Connecticut:											
Bridgeport.....	2	2	0	0	0	1	1	0	0	0	25
Hartford.....	1	0	0	0	0	1	1	0	0	20	66
New Haven.....	1	1	0	0	0	0	2	0	0	4	13
MIDDLE ATLANTIC											
New York:											
Buffalo.....	5	8	0	0	0	9	2	2	0	37	116
New York.....	26	37	0	0	0	90	37	16	2	117	1, 126
Rochester.....	3	4	0	0	0	1	1	1	0	2	54
Syracuse.....	3	1	0	0	0	1	0	0	0	5	41

¹ No estimate made.

² Pulmonary tuberculosis only.

City reports for week ended August 13, 1927—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated/ expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
MOUNTAIN—CON.											
Colorado:											
Denver.....	3	4	1	0	0	13	2	0	0	4	73
Pueblo.....	0	2	0	0	0	1	1	1	0	0	16
New Mexico:											
Albuquerque..	0	0	0	0	0	4	0	1	0	0	10
Utah:											
Salt Lake City	1	4	0	1	0	3	1	2	0	11	18
Nevada:											
Reno.....	0	0	0	0	0	0	0	0	0	0	6
PACIFIC											
Washington:											
Seattle.....	3	1	1	0			1	0		8	
Spokane.....	3	4	2	3			0	0		1	
Tacoma.....	2	2	1	4	0	0	0	0	0	1	10
Oregon:											
Portland.....	3	1	5	4	0	4	1	2	0	5	51
California:											
Los Angeles...	6	11	4	0	0	23	4	2	0	13	222
Sacramento....	1	1	0	2	0	1	2	0	0	0	15
San Francisco..	5	5	0	0	0	10	2	2	0	17	133

Division, State, and city	Meningo- coccus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, esti- mated expect- ancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston.....	0	0	1	1	0	0	1	12	0
Connecticut:									
Bridgeport.....	0	0	2	0	0	0	0	1	0
Hartford.....	1	1	0	0	0	0	1	0	0
MIDDLE ATLANTIC									
New York:									
Buffalo.....	0	0	0	0	0	0	0	1	0
New York.....	4	2	5	0	0	0	7	33	2
Rochester.....	0	0	0	0	0	0	0	1	0
New Jersey:									
Newark.....	0	0	1	0	0	0	1	2	0
Pennsylvania:									
Philadelphia...	0	0	0	0	0	1	1	2	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	0	0	0	0	0	0	0	6	0
Cleveland.....	0	0	1	0	0	0	1	6	0
Columbus.....	0	0	1	1	0	0	0	0	0
Illinois:									
Chicago.....	1	1	1	0	1	1	3	4	1
Michigan:									
Detroit.....	0	0	1	0	0	0	1	1	0
Wisconsin:									
Milwaukee.....	2	0	0	0	0	0	0	1	0
Superior.....	2	0	0	0	0	0	0	0	0

City reports for week ended August 13, 1927—Continued

Division, State, and city	Meningo-coccus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
WEST NORTH-CENTRAL									
Minnesota:									
Minneapolis.....	0	1	0	0	0	0	0	1	0
Iowa:									
Waterloo.....	0		0		0		0	1	
Missouri:									
Kansas City.....	1	1	0	0	0	0	0	4	0
St. Louis.....	1	0	0	0	0	0	1	0	0
Nebraska:									
Omaha.....	0	0	0	0	0	0	0	1	0
SOUTH ATLANTIC¹									
Maryland:									
Baltimore.....	0	0	1	0	0	0	1	0	0
District of Columbia:									
Washington.....	0	0	0	0	0	0	0	2	0
West Virginia:									
Wheeling.....	0	0	0	0	0	0	0	8	1
South Carolina:									
Charleston.....	0	0	0	0	0	1	0	0	0
Greenville.....	0	0	0	0	0	1	0	1	0
Georgia:									
Atlanta.....	0	0	0	0	3	0	0	0	0
Florida: ¹									
Miami.....	0	0	0	0	1	0	1	0	0
EAST SOUTH CENTRAL									
Kentucky:									
Lexington.....	0	0	0	0	0	0		2	0
Tennessee:									
Nashville.....	0	0	0	0	0	0	0	1	0
Alabama:									
Mobile ¹	1	1	0	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
Shreveport.....	0	0	0	0	0	2	0	0	0
Texas:									
Dallas.....	0	0	0	2	1	1	0	0	0
Houston.....	0	0	0	0	0	1	0	0	0
San Antonio.....	0	0	0	0	0	0	0	1	1
MOUNTAIN									
Utah:									
Salt Lake City.....	0	0	0	0	0	0	0	0	1
PACIFIC									
Washington:									
Seattle.....	1		0		0		0	0	
Oregon:									
Portland.....	6	2	0	0	0	0	0	0	0
California:									
Los Angeles.....	0	0	0	0	0	0	1	5	3
Sacramento.....	0	0	0	0	0	0	0	2	1
San Francisco.....	0	0	0	1	0	1	0	8	1

¹ Typhus fever: 3 cases at Tampa, Fla., and 1 case at Mobile, Ala.

² Anthrax: 1 case at Wilmington, Del.

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended August 13, 1927, compared with those for a like period ended August 14, 1926. The population figures used in computing the rates are approximate estimates as of

July 1, 1926 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 30,445,000 in 1926 and 30,966,000 in 1927. The 95 cities reporting deaths had nearly 29,785,000 estimated population in 1926 and nearly 30,296,000 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 10 to August 13, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926¹

DIPHTHERIA CASE RATES

	Week ended—									
	July 17, 1926	July 16, 1927	July 24, 1926	July 23, 1927	July 31, 1926	July 30, 1927	Aug. 7, 1926	Aug. 6, 1927	Aug. 14, 1926	Aug. 13, 1927
101 cities.....	94	114	90	92	80	94	78	78	69	91
New England.....	78	132	33	63	40	91	40	63	31	70
Middle Atlantic.....	101	165	109	106	103	104	88	92	62	97
East North Central.....	110	93	98	108	83	102	104	80	101	94
West North Central.....	107	54	95	54	85	56	52	42	56	67
South Atlantic.....	32	83	34	87	20	89	43	65	48	83
East South Central.....	21	36	10	25	21	31	10	31	57	31
West South Central.....	26	71	39	126	39	71	39	92	26	98
Mountain.....	109	81	64	99	91	117	118	135	73	180
Pacific.....	158	113	174	65	118	121	102	76	104	107

MEASLES CASE RATES

101 cities.....	226	155	164	108	108	58	70	48	59	27
New England.....	179	241	108	197	83	169	83	93	68	63
Middle Atlantic.....	129	122	108	92	63	45	42	43	33	28
East North Central.....	412	110	279	90	191	47	113	29	84	19
West North Central.....	192	105	184	48	93	40	58	31	67	22
South Atlantic.....	201	221	127	141	114	69	47	38	80	12
East South Central.....	171	61	124	25	93	46	41	10	31	12
West South Central.....	17	105	13	55	9	59	9	55	4	4
Mountain.....	191	171	173	99	128	63	137	45	64	36
Pacific.....	327	448	212	280	121	65	121	144	94	60

SCARLET FEVER CASE RATES

101 cities.....	94	84	82	64	73	63	61	51	51	57
New England.....	99	130	85	100	118	107	104	51	68	93
Middle Atlantic.....	73	91	75	50	52	39	38	36	30	39
East North Central.....	119	89	89	75	84	87	79	75	55	73
West North Central.....	186	71	127	79	143	79	101	62	119	75
South Atlantic.....	45	56	35	41	34	40	39	27	30	31
East South Central.....	52	31	93	31	62	41	31	51	47	63
West South Central.....	52	38	82	46	39	25	13	25	21	63
Mountain.....	91	225	64	99	36	153	64	126	36	117
Pacific.....	94	50	91	92	86	65	83	60	86	63

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, 1926 and 1927, respectively.

² Norfolk, Va., not included.

³ Seattle, Wash., and Spokane, Wash., not included.

⁴ Winston-Salem, N. C., Savannah, Ga., Memphis, Tenn., and Little Rock, Ark., not included.

⁵ Winston-Salem, N. C., and Savannah, Ga., not included.

⁶ Memphis, Tenn., not included.

⁷ Little Rock, Ark., not included.

Summary of weekly reports from cities, July 10 to August 13, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued

SMALLPOX CASE RATES

	Week ended—									
	July 17, 1926	July 16, 1927	July 24, 1926	July 23, 1927	July 31, 1926	July 30, 1927	Aug. 7, 1926	Aug. 6, 1927	Aug. 14, 1926	Aug. 13, 1927
100 cities.....	7	9	6	10	5	5	8	6	7	4
New England.....	0	0	0	0	0	0	0	0	0	0
Middle Atlantic.....	1	0	0	0	0	0	1	0	0	0
East North Central.....	6	17	8	13	6	9	9	9	1	5
West North Central.....	26	14	14	12	4	6	14	0	4	4
South Atlantic.....	6	9	6	12	2	4	11	9	11	6
East South Central.....	5	25	10	36	21	10	16	5	26	0
West South Central.....	13	8	13	8	4	13	13	17	21	0
Mountain.....	9	36	27	117	9	27	9	18	73	9
Pacific.....	21	13	8	21	32	10	24	21	32	24

TYPHOID FEVER CASE RATES

101 cities.....	22	22	18	20	30	21	28	25	35	25
New England.....	12	19	9	16	14	9	12	7	17	30
Middle Atlantic.....	11	11	9	8	23	13	19	13	24	15
East North Central.....	6	8	6	9	10	11	12	9	20	14
West North Central.....	14	16	12	14	22	16	18	26	24	22
South Atlantic.....	58	43	47	50	54	36	65	56	99	42
East South Central.....	165	153	134	122	243	117	181	183	140	117
West South Central.....	56	75	30	55	47	55	43	50	47	89
Mountain.....	0	27	46	27	36	72	27	45	73	36
Pacific.....	21	8	8	16	11	24	29	13	29	10

INFLUENZA DEATH RATES

95 cities.....	4	3	3	3	2	3	2	2	1	3
New England.....	0	5	2	0	0	2	0	0	0	2
Middle Atlantic.....	4	2	2	4	1	4	2	1	1	2
East North Central.....	4	1	4	2	1	1	1	0	0	2
West North Central.....	0	2	2	2	0	0	0	2	2	6
South Atlantic.....	6	6	4	2	2	2	4	6	0	4
East South Central.....	21	5	5	15	5	10	0	5	10	6
West South Central.....	9	9	9	0	22	9	4	4	13	14
Mountain.....	9	18	9	9	0	0	9	9	0	0
Pacific.....	4	7	4	3	4	3	11	3	0	3

PNEUMONIA DEATH RATES

95 cities.....	60	57	54	56	48	49	54	47	50	56
New England.....	57	56	33	56	33	49	54	33	31	77
Middle Atlantic.....	74	61	64	59	41	56	56	46	62	57
East North Central.....	46	45	47	55	47	42	42	44	35	41
West North Central.....	36	31	40	21	57	17	51	44	25	44
South Atlantic.....	55	63	57	75	51	44	68	53	57	76
East South Central.....	109	66	98	46	62	46	52	51	52	74
West South Central.....	79	69	53	65	71	56	97	69	106	70
Mountain.....	36	197	64	45	55	36	64	54	82	63
Pacific.....	46	97	35	72	71	79	57	62	39	55

¹ Norfolk, Va., not included.

² Seattle, Wash., and Spokane, Wash., not included.

³ Winston-Salem, N. C., Savannah, Ga., Memphis, Tenn., and Little Rock, Ark., not included.

⁴ Winston-Salem, N. C., and Savannah, Ga., not included.

⁵ Memphis, Tenn., not included.

⁷ Little Rock, Ark., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities in each group, approximated as of July 1, 1926 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	
			1926	1927	1926	1927
Total	101	95	30, 443, 800	30, 966, 700	29, 783, 700	30, 295, 900
New England.....	12	12	2, 211, 000	2, 245, 900	2, 211, 000	2, 245, 900
Middle Atlantic.....	10	10	10, 457, 000	10, 567, 000	10, 457, 000	10, 567, 000
East North Central.....	16	16	7, 650, 200	7, 810, 600	7, 650, 200	7, 810, 600
West North Central.....	12	10	2, 585, 500	2, 626, 600	2, 470, 600	2, 510, 000
South Atlantic.....	21	20	2, 799, 500	2, 878, 100	2, 757, 700	2, 835, 700
East South Central.....	7	7	1, 008, 300	1, 023, 500	1, 008, 300	1, 023, 500
West South Central.....	8	7	1, 213, 800	1, 243, 300	1, 181, 500	1, 210, 400
Mountain.....	9	9	572, 100	580, 000	572, 100	580, 000
Pacific.....	6	4	1, 946, 400	1, 991, 700	1, 475, 300	1, 512, 800

FOREIGN AND INSULAR

THE FAR EAST

Reports for weeks ended July 30 and August 6, 1927.—The following reports for the weeks ended July 30 and August 6, 1927, were 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:

Week-ended July 30, 1927

Maritime towns	Plague		Cholera		Small-pox		Maritime towns	Plague		Cholera		Small-pox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths
Kenya: Mombasa.....	1	0	0	0	0	0	Siam: Bangkok.....	0	0	0	1	0	0
Iraq: Basra.....	0	0	29	18	5	3	Dutch East Indies:						
Persia:							Banjermasin.....	0	0	0	0	7	0
Mohammerah.....	0	0	52	37	0	0	French Indo-China:						
Abadan.....	0	0	122	103	0	0	Haiphong.....	0	0	8	8	0	0
British India:							Macao.....	0	0	1	1	0	0
Bombay.....	4	0	25	14	6	6	Hong Kong.....	0	0	0	0	1	1
Madras.....	0	0	105	3	1	1	Manchuria: Chang-						
Calcutta.....	0	0	12	9	7	7	chun.....	0	0	0	0	1	0
Bassien.....	4	0	0	0	0	0	Japan: Nagasaki.....	0	0	0	0	3	0
Rangoon.....	9	0	1	13	6	6							
Vizagapatam.....	0	0	0	4	1	1							
Negapatam.....	0	0	0	2	2	2							

Telegraphic reports from the following maritime towns indicated that no case of plague, cholera, or smallpox was reported during the week:

ASIA

Arabia.—Jeddah.
 Persia.—Bender-Abbas, Bushire, Lingah.
 Ceylon.—Colombo.
 British India.—Karachi, Chittagong, Cochin, Tuticorin, Moulmein.
 Portuguese India.—Nova Goa.
 Federated Malay States.—Port Swettenham.
 Straits Settlements.—Singapore, Penang.
 Dutch East Indies.—Batavia, Banjermasin, Pontianak, Semarang, Menado, Cheribon, Makassar, Balikpapan, Padang, Belawan-Deli, Tarakan, Sabang, Palembang.
 Sarawak.—Kuching.
 British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.
 Portuguese Timor.—Dilly.
 Philippine Islands.—Manila, Iloilo, Jolo, Cebu, Zamboanga.
 French Indo-China.—Saigon and Cholon, Tourane
 China.—Amoy, Shanghai, Tientsin, Tsingtao, Canton.
 Formosa.—Keeling, Takao.
 Chosen.—Chemulpo, Fusan.
 Manchuria.—Yingkow, Antung, Harbin, Mukden.
 Kwantung.—Port Arthur, Dairen.
 Japan.—Yokohama, Niigata, Shimonoseki, Moji, Tsuruga, Kobe, Osaka, Hakodate.

AUSTRALASIA AND OCEANIA

Australia.—Adelaide, Melbourne, Sydney, Brisbane, Rockhampton, Townsville, Port Darwin, Broome, Fremantle, Carnarvon, Thursday Island, Cairns.

AUSTRALASIA AND OCEANIA—continued

New Guinea.—Port Moresby.
 New Britain Mandated Territory.—Rabaul and Kokopo.
 New Zealand.—Auckland, Wellington, Christchurch, Invercargill, Dunedin.
 Samoa.—Apia.
 New Caledonia.—Noumea.
 Fiji.—Suva.
 Hawaii.—Honolulu.
 Society Islands.—Papeete.

AFRICA

Egypt.—Alexandria, Suez, Port Said.
 Anglo-Egyptian Sudan.—Port Sudan, Suakin.
 Eritrea.—Massaua.
 French Somaliland.—Djibouti.
 British Somaliland.—Berbera.
 Italian Somaliland.—Mogadiscio.
 Zanzibar.—Zanzibar.
 Tanganyika.—Dar-es-Salaam.
 Seychelles.—Victoria.
 Portuguese East Africa.—Mozambique, Beira, Lourenco-Marques.
 Union of South Africa.—East London, Port Elizabeth, Cape Town, Durban.
 Reunion.—Saint Denis.
 Mauritius.—Port Louis.
 Madagascar.—Majunga, Tamatave, Diego-Suarez.

AMERICA

Panama.—Colon, Panama.

Reports had not been received in time for publication from—

Arabia.—Aden, Kamaran, Perim.

Dutch East Indies.—Surabaya, Samarinda, Padang, Sabang, Pontianak.

Union of Socialist Soviet Republics.—Vladivostok.

Belated information—

Week ended July 23: *Canton*, cholera 4 cases, 2 deaths.

Other epidemiological information:

The *Sanitary Maritime and Quarantine Council of Egypt* reports that, during the week ended Wednesday, August 3, 2,284 pilgrims arrived at El Tor from Yambo. No infectious disease occurred.

Week ended August 6, 1927

Maritime towns	Plague		Cholera		Small-pox		Maritime towns	Plague		Cholera		Small-pox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths
Iraq: Basra.....	0	0	48	35	0	0	Ceylon: Colombo.....	0	0	0	0	1	1
Persia:							Dutch East Indies:						
Mohammerah.....	0	0	34	26	0	0	Banjermasin.....	0	0	0	0	44	---
Abadan.....	0	0	66	58	0	0	Menado.....	0	0	0	0	0	2
Ahwaz.....	0	0	12	6	0	0	French Indo-China:						
British India:							Haiphong.....	0	0	6	6	0	0
Karachi.....	0	0	0	1	1	1	Turane.....	0	0	6	5	0	0
Bombay.....	3	---	14	9	7	7	China:						
Madras.....	0	---	92	3	1	1	Shanghai.....	0	0	---	3	0	0
Calcutta.....	0	---	8	11	10	10	Canton.....	0	0	10	8	1	1
Bassein.....	4	---	0	0	0	0	Japan: Nagasaki.....	0	0	0	0	1	0
Rangoon.....	5	---	0	5	1	1							

Telegraphic reports from the following maritime towns indicated that no case of plague, cholera, or smallpox was reported during the week:

ASIA

Arabia.—Jeddah, Aden, Perim.

Persia.—Bender-Abbas, Bushire, Lingah.

British India.—Negapatam, Chittagong, Cochin, Tuticorin, Vizagapatam, Moulmein.

Portuguese India.—Nova Goa.

Federated Malay States.—Port Swettenham.

Straits Settlements.—Singapore, Penang.

Siam.—Bangkok.

Dutch East Indies.—Batavia, Surabaya, Pontianak, Semarang, Cheribon, Makassar, Balikpapan, Padang, Belawan-Deli, Tarakan, Sabang, Palembang, Samarinda.

Sarawak.—Kuching.

British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.

Portuguese Timor.—Dilly.

Philippine Islands.—Manila, Iloilo, Jolo, Cebu, Zamboanga.

French Indo-China.—Saigon and Cholon.

China.—Amoy, Tientsin, Tsingtao.

Hong Kong.

Macao.

Formosa.—Keelung, Takao.

Chosen.—Chemulpo, Fusan.

Manchuria.—Yingkow, Antung, Harbin, Mukden, Changchun.

Kwantung.—Port Arthur, Dairen.

Japan.—Yokohama, Niigata, Shimomoseki, Moji, Tsuruga, Kobe, Osaka, Hakodate.

AUSTRALASIA AND OCEANIA

Australia.—Adelaide, Melbourne, Sydney, Brisbane, Rockhampton, Townsville, Port Darwin, Broome, Fremantle, Carnarvon, Thursday Island, Cairns.

AUSTRALASIA AND OCEANIA—continued

New Guinea.—Port Moresby.

New Britain Mandated Territory.—Rabaul and Kokopo.

New Zealand.—Auckland, Wellington, Christchurch, Invercargill, Dunedin.

Samoa.—Apia.

New Caledonia.—Noumea.

Fiji.—Suva.

Hawaii.—Honolulu.

Society Islands.—Papeete.

AFRICA

Egypt.—Alexandria, Suez, Port Said, El Tor.

Anglo-Egyptian Sudan.—Port Sudan, Suakin.

Eritrea.—Massaua.

French Somaliland.—Djibouti.

British Somaliland.—Berbera.

Italian Somaliland.—Mogadiscio.

Kenya.—Mombasa.

Zanzibar.—Zanzibar.

Tanganyika.—Dar-es-Salaam.

Seychelles.—Victoria.

Portuguese East Africa.—Mozambique, Beira, Lourenco-Marques.

Union of South Africa.—East London, Port Elizabeth, Cape Town, Durban.

Reunion.—Saint Denis.

Mauritius.—Port Louis.

Madagascar.—Majunga, Tamatave, Diego-Suarez.

AMERICA

Panama.—Colon, Panama.

Reports had not been received in time for publication from—

Arabia.—Kamaran.

Union of Socialist Soviet Republics.—Vladivostok.

Belated information:

Week ended July 23: Karikal, cholera, 3 cases, 3 deaths. Manila, cholera, 1 case.

Week ended July 30: Surabaya, smallpox, 1 case. Pontianak, Sabang, Padang, nil.

Movement of infected ships:

Yokohama.—The British passenger steamer *Adrastus* arrived from China on August 1 infected with cholera.

Singapore.—A British sailing ship arrived from Labuan on August 8 infected with smallpox.

CANADA

Communicable diseases—Two weeks ended August 13, 1927.—The Canadian Ministry of Health reports cases of certain communicable diseases in seven Provinces of Canada for the two weeks ended August 13, 1927, as follows:

Week ended August 6, 1927

Disease	Nova Scotia	New Brunswick	Quebec	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever.....	-----	-----	2	1	-----	-----	3
Influenza.....	2	-----	-----	-----	-----	-----	2
Lethargic encephalitis.....	-----	-----	-----	-----	1	-----	1
Smallpox.....	-----	-----	-----	4	1	5	10
Typhoid fever.....	1	4	22	-----	1	-----	28

Week ended August 13, 1927

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever.....	-----	-----	1	-----	1	-----	-----	2
Poliomyelitis.....	-----	-----	-----	1	-----	-----	-----	1
Smallpox.....	-----	-----	-----	18	-----	1	4	23
Typhoid fever.....	-----	6	25	72	6	3	1	113

Typhoid fever—Montreal—January 2—August 20, 1927.—The following table gives the cases of typhoid fever and deaths from this disease reported at Montreal, Quebec, Canada, since January 1, 1927:

Week ended—	Cases	Deaths	Week ended—	Cases	Deaths
Jan. 8, 1927.....	3	1	May 7, 1927.....	103	19
Jan. 15, 1927.....	4	3	May 14, 1927.....	367	16
Jan. 22, 1927.....	1	2	May 21, 1927.....	770	26
Jan. 29, 1927.....	3	1	May 28, 1927.....	353	38
Feb. 5, 1927.....	1	0	June 4, 1927.....	239	37
Feb. 12, 1927.....	0	0	June 11, 1927.....	128	36
Feb. 19, 1927.....	1	2	June 18, 1927.....	86	-----
Feb. 26, 1927.....	1	1	June 25, 1927.....	75	23
Mar. 5, 1927.....	9	1	July 2, 1927.....	66	21
Mar. 12, 1927.....	203	4	July 9, 1927.....	52	10
Mar. 19, 1927.....	383	14	July 16, 1927.....	39	4
Mar. 26, 1927.....	568	22	July 23, 1927.....	22	9
Apr. 2, 1927.....	649	48	July 30, 1927.....	23	10
Apr. 9, 1927.....	356	40	Aug. 6, 1927.....	16	5
Apr. 16, 1927.....	175	38	Aug. 13, 1927.....	20	5
Apr. 23, 1927.....	125	43	Aug. 20, 1927.....	14	-----
Apr. 30, 1927.....	105	23	-----	-----	-----

EGYPT

Communicable diseases—Two weeks ended July 15, 1927.—During the two weeks ended July 15, 1927, communicable diseases were reported in Egypt as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Influenza.....	67	—	Typhoid fever.....	197	—
Smallpox.....	3	2	Typhus fever.....	16	1

NEW ZEALAND

Communicable diseases—June 14–July 18, 1927.—The director general of health for New Zealand reports communicable diseases for the period June 14 to July 18, 1927, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis.....	4	—	Poliomyelitis.....	4	2
Diphtheria.....	197	11	Puerperal fever.....	35	1
Erysipelas.....	30	3	Scarlet fever.....	262	2
Influenza.....	18	5	Tetanus.....	1	1
Lethargic encephalitis.....	1	—	Trachoma.....	1	—
Ophthalmia neonatorum.....	2	—	Tuberculosis.....	128	58
Pneumonia.....	124	25	Typhoid fever.....	36	2

PERSIA

Cholera—July 19–31, 1927.—The Persian Ministry of Foreign Affairs reports the spread of cholera to Nasser. During the period July 19 to 31, 1927, there were reported 166 deaths at Abadan, 61 deaths at Mahammareh, and 10 deaths at Nasser. All necessary preventive measures have been taken.

SENEGAL

Plague—Yellow fever—July 25–31, 1927.—During the week ended July 31, 1927, plague was reported in Senegal, West Africa, as follows: Baol—Cases, 18; deaths, 9. In the Cayor—Cases, 43; deaths, 26. Dakar—Cases, 28; deaths, 18. Rufisque—38 cases and 28 deaths. Thies—One case.

During the same period two fatal cases of yellow fever were reported at Khombole and Bambey. At Ouakam, a suburb of Dakar, 2 cases of yellow fever occurred.

UNION OF SOUTH AFRICA

Plague in rodents.—The carcass of a white-tailed rat (*Mystromys albicaudatus*) found on the veld in the Municipality of Roodepoort on June 23, 1927, and sent to the Institute for Medical Research, showed, on examination, appearances suggestive of plague, but a definite diagnosis could not be made on the microscopic appearances only. Animal inoculations were made and it was established that

the rodent was plague infected. This occurrence emphasizes the danger of infection spreading to the domestic rodents of the Rand area.

On July 4, 1927, two decomposed carcasses of Peba gerbilles were found on the farm Mimosa, some 33 miles northeast from Klaver, 18 miles from the village of Van Rhynsdorp, and 4 miles west of the Bokkeveld Mountains. Materials from these carcasses were found (on laboratory examination) to show plague organisms. This discovery indicates that plague infection in veld rodents has recently extended some distance westward, and has passed the mountain barrier between the Calvinia plateau and the coastal belt.

These are said to be the first instances in which specimens of these two varieties of veld rodent—the white-tailed rat and Peba gerbille—have been found plague infected.

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

The reports contained in the following tables 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.

Reports Received During Week Ended September 2, 1927¹

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Canton.....	July 10-16.....	3	2	
Swatow.....	July 10-16.....	30		
India.....	June 19-July 2.....			Cases, 20,128; deaths, 12,142.
Bombay.....	June 25-July 2.....	5	2	
Indo-China:				
Saigon.....	July 1-7.....	2	1	Including Cholon.
Iraq:				
Basra.....	Reported July 25..	9	7	
Persia:				
Abadan.....	July 19-31.....		166	
Mohammareh.....	do.....		61	
Nasseri.....	do.....		10	
Siam.....	June 26-July 9.....	22	13	
Bangkok.....	do.....	2		

PLAGUE

Argentina:				
Merou.....	Reported July 14..			Present.
Azores:				
St. Michaels Island.....	July 24-30.....	1		6 miles from port.
China:				
Amoy.....	July 3-16.....			Present in surrounding country.
Greece:				
Athens.....	Reported Aug. 6.....	1		
Patras.....	July 31-Aug. 6.....	1	1	
Mitylenes.....	Aug. 9.....	1		
Hawaii Territory:				
Paauilo.....	July 26-Aug. 1.....		4	
India.....	June 19-July 2.....	239	149	
Madras.....	July 10-16.....	47	29	
Java:				
Batavia.....	June 26-July 9.....	38	38	Provincia.
Senegal:				
Baol.....	July 25-31.....	18	9	
Cayor.....	do.....	43	26	
Dakar.....	do.....	28	18	
Rufisque.....	do.....	38	28	
Thies.....	do.....	1		
Tunisia:				
Tunis.....	July 25-Aug. 1.....	1		

¹ From medical officers of the Public Health Service, American consuls, and other sources.

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

Reports Received During Week Ended September 2, 1927—Continued

SMALLPOX

Place	Date	Cases	Deaths	Remarks
Arabia:				
Aden.....	July 17-Aug. 1.....	2	1	Imported.
British South Africa:				
Northern Rhodesia.....	July 2-15.....	46	2	
Canada.....	July 31-Aug. 13.....			Cases, 33.
Alberta.....	do.....	9		
Manitoba.....	do.....	4		
Winnipeg.....	Aug. 14-20.....	2		
Ontario.....	do.....	18		
Ottawa.....	Aug. 14-20.....	18		
Sarnia.....	Aug. 7-13.....	1		
Saskatchewan.....	July 31-Aug. 13.....	2		
Moosejaw.....	Aug. 7-13.....	5		
China:				
Amoy.....	July 3-16.....			Present in surrounding country.
Antung.....	July 18-31.....	2		
Manchuria—				
Dairen.....	June 19-26.....	2		
Harbin.....	June 27-July 10.....	2		
Tientsin.....	July 10-16.....	4		
Egypt.....	July 9-15.....	2		
Cairo.....	Mar. 11-Apr. 1.....	4	1	
Great Britain:				
England and Wales.....	July 31-Aug. 6.....	172		
Newcastle-on-Tyne.....	do.....	1		
India.....	June 19-July 2.....			Cases, 8,319; deaths, 2,418.
Bombay.....	June 26-July 2.....	28	18	
Madras.....	July 9-16.....	1		
Iraq:				
Basra.....	July 10-16.....	1	1	
Japan:				
Nagasaki.....	July 24-31.....	3		
Mexico:				
San Luis Potosi.....	Aug. 7-13.....		1	
Tampico.....	July 21-31.....		1	
Torreón.....	Aug. 7-13.....		1	
Poland.....	June 12-25.....	5	1	
Siam.....	June 26-July 9.....			Cases, 33; deaths, 5.
Bangkok.....	June 26-July 16.....	4	1	
Union of South Africa:				
Cape Province.....				Outbreaks.
Idutywa District.....	July 3-9.....			

TYPHUS FEVER

Algeria:				
Algiers.....	July 21-31.....	1		
Bulgaria:				
Sofia.....	July 30-Aug. 5.....	1		
China:				
Tientsin.....	July 10-16.....	1		
Egypt.....	July 2-15.....	16	1	
Alexandria.....	July 20-29.....	1		
Cairo.....	Feb. 26-Apr. 1.....	19	4	
Mexico:				
Mexico City.....	July 31-Aug. 6.....	3		
Poland.....	July 12-25.....	85	11	
Union of South Africa:				
Cape Province.....	July 3-9.....			Outbreaks. Do.
Natal.....	do.....			
Transvaal—				
Johannesburg.....	July 3-16.....	18	5	

YELLOW FEVER

Senegal.....	July 25-31.....	2	2	In interior.
Dakar.....	Aug. 8.....	2	2	Europeans.
Ouakam.....	do.....	2		Suspects.

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

Reports Received from June 25 to August 26, 1927¹

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Amoy.....	May 22-28.....	1	1	
Canton.....	May 1-July 9.....	9	3	
Kulangsu.....	June 21.....	1		
Shanghai.....	June 19-25.....	2		
Do.....	Reported Aug. 19.....			Present.
Swatow.....	May 15-July 9.....	36	12	
India:				
Bombay.....	Apr. 17-June 18.....			Cases, 59,445; deaths, 34,933.
Calcutta.....	May 8-June 14.....	2	1	
Karachi.....	May 8-June 18.....	396	247	
Madras.....	May 29-June 4.....	1	1	
Rangoon.....	June 19-25.....	5	3	
India, French Settlements in.....	May 8-June 25.....	15	11	
Indo-China (French).....	Mar. 30-June 30.....	10	3	
Annam.....	Apr. 1-June 20.....			Cases, 8,998.
Cambodge.....	do.....	1,147		
Cochin-China.....	do.....	197		
Saigon.....	do.....	1,049		
Tonkin.....	June 4-10.....	4	3	
Iraq:	Apr. 1-June 30.....	6,605		
Basra.....	Reported Aug. 2.....			Present.
Philippine Islands:				
Bulacan Province.....	June 7-July 8.....	2	1	
Leyte Province—				
Barugo.....	June 29.....	1	1	
Carigara.....	June 23.....	1	1	Final diagnosis not received.
Palo.....	May 18.....	1		
Siam.....	May 1-June 25.....			Cases, 159; deaths 85.
Bangkok.....	do.....	36	12	
On vessel:				
Steamship Adrastus.....	Reported Aug. 6.....	1	1	At Yokohama, Japan.

PLAGUE

Argentina:				
Buenos Aires.....	Jan. 1-June 30.....			Cases, 71; deaths, 44.
Cordoba.....	Apr. 10-May 7.....	4	3	
Corrientes.....	Jan. 11-Mar. 23.....	50	29	
Entre Rios.....	June 1.....	1	1	
Santa Fe.....	Mar. 29-Aug. 1.....	3	1	
Territory—	Apr. 28-May 16.....	4	3	
Chaco—				
Barranqueras.....	May 29.....	2	2	
Formosa.....	June 25.....	3	2	
Pampa.....	Reported July 6.....	2		
City—				
Rosario.....	May 7.....	1	1	
Santa Fe.....	May 16.....	4	2	
Azores:				
Ribeira Grande.....	June 12-18.....			9 miles from port.
St. Michaels Island.....	May 15-June 3.....	2		
British East Africa:				
Kenya.....	Apr. 24-June 11.....	18	14	
Nairobi.....	May 22-28.....	6		
Tanganyika.....	Mar. 29-May 28.....		37	
Uganda.....	Jan. 1-Feb. 28.....	138	121	
Do.....	Mar. 27-June 11.....	266	207	
Canary Islands:				
Laguna District—				
Tejina.....	June 17.....	1		
Ceylon:				
Colombo.....	May 1-July 2.....	17	11	Plague rats, 4.
Ecuador:				
Guayaquil.....	June 1-30.....			Rats taken, 25,069; found infected, 28.
Egypt:				
Alexandria.....	May 21-July 8.....			Cases, 7; deaths, 2.
Biba.....	June 4-10.....	1		
Do.....	do.....	1		At Nana.
Beni-Souef.....	June 4-July 13.....	5	2	
Dakhalia.....	June 24-July 9.....	6	1	
Port Said.....	June 24-July 21.....	4	1	
Tanta District.....	June 4-10.....	1		

¹ From medical officers of the Public Health Service, American consuls, and other sources.

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

Reports Received from June 25 to August 26, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks	
Greece.....	May 1-31.....	1	1		
Athens.....	June 1-30.....	1		Including Piraeus.	
Patras.....	May 30-Aug. 5.....	5			
Hawaii Territory:					
Hamakua.....	July 15.....			1 plague rodent.	
Honokaa.....	May 17-23.....	2	2		
India.....	Apr. 17-June 18.....			Cases, 21,345; deaths, 8,017.	
Bombay.....	May 8-June 25.....	71	63		
Madras.....	May 1-June 18.....	119	50		
Rangoon.....	May 8-July 2.....	27	24		
Indo-China (French).....	Apr. 1-June 20.....	21	24		
Kwang-Chow-Wan.....	May 21-June 10.....	57			
Iraq:					
Baghdad.....	Apr. 8-May 28.....	12	1		
Java:					
Batavia.....	May 1-June 25.....	120	121	Province.	
East Java and Madura.....	May 22-June 18.....	23	23		
Paseroean Residency.....	May 9.....			Outbreak reported at Nagdiwono.	
Surabaya.....	Apr. 17-May 7.....	24	24		
Madagascar:					
Province—				Mar. 16-Apr. 30, 1927: Cases, 256; deaths, 135.	
Amboitra.....	Mar. 16-June 15.....	73	67		
Antsirabe.....	Mar. 16-May 15.....	8	8		
Miarinarivo (Itasy).....	Mar. 16-May 31.....	45	45		
Moramanga.....	May 16-June 15.....	20	19		
Tananarive.....	Mar. 16-May 31.....	196	170		
Tananarive Town.....	do.....	22	20		
Peru.....	Apr.-May 31.....			Cases, 22; deaths, 8.	
Departments—					
Ica.....	Apr. 1-30.....	1			
Lambayeque.....	do.....	1			
Libertad.....	Apr. 1-May 31.....	7	4		
Lima.....	do.....	13	4		
Lima City.....	Apr. 1-30.....	5	1		
Senegal.....	May 23-July 17.....			Cases, 442; deaths, 259.	
Baol.....	June 2-July 24.....	27	14		
Cayor Frontier.....	July 4-24.....	83	48		
Dakar.....	June 20-July 24.....	52	32		
Facel.....	July 6.....	17	8		
Guindel.....	June 20-26.....	11	2		
M'Bour.....	July 6-10.....	28	13		
Medina.....	June 13-19.....	2	2		
Pout.....	July 4-10.....	1			
Rufisque.....	May 23-July 24.....	125	89		
Thies District.....	do.....	26	9		
Tivaouane.....	June 2-July 17.....	50	32		
Siam.....	Apr. 1-June 25.....				Cases, 10; deaths, 7.
Bangkok.....	May 8-June 11.....	2	1		
Tunisia.....	Apr. 21-May 31.....	131			
Turkey:					
Constantinople.....	May 13-19.....	1			
Union of South Africa:					
Cape Province—				Native.	
Maraisburg District.....	May 1-14.....	2	2		
On vessel:					
S. S. Avoroff.....	June 24-30.....	1		On Greek war ship at port of Athens.	
Steamship Ransholm.....	Aug. 5.....	3			
				At Gefle, Sweden, from Rufisque, Senegal.	

SMALLPOX

Algeria.....	Apr. 21-June 10.....			Cases, 333.
Algiers.....	May 11-June 30.....	8		
Oran.....	May 21-July 31.....	38		
Brazil:				
Rio de Janeiro.....	May 22-July 29.....	7	8	
British East Africa:				
Kenya.....	Apr. 24-May 14.....	7	14	
Tanganyika.....	Mar. 29-May 7.....	22	22	
Zanzibar.....	Apr. 1-30.....	7	2	
British South Africa:				
Northern Rhodesia.....	Apr. 30-June 24.....	58		Native.

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

Reports Received from June 25 to August 26, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Canada.....	June 5-July 30	-----	-----	Cases, 290.
Alberta.....	June 12-July 30	-----	-----	Cases, 76.
Calgary.....	June 12-Aug. 6	8	-----	
British Columbia—				
Vancouver.....	May 23-29	2	-----	
Manitoba.....	June 5-July 30	-----	-----	Cases, 16.
Winnipeg.....	June 12-Aug. 6	13	-----	
Ontario.....	June 5-July 30	-----	-----	Cases, 151.
Ottawa.....	June 12-Aug. 13	73	-----	
Toronto.....	June 19-July 23	9	-----	
Quebec.....	do.	13	-----	
Saskatchewan.....	June 12-July 30	-----	-----	Cases, 41.
Regina.....	July 17-Aug. 6	3	-----	
Ceylon.....	May 1-7	-----	-----	Cases, 3; deaths, 1.
China:				
Amoy.....	May 8-28	1	-----	
Antung.....	July 4-10	1	-----	
Chefoo.....	May 8-14	-----	-----	Present.
Foochow.....	May 8-June 11	-----	-----	Do.
Hong Kong.....	May 8-July 9	17	16	
Manchuria—				
Anshan.....	May 23-28	1	-----	
Changchun.....	May 15-July 9	7	-----	
Dairen.....	May 2-June 12	7	5	
Fushun.....	May 15-June 5	9	-----	
Harbin.....	June 13-26	2	-----	
Kai-Yuan.....	July 3-9	2	-----	
Mukden.....	May 22-July 9	5	-----	
Pensihui.....	July 3-9	1	-----	
Suping kai.....	May 8-July 9	3	-----	
Tientsin.....	do.	13	-----	
Chosen.....	Feb. 1-Apr. 30	-----	-----	Cases, 354; deaths, 84.
Chinnampo.....	Apr. 1-May 31	2	-----	
Fusan.....	Apr. 1-30	1	-----	
Gensan.....	May 1-31	1	-----	
Seishin.....	Apr. 1-30	1	-----	
Curacao.....	May 29-June 4	1	-----	Alastrim.
Ecuador:				
Guayaquil.....	June 1-30	2	-----	
Egypt.....	May 7-June 17	-----	-----	Cases, 17; deaths, 3.
Alexandria.....	May 21-June 17	4	1	
Cairo.....	Jan. 23-Feb. 25	7	1	
France.....	Apr. 1-May 31	-----	-----	Cases, 128.
Paris.....	May 21-June 30	11	2	
Gold Coast.....	Mar. 1-Apr. 30	22	4	
Great Britain:				
England and Wales.....	May 22-July 30	-----	-----	Cases, 2,190.
Bradford.....	May 29-June 11	2	-----	
Cardiff.....	June 19-July 2	4	-----	
Leeds.....	July 17-30	2	-----	
Liverpool.....	do.	1	-----	
London.....	May 15-June 18	2	-----	
Newcastle on Tyne.....	June 12-July 30	3	-----	
Sheffield.....	June 12-July 23	23	-----	
Scotland—				
Dundee.....	May 29-July 2	5	-----	
Greece:				
Saloniki.....	July 12-18	-----	1	
Guatemala:				
Guatemala City.....	June 1-30	-----	9	
Guinea (French).....	June 4-10	9	-----	
India.....	Apr. 17-June 18	-----	-----	Cases, 49,028; deaths, 12,448.
Bombay.....	May 28-June 25	136	92	
Calcutta.....	May 8-June 18	270	206	
Karachi.....	May 15-June 25	8	5	
Madras.....	May 22-July 2	14	5	
Rangoon.....	May 8-July 2	132	41	
India, French Settlements in.....	Mar. 20-May 21	145	88	
Indo-China (French).....	Mar. 21-June 10	-----	-----	Cases, 236.
Saigon.....	May 14-20	1	1	
Iraq:				
Baghdad.....	Apr. 10-16	2	-----	
Basra.....	do.	1	-----	
Italy.....	Apr. 10-May 21	13	-----	
Jamaica.....	May 29-July 30	24	-----	Reported as alastrim.
Japan.....	Apr. 3-May 7	-----	-----	Cases, 19.
Nagasaki City.....	June 20-July 24	21	6	
Taiwan Island.....	May 21-31	1	-----	

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

Reports Received from June 25 to August 26, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Java:				
Batavia.....	May 22-28.....	1		
East Java and Madura.....	Apr. 24-30.....	1		
Latvia.....	Apr. 1-30.....	1		
Mexico:				
Durango.....	June 1-30.....		1	
La Oroya.....	Apr. 1-June 30.....			Present.
San Luis Potosi.....	May 29-Aug. 6.....		10	
Tampico.....	June 1-10.....	1	1	
Morocco.....	Apr. 1-May 31.....	94		
Netherlands India:				
Borneo—				
Holoe Soengei.....	Apr. 21.....			Epidemic in two localities.
Pasir Residency.....	Apr. 30-May 6.....			Epidemic outbreak.
Samarinda Residency.....	May 21-27.....			Do.
Nigeria.....	Mar. 1-Apr. 30.....	1,560	351	
Persia:				
Teheran.....	Feb. 21-Apr. 20.....		5	
Poland.....	Apr. 19-May 28.....	7		
Portugal:				
Lisbon.....	May 29-July 23.....	14	1	
Senegal:				
Medina.....	July 4-10.....	7		
Siam.....	May 1-June 25.....			Cases, 60; deaths, 14.
Bangkok.....	May 15-June 25.....	7	3	
Spain:				
Valencia.....	May 29-June 4.....	2		
Straits Settlements.....	June 12-18.....			Cases, 3.
Singapore.....	Apr. 1-May 28.....	4	2	
Sumatra:				
Medan.....	June 5-11.....	2		
Switzerland:				
Berne.....	June 26-July 2.....	1		
Tunisia.....	Apr. 1-June 10.....			Cases, 10.
Tunis.....	June 1-10.....	1		
Union of South Africa:				
Cape Province—				
Elliott District.....	May 11-June 10.....			Outbreaks.
Kalanga District.....	do.....			Do.
Transvaal—				
Barberton District.....	May 1-7.....			Do.

TYPHUS FEVER

Algeria.....	Apr. 21-June 10.....			Cases, 263; deaths, 29.
Algiers.....	May 11-July 20.....	25		
Oran.....	May 21-July 31.....	32		
Bulgaria.....	Mar. 1-May 10.....			Cases, 151; deaths, 14.
Sofia.....	June 4-10.....	1		
Chile:				
Antofagasta.....	Apr. 16-May 31.....	1		
Concepcion.....	May 29-June 4.....		1	
La Calera.....	Apr. 16-May 31.....	1		
Ligua.....	Mar. 16-31.....	2		
Puerto Montt.....	Apr. 16-May 31.....	1		
Santiago.....	do.....	5	1	
Talcahuano.....	July 10-16.....		1	
Valparaiso.....	Apr. 16-July 16.....	4		
China:				
Manchuria—				
Mukden.....	May 29-June 4.....	1		
Chosen.....	Feb. 1-Apr. 30.....			Cases, 330; deaths, 30.
Chemulpo.....	May 1-June 30.....	15	1	
Gensan.....	do.....	2		
Seoul.....	Apr. 1-June 30.....	30	2	
Czechoslovakia.....				Apr. 1-30, 1927: Cases, 21.
Egypt.....	May 28-June 24.....			Cases, 96; deaths, 17.
Alexandria.....	May 21-July 15.....	10	3	
Cairo.....	Jan. 15-Feb. 25.....	3	1	
Estonia.....	Apr. 1-30.....			Case, 1.
Greece:				
Athens.....	June 1-30.....		9	
Iraq:				
Baghdad.....	Apr. 24-30.....	1		

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

Reports Received from June 25 to August 26, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
Irish Free State:				
Cork County.....	July 3-9.....	1		In urban district.
Latvia.....	Apr. 1-May 31.....	17		
Lithuania.....	Feb. 1-Apr. 30.....	121	17	
Mexico.....	Feb. 1-28.....			Deaths, 26.
Mexico City.....	May 29-July 30.....	23		Including municipalities in Fed-
San Luis Potosi.....	July 31-Aug. 6.....		1	eral District.
Morocco.....	Apr. 1-June 10.....	528		
Palestine.....	May 24-June 6.....			Cases, 3.
Haifa.....	do.....	2		
Mahnaim.....	May 17-23.....	1		In Safad district.
Safad.....	May 17-June 20.....	3		
Peru:				
Arequipa.....	Apr. 1-30.....		1	
Poland.....	Apr. 10-June 11.....	869	85	
Portugal:				
Lisbon.....	May 29-June 4.....	1		
Rumania.....	Apr. 3-May 14.....	687	47	
Tunisia.....	Apr. 22-June 10.....			Cases, 137.
Tunis.....	July 5-11.....	1		
Turkey:				
Constantinople.....	May 13-19.....		2	
Union of South Africa.....	Apr. 1-30.....			Cases, 55; deaths, 8, native. In
Cape Province.....	Apr. 1-June 18.....	42	5	Europeans, cases, 2.
Albany District.....	June 5-11.....			Outbreaks.
East London.....	May 22-28.....	1		Do.
Glen Grey District.....	May 1-7.....			Do.
Kentani District.....	June 26-July 2.....			Do.
Qumbu District.....	May 1-7.....			Do.
Umzimkulu District.....	June 26-July 2.....			Do.
Natal.....	Apr. 1-June 18.....	7	3	
Impendhle District.....	June 5-11.....			Do.
Orange Free State.....	Apr. 1-May 28.....	5		
Transvaal.....	Apr. 1-30.....	1		
Yugoslavia.....	May 1-31.....			Cases, 4.

YELLOW FEVER

Dahomey (West Africa):				
Porto Novo.....	July 1.....	1	1	In Syrian woman.
Gold Coast.....	Apr. 1-30.....	8	5	
Liberia:				
Monrovia.....	May 29-July 8.....	4	5	
Senegal.....	May 27.....			Cases, 3.
Dakar.....	July 9.....	1		
M'Bour.....	May 27-June 19.....	5	5	
Ouakam.....	June 2-8.....	1	1	
Thies.....	July 10.....	1	1	In European.
Tivaouane.....	May 27-June 8.....	5	5	