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PASTEUR—AN APPRECIATION

AN ADDRESS MADE TO THE STAFF OF THE HYGIENIC LABORATORY AT THE CELEBRATION OF THE ONE-HUNDRETH ANNIVERSARY OF THE BIRTH OF PASTEUR.

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To-day, December 27, 1922, we commemorate the one-hundredth anniversary of the birth of Pasteur.

Louis Pasteur's mother came of a long line of plebeian aristocracy, if we may coin the phrase, people noted for their industry, their intense family loyalty, and their sensitive nature. On the father's side we find a great grandfather who, born a serf, worked his way to the purchase of his freedom. The father, under Napoleon, fought his way to a Cross of the Legion of Honor, and, later, when ordered to surrender his sword to a policeman of the new régime, he fought for, and, in defiance of authority, retained the cherished blade.

Of such stuff was Louis Pasteur—fighter, indefatigable worker, intellectual independent, a lover of family and friend.

Pasteur's son-in-law, Vallery Radot, who has given us the above facts, has told of the boyhood and early education of this remarkable man. There is little about this period that is extraordinary. There were times when homesickness almost got the better of a destiny, and other times when the family purse could hardly stand the strain of modest educational requirements. But at last we find Louis, as a student in Paris, privileged to attend the public lectures of the great chemist, Dumas. There, in the halls of the Sorbonne, was born the chemist, Pasteur.

Now, by the very nature of things, no biographer can be specific about the events of thought; but we have some evidence that Pasteur found his own problem for himself. The chum of those student days relates that Pasteur perceived, in the very difficulties of the existing crystallography, an opportunity for discovery.

To appreciate properly the situation at that time would require our careful examination of the knowledge then existing. Our time is too short for this, and we shall have to be content with a bold outline.

Let us place a book in the path of a train of electromagnetic waves, with the plane of the leaves parallel to the direction of propagation. The electromagnetic waves, vibrating in all planes perpendicular to the line of propagation, meet the leaves of the book. Those waves which are vibrating parallel to the leaves pass on. Those which are vibrating at an angle to the leaves of the book are damped. The issuing wave train now vibrates in one plane; it is polarized. Let us now place a second book beyond the first. The polarized waves are allowed to pass when the leaves are parallel and are shut off when the leaves are crossed to the plane of vibration.

In Pasteur's time the generalized theory was not known. But the principle was known in terms of light. Visible light waves are electromagnetic waves; so-called Nicol's prisms of Iceland spar take the places of our books; and we have the polarimeter, an instrument used by Pasteur.

Now, certain substances rotate the plane of polarized light. With such a substance absent, let the second nicol of the polarimeter be turned until the light is just shut off. Then introduce the substance between the nicols. The light from the first polarizing nicol is now rotated till it passes the second "analyzing" nicol. Biot had found that one quartz crystal may rotate the polarized light to the right, another to the left. Hoüy had found that some quartz crystals have a little facet inclined to the right of a plane which otherwise would be a plane of symmetry, while other quartz crystals have the facet inclined to the left. Herschel was the third investigator required to bring these facts together.

Now, whereas quartz rotates when crystalized, it does not rotate when amorphous or in solution. On the other hand, certain organic compounds do not rotate as crystals, but do in solution. Here enters Pasteur. Anyone who has examined crystals as they are formed in the laboratory will realize that they seldom take the beautifully complete form pictured diagrammatically in textbooks. Thus, eminent crystallographers are excused for having missed the little facets on crystals of tartrates. Pasteur saw them. Now that we have been shown, we all have seen them.

In the manufacture of tartrate there had been found a curious substance identical in chemical composition and chemical properties with ordinary tartrate. It was then call paratartrate. It had been described as having all the physical properties of tartrate, except an inability to rotate polarized light. Pasteur found on the crystals, however, two symmetrical facets instead of the one asymmetric facet of tartrate. Behold the beauty of the correlation:

Asymmetry of crystal—rotation of light by solution;

Symmetry of crystal—no rotation of light by solution.

Then, a disappointment. On recrystallization, the symmetrical paratartrate separated into asymmetrical crystals—correlation appar-

ently destroyed. But here flashed genius. These new asymmetric crystals were of two kinds—mirror images of one another, like the right and the left hands. “In spite of all that was unexpected in this result,” says Pasteur, “I followed, none the less, my idea. I separated with care the right and left handed hemihedral crystals and observed separately their solutions in the polarization apparatus. Then, with no less surprise than joy, I saw that the right-handed ones turned to the right and the left-handed ones turned to the left the plane of polarization.” At last the perfect correlation:

Symmetry of crystals—no rotation by solution;

Right-handed asymmetry of crystals—right-handed rotation by solution;

Left-handed asymmetry of crystals—left-handed rotation by solution.

But Pasteur did not stop here. Since the crystals did not rotate while the solution did, it was evident that he must ascribe asymmetry to the chemical molecule. There is a left-handed *molecule* of tartaric acid. There is a right-handed *molecule*. There is a mixture—paratartaric acid, now called the racemic mixture.

Pasteur has built up evidence for asymmetry of chemical molecules where before only asymmetry of crystals had been given consideration.

The time was not ripe for the further elaboration of this view. Organic chemistry had not come into to its own, and ideas on the structure of organic compounds were hazy. But, 20 years later, when our present structural chemistry was established, Van't Hoff, in Holland, and Le Bel, in France, worked out Pasteur's ideas and gave us modern stereochemistry. To cite but one of many instances: We know to-day several sugars containing 6 carbon atoms. They all have identically the same composition and identically the same structure, except for the spatial arrangement of the atoms, the left and right handed arrangement of the groups about the carbon atoms. Theory calls for 16 stereoisomers; 16 and 16 only are known.

Pasteur's researches upon tartrates had taken him to factories where he saw the destructive action of molds. They interested him. He studied them; and thus was born Pasteur, the mycologist.

Few who have felt the thrill of a discovery can escape its dominating influence. Pasteur was no exception. His vision of asymmetric chemical molecules made him see an asymmetric cosmos. The solar system can have a mirror image. Terrestrial magnetism is asymmetric. Life, he said, is dominated by dissymmetrical actions. Pasteur assailed the hopeless task of trying to influence chemical reactions by mechanical rotation and by magnetic fields. Accomplishing nothing, he returned to the chemistry of life and found in molds the instruments which attack one stereoisomer and leave the

other. Here was room for the play of imagination. From speculation on the manner in which molds exercise this marvelous preferential metabolism, Pasteur dragged a concrete fact of analytical importance: optically active plant alkaloids combine with optically active acids, giving salts of sufficiently different solubilities to permit the separation of isomers.

An appointment to the faculty of science at Lille brought Pasteur to a new environment. He instructed the pupils in physics and chemistry with particular regard to the needs of local industry. The locality was rich in its fermentation industries, and so Pasteur, besides visiting iron foundries and factories of various kinds, came to a place where an attempt was being made to produce alcohol from beet juice. There was born Pasteur, the bacteriologist.

You all know the story—his puzzling over the globules found in good juice and the strange forms they assume in spoiled juice; his examination of fermented milk, and his correlation between the long globules in fermented milk and the long globules in spoiled beet juice. At last came the beginning of bacteriology—separation of typical fermentations; studies of pure cultures (and no mean skill in their chemical analysis); clear recognition of specific types of cells; the demonstration that fermentation is a life process. Then came industrial control by means of pure cultures, adjustments of temperature and of acidity, and the heat treatment now known as pasteurization.

As "hindsight" is clearer than foresight, we can now say that Pasteur, the chemist, should have recognized the justice of Liebig's remark, "In what respect does the explanation of fermentation appear clearer when you have introduced it into a living organism." It was not until Buchner had separated enzymes capable of fermenting without the presence of living cells that Liebig and Pasteur were each shown in a degree to be right, but each wrong in his exclusion of the other's view.

This controversy with Liebig was more or less bound up with the campaign against the theory of spontaneous generation. Others might have been content to let the experimental facts lie in the archives of scientific societies and to rest smugly in the reassurances of savants who, with Voltaire, had ridiculed the theory of spontaneous generation. Not so Pasteur. Here was a superstition, a falsehood. To dispel the superstition, Pasteur explained. Against the falsehood, he raged. In one respect it is a pity that so much time was spent in hammering away at this theory of spontaneous generation, but in another aspect it was not time wasted. Each stroke of Pasteur's hammer was a beautiful experiment; every resounding crash prepared the popular mind for the public-health work which was to follow.

The experiments are charmingly described in "Studies on Fermentation." This book is a clear and detailed account of experiments as they are done. In these days, when editors clamor for brevity and bookwriters must condense a world of information, it is refreshing to read this: "Let us boil the liquid, and, having previously drawn out the neck of the flask, let us close the end in the flame of a lamp whilst the steam is escaping, as soon as we judge that the air has been nearly all expelled."

In this easy manner Pasteur describes his experiments; but how skillfully they cut the ground from underneath an opponent, and with what glee Pasteur drops the opponent in the pit! A certain M. Duval has claimed that yeasts metamorphose to lactic ferments. Pasteur points out that M. Duval has made his medium alkaline with chalk and thus favored the lactic ferments in a mixed inoculum. Little points like this show that Pasteur was altogether too keen to be withstood.

At one time or another I have commented upon Pasteur's discernment of the effects of acidity and alkalinity on microbial life. How he managed it is a puzzle. It is probable that he depended upon color changes in litmus and thus adjusted essentially as we do to-day. Perhaps he made litmus work through a wider range than our dull eyes see to-day. Perhaps he had an awareness of intensities of acidity that we have recently had to define and formulate to appreciate.

The absolute loyalty of the man to experimental evidence and his perception of significant facts are well shown in his paper entitled "Animalcules infusoires vivant sans gaz oxygène." Now, it must be appreciated that in Pasteur's time oxygen was considered essential to all life. Some day I hope to see the list of those present at the French Academy when Pasteur read this paper. I am sure that in the list of names will be several of those who are illustrious for their studies in respiration and for the theory which had then become the dogma—no life without oxygen. Before these men, Pasteur, ignoring dogma, described what he *saw*—living cells which shun oxygen.

Although the philosophical significance of this has been obscured by practical applications of the fact, it stirred the imagination of Pasteur. He made it an integral part of his theory of fermentation. He dwelt upon its importance in wound infections. He speculated upon it, and some of the speculations now forgotten are worthy of reconsideration.

I believe that if we examine the life of Pasteur with care and moderation, we shall find him to be not a giant in sheer intellectual power, but rather an exceptionally keen observer, possessed of qualities often attributed to genius—the mind constantly prepared to

receive the significant impression, infinite patience to follow it, and power to visualize the consequences. Many of the facts which Pasteur is commonly believed to have discovered had been observed before. But the observations were islands. Pasteur was the earthquake that lifted the islands to a continent.

All this work on fermentation was causing a "fermentation" in men's minds, and gradually (no one can tell exactly how) there effervesced the misty idea that the contagious diseases of man and animals are somehow akin to the contagious "diseases" of beer and wine. At any rate, we at last find Pasteur's old friend Dumas urging him to assail the problem of silk-worm disease. Duclaux states that Pasteur's only training for this work was witnessing the dissection of a May beetle larva. But once in the field, Pasteur fell back upon his trusted method—personal test of every idea by experimentation. Thus was born Pasteur, the pathologist.

Six strenuous years gave France the brilliant results that saved her silk industry. Then, after a return to older problems, came the last period of Pasteur's rich life. You who are pathologists know the story better than I—the work on chicken cholera, the chance discovery of attenuated virus, and the genius that snatched from an apparent failure the light that illuminated Jenner's principle of vaccination; the work on anthrax, and the dramatic public experiment on anthrax vaccination; septicemia, and the attack upon the unhygienic methods of the lying-in hospitals; the inspiration given to Lister; and at last the eventful day when courage was summoned by this layman in medicine to treat a human patient, little Joseph Meister, the victim of a rabid dog.

It is chiefly for the work of these later years that Pasteur is being honored the world around to-day. And the reason is clear. When history is written as it will some day be written, the years of man's political rise will seem a dreary waste of wars and quarrels, and the tinsel glories of sordid kings. Real history begins when man began to conquer his environment. Among the conquerors, Pasteur was preeminent.

But when this story is told, when public health work has done its task and we are secure against our microscopic enemies, there will still be another story—that of man's attempt to *understand* the methods he has turned to practical uses. Here, too, Pasteur will be honored. Let us judge him by what he has done and what we have left undone.

He revealed the asymmetry of chemical structure and the asymmetric preferences of fermentation. The chemist uses the fact to separate isomers; the bacteriologist uses the fact to distinguish species. We now picture chemical structures better, but we have not explained the asymmetry of life processes.

He set straight the sequence of events in fermentation. We use the knowledge and have added details, but we do not really under-

stand the fundamental chemistry of the simplest phase of fermentation, or the nature of virulence.

He rediscovered and added significance to anaerobiosis. The bacteriologist uses the fact for the cultivation of pathogens, and the physiologist forgets the fact and still says all life is dependent upon oxygen. Almost every known method for obtaining anaerobiosis was used in principle by Pasteur and his pupils. Yet every volume of the several bacteriological journals contains a so-called new method, adding little but a mechanical "stunt" where we find Pasteur seeking a principle.

In short, Pasteur touched upon, and, at each touch illuminated, great problems which I may call problems of understanding as contrasted with problems of practical ways and means. Because the practical ways and means were questions of life and death, Pasteur, the humanitarian, threw his great energy into their solution, and with such success that he is revered among the ignorant as a sort of miracle man. Let us remember, however, that the practical ways and means were tribute moneys levied by Pasteur, the humanitarian, upon Pasteur, the scientist. Here was an insatiable craving to understand—the projection of hypotheses into the unknown, mistakes, failures, disappointments, pragmatic results which satisfy the utilitarian mind—and, at last, illumination which widened the horizon and brought honors, but left Pasteur still a pioneer, lonely, on a new far-flung frontier. We think our horizon widened since Pasteur's time. In reality we have to do not with the horizon of the trigonometer but with the horizon of the pioneer. We have gone around great areas difficult of exploration. From their darkness stalk untamed things which haunt us; and, confessing our impotence, we start anew from—Pasteur.

As Korzybski has emphasized, the distinctive attribute of man is his ability to propagate the labor of those who have passed. In this way man has attained a new dimension. He can "bind time." He makes the past the intellectual present and the future the present vision. Thus it is that, in a sense rigidly logical and beautifully true, we have Pasteur with us to-day. He points to the facet on the crystal of tartaric acid; we would not see it otherwise. He gives us rabies prophylaxis. Our hands administer. Our minds have added little. He emphasizes the fact of anaerobiosis and, recalling his own efforts to understand, he asks if we see the relation between anaerobic fermentation and the recently discovered anaerobic phase of muscle metabolism.

We have led his bacterial friends to beneficent uses. We have encircled the world in a relentless campaign against his microbial enemies. Pasteur's eyes sparkle—then flash. Ever a man of vigor, he brings down his fist—"we foresee the accomplishment of this

humanitarian task, but when, oh when, shall we *understand* the chemistry of immunity?"

Pasteur—crystallographer, chemist, mycologist, bacteriologist, pathologist. The terms are too many. Let us name him investigator, and, like him, mingle our chemistry and bacteriology.

Pasteur—investigator, benefactor. He lives with us. His great heart, the heart of a living friend; his genius our inspiration.

REGULATION REQUIRING PASTEURIZATION OF MILK UPHELD.

The following is an opinion¹ of the New York Supreme Court, Dutchess County, upholding a regulation of the board of health of the city of Poughkeepsie, which in effect prohibited the sale of any milk, except grade A raw and certified, unless pasteurized:

Morschauer, J.: The question for determination is the regulation of the board of health passed July 20, 1920, taking effect May 1, 1921. The board of health of the city of Poughkeepsie on July 20, 1920, made and published a regulation that in effect prohibits the sale of any milk in Poughkeepsie, except what is designated grade A raw and certified milk, unless the same is pasteurized. The dealers in milk were given until May 1, 1921, to prepare to meet the conditions imposed upon them by the regulations.

Ordinarily, milk is produced under circumstances which favor the introduction of dirt. The udder of the cow is not normally clean; stables where cows are kept naturally collect manure, dirt, dust, and flies; and milk is seldom, if ever, produced without contamination to a greater or less degree by some of these substances. Invariably accompanying and intimately associated with dirt are bacteria, which are far more injurious than the dirt itself. These organisms may be derived from the udder of the cow, or may have their source from the dirty condition of stables, or from contamination in handling the milk. Milk is the ideal medium for the growth of bacteria, affording the necessary elements for their development, and immediate multiplication ensues. A supply which originally contained but a few hundred bacteria to a cubic centimeter (one-fourth of a tablespoon) may within a few hours be transformed into one containing thousands or even millions. Among these bacteria are many that are harmless, and some that are necessary; but there may also be disease germs. Some of the fatal diseases known to be conveyed by milk are typhoid fever, malaria, scarlet fever, tuberculosis, diphtheria, septic sore throat, diarrhea, and enteritis.

In order to guard against the introduction of disease germs into the milk, provision is made for the inspection of dairies and the tests of the cows for tuberculosis. These measures do result in some protection to the consumers of milk, but, however thorough the inspection of the dairies may be, it does not afford absolute protection against disease, and a further means of safeguarding the milk is afforded by pasteurization.

Certified milk.—Cows must be tuberculin tested once during previous year and reactors excluded; farms must be scored not less than 35 per cent for equipment and 50 per cent for methods; employees must be examined by physicians; milkers to wear washable suits, not worn at other times; bacterial count not more than 10,000 bacteria per cubic centimeter.

Grade A raw.—Cows must be tuberculin tested once during previous year and reactors excluded; farms must be scored not less than 25 per cent for equipment and

¹People *ex rel* Ogdon *v.* McGowan, 195 N. Y. Supp. 286.

not less than 50 per cent for methods; milk must not contain more than 60,000 bacteria per cubic centimeter.

Grade B raw.—Cows must be healthy, as disclosed by physical examination; farms must be scored not less than 23 per cent for equipment and not less than 37 per cent for methods; milk must not contain more than 200,000 bacteria per cubic centimeter.

It is claimed that milk of all these grades should be delivered to the consumer within 36 hours of the time of milking.

Pasteurization.—To be pasteurized, milk must be subjected to a temperature of 142° to 145° F. for not less than 30 minutes. If the milk is then immediately chilled and further contamination prevented, it can no longer be considered dangerous to health. Milk which has been adequately pasteurized is considered the safest milk.

We are informed that pasteurization destroys none of the constituents of milk. The taste and appearance of pasteurized milk differ but little from those of untreated milk. The purpose of pasteurization is to kill the harmful bacteria which milk contains. For adults, pasteurized milk is fully as nutritious as raw milk, and digestibility of the two is the same.

The board of health had power to make the regulation. Section 2 b of the public health law (Consol. Laws, c. 45) gives the public health council of the State department of health power to establish a sanitary code, which shall have the force and effect of law. Section 2-c of the public health law provides:

The provisions of the sanitary code shall, as to matters to which it relates, and in the territory prescribed therefor by the public health council, supersede all local ordinances heretofore or hereafter enacted inconsistent therewith. Each city, town, or village may, in the manner hereinafter prescribed, enact sanitary regulations not inconsistent with the sanitary code established by the public health council.

Section 21 of the public health law provides:

Every such local board [of health] shall make and publish from time to time all such orders and regulations, not inconsistent with the provisions of the sanitary code, as it may deem necessary and proper for the preservation of life and health and the execution and enforcement of this chapter in the municipality.

The regulation is not inconsistent with any of the provisions of the sanitary code. The code contains certain provisions concerning the grading and sale of milk. Regulation 14 thereof provides as follows:

Supplementary regulations by local authorities.—The health authorities of any municipality may in their discretion increase the stringency of these regulations or add to them in any way not inconsistent with the provisions thereof, and may prohibit the sale, or the keeping for sale, within the municipality of any of the grades of milk herein defined.

The legislature in the exercise of its constitutional authority may lawfully confer on boards of health the power to enact sanitary ordinances having the force of law within the districts over which their jurisdiction extends, and the board of health of the city of Poughkeepsie had the power and authority to make the regulation. *Polinsky v. People* (73 N. Y. 65); *Fischer v. St. Louis* (194 U. S. 361; 24 Sup. Ct. 673, 48 L. Ed. 1018); *People ex rel. Lieberman v. Vandecarr* (175 N. Y. 440; 67 N. E. 913; 108 Am. St. Rep. 781, affirmed 199 U. S. 552; 26 Sup. Ct. 144, 50 L. Ed. 305).

This regulation is one among the many deemed necessary to provide for the people of the city a clean, pure, and wholesome supply of milk and cream, free from disease and germs. It is important to the whole community that the supply of milk and cream should not be contaminated with impurities or infected with disease, and that those selling milk should use all the precautions that a scientific investigation of the proper methods of treating milk to secure the result has found to be useful and efficient. It is the duty of the health authorities to see that this is accomplished by the establishment of such reasonable regulations as may be necessary to meet existing conditions and ward off impending dangers to the public health. In requiring the lower grades of milk to be pasteurized as a condition to the sale of milk in the city, the board of health acted within the scope of its authority. The requirement that the lower grades of milk shall be pasteurized is for the protection of public health, and

every reasonable effort in this direction should be encouraged. *Mannix v. Frost* (100 Misc. Rep. 36; 164 N. Y. Supp. 1050, affirmed 181 App. Div. 961; 168 N. Y. Supp. 1118).

The sanitary code was designed to protect the public health, and should receive at the hands of the court a liberal interpretation. *People v. Frudenberg* (209 N. Y. 218; 103 N. E. 166).

Every presumption is in favor of legislative acts, and they are to be upheld, unless there is a substantial departure from the organic law. *People ex rel. City of Rochester v. Briggs* (50 N. Y. 553).

If the power to legislate exists, the court has nothing to do with the policy or wisdom of the interference in the particular case, or with the question of adequacy or inadequacy of the compensation authorized. Courts do not sit in review of the discretion of the legislature or determine upon the expediency, wisdom, or propriety of legislative action in matters within the power of the legislature. Every intendment is in favor of the validity of statutes, and no motive, purpose, or intent can be imputed to the legislature in the enactment of a law other than such as are apparent upon the face and to be gathered from the terms of the law itself. *People v. Budd* (117 N. Y. 1, 25; 22 N. E. 670, 682; 5 L. R. A. 559; 15 Am. St. Rep. 460); *People ex rel. Bolton v. Albertson* (55 N. Y. 50, 54). The same rule applies to ordinances of municipalities. *Cronin v. People* (82 N. Y. 318, 323; 37 Am. Rep. 564).

The method of detecting tuberculosis in animals is by the injection of tuberculin, and is generally known as the tuberculin test. Agricultural law (Consol. Laws, c. 1), section 108. It is not necessary for the regulation to require that cows that react to the tuberculin test should be excluded from the herd, as such action is provided for by section 98 of the agricultural law, which provides:

If from such examination an animal be deemed to be infected with tuberculosis or any infectious or communicable disease, or its condition be such as to render it undesirable for the production of milk or a menace to the health of other animals or persons, such animal shall be immediately removed from the herd, slaughtered, or disposed of as the commissioner may prescribe, according to the provisions of this article.

The learned counsel for the relator stated at the hearing at different times that the milk dealers would suffer great loss of property by the regulation, and they would have to discontinue their business. The answer to all this is that when it becomes necessary for the health, safety, and welfare of the community, individual rights must give way. Courts will uphold the actions of public bodies when they perform their duties within the law, even though such actions may be in restraint of trade or may interfere with business interests. The rights, safety, and welfare of the community are paramount to that of individuals engaged in a business that might place in danger the lives of its citizens.

Writ dismissed; relator remanded.

DEATHS FROM INFLUENZA AND PNEUMONIA COMBINED, IN LARGE CITIES, DECEMBER 3, 1922, TO JANUARY 6, 1923.

The accompanying table shows the number of deaths from influenza and pneumonia combined in certain large cities of the United States for the last four weeks of 1922 and the first week of 1923.

Tables showing the number of cases of influenza occurring in the States, as reported to the United States Public Health Service by the State health officers, covering the periods October 1 to December 23, 1922, and December 17, 1922, to January 6, 1923, were published in the PUBLIC HEALTH REPORTS for December 29, 1922, pages 3204-3205, and January 12, 1923, page 64.

Deaths from pneumonia (all forms) and influenza combined, in large cities of the United States, December 3, 1922, to January 6, 1923, inclusive.

City.	Week ended—				
	Dec. 9, 1922.	Dec. 16, 1922.	Dec. 23, 1922.	Dec. 30, 1922.	Jan. 6, 1923.
Alabama:					
Birmingham.....	7	10	13	14	12
Mobile.....		2	5	2	4
California:					
Berkeley.....			2		(1)
Long Beach.....		1		1	
Los Angeles.....	13	13	18	18	15
Oakland.....	9	8	3	9	4
Sacramento.....	4	3	3	4	4
San Diego.....	2	4	1	1	5
San Francisco.....	10	10	7	6	7
Colorado:					
Denver.....	17	14	18	8	17
Connecticut:					
Bridgeport.....	3	5	2	4	9
Hartford.....	5	5		4	1
New Britain.....	4	1	3	3	(1)
New Haven.....	9	9	1	5	9
Waterbury.....		3	4	3	4
District of Columbia:					
Washington.....	17	19	18	25	29
Florida:					
Tampa.....	1	2	3	2	1
Georgia:					
Atlanta.....	11	17	10	28	40
Augusta.....	(1)	7	4	7	3
Savannah.....	12	9	13	8	12
Illinois:					
Chicago.....	54	83	93	90	117
East St. Louis.....	4	1	4	3	3
Peoria.....	1	1	6	2	8
Rockford.....		3	6	2	(1)
Springfield.....	2	2	3	3	3
Indiana:					
Fort Wayne.....	3		2	4	1
Gary.....	2	1	1		
Indianapolis.....	6	16	13	12	13
South Bend.....		2	6	1	4
Terre Haute.....	1	3	4	2	
Kansas:					
Topeka.....	2	1	1	3	1
Wichita.....	1		7	3	8
Kentucky:					
Covington.....	2	3		2	9
Louisville.....	9	5	11	7	17
Louisiana:					
New Orleans.....	29	20	12	16	15
Maine:					
Portland.....	1		4	2	2
Maryland:					
Baltimore.....	28	30	32	41	52
Massachusetts:					
Boston.....	26	38	32	35	58
Cambridge.....	3	8	12	9	6
Fall River.....	8	5	5	4	2
Haverhill.....		1		2	1
Holyoke.....	4	3	1	5	2
Lawrence.....	1	1	3	2	4
Lowell.....	2	4	1	4	7
Lynn.....	1	3	1	5	2
New Bedford.....	6	5	4	7	13
Somerville.....	1	1	3	4	
Springfield.....		3	3	2	2
Worcester.....	6	8	11	10	2
Michigan:					
Detroit.....	29	30	34	46	76
Flint.....	1		2	4	2
Grand Rapids.....	1			3	1
Saginaw.....		1	2		6
Minnesota:					
Duluth.....	1	1	6		2
Minneapolis.....	9	10	10	21	14
St. Paul.....	10	12	9	17	11
Missouri:					
Kansas City.....	12	12	17	19	
St. Joseph.....	4	6	6	7	9

(1) No report.

Deaths from pneumonia (all forms) and influenza combined, in large cities of the United States, December 3, 1922, to January 6, 1923, inclusive—(Continued.)

City.	Week ended—				
	Dec. 9, 1922.	Dec. 16, 1922.	Dec. 23, 1922.	Dec. 30, 1922.	Jan. 6, 1923.
Nebraska:					
Lincoln.....	5	1	1	1	1
Omaha.....	8	10	15	12	16
New Jersey:					
Atlantic City.....	1	1	2	3	
East Orange.....				1	
Hoboken.....	4	2	3	2	3
Newark.....	18	11	23	17	20
Passaic.....	4	5	4	5	4
Trenton.....	6	6	4	1	6
New York:					
Buffalo.....	8	10	9	8	12
New York.....	151	212	187	213	208
Niagara Falls.....		1	2	1	1
Rochester.....	2	6	10	7	11
Schenectady.....			1	1	
Syracuse.....	3	4	2	7	6
Troy.....	4	4	3	5	6
Yonkers.....	6	2	4	1	4
Ohio:					
Canton.....	1	2	6	8	4
Cincinnati.....	5	18	15	29	41
Cleveland.....	19	21	26	19	36
Columbus.....	12	5	9	8	
Springfield.....		1	1	3	1
Toledo.....	6	9	10	10	4
Youngstown.....	3	2	3	6	6
Oklahoma:					
Oklahoma.....	2	3	5	1	3
Oregon:					
Portland.....	7	5	11	9	7
Pennsylvania:					
Philadelphia.....	91	76	112	101	178
Rhode Island:					
Pawtucket.....	2	5	4		1
Providence.....	6	9	11	13	18
South Carolina:					
Charleston.....	2	2	11	4	6
Tennessee:					
Memphis.....	6	3	9	7	11
Nashville.....	3	5	3	8	2
Texas:					
Dallas.....	6	1	4	6	6
El Paso.....	1		3	8	
Fort Worth.....	3	2	2	6	3
Houston.....	6	4	4	6	1
San Antonio.....	(1)	3	3	5	1
Utah:					
Salt Lake City.....	9	10	7	2	9
Virginia:					
Norfolk.....	4	5	7	5	1
Portsmouth.....	1	4	2	5	(1)
Richmond.....	6	5	9	3	7
Roanoke.....	1	1	4	5	11
West Virginia:					
Huntington.....	3	2	2	5	7
Wheeling.....	1	2	6	3	2
Wisconsin:					
Milwaukee.....		15		14	14
Racine.....	1	1	3	1	3

¹No reports.

DEATHS DURING WEEK ENDED JANUARY 6, 1923.

Summary of information received by telegraph from industrial insurance companies for week ended January 6, 1923, and corresponding week of 1922. (From the Weekly Health Index, January 10, 1923, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Jan. 6, 1923.	Corresponding week, 1922.
Policies in force.....	51, 758, 878	48, 628, 495
Number of death claims.....	7, 492	6, 740
Death claims per 1,000 policies in force, annual rate.....	7.5	7.2

Deaths from all causes in certain large cities of the United States during the week ended January 6, 1923, infant mortality, annual death rate, and comparison with corresponding week of 1922. (From the Weekly Health Index, January 10, 1923, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1922.	Week ended Jan. 6, 1923.		Annual death rate per 1,000, corresponding week 1922.	Deaths under 1 year.		Infant mortality rate, week ended Jan. 6, 1923. ³
		Total deaths.	Death rate. ¹		Week ended Jan. 6, 1923.	Corresponding week 1922.	
Total.....	28,587,287	8,142	14.9	13.4	1,036	953	.....
Akron, Ohio.....	208,435	28	7.0	7.8	5	9	59
Albany, N. Y.....	116,223	44	19.7	15.7	6	4	133
Atlanta, Ga.....	220,047	106	25.1	15.6	10	8	.....
Baltimore, Md.....	762,222	270	18.5	15.6	32	31	91
Birmingham, Ala.....	191,017	79	21.6	12.3	12	7	.....
Boston, Mass.....	784,017	255	17.4	14.4	43	29	123
Bridgeport, Conn.....	143,555	34	12.3	11.6	3	4	41
Buffalo, N. Y.....	528,163	160	16.7	12.6	25	18	165
Cambridge, Mass.....	110,944	39	18.3	16.0	6	7	107
Camden, N. J.....	121,915	33	14.1	15.4	4	6	66
Chicago, Ill.....	2,833,288	708	13.0	11.6	88	96	.....
Cincinnati, Ohio.....	404,865	173	22.3	15.8	17	9	112
Cleveland, Ohio.....	851,565	225	13.7	12.1	36	21	99
Columbus, Ohio.....	253,455	63	13.0	11.9	9	5	73
Dallas Tex.....	171,974	47	14.3	17.6	11	9	.....
Dayton, Ohio.....	161,824	47	14.1	12.2	5	4	82
Denver, Colo.....	267,591	85	16.6	18.9	8	7	.....
Detroit, Mich.....	983,678	282	14.8	12.4	68	46	137
Duluth, Minn.....	104,183	17	8.5	.....	2	.....	46
Eric, Pa.....	169,528	30	14.3	10.9	3	2	61
Fall River, Mass.....	120,790	45	19.4	12.1	10	4	142
Flint, Mich.....	111,794	25	11.7	.....	7	.....	139
Fort Worth, Tex.....	114,717	25	11.4	6.8	4	1	.....
Grand Rapids, Mich.....	143,572	36	13.1	10.5	4	2	63
Houston, Tex.....	150,087	24	8.3	16.7	4	9	.....
Indianapolis, Ind.....	333,257	82	12.8	14.4	8	7	62
Jersey City, N. J.....	305,911	70	11.9	13.1	5	15	34
Kansas City, Kans.....	113,801	24	11.0	9.2	1	2	23
Kansas City, Mo.....	343,988	105	15.9	16.7	21	15	.....
Los Angeles, Calif.....	634,866	207	17.0	14.8	19	14	71
Louisville, Ky.....	256,877	80	16.2	17.3	14	5	151
Lowell, Mass.....	111,423	22	10.0	16.4	7	7	122
Lynn, Mass.....	101,673	20	10.3	.....	2	.....	53
Memphis, Tenn.....	167,862	68	21.1	20.8	15	9	.....
Milwaukee, Wis.....	476,603	92	10.1	16.5	16	16	79
Minneapolis, Minn.....	400,970	104	13.5	11.7	16	9	87
Nashville, Tenn.....	120,332	28	12.1	15.2	3	2	.....
New Bedford, Mass.....	127,542	43	17.6	10.6	7	4	104
New Haven, Conn.....	169,987	60	18.4	9.2	3	2	39
New Orleans, La.....	399,616	160	20.9	18.0	19	19	.....
New York, N. Y.....	5,839,746	1,471	13.1	13.3	177	210	71
Bronx borough.....	808,536	176	11.3	10.4	26	25	91
Brooklyn borough.....	2,117,164	487	12.0	12.7	68	66	72
Manhattan borough.....	2,271,888	653	15.0	15.2	64	102	62
Queens borough.....	516,757	115	11.6	10.7	15	12	80
Richmond borough.....	124,401	40	16.8	16.8	4	5	73
Newark, N. J.....	431,792	108	13.0	15.1	21	14	99
Norfolk, Va.....	124,915	32	13.4	16.7	4	10	71
Oakland, Calif.....	233,279	46	10.3	11.0	2	4	26
Omaha, Nebr.....	200,739	56	14.5	11.2	8	8	87
Paterson, N. J.....	138,521	58	21.8	13.2	9	6	144
Philadelphia, Pa.....	1,894,500	719	19.8	13.7	82	60	106
Pittsburgh, Pa.....	607,902	184	15.8	13.5	21	32	73
Portland, Oreg.....	269,240	65	12.6	12.8	4	5	40
Providence, R. I.....	241,011	85	18.4	15.1	14	14	114
Richmond, Va.....	178,365	56	16.4	15.8	5	4	61
Rochester, N. Y.....	311,548	68	11.4	10.9	9	9	71
St. Louis, Mo.....	795,008	227	14.9	12.7	15	13	.....
St. Paul, Minn.....	239,836	65	14.1	12.0	8	8	74
Salt Lake City, Utah.....	123,918	34	14.3	16.4	11	6	179
San Antonio, Tex.....	178,566	66	19.3	.....	10	.....	.....
San Francisco, Calif.....	529,792	156	15.4	16.6	10	8	60

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1922. Cities left blank are not in the registration area for births.

³ Enumerated population Jan. 1, 1920.

Deaths from all causes in certain large cities of the United States during the week ended January 6, 1923, infant mortality, annual death rate, and comparison with corresponding week of 1922. (From the Weekly Health Index, January 10, 1923, issued by the Bureau of the Census, Department of Commerce.)—(Continued.)

City.	Estimated population July 1, 1922.	Week ended Jan. 6, 1923.		Annual death rate per 1,000, corresponding week 1922.	Deaths under 1 year.		Infant mortality rate, week ended Jan. 6, 1923.
		Total deaths.	Death rate.		Week ended Jan. 6, 1923.	Corresponding week 1922.	
Seattle, Wash.	315,312	61	10.1	8.1	5	3	44
Spokane, Wash.	104,445	30	15.0	11.0	4	3	87
Springfield, Mass.	140,052	38	14.1	13.8	1	1	14
Syracuse, N. Y.	181,012	52	15.0	12.1	6	9	78
Tacoma, Wash.	100,369	17	8.8		2		50
Tolodo, Ohio.	260,717	56	11.2	11.2	11	9	111
Trenton, N. J.	125,075	48	20.0	21.3	8	8	135
Washington, D. C.	437,571	162	19.3	13.7	13	19	74
Wilnington, Del.	115,568	38	17.1	12.6	7	9	142
Worcester, Mass.	188,449	37	10.2	13.8	2	5	22
Yonkers, N. Y.	105,422	19	9.4	15.3	4	5	87
Youngstown, Ohio.	144,970	33	11.9	11.9	7	7	95

³ Enumerated population Jan. 1, 1920.

MORTALITY SUMMARY FOR 62 LARGE CITIES, 1922.

Deaths from all causes, death rate, and infant mortality in 62 large cities of the United States for 1922 and comparison with 1921.

[Furnished by the Bureau of the Census, Department of Commerce.]

City. ¹	Estimated population, July 1, 1922.	Total deaths.	Death rate. ²	Deaths under 1 year.	Provisional infant mortality rate, 1922. ³	Infant mortality rate, 1921.	Mortality data for calendar year 1921.		
							Total deaths.	Death rate.	Deaths under 1 year.
Total	27,502,254	343,676	12.5	47,375	177	176	324,945	12.1	48,110
Akron, Ohio. ⁴	208,435	1,532	7.4	300	68	68	1,594	7.5	325
Albany, N. Y.	116,223	1,810	15.6	188	80	81	1,742	15.1	183
Atlanta, Ga. ⁵	220,047	3,499	15.9	443			3,078	14.8	414
Baltimore, Md.	762,222	10,767	14.2	1,574	89	87	10,380	13.8	1,596
Birmingham, Ala. ⁶	191,017	2,570	13.5	356			2,725	14.6	434
Boston, Mass. ⁷	764,017	11,305	14.8	1,680	93	77	10,225	13.5	1,501
Bridgeport, Conn.	143,553	1,591	11.1	222	59	66	1,503	10.5	270
Buffalo, N. Y.	528,163	6,805	12.9	1,216	98	93	6,536	12.6	1,234
Cambridge, Mass.	110,944	1,454	13.1	219	75	64	1,388	12.6	195
Camden, N. J.	121,915	1,673	13.8	282	90	92	1,535	12.8	305
Chicago, Ill. ⁸	2,833,288	31,544	11.2	4,889			30,819	11.1	5,048
Cincinnati, Ohio.	404,865	6,042	15.0	570	72	74	5,700	14.1	603
Cleveland, Ohio.	854,565	8,739	10.3	1,432	75	74	8,697	10.5	1,480
Columbus, Ohio.	253,455	3,349	13.3	395	79	80	3,176	12.8	395
Dallas, Tex. ⁶	171,974	2,170	12.7	314			1,985	12.0	305
Dayton, Ohio.	161,824	1,766	10.9	214	68	73	1,734	11.0	236
Denver, Colo. ⁹	267,591	4,293	16.1	420			3,715	14.1	390
Detroit, Mich. ⁷	993,678	11,016	11.1	2,248	87	83	10,383	10.5	2,299
Erie, Pa.	109,528	1,182	10.8	155	61	70	1,190	11.2	188
Fall River, Mass.	120,790	1,916	13.9	437	119	114	1,717	14.2	423
Fort Worth, Tex. ⁶	114,717	1,198	10.5	147			(⁹)	(⁹)	(⁹)
Grand Rapids, Mich.	143,572	1,578	11.0	196	59	69	1,581	10.9	235
Houston, Tex. ⁶	160,087	1,736	11.6	262			1,851	12.8	233

¹ Cities appearing in the summary are those shown for the 52 weeks in the Weekly Health Index.

² Allowance has been made for the extra day which must be added to the 52 weeks to give a period of 365 days.

³ Infant mortality rate is based upon deaths under 1 year as returned each week and estimated births, 1922.

⁴ Infant mortality rate for the 51 cities in the birth registration area, appearing in the summary.

⁵ Enumerated population, January 1, 1920.

⁶ Cities with no infant mortality rate are not in the registration area for births.

⁷ Corrected figures.

⁸ Not available.

Deaths from all causes, death rate, and infant mortality in 62 large cities of the United States for 1922 and comparison with 1921—Continued.

City. ¹	Estimated population, July 1, 1922.	Total deaths.	Death rate.	Deaths under 1 year.	Provisional infant mortality rate, 1922.	Infant mortality rate, 1921.	Mortality data for calendar year 1921.		
							Total deaths.	Death rate.	Deaths under 1 year.
Indianapolis, Ind.	333,257	4,437	13.4	489	72	75	4,119	12.6	530
Jersey City, N. J.	305,911	3,807	12.5	632	82	84	3,601	11.9	683
Kansas City, Kans.	113,801	1,437	12.7	186	82	71	1,257	12.1	171
Los Angeles, Calif.	634,866	9,612	15.2	960	71	68	8,528	14.0	859
Louisville, Ky.	256,877	3,564	13.9	399	83	73	3,314	14.0	357
Lowell, Mass.	114,423	1,338	13.5	289	97	90	1,465	12.9	284
Memphis, Tenn. ⁶	167,862	3,081	18.4	392	.....	.....	2,876	17.4	387
Milwaukee, Wis.	476,603	4,633	9.7	793	76	82	4,587	9.8	877
Minneapolis, Minn.	400,970	4,280	10.7	491	51	56	4,289	10.9	527
Nashville, Tenn. ⁶	120,332	1,995	16.6	258	.....	.....	1,978	16.2	290
New Bedford, Mass.	127,542	1,544	12.1	343	343	98	1,384	11.1	347
New Haven, Conn.	169,987	2,129	12.6	278	69	61	1,953	11.6	261
New Orleans, La. ⁶	399,616	6,650	16.7	820	.....	.....	6,488	16.4	798
New York, N. Y.	5,839,746	69,515	11.9	9,640	74	72	61,603	11.2	9,594
Bronx Borough.	809,536	7,677	9.5	809	55	61	6,975	9.0	939
Brooklyn Borough.	2,117,164	23,363	11.1	3,402	69	65	22,184	10.7	3,237
Manhattan Borough.	2,271,888	31,500	13.9	4,576	86	81	28,885	12.7	4,555
Queens Borough.	516,757	5,010	9.7	635	65	68	5,032	10.1	662
Richmond Borough.	124,401	1,965	15.8	218	76	70	1,527	12.6	201
Newark, N. J.	431,792	5,189	12.1	808	73	72	4,638	10.9	839
Norfolk, Va.	124,915	1,395	11.2	229	78	90	1,565	12.9	253
Oakland, Calif.	233,279	2,607	11.2	253	62	52	2,356	10.4	218
Omaha, Nebr.	200,739	2,667	13.3	294	61	79	2,599	13.2	378
Paterson, N. J.	138,521	1,730	12.5	224	69	77	1,749	12.7	257
Philadelphia, Pa.	1,894,500	24,890	13.2	3,328	83	78	23,697	12.7	3,408
Pittsburgh, Pa.	607,902	8,660	14.3	1,387	93	97	8,499	14.1	1,528
Portland, Oreg.	269,240	3,151	11.7	277	54	50	2,892	10.9	264
Providence, R. I.	241,011	3,312	13.8	478	75	84	3,185	13.3	552
Richmond, Va.	178,365	2,629	14.8	360	85	101	2,567	14.6	437
Rochester, N. Y.	311,548	3,487	11.2	494	75	80	3,663	12.0	545
St. Louis, Mo. ⁶	795,008	9,918	12.5	802	.....	.....	9,607	12.2	936
St. Paul, Minn.	239,836	2,715	11.4	317	56	54	2,555	10.7	304
Salt Lake City, Utah	123,918	1,551	12.6	230	72	74	1,503	12.4	251
San Francisco, Calif.	529,792	7,490	14.2	469	54	51	7,031	13.5	468
Seattle, Wash. ⁶	315,312	3,015	9.6	259	44	52	2,839	9.0	294
Spokane, Wash.	104,445	1,410	13.5	166	70	55	1,315	12.6	144
Springfield, Mass.	140,052	1,546	11.1	211	58	72	1,542	11.3	243
Syracuse, N. Y.	181,012	2,266	12.6	355	86	82	2,139	12.0	355
Toledo, Ohio.	260,717	3,048	11.7	369	72	75	3,047	12.0	407
Trenton, N. J.	125,075	2,076	16.6	328	107	80	1,610	13.1	272
Washington, D. C. ⁶	437,571	6,278	14.4	771	85	83	6,055	13.8	730
Wilmington, Del.	115,598	1,375	11.9	275	108	93	1,361	12.0	247
Worcester, Mass.	188,449	2,391	12.7	343	74	77	2,387	12.9	371
Yonkers, N. Y.	105,422	1,120	10.7	198	82	63	960	9.3	160

⁶ Enumerated population, January 1, 1920.¹ Cities with no infant mortality rate are not in the registration area for births

CONNECTICUT—continued.

	Cases.
Scarlet fever.....	108
Trachoma.....	1
Tuberculosis (all forms).....	30
Typhoid fever.....	2
Whooping cough.....	69
DELAWARE.	
Chicken pox.....	11
Diphtheria.....	5
Influenza.....	25
Measles.....	93
Pneumonia.....	11
Scabies.....	1
Scarlet fever:	
Wilmington.....	10
Scattering.....	2
Tuberculosis.....	5
Typhoid fever.....	3
Whooping cough.....	1
FLORIDA.	
Cerebrospinal meningitis.....	1
Dengue.....	5
Diphtheria.....	9
Influenza.....	87
Malaria.....	4
Pneumonia.....	9
Scarlet fever.....	1
Smallpox.....	13
Typhoid fever.....	6
GEORGIA.	
Chicken pox.....	20
Dengue.....	8
Diphtheria.....	16
Dysentery (amebic).....	1
German measles.....	1
Hookworm disease.....	7
Influenza.....	885
Malaria.....	6
Measles.....	10
Pneumonia.....	43
Scarlet fever.....	9
Septic sore throat.....	2
Smallpox.....	12
Trachoma.....	1
Tuberculosis (all forms).....	107
Typhoid fever.....	5
ILLINOIS.	
Cerebrospinal meningitis:	
Bureau County.....	1
Chicago.....	2
Franklin County.....	1
Stephenson County.....	1
Diphtheria:	
Cook County (including Chicago).....	216
Chicago.....	183
Kane County.....	11
Lake County.....	12
Madison County.....	17
Sangamon County.....	12
Scattering.....	104
Influenza:	
Chicago.....	37
Scattering.....	50

ILLINOIS—continued.

	Cases.
Pneumonia.....	569
Poliomyelitis—Wayne County.....	1
Scarlet fever:	
Bureau County.....	8
Cook County (including Chicago).....	133
Chicago.....	114
Henry County.....	12
Kane County.....	15
Lake County.....	14
Madison County.....	8
Peoria County.....	12
Sangamon County.....	9
Winnebago County.....	17
Woodford County.....	9
Scattering.....	133
Smallpox:	
Bureau County.....	10
Carroll County.....	10
Henry County.....	23
Stephenson County.....	8
Will County.....	21
Scattering.....	14
Typhoid fever.....	13
Whooping cough.....	217
INDIANA.	
Cerebrospinal meningitis—Henry County.....	1
Diphtheria.....	145
Scarlet fever.....	92
Smallpox.....	54
Typhoid fever.....	1
IOWA.	
Diphtheria.....	46
Scarlet fever.....	111
Smallpox.....	13
KANSAS.	
Chicken pox.....	127
Diphtheria.....	123
German measles.....	2
Influenza.....	14
Measles.....	27
Mumps.....	22
Pneumonia.....	48
Scarlet fever.....	179
Smallpox.....	4
Tuberculosis.....	49
Typhoid fever.....	3
Whooping cough.....	21
LOUISIANA.	
Dengue.....	4
Diphtheria.....	34
Influenza.....	12
Measles.....	7
Scarlet fever.....	6
Smallpox.....	8
Typhoid fever.....	13
Whooping cough.....	6
MAINE.	
Chicken pox.....	22
Conjunctivitis.....	3
Diphtheria.....	16
Influenza.....	6
Measles.....	91

MAINE—continued.

	Cases.
Mumps.....	4
Pneumonia.....	25
Scarlet fever.....	29
Smallpox.....	1
Tuberculosis.....	3
Typhoid fever.....	3
Whooping cough.....	87

MARYLAND.¹

Cerebrospinal meningitis.....	1
Chicken pox.....	192
Diphtheria.....	104
German measles.....	3
Influenza.....	318
Lethargic encephalitis.....	2
Malaria.....	1
Measles.....	120
Mumps.....	54
Ophthalmia neonatorum.....	1
Pneumonia (all forms).....	195
Scarlet fever.....	89
Septic sore throat.....	7
Tuberculosis.....	40
Typhoid fever.....	2
Whooping cough.....	137

MASSACHUSETTS.

Cerebrospinal meningitis.....	1
Chicken pox.....	233
Conjunctivitis (suppurative).....	8
Diphtheria.....	196
German measles.....	5
Influenza.....	162
Lethargic encephalitis.....	1
Measles.....	838
Mumps.....	169
Ophthalmia neonatorum.....	16
Pellagra.....	1
Pneumonia (lobar).....	197
Poliomyelitis.....	5
Scarlet fever.....	242
Septic sore throat.....	2
Trachoma.....	3
Tuberculosis (all forms).....	123
Typhoid fever.....	6
Whooping cough.....	237

MICHIGAN.

Diphtheria.....	206
Measles.....	105
Pneumonia.....	256
Scarlet fever.....	328
Smallpox.....	61
Tuberculosis.....	49
Typhoid fever.....	13
Whooping cough.....	179

MINNESOTA.

Chicken pox.....	36
Diphtheria.....	116
Measles.....	108
Pneumonia.....	5
Poliomyelitis.....	1
Scarlet fever.....	317
Smallpox.....	84

MINNESOTA—continued.

	Cases.
Tuberculosis.....	66
Typhoid fever.....	2
Whooping cough.....	13

MISSISSIPPI.

Dengue.....	6
Diphtheria.....	23
Influenza.....	2,550
Scarlet fever.....	7
Smallpox.....	4
Typhoid fever.....	10

MISSOURI.

Cerebrospinal meningitis.....	1
Chicken pox.....	22
Diphtheria.....	51
Epidemic sore throat.....	9
Influenza.....	462
Measles.....	1
Pneumonia.....	15
Scarlet fever.....	68
Smallpox.....	16
Trachoma.....	1
Tuberculosis.....	3
Typhoid fever.....	1
Whooping cough.....	5

MONTANA.

Diphtheria.....	7
Poliomyelitis—Hardin.....	1
Scarlet fever.....	43
Smallpox.....	3
Typhoid fever.....	3

NEBRASKA.

Chicken pox.....	52
Diphtheria:	
Omaha.....	9
Scattering.....	18
Influenza.....	39
Measles.....	3
Mumps.....	12
Pneumonia.....	4
Poliomyelitis—Hall County.....	1
Scarlet fever:	
Fillmore County.....	8
Holt County.....	10
Scattering.....	44
Septic sore throat.....	1
Smallpox.....	5
Tetanus.....	1
Tuberculosis.....	10
Whooping cough.....	5

NEW JERSEY.

Cerebrospinal meningitis.....	2
Chicken pox.....	276
Diphtheria.....	222
Influenza.....	49
Malaria.....	1
Measles.....	1,263
Pneumonia.....	211
Scarlet fever.....	234
Trachoma.....	1
Typhoid fever.....	8
Whooping cough.....	180

¹ Week ended Friday.

NEW MEXICO.		SOUTH DAKOTA—continued.	
	Cases.		Cases.
Chicken pox.....	26	Tuberculosis.....	4
Diphtheria.....	48	Typhoid fever.....	1
Influenza.....	36	Whooping cough.....	3
Pneumonia.....	7		
Scarlet fever.....	21	TEXAS.	
Tuberculosis.....	21	Cerebrospinal meningitis.....	1
Typhoid fever.....	6	Chicken pox.....	26
		Dengue.....	58
NEW YORK.		Diphtheria.....	49
(Exclusive of New York City.)		Influenza.....	76
Cerebrospinal meningitis.....	2	Leprosy.....	1
Diphtheria.....	168	Lethargic encephalitis.....	1
Influenza.....	187	Measles.....	1
Lethargic encephalitis.....	4	Mumps.....	56
Measles.....	588	Pellagra.....	4
Pneumonia.....	413	Pneumonia.....	19
Poliomyelitis.....	2	Rabies in man.....	3
Scarlet fever.....	285	Scarlet fever.....	12
Smallpox.....	13	Smallpox.....	9
Typhoid fever.....	14	Trachoma.....	10
Whooping cough.....	333	Tuberculosis.....	36
		Typhoid fever.....	15
NORTH CAROLINA.		Typhus fever.....	1
Cerebrospinal meningitis.....	1	Whooping cough.....	14
Chicken pox.....	79		
Diphtheria.....	59	VERMONT.	
German measles.....	1	Chicken pox.....	46
Measles.....	228	Diphtheria.....	5
Scarlet fever.....	43	Measles.....	20
Septic sore throat.....	1	Mumps.....	8
Smallpox.....	69	Pneumonia.....	4
Typhoid fever.....	6	Scarlet fever.....	14
Whooping cough.....	124	Smallpox.....	3
		Typhoid fever.....	4
		Whooping cough.....	61
OREGON.			
Chicken pox.....	27	WASHINGTON.	
Diphtheria:		Chicken pox.....	108
Portland.....	8	Diphtheria.....	15
Scattering.....	13	Impetigo contagiosa.....	3
Influenza.....	12	Lethargic encephalitis:	
Lethargic encephalitis.....	1	Spokane.....	11
Measles.....	6	Vancouver.....	1
Mumps.....	1	Measles.....	10
Pneumonia.....	1 10	Mumps.....	30
Scarlet fever:		Pneumonia.....	2
Benton County.....	8	Poliomyelitis—Tacoma.....	1
Scattering.....	13	Scabies.....	6
Smallpox:		Scarlet fever:	
Portland.....	8	Seattle.....	12
Scattering.....	9	Tacoma.....	8
Tuberculosis.....	12	Scattering.....	27
Typhoid fever.....	2	Smallpox.....	38
Whooping cough.....	3	Tuberculosis.....	5
		Typhoid fever.....	5
		Whooping cough.....	34
SOUTH CAROLINA.			
Influenza.....	1,842	WEST VIRGINIA.	
		Diphtheria.....	19
SOUTH DAKOTA.		Influenza:	
Chicken pox.....	19	Beckley.....	25
Diphtheria.....	16	Fairmont.....	15
Measles.....	24	Grafton.....	50
Mumps.....	7	Mannington.....	98
Pneumonia.....	23	Scarlet fever.....	17
Scarlet fever.....	51	Typhoid fever.....	3
Smallpox.....	12		

1 Deaths.

WISCONSIN.

Milwaukee:	Cases.
Chicken pox.....	40
Diphtheria.....	28
German measles.....	2
Measles.....	942
Scarlet fever.....	137
Tuberculosis.....	16
Typhoid fever.....	1
Whooping cough.....	28
Scattering:	
Cerebrospinal meningitis.....	3
Chicken pox.....	123
Diphtheria.....	65
German measles.....	5

WISCONSIN—continued.

Scattering—Continued.	Cases.
Influenza.....	47
Measles.....	378
Pneumonia.....	25
Scarlet fever.....	139
Smallpox.....	51
Tuberculosis.....	38
Typhoid fever.....	1
Whooping cough.....	150
WYOMING.	
Chicken pox.....	4
Scarlet fever.....	1
Whooping cough.....	4

Reports for Week Ended January 6, 1923.

DISTRICT OF COLUMBIA.

	Cases.
Chicken pox.....	42
Diphtheria.....	18
Influenza.....	3
Measles.....	22
Scarlet fever.....	21
Tuberculosis.....	27
Typhoid fever.....	3
Whooping cough.....	39

KENTUCKY.

Cerebrospinal meningitis:	
Crittenden County.....	1
Jefferson County.....	1
Chicken pox.....	27
Diphtheria:	
Hopkins County.....	18
Jefferson County.....	18
Scattering.....	18
German measles.....	1
Influenza:	
Allen County.....	137
Boyd County.....	105
Grant County.....	42
Hardin County.....	56
Jefferson County.....	38
Laurel County.....	36
Lawrence County.....	126
Meade County.....	21
Scott County.....	23
Scattering.....	147

KENTUCKY—continued.

Measles:	Cases.
Crittenden County.....	15
Henderson County.....	37
Hopkins County.....	162
Livingston County.....	15
McCracken County.....	45
Nelson County.....	13
Scattering.....	22
Pneumonia.....	93
Scarlet fever:	
Jefferson County.....	8
Scattering.....	10
Septic sore throat.....	3
Smallpox.....	11
Trachoma.....	2
Tuberculosis:	
Jefferson County.....	22
Scattering.....	3
Typhoid fever.....	5
Whooping cough.....	29

NORTH DAKOTA.

Chicken pox.....	8
Diphtheria.....	13
Measles.....	7
Pneumonia.....	13
Scarlet fever.....	65
Smallpox.....	4
Typhoid fever.....	1
Whooping cough.....	18

SUMMARY OF CASES REPORTED MONTHLY BY 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.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Pollomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
<i>December, 1922.</i>										
Arkansas.....		67	167	121	10	14		24	4	91
Connecticut.....	4	370	58		1,234		2	436	2	14
Massachusetts.....	5	1,106	142	1	2,619		5	971		39
Nebraska.....	1	188	23		10			295	39	14
Vermont.....	1	12	2		51			106	3	4

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922.

ANTHRAX.

City.	Cases.	Deaths.
Pennsylvania: Philadelphia.....	1	.....

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years," gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Dec. 30, 1922.		City.	Median for previous years.	Week ended Dec. 30, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Colorado: Greeley.....	0	.....	1	New Jersey: Newark.....	0	1	1
Illinois: Chicago.....	1	1	.....	New York: New York.....	4	1	1
Massachusetts: Boston.....	0	.....	1	Ohio: Ashtabula.....	0	.....	1
Lynn.....	0	1	.....	Cincinnati.....	0	.....	1
Somerville.....	0	1	1	Pennsylvania: Pittsburgh.....	0	1	.....
Michigan: Jackson.....	0	1	1	Texas: Galveston.....	0	.....	1
Minnesota: Duluth.....	0	.....	1	San Antonio.....	0	.....	1
St. Paul.....	0	1	.....			

DENGUE.

City.	Cases.	Deaths.
Louisiana: New Orleans.....	2	.....

DIPHTHERIA.

See p. 117; also Current State summaries, p. 106; and Monthly summaries, by States, p. 110.

INFLUENZA.

City.	Cases.		Deaths, week ended Dec. 30, 1922.	City.	Cases.		Deaths, week ended Dec. 30, 1922.
	Week ended Dec. 31, 1921.	Week ended Dec. 30, 1922.			Week ended Dec. 31, 1921.	Week ended Dec. 30, 1922.	
Alabama: Birmingham.....	.....	4	3	District of Columbia: Washington.....	.....	6	2
Mobile.....	.....	.....	1	Florida: Tampa.....	4	.....	.....
Tuscaloosa.....	.....	1	.....	Georgia: Albany.....	.....	12	.....
California: Los Angeles.....	3	3	1	Atlanta.....	4	106	4
Oakland.....	.....	1	.....	Augusta.....	.....	167	.....
Sacramento.....	.....	4	.....	Brunswick.....	.....	10	.....
San Francisco.....	2	1	1	Macon.....	.....	50	.....
Santa Ana.....	.....	1	.....	Rome.....	.....	4	.....
Santa Cruz.....	.....	1	1	Savannah.....	1	70	2
Colorado: Denver.....	.....	.....	1	Illinois: Chicago.....	13	12	3
Connecticut: Bridgeport.....	.....	2	.....	Danville.....	1	.....	.....
New Britain.....	1	13	.....	Decatur.....	.....	1	.....
New Haven.....	1	.....	.....	Kansas: Fort Scott.....	.....	4	.....
Stonington.....	.....	1	.....			

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Dec. 30, 1922.	City.	Cases.		Deaths, week ended Dec. 30, 1922.
	Week ended Dec. 31, 1921.	Week ended Dec. 30, 1922.			Week ended Dec. 31, 1921.	Week ended Dec. 30, 1922.	
Kentucky:				New Jersey—Continued.			
Covington.....	1		1	Newark.....	11	12	1
Louisville.....		15		Passaic.....		1	
Louisiana:				Paterson.....		2	
New Orleans.....	1			Orange.....			1
Maine:				Trenton.....			1
Auburn.....	1			West Orange.....			1
Maryland:				New York:			
Baltimore.....	6	35	2	Albany.....		4	
Cumberland.....		1		Auburn.....	1		
Massachusetts:				Buffalo.....		2	
Arlington.....		1		Little Falls.....		1	1
Boston.....	1	35	1	Middletown.....		5	
Brookline.....	1			New York.....	53	45	10
Cambridge.....		9		Niagara Falls.....	1		
Chelsea.....		2	2	Saratoga Springs.....		2	
Everett.....		21	1	North Carolina:			
Lawrence.....		1	1	Durham.....			1
Lynn.....		1		Rocky Mount.....			1
New Bedford.....		1		Ohio:			
Newton.....		2		Akron.....	1		
Pittsfield.....		1	1	Chillicothe.....		2	
Saugus.....	1			Cincinnati.....		10	9
Springfield.....		1		Cleveland.....	2	8	
Webster.....		1	1	Hamilton.....		3	
Winthrop.....		2		Ironton.....		13	
Michigan:				Toledo.....			2
Detroit.....	3	5	1	Oregon:			
Highland Park.....		1		Portland.....			3
Jackson.....			2	Pennsylvania:			
Minnesota:				Philadelphia.....	3	6	4
Minneapolis.....	1		1	South Carolina:			
St. Cloud.....	1			Charleston.....		230	1
Virginia.....		1		Tennessee:			
Missouri:				Chattanooga.....		4	
Kansas City.....		2	2	Texas:			
St. Joseph.....			1	Dallas.....			1
St. Louis.....		1		Virginia:			
Springfield.....			1	Roanoke.....	1	16	1
Montana:				West Virginia:			
Missoula.....		1	1	Charleston.....	1		
New Jersey:				Fairmont.....		36	
Harrison.....		1		Huntington.....			2
Jersey City.....		1		Wisconsin:			
Kearny.....		3		Milwaukee.....		2	

LEPROSY.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Connecticut:		
San Francisco.....	1		Hartford.....	1	

MALARIA.

California:			Louisiana:		
Alameda.....	1		New Orleans.....	2	
Florida:			Ohio:		
Tampa.....	1		Cleveland.....		1
Georgia:					
Savannah.....	2				

MEASLES.

See p. 117; also Current State summaries, p. 106; and Monthly summaries, by States, p. 110.

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Georgia:		
Birmingham.....		1	Atlanta.....		1
California:			Brunswick.....	1	1
Oakland.....	1		Savannah.....		1
			South Carolina:		
			Greenville.....		1

PNEUMONIA (ALL FORMS).

Alabama:			Indiana—Continued.		
Birmingham.....		11	Mishawaka.....		1
Mobile.....		1	Muncie.....		3
Montgomery.....	3		South Bend.....		1
Arkansas:			Terre Haute.....		2
Fort Smith.....	3		Iowa:		
Hot Springs.....		1	Burlington.....	2	
Little Rock.....	5		Muscatine.....		1
California:			Kansas:		
Long Beach.....		1	Fort Scott.....		1
Los Angeles.....	30	17	Kansas City.....	7	
Oakland.....		8	Lawrence.....		1
Pasadena.....	2		Topeka.....	7	3
Riverside.....		1	Wichita.....		3
Sacramento.....		4	Kentucky:		
San Bernardino.....	1		Covington.....		1
San Diego.....		1	Louisville.....	19	7
San Francisco.....	7	6	Louisiana:		
Santa Ana.....		1	New Orleans.....	17	16
Stockton.....		4	Maine:		
Colorado:			Auburn.....		1
Denver.....	7		Bangor.....	1	
Pueblo.....		1	Biddeford.....		3
Connecticut:			Lewiston.....		2
Bridgeport.....	7	4	Portland.....		2
Bristol.....		2	Maryland:		
Hartford.....	5	4	Baltimore.....	86	39
Meriden.....	1		Cumberland.....	2	
New Britain.....	6	3	Frederick.....	1	
New Haven.....		5	Massachusetts:		
New London.....		1	Amesbury.....		2
Norwalk.....		5	Attleboro.....	1	
Stonington.....	1		Beverly.....	4	
Waterbury.....		3	Boston.....	56	34
District of Columbia:			Braintree.....	1	
Washington.....		23	Cambridge.....		9
Florida:			Chelsea.....		5
Tampa.....		2	Chicopee.....		1
Georgia:			Clinton.....		4
Albany.....	1		Danvers.....	1	
Atlanta.....		24	Easthampton.....	1	
Augusta.....		7	Everett.....	2	
Brunswick.....	1		Fall River.....		4
Savannah.....		6	Greenfield.....	1	
Illinois:			Haverhill.....	4	2
Aurora.....	1		Holyoke.....		5
Centralia.....	1		Lawrence.....	4	1
Chicago.....	350	87	Leominster.....	3	
Cicero.....	6		Lowell.....		4
Decatur.....	2	1	Lynn.....	9	5
East St. Louis.....	5	3	Malden.....		4
Elgin.....		5	Medford.....		2
Evanston.....	1		Methuen.....		2
Freeport.....		1	New Bedford.....		7
Galesburg.....		3	Newburyport.....	2	1
Jacksonville.....	2	1	Newton.....	8	4
Kewanee.....		1	North Adams.....		1
Mattoon.....	1		Northbridge.....		2
Oak Park.....	8	1	Pittsfield.....		5
Pekin.....	1		Quincy.....		4
Peoria.....		2	Revere.....		3
Quincy.....		1	Salem.....	3	1
Rockford.....	4	2	Somerville.....		4
Springfield.....	7	3	Southbridge.....		1
Indiana:			Springfield.....	6	2
Anderson.....		1	Wakefield.....		2
East Chicago.....		3	Waltham.....	5	1
Fort Wayne.....		4	Watertown.....	3	
Hammond.....		4	Webster.....	4	1
Indianapolis.....		12	Westfield.....		1
			Worcester.....		10

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.
PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Michigan:			North Carolina:		
Detroit.....	126	45	Durham.....		5
Flint.....	5	4	Greensboro.....		3
Grand Rapids.....	6	3	Raleigh.....		1
Hamtramck.....		4	Rocky Mount.....		1
Highland Park.....	4		Wilmington.....		2
Jackson.....	2		Winston-Salem.....		2
Marquette.....	1		Ohio:		
Pontiac.....	1		Akron.....	9	
Saginaw.....	1		Alliance.....		1
Minnesota:			Canton.....		8
Duluth.....	5		Chillicothe.....	1	
Faribault.....		1	Cincinnati.....		20
Minneapolis.....		20	Cleveland.....	63	19
Rochester.....	1		Columbus.....		8
St. Paul.....		17	Dayton.....	1	
Missouri:			East Youngstown.....		1
Independence.....		1	Findlay.....		1
Kansas City.....	24	17	Ironton.....		2
St. Joseph.....		6	Keamore.....	4	
Springfield.....		3	Lorain.....	4	
Montana:			Mansfield.....	7	1
Billings.....		1	Middletown.....	8	5
Missoula.....	5	4	New Philadelphia.....	3	
Nebraska:			Niles.....		1
Lincoln.....		1	Norwood.....		3
Omaha.....		12	Piqua.....		1
Nevada:			Sandusky.....	2	1
Reno.....	1		Springfield.....		3
New Hampshire:			Tiffin.....		1
Concord.....		1	Toledo.....		8
Portsmouth.....	1		Youngstown.....		6
New Jersey:			Zanesville.....		3
Atlantic City.....		3	Oklahoma:		
Bayonne.....	1		Oklahoma.....		1
Belleville.....	3		Oregon:		
Bloomfield.....		1	Portland.....		6
Clifton.....	4	3	Pennsylvania:		
East Orange.....	4	1	Philadelphia.....	139	97
Englewood.....	1		Rhode Island:		
Garfield.....	1		Cranston.....		1
Harrison.....	1		Providence.....		13
Hoboken.....		2	South Carolina:		
Jersey City.....	9		Charleston.....	9	3
Kearny.....	5	1	South Dakota:		
Montclair.....		1	Sioux Falls.....		1
Newark.....	69	16	Tennessee:		
Orange.....	7	1	Chattanooga.....	2	
Passaic.....		5	Memphis.....		7
Paterson.....	9		Nashville.....		8
Plainfield.....	4	1	Texas:		
Summit.....	3	1	Dallas.....		5
Trenton.....	11	1	El Paso.....		8
West New York.....		2	Fort Worth.....		6
West Orange.....	1		Galveston.....		1
New Mexico:			Houston.....		6
Albuquerque.....	3		San Antonio.....		5
New York:			Waco.....		1
Albany.....	11	1	Utah:		
Auburn.....	2	1	Salt Lake City.....		2
Buffalo.....	36	8	Vermont:		
Glens Falls.....	1		Rutland.....		1
Hornell.....		1	Virginia:		
Ithaca.....	2		Lynchburg.....		3
Lackawanna.....	2	1	Norfolk.....		5
Lockport.....	1		Petersburg.....		2
Middletown.....		1	Portsmouth.....		5
Mount Vernon.....	10	4	Richmond.....		3
Newburgh.....	3	1	Roanoke.....	7	4
New York.....	358	203	West Virginia:		
Niagara Falls.....		1	Bluefield.....		3
Peekskill.....	2		Charleston.....		4
Port Chester.....	2		Huntington.....		3
Poughkeepsie.....	7	2	Wheeling.....		3
Rochester.....	14	7	Wisconsin:		
Rome.....	4		Kenosha.....		2
Saratoga Springs.....	2	1	Madison.....	1	
Schenectady.....	2	1	Marquette.....		2
Syracuse.....	15	7	Milwaukee.....		14
Troy.....		5	Oshkosh.....		1
Watertown.....	3	1	Racine.....		1
White Plains.....	1		Wyoming:		
			Cheyenne.....		2

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years," gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Dec. 30, 1922.		City.	Median for previous years.	Week ended Dec. 30, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Louisiana:				Tennessee:			
New Orleans.....	0	1	.....	Nashville.....	0	1	.....
Massachusetts:				Texas:			
Fall River.....	0	1	.....	Amarillo.....		1	.....
Haverhill.....	0	1	.....	San Antonio.....			1
New York:							
New York.....	0	2	1				

RABIES IN ANIMALS.

City.	Cases.	City.	Cases.
California:		Missouri:	
Los Angeles.....	7	Kansas City.....	1
Kentucky:		Tennessee:	
Louisville.....	1	Memphis.....	1

RABIES IN MAN.

City.	Cases.	Deaths.
Massachusetts:		
Boston.....	1	1

SCARLET FEVER.

See p. 117; also Current State summaries, p. 106; and Monthly summaries, by States, p. 110.

SMALLPOX.

The column headed "Median for previous years," gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Dec. 30, 1922.		City.	Median for previous years.	Week ended Dec. 30, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				Kansas:			
Eureka.....	0	1	.....	Parsons.....	0	1	.....
Los Angeles.....	2	1	.....	Maryland:			
Oakland.....	0	1	.....	Baltimore.....	0	1	.....
Colorado:				Michigan:			
Denver.....	6	17	1	Ann Arbor.....	0	1	.....
Florida:				Detroit.....	2	1	.....
St. Petersburg.....		1	.....	Flint.....	0	1	.....
Illinois:				Minnesota:			
Freeport.....	0	5	.....	Duluth.....	0	14	.....
Springfield.....	0	1	.....	Minneapolis.....	12	3	.....
Indiana:				St. Paul.....	10	2	.....
Elwood.....	0	2	.....	Virginia.....	0	1	.....
Fort Wayne.....	0	2	.....	Missouri:			
Iowa:				St. Louis.....	1	1	.....
Council Bluffs.....	0	1	.....	Montana:			
Muscatine.....	0	1	.....	Great Falls.....	0	2	.....

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

SMALLPOX—Continued.

City.	Median for previous years.	Week ended Dec. 30, 1922.		City.	Median for previous years.	Week ended Dec. 30, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Nebraska:				Utah:			
Omaha.....	7	2		Salt Lake City.....	6	2	1
Ohio:				Virginia:			
Dayton.....	1	2		Roanoke.....	0	1	
Newark.....	0	1		Washington:			
Toledo.....	1	5		Seattle.....	3	5	
Oklahoma:				Spokane.....	8	18	
Oklahoma.....	4	5		Tacoma.....	0	1	
Tulsa.....	2	6		Wisconsin:			
Oregon:				Ashland.....	0	1	
Portland.....	5	5		Eau Claire.....	0	2	
Pennsylvania:				Oshkosh.....	0	1	
Philadelphia.....	0	2		Superior.....	3	14	

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
New York:			Texas:		
Buffalo.....		1	Fort Worth.....	1	1
New York.....	1	1	San Antonio.....		2

TUBERCULOSIS.

See p. 117, also Current State summaries, p. 106.

TYPHOID FEVER.

The column headed "Median for previous years," gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Dec. 30, 1922.		City.	Median for previous years.	Week ended Dec. 30, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Kansas:			
Montgomery.....	0	1		Topeka.....	0	1	1
California:				Louisiana:			
Los Angeles.....	1		1	New Orleans.....	2	5	
Oakland.....	0	1		Maine:			
San Diego.....	0	1		Biddeford.....	0	1	
San Francisco.....	1	1		Portland.....	0	1	
Colorado:				Maryland:			
Pueblo.....	0	1		Baltimore.....	4	4	
Trinidad.....	1	3		Massachusetts:			
Connecticut:				Cambridge.....	0	1	
Milford.....	0	1		Chelsea.....	0	1	1
District of Columbia:				Haverhill.....	0	1	
Washington.....	1	4	1	Salem.....	0	1	
Florida:				Southbridge.....	0	1	
Tampa.....	0	1		Michigan:			
Georgia:				Detroit.....	2	2	1
Atlanta.....	0		1	Missouri:			
Augusta.....	0	2		St. Louis.....	5	2	1
Savannah.....	1	1		Montana:			
Illinois:				Billings.....	0	1	
Bloomington.....	0	1		Nebraska:			
Chicago.....	3	3		Omaha.....	0		1
Jacksonville.....	0	1	1	New Jersey:			
Indiana:				Bloomfield.....	0	1	
Hammond.....	0	1		Jersey City.....	0	1	
Indianapolis.....	0		1	Montclair.....	0	1	

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended Dec. 30, 1922.		City.	Median for previous years.	Week ended Dec. 30, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
New Jersey—Continued.				Pennsylvania—Contd.			
Morristown.....	0	1	.....	Philadelphia.....	3	5	1
Newark.....	0	2	2	Reading.....	0	2	.....
Orange.....	0	1	.....	Sunbury.....	0	1	.....
Paterson.....	0	1	.....	Washington.....	0	1	.....
Summit.....	0	1	.....	York.....	0	1	.....
West Hoboken.....	0	1	.....	Rhode Island:			
New York:				Providence.....	0	1	.....
Buffalo.....	2	.....	1	Tennessee:			
New York.....	13	18	4	Memphis.....	0	1	1
Rochester.....	1	1	.....	Texas:			
Syracuse.....	1	2	.....	Dallas.....	0	1	1
Troy.....	1	2	.....	El Paso.....	0	2	.....
Ohio:				Virginia:			
Ashtabula.....	0	.....	1	Norfolk.....	0	1	.....
Cambridge.....	.....	.....	1	Washington:			
Chillicothe.....	0	1	.....	Seattle.....	1	1	.....
Cincinnati.....	1	1	1	Spokane.....	0	1	.....
New Philadelphia.....	0	1	.....	Yakima.....	0	1	.....
Piqua.....	0	1	.....	West Virginia:			
Pennsylvania:				Bluefield.....	0	.....	1
Beaver balls.....	0	1	.....	Wheeling.....	0	1	.....
Easton.....	0	1	.....	Wisconsin:			
New Kensington.....	0	1	.....	Milwaukee.....	1	2	1

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Birmingham.....	178,806	60	2	2			2		6	3
Mobile.....	60,777	15	2							2
Montgomery.....	43,464	17							1	
Tuscaloosa.....	11,996		1							
Arkansas:										
Fort Smith.....	28,870		6							
Hot Springs.....	11,085	6								
Little Rock.....	65,142		3				2		3	
North Little Rock.....	14,048		1							
California:										
Alameda.....	28,806	7							1	
Eureka.....	12,923	6			1				3	
Glendale.....	13,586	9								1
Long Beach.....	55,563	24	3	1						
Los Angeles.....	576,673	186	54	2	3	6	24	1	69	23
Oakland.....	216,261	62	15						4	2
Pasadena.....	45,354	12				2		5	2	1
Richmond.....	16,843	1					2		2	
Riverside.....	19,341	8	2						2	1
Sacramento.....	65,908	14	3				3		1	
San Bernardino.....	18,721	8	2						7	2
San Diego.....	74,683	27	11				8	1	22	7
San Francisco.....	506,676	124	31	4					1	1
Santa Ana.....	15,485	9								
Santa Barbara.....	19,441	1								1
Santa Cruz.....	10,917	4								4
Stockton.....	40,286	22	1				1	1		
Colorado:										
Denver.....	256,491	67	61		1		22			14
Greeley.....	10,958	3								
Pueblo.....	43,050	13	8	3			5		2	2
Connecticut:										
Bridgeport.....	143,555	30	9		22	1	12		2	3
Bristol.....	20,620	3	3		24					
Danbury (town).....	22,325	8					3			
Derby.....	11,238	6					5			2
Fairfield (town).....	11,475	0								
Hartford.....	138,036	30	9		4		1		3	

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Connecticut—Continued.										
Manchester (town).....	18,370	3								
Meriden (city).....	29,867		1				1			
Milford (town).....	10,193	0								
New Britain.....	59,316	20	7	2	32		4			2
New Haven.....	169,537	25	2		34		10		6	1
New London.....	25,688	3	4						1	
Norwalk.....	27,743	9								
Stonington (town).....	10,236	2								
Waterbury.....	91,715	21	4	1	1		14	1		
District of Columbia										
Washington.....	437,571	143	13	2	21		22		22	13
Florida:										
St. Petersburg.....	14,237	6	1						1	1
Tampa.....	51,008	26	3				2			3
Georgia:										
Atlanta.....	200,616	86	15	2			5		2	7
Augusta.....	52,548	32			1				4	3
Brunswick.....	14,413	3								1
Macon.....	52,965				11		1			
Savannah.....	83,252	42					1		2	5
Idaho:										
Boise.....	21,393	12					2			
Pocatello.....	15,001	4								1
Illinois:										
Alton.....	24,682	3	3				4		1	
Aurora.....	39,397	10	7		1		2			
Bloomington.....	28,725	7	3				1			1
Centralia.....	12,491	2			1		2			
Chicago.....	2,701,705	638	192	11	120		83	2	186	36
Chicago Heights.....	19,653	3								1
Cicero.....	44,995	5	3				1		11	2
Decatur.....	43,818	9	2				1			
East St. Louis.....	66,767	26		2						1
Elgin.....	27,454	12					1		4	
Evanston.....	37,234	10	1		1		1			
Forest Park.....	10,768									
Freeport.....	19,699	5					6			1
Galesburg.....	23,834	15	1		4					
Jacksonville.....	15,713	15	2				2			
Kewanee.....	16,026	6								
La Salle.....	13,050	1			13					
Mattoon.....	13,552	3	2				1			
Oak Park.....	39,858	8	6		2					
Pekin.....	12,066	1	1							
Peoria.....	76,121	29	1		1		10			
Quincy.....	35,978	13								2
Rockford.....	65,651	20	1		4		4			
Springfield.....	59,183	29	1		12		1		2	2
Indiana:										
Anderson.....	29,767	4	3				2			
Bloomington.....	11,565	1								
Crawfordsville.....	10,139	6								
East Chicago.....	35,967	10	2	1			5			1
Elwood.....	10,790	2	1							
Fort Wayne.....	86,549	45	6				3			3
Frankfort.....	11,585	4	4	2	1					
Hammond.....	36,004	10	2		1		2			
Huntington.....	14,000	0								
Indianapolis.....	314,194	91	32	3			2		8	6
Kokomo.....	30,067	6			4					
La Fayette.....	22,486	8	2							
Logansport.....	21,626	8								1
Mishawaka.....	15,195	3	1		22		3			
Muncie.....	36,524	26	1	1	1		1			3
South Bend.....	70,983	9	1		42		5			
Terre Haute.....	66,083	19	4				2		1	2
Iowa:										
Burlington.....	24,057	12	6				3			
Clinton.....	24,151		3							
Council Bluffs.....	36,162	9	2		1		3			
Davenport.....	56,727		13	1			3			
Dubuque.....	39,141				8		4			
Iowa City.....	11,267		1				1			

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts—Continued.										
Quincy	47,876	11	2		2				3	1
Revere	28,823	5								
Salem	42,329	15	3		1		1			
Somerville	93,001	22	5		14		6		2	1
Southbridge	14,245	6								
Springfield	129,614	35	3		2		11			
Wakefield	13,025	5	1							
Waltham	30,915	12	7	1			6			
Watertown	21,457	1	3		1		1		1	
Webster	13,258	6								
West Springfield	13,443	2								
Westfield	18,604	4	2	1						
Winthrop	15,455	1			2					
Worcester	179,754	10	2		5	1	23		1	3
Michigan:										
Alpena	11,101		1				2			
Ann Arbor	19,516	7	2				1			
Battle Creek	36,164		5							
Benton Harbor	12,233	7	2	1	22		2			
Detroit	933,678	223	61	5	5		120	4	47	12
Flint	91,599	29	11	4	2		12		5	
Grand Rapids	137,634	35	10				17		1	1
Hamtramck	48,615	11	8	1						
Highland Park	46,499	8			1		7			
Holland	12,183		1				1			
Jackson	48,374	17					4		1	
Marquette	12,718	2					1			
Pontiac	34,273	11					1			
Port Huron	25,944	14					2			
Saginaw	61,903				1		10			
Sault Ste. Marie	12,066	0	1							
Minnesota:										
Duluth	98,917	14			33		4		2	1
Faribault	11,089	2					1			
Hibbing	15,089				2		6			
Minneapolis	380,582	95	21	1	6		33		26	4
Rochester	13,722	10								
St. Paul	234,688	77	17		6		55	1	5	3
Virginia	14,022						1			
Winona	19,143		3		1		2			
Missouri:										
Independence	11,686	4								
Joplin	29,902	2								
Kansas City	324,410	116	16	3	2		11		8	9
St. Joseph	77,939	45	7				2			
St. Louis	772,597	229	38	2	17		33		18	8
Springfield	39,631	19								2
Montana:										
Anaconda	11,668	3					1			
Billings	15,100	6					1		2	
Great Falls	24,121	9	4	1			1		1	2
Helena	12,037	4								
Missoula	12,668	11					2			
Nebraska:										
Lincoln	54,948	20	1							
Omaha	191,601	59	11	2	1		6			2
Nevada:										
Reno	12,016	5								
New Hampshire:										
Berlin	16,104	2								
Concord	22,167	11								
Dover	13,029	7								
Keene	11,210	2								
Nashua	28,379	5								
Portsmouth	13,569								1	
New Jersey:										
Asbury Park	12,400	2								
Atlantic City	50,707	15	1	1	38	2	1			
Bayonne	76,754		4				1		5	
Belleville	15,660		1		13				1	
Bloomfield	22,019	6	1	1	2		9		1	
Clifton	26,470	4			4		2			
East Orange	50,710	6			2		11		1	
Englewood	11,627	3			2		1		1	1
Garfield	19,381	5	1		5	1			2	

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Jersey—Continued.										
Hackensack.....	17,667	3					2			
Harrison.....	15,721		3		1					
Hoboken.....	68,166	20	4		1		3		8	1
Jersey City.....	288,103		26		2		11		11	
Kearny.....	26,724	10			1				1	1
Montclair.....	28,810	3	1				1		2	2
Morristown.....	12,548	5			139					
Newark.....	414,524	117	12		99	1	22			9
Orange.....	33,268	4	2		34		1		1	
Passaic.....	63,841	17	6		32		4		3	2
Paterson.....	135,875		11				2		6	
Perth Amboy.....	41,707	8					3		1	2
Phillipsburg.....	16,923	4	1	1						
Plainfield.....	27,700	10	1		2				1	2
Summit.....	10,174	2	1		2		1			
Trenton.....	119,289	51	45	3	2		12		1	3
Union (town).....	20,651						2			
West Hoboken.....	40,074	3			1				1	
West New York.....	29,926	6	2				3		1	
West Orange.....	15,573	2			23		5			
New Mexico:										
Albuquerque.....	15,157	7	2						3	2
New York:										
Albany.....	113,344		7		1		1		2	
Auburn.....	36,192	4	3							
Buffalo.....	506,775	130	13	1	100		29		15	4
Geneva.....	14,648	5								
Glens Falls.....	16,638	4					1		1	
Hornell.....	15,025	5								
Hudson.....	11,745	6	1		1					
Ithaca.....	17,004	4			1		3			1
Lackawanna.....	17,918	8					3		3	
Little Falls.....	13,629	5	1	1						
Lockport.....	21,308	5								
Middletown.....	18,420				1				1	
Mount Vernon.....	42,726	14	3		22		1			
New York.....	5,620,048	1,453	203	10	157	1	204	2	1,186	100
Newburgh.....	30,366	9								
Niagara Falls.....	50,760	19			3		3			
North Tonawanda.....	15,482	2					2			
Peekskill.....	15,868	6			1		9			1
Plattsburg.....	10,909	6								
Port Chester.....	16,573	5	1		3		1			
Poughkeepsie.....	35,000	16	1				1			
Rochester.....	295,750	74	19	2	71		3		10	2
Rome.....	26,341	7					1			
Saratoga Springs.....	13,181	7					1			
Schenectady.....	88,723	19	3		1		7		3	3
Syracuse.....	171,717		14	2	3		12		8	2
Troy.....	72,013	39	3	1	3				5	1
Watertown.....	31,285	8					4		1	
White Plains.....	21,031	6	1				8			
North Carolina:										
Durham.....	21,719	16					1		1	2
Greensboro.....	15,861	12								
Raleigh.....	24,418	16	2				4			1
Rocky Mount.....	12,742	8								
Salisbury.....	13,884	3								
Wilmington.....	33,372	14					3		1	
Winston-Salem.....	48,395	17	2				1		3	2
North Dakota:										
Fargo.....	21,961	0					1			
Ohio:										
Akron.....	208,435	44	4		4		4		3	
Alliance.....	21,603	8					2	1		
Ashtabula.....	22,082	7	1							
Barberton.....	18,811	7	1		1		1			
Beavercreek.....	10,425	3					3			
Cambridge.....	13,104	6					1			
Canton.....	87,091	22	2				1			1
Chillicothe.....	15,831	7					3			
Cincinnati.....	401,247	148	19	1	4		9		10	9

1 Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Ohio—Continued.										
Cleveland	796,341	205	49	1	61		167	1	31	20
Cleveland Heights	15,236		2		7		4	1		
Columbus	237,031	86	7		12		5		3	4
Coshocton	10,847		1							
Dayton	152,559	43	15				10		1	
East Cleveland	27,292	0	1				3		1	
East Young-town	11,237	3								
Fremont	12,468	7			1		1			
Hamilton	39,675	8	1		9					
Ironton	14,007	7	1		1					
Kenmore	12,683		2				1		2	
Lancaster	14,706	5	5						1	
Lorain	37,295		3		8		4		1	
Mansfield	27,824	14			41	1			1	1
Martins Ferry	11,634	3			7					
Middletown	23,594	9							1	
New Philadelphia	10,718		2				4			
Newark	26,718	10	1		1					2
Niles	13,080	1								
Norwood	24,966	6					2			
Piqua	15,044	3							1	1
Salem	10,305	2								
Sandusky	22,897	7	1				1			
Springfield	60,840	9	7				1			
Steubenville	28,508	8	1				6		3	2
Tiffin	14,375	4	1		1					
Toledo	243,164	68	21	3	417	1	31		2	6
Youngstown	132,358	25	23	1	2		4			
Zanesville	29,569	16	7		50		1			
Oklahoma:										
Oklahoma	91,295	32	2	1	2		6			1
Tulsa	72,075		3		4		1			
Oregon:										
Portland	258,288	60	8		1		7		29	3
Pennsylvania:										
Allentown	73,502		6		20		2			
Alltoona	60,331		3		9					
Ambridge	12,730		1		2		1			
Beaver Falls	12,902		1		9					
Berwick	12,181		1				6			
Bethlehem	50,358		7		2		2			
Brad dock	20,879				10					
Bradford	15,525		1							
Bristol	10,273		4		13					
Butler	23,778						1			
Canonsburg	10,632				2					
Carlisle	10,916						1			
Carnegie	11,516		1							
Carrick	10,504		1		5		1			
Chambersburg	13,171		1		3		8			
Charleroi	11,516		1		1		1			
Chester	58,030		1		45		3			
Cotatesville	14,515				4					
Columbia	10,836		1		3		1			
Dickson	11,049				4					
Donora	14,131		1		3					
Dubois	13,681									
Duquesne	19,011		1		31		1			1
Easton	33,813		2		1					
Erie	93,372		3		4		1			
Farrell	15,586				2				2	
Greensburg	15,033				6		1			
Harrisburg	75,917		1		14		14			
Hazleton	32,277		3				1			
Homestead	20,452		1							
Johnstown	67,327		4		2		2			
Lancaster	53,150		5		1		23			
Lebanon	24,643		1		18		2		1	
McKees Rocks	16,713		1		10					
McKeesport	46,781				2		2			
Mahanoy City	15,599				2					
Monessen	18,179		1		1					
Mount Carmel	17,469		3							

CITY REPORTS FOR WEEK ENDED DECEMBER 30, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pennsylvania—Continued.										
New Castle.....	44,938						2			
New Kensington.....	11,987		2		1					
Norristown.....	32,319		1		184					
North Braddock.....	14,928		1		5		1			
Oil City.....	21,274		1							
Philadelphia.....	1,823,779	588	80	11	1,129	29	53	1	30	32
Phoenixville.....	10,484				30					
Pittsburgh.....	588,343		29		239		35		14	
Pittston.....	18,497		2							
Plymouth.....	16,500		1							
Pottstown.....	17,431				4					
Pottsville.....	21,876		1				1			
Reading.....	107,784		2		159					
Scranton.....	137,783				7				7	
Shamokin.....	21,204				1					
Sharon.....	21,747						1			
Shenandoah.....	24,726		1				1			
Steelton.....	13,428				57					
Sunbury.....	15,721				1		2			
Swissvale.....	10,908		2		17		1			
Tamaqua.....	12,363				2		1			
Uniontown.....	13,692		4		1		4			
Warren.....	14,272				1		1			
Washington.....	21,480				1		1			
West Chester.....	11,717		1		63					
Wilkes-Barre.....	73,833		4				4			
Wilkinsburg.....	24,403				5		4			
Williamsport.....	36,198		4		2		3			
Woodlawn.....	12,495				32					
York.....	47,512		4		3		7			
Rhode Island:										
Cranston.....	29,407	7			3		3			1
East Providence (town).....	21,793		1		8		1			
Pawtucket.....	64,248	11					2			
Providence.....	237,395	75	10		69	2	8			5
South Carolina:										
Charleston.....	67,957	30	1	1			1			
Columbia.....	37,524								1	
Greenville.....	23,127	9								
South Dakota:										
Sioux Falls.....	25,202	9	2				1			
Tennessee:										
Chattanooga.....	57,895		1	1			3			
Knoxville.....	77,818								3	3
Memphis.....	162,351	64	4		4		3		11	5
Nashville.....	118,342	47	5				6		1	3
Texas:										
Amarillo.....	15,494						3			
Beaumont.....	40,422	9								1
Corsicana.....	11,356	3	2							1
Dallas.....	158,976	46	12				1		1	4
El Paso.....	77,560	39	1		17		1			12
Fort Worth.....	106,482	38	6	1	1				2	2
Galveston.....	44,255	10	3						1	1
Houston.....	138,276	44	3				2			3
San Angelo.....	10,050	2								
San Antonio.....	161,379	66	2				1			12
Waco.....	38,500	10	1							1
Utah:										
Salt Lake City.....	118,110	29	1				2		1	4
Vermont:										
Burlington.....	22,779	9								
Rutland.....	14,954	10					2			
Virginia:										
Alexandria.....	18,060	7	1							
Charlottesville.....	10,688	2								
Lynchburg.....	30,070	11	3							
Norfolk.....	115,777	4	4		2		3		4	4
Petersburg.....	31,012	10	1				1	1		4
Portsmouth.....	54,387	13			1					
Richmond.....	171,667	42	8				7		9	4
Roanoke.....	50,842	19	2							1

FOREIGN AND INSULAR.

CHINA.

Cholera—Liutaoku—September, 1922.

Under date of October 9, 1922, cholera was stated to have appeared at Liutaoku, China, September 22, 1922, with 20 reported deaths, 60 cases sent to hospital, and 5,000 inoculations performed. Thirty deaths from cholera were reported along the Korean bank of the Yalu River. No cases were reported within the railway zone.

INDIA.

Cholera—Smallpox—Local Outbreaks—Calcutta.

During the week ended December 2, 1922, an increase in the occurrence of cholera and smallpox was noted at Calcutta, India, 25 cases of cholera with 18 deaths being noted as compared with 8 cases with 2 deaths during the preceding week, and 10 cases of smallpox with 5 deaths as compared with 2 cases with 2 deaths during the preceding week. In both cases the increase occurred in local outbreaks, each confined to one ward of the city. The port and shipping remained free from cholera. The increase in general mortality was 24 (week ended November 25, 1922, deaths, 483; week ended December 2, 1922, deaths, 507; population, 903,173).

JAVA.

Epidemic Plague—Klaten.

Under date of November 4, 1922, epidemic plague was reported in the Residency of Soerakarta, occurring at Klaten, district of Ponggok.

Plague—October, 1922.

During the month of October, 1922, 454 cases of plague, with 338 deaths, were reported in the Island of Java.

MADAGASCAR.

Plague.

Information dated November 14, 1922, shows the occurrence of plague in Madagascar to October 30, 1922, as follows: In Moramanga Province, 21 cases with 18 deaths, pneumonic; Tananarive Province, district of Fenoarivo, 7 cases, with 7 deaths, septicemic. In addition, one fatal case of septicemic plague was reported in the town of Tananarive during the week ended October 29, 1922.

MESOPOTAMIA.

Plague - Smallpox—Bagdad—October, 1922.

During the month of October, 1922, 7 cases of plague and 285 cases of smallpox with 153 deaths, were reported at Bagdad, Mesopotamia. (Population, officially estimated, 250,000.)

PERU.

Plague—November 16-30, 1922.

During the period November 16-30, 1922, 75 cases of plague with 39 deaths, occurring in 16 localities, were reported in Peru. (For distribution according to locality, see page 130.)

POLAND.

Communicable Diseases—October 1-28, 1922.

During the period October 1-28, 1922, communicable diseases were reported in Poland, including Upper Silesia and Vilna, but exclusive of Minsk, as follows:

October 1-7, 1922.

Disease.	Cases.	Deaths.	Locality showing greatest number of deaths.
Cerebrospinal meningitis.....	5	7	Lodz; Silesia.
Diphtheria.....	91	11	Lodz; Posen; Warsaw City.
Measles.....	318	9	Lwow; Warsaw City.
Scarlet fever.....	332	41	Lwow; Stanislawow.
Smallpox.....	13	3	Kielce.
Tuberculosis.....	60	165	Lodz; Lwow; Warsaw City.
Typhoid fever.....	600	37	Krakow; Lodz; Lwow.
Typhus fever.....	119	7	Nowogrodek; Volhynia.
Typhus fever, recurrent.....	212	4	Volhynia.
Whooping cough.....	279	15	Lwow; Stanislawow.

October 8-14, 1922.

Cerebrospinal meningitis.....	5	6	Kielce; Lodz.
Diphtheria.....	92	17	Lublin.
Measles.....	599	10	Stanislawow; Warsaw City
Scarlet fever.....	350	62	Do.
Smallpox.....	6	4	Kielce.
Tuberculosis.....	83	143	Lodz; Warsaw City.
Typhoid fever.....	570	64	Lodz.
Typhus fever.....	131	9	Lwow; Warsaw district.
Typhus fever, recurrent.....	174	6	Lublin; Polesia; Volhynia.
Whooping cough.....	171	10	Lwow; Stanislawow.

October 15-21, 1922.

Cerebrospinal meningitis.....	6	1	Lodz.
Diphtheria.....	102	7	Former German Poland.
Measles.....	474	16	Lwow.
Paratyphus.....	2		
Scarlet fever.....	385	33	Lwow; Stanislawow.
Smallpox.....	9		
Tuberculosis.....	60	125	Lwow; Warsaw City.
Typhoid fever.....	586	35	Kielce; Volhynia.
Typhus fever.....	131	11	Lublin.
Typhus fever, recurrent.....	182	3	Lwow; Nowogrodek; Volhynia.
Whooping cough.....	281	10	Lwow.

October 22-28, 1922.

Disease.	Cases.	Deaths.	Locality showing greatest number of deaths.
Cerebrospinal meningitis.....	5	4	Krakow; Lodz; Lwow.
Diphtheria.....	109	8	Warsaw City.
Measles.....	675	11	Lwow.
Scarlet fever.....	326	62	Tarnopol; Warsaw City.
Smallpox.....	20	7	Kielce.
Tuberculosis.....	57	134	Lwow; Warsaw City.
Typhoid fever.....	400	40	Lodz; Warsaw City.
Typhus fever.....	134	12	Stanislawow.
Typhus fever, recurrent.....	157	3	Kielce; Nowogrodek; Volhynia.
Whooping cough.....	118	10	Tarnopol; Lwow.

Dysentery.

During the period October 1-28, 1922, 863 cases of dysentery, with 157 deaths, were reported in Poland, occurring in the districts of Krakow, Lodz, and Stanislawow.

Trichinosis--Warsaw.

During the week ended October 21, 1922, two deaths from trichinosis were reported in Warsaw.

RUSSIA.**Anthrax--Leprosy--Lettonia.**

During the month of October, 1922, one case of anthrax and one case of leprosy were notified in Lettonia, Russia.

Cholera.

Information dated December 6, 1922,¹ shows the occurrence of 83,367 cases of cholera in Russia from January 1 to October 7, 1922. The occurrence during the first week in October, 1922, was 37, of which 7 cases occurred in the government of Archangel, 27 in Tashkent, Republic of Turkestan, and 3 on waterways. Provisional returns for the month of September, 1922, show the occurrence of 119 new cases in the Ukraine.

Communicable Diseases--Esthonia--Lettonia--October, 1922.

During the month of October, 1922, communicable diseases were reported in the Provinces of Esthonia and Lettonia, Russia, as follows:

Esthonia.

Disease.	Cases.	Remarks.
Diphtheria.....	45	
Measles.....	77	
Scarlet fever.....	38	
Smallpox.....	9	
Tuberculosis.....	103	
Typhoid fever.....	74	
Typhus fever, recurrent.....	5	Paratyphus fever, 11 cases.

¹ Epidemiological Report of the Health Section of the League of Nations, Dec. 6, 1922.

Lettonia.

Diseases.	Cases.	Remarks.
Cerebrospinal meningitis.....	1	
Diphtheria.....	49	
Malaria.....	1	
Measles.....	14	
Scarlet fever.....	120	
Smallpox.....	1	
Typhoid fever.....	111	
Typhus fever.....	19	Paratyphus fever, 2 cases.
Typhus fever, recurrent.....	4	
Whooping cough.....	6	

Communicable Diseases—Ukraine—January–September, 1922 (Comparative).

Communicable diseases were reported¹ in the Ukraine for the period January–September, 1922, compared with the same period in the preceding year, as follows:

Disease.	Jan.–Sept., 1922.	Jan.–Sept., 1921.	Disease.	Jan.–Sept., 1922.	Jan.–Sept., 1921.
Diphtheria.....	8,745	17,612	Smallpox.....	8,744	33,532
Dysentery.....	36,156	42,227	Typhoid fever.....	72,993	83,441
Relapsing fever.....	369,125	257,771	Typhus fever.....	307,329	144,669
Scarlet fever.....	12,387	34,984	Undiagnosed typhus.....	54,673	22,055

Typhus Fever—Relapsing Fever.

Provisional returns¹ of typhus fever and relapsing fever in Russia for the 8-week period ended September 23, 1922, show 22,803 cases of typhus fever and 53,261 cases of relapsing fever.

For the Ukraine, the Tartar Republic, and Siberia provisional figures are given, as follows: Month of June, 1922—typhus fever, 35,926 cases; relapsing fever, 54,586 cases. Month of July, 1922—typhus fever, 17,262 cases; relapsing fever, 43,871 cases. For the months of August and September, 1922, approximate figures show as follows: August, 6,864 cases of typhus fever and 27,371 of relapsing fever; September, typhus fever, 2,388 cases; relapsing fever, 12,005 cases.

UNION OF SOUTH AFRICA.

Smallpox—Typhus Fever—October, 1922.

During the month of October, 1922, 17 cases of smallpox and 886 cases of typhus fever with 77 deaths were reported among the native (colored) population of the Union of South Africa. During the same period four cases of typhus fever with one death were reported among the white population. (For distribution of occurrence according to States, see p. 131.)

¹Epidemiological Report of the Health Section of the League of Nations, Dec. 6, 1922.

Prevalence of Typhus Fever—Vaal River.

Typhus fever was stated, November 27, 1922, to be highly prevalent in the Vaal River "diggings," with 80 cases and a mortality of approximately 70 per cent at one camp on the lower river. It was stated that the disease was prevalent during the past six months, and that the mortality among natives was much greater than that caused by the epidemic of influenza in 1918. The infection was believed to have been carried to the populous native district of Taungs.

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

The reports contained in the following tables must not be considered as complete or final, either as regards the list of countries included or the figures for the particular countries for which reports are given.

Reports Received During Week Ended January 19, 1923.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Liutaoku	Sept. 22	60	20	
Chosen (Korea):				
Yalu River Region .....	.....			Sept. 22, 1922: 30 deaths reported.
India:				
Calcutta	Nov. 19-Dec. 2 ...	33	20	
Rangoon	Nov. 19-25	2	2	
Philippine Islands:				
Province—				
Laguna	Oct. 12-18	1		
Russia:				
Archangel (government) ..	Oct. 1-7	7		Jan. 1-Oct. 7, 1922: Cases, 83,367.
Tashkent .....	...do	27		Turkestan Republic: 3 cases reported on waterways.
Ukraine:				
Donetz (Government)	Sept. 1-30	29		Sept. 1-30, 1922: Cases, 119.
Tchernigov (Government) ..	...do	36		
Siam:				
Bangkok	Oct. 29-Nov. 4 ...	1		

PLAGUE.

Egypt				Jan. 1-Dec. 7, 1922: Cases, 484; deaths, 227.
City—				
Suez	Dec. 2-5	2	2	
Province—				
Dakahlieh	Dec. 3	1	1	Pneumonic.
India:				
Bombay	Nov. 5-18	15	14	
Madras Presidency	Nov. 19-Dec. 2 ...	700	449	
Rangoon	Nov. 19-25	9	9	
Java				Oct. 1-31, 1922: Cases, 454; deaths, 338.
East Java—				
Soerakarta Residency—				
Klaten	Nov. 4			Present in epidemic form.
Madagascar:				
Moramanga Province				To Oct. 30, 1922: Cases, 21; deaths, 18. Pneumonic.
Tananarive Province				To Oct. 30, 1922: Cases, 7; deaths, 7. Septicemic. Occurring in Fenoarivo region. (See Public Health Reports, Dec. 29, 1922, p. 3237.)
Tananarive	Oct. 23-29		1	Septicemic.
Mesopotamia:				
Bagdad	Oct. 1-31	7		

¹From 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 January 19, 1923—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru.....				Nov. 16-30, 1922: Cases, 75; deaths, 39.
Localities—				
Cañete.....	Nov. 16-30.....	16	7	
Chiclayo.....	do.....	11	7	
Eten.....	do.....	3		
Guadaloupe.....	do.....	8	5	
Huacho.....	do.....	2	1	
Huaral.....	do.....	1		
Jayanca.....	do.....	3	2	
Lambaveque.....	do.....	5	3	
Lima (city).....	do.....	2	2	
Lima (country).....	do.....	4	1	
Magdalena del Mar.....	do.....	1		
Mosche.....	do.....	2	1	
Piura.....	do.....	8	5	
San Pedro.....	do.....	3	2	
Sullana.....	do.....	3	3	
Tuman.....	do.....	3		
Siam:				
Bangkok.....	Nov. 12-18.....	2	1	

SMALLPOX.

Canada:				
Manitoba—				
Winnipeg.....	Dec. 17-23.....	6		
Ontario—				
Hamilton.....	Dec. 31-Jan. 6.....	2		
Ottawa.....	Dec. 17-23.....	3		
Toronto.....	Dec. 10-30.....	2		
Saskatchewan—				
Regina.....	Dec. 3-23.....	2		
Ceylon:				
Colombo.....	Nov. 12-25.....	5	2	
Chile:				
Concepcion.....	Oct. 24-30.....		7	
China:				
Amoy.....	Nov. 5-18.....		2	Nov. 29, 1922: Present.
Antung.....	Dec. 4-10.....	1		
Chungking.....	Nov. 5-11.....			Present.
Foochow.....	Nov. 12-25.....			Do.
Manchuria—				
Mukden.....	Nov. 19-Dec. 2.....			Do.
Nanking.....	Nov. 5-18.....			Do.
Chosen:				
Chemulpo.....	Oct. 1-31.....	4		
Seoul.....	do.....	5		
Czechoslovakia:				
Serbia—				
Belgrade.....	Nov. 12-18.....	2	1	
Dominican Republic:				
Puerto Plata.....	Dec. 14-20.....	1		
Santo Domingo.....	Dec. 3-16.....			Present.
France:				
Paris.....	Dec. 1-10.....	1		
Germany:				
Bremen.....	Dec. 3-9.....	1		
Great Britain:				
London.....	Nov. 26-Dec. 2.....	1		
Greece:				
Saloniki.....	Nov. 6-12.....		1	
India:				
Bombay.....	Nov. 5-18.....	2	2	
Calcutta.....	Nov. 19-Dec. 2.....	12	7	
Karachi.....	Nov. 26-Dec. 2.....	1		
Madras.....	Nov. 19-Dec. 2.....	14	7	
Rangoon.....	Nov. 12-25.....	3	1	
Java:				
East Java—				
Sorabaya.....	Nov. 5-11.....	4		
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	285	153	
Mexico:				
Chihuahua.....	Dec. 11-17.....		1	
Mexico City.....	Nov. 12-18.....	5		Including municipalities in Federal District.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**Reports Received During Week Ended January 19, 1923—Continued.****SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
Poland.....				Oct. 1-28, 1922: Cases, 48; deaths, 14.
Portugal: Lisbon.....	Dec. 3-9.....	26		
Russia: Esthonia.....	Oct. 1-31.....	9		Jan.-Sept., 1922: Cases, 8,744.
Lettonia.....	do.....	1		
Ukraine.....				
Spain: Seville.....	Dec. 4-17.....		12	
Valencia.....	Dec. 10-16.....	1		
Switzerland: Berne.....	Nov. 19-Dec. 9.....	39		
Zurich.....	Nov. 26-Dec. 2.....	8		
Syria: Aleppo.....	Dec. 3-9.....			Present.
Tunis: Tunis.....	Dec. 9-15.....	2		
Turkey: Constantinople.....	Dec. 3-9.....	28	7	
Union of South Africa: Cape Province.....				Oct. 1-31, 1922: Cases, 17. Natives.
Transvaal.....				Oct. 1-31, 1922: Cases, 9. Oct. 1-31, 1922: Cases, 5.

TYPHUS FEVER.

China: Antung.....	Dec. 4-10.....	2		
Cuba: Matanzas.....	Dec. 25-31.....	1	1	
Egypt: Cairo.....	Oct. 1-7.....	3	2	
Germany: Coblenz.....	Dec. 10-16.....	1		
Dresden.....	do.....	1		
Mexico: Mexico City.....	Nov. 12-18.....	15		Including municipalities in Federal district.
Palestine: Jaffa.....	Dec. 12-18.....	2		
Poland.....				Oct. 1-28, 1922: Cases, 515; deaths 59. Recurrent typhus: Cases, 725; deaths, 16.
Russia.....				July 30-Sept. 23, 1922: Cases, 23, 83.
Esthonia.....	Oct. 1-31.....			Recurrent typhus, cases, 5.
Lettonia.....	do.....	19		Recurrent typhus, cases, 4.
Ukraine.....	Jan.-Sept.....	307, 329		
Ukraine, Tartar Republic, and Siberia.....	June 1-30.....	35, 926		Provisional figures.
Do.....	July 1-31.....	17, 262		Do.
Do.....	Aug. 1-31.....	6, 864		Do.
Do.....	Sept. 1-30.....	2, 388		Do.
Union of South Africa: Cape Province.....				Oct. 1-31, 1922: Cases, 890; deaths, 78 (white—cases 4, deaths 1; colored—cases, 886; deaths 77).
Natal.....				Oct. 1-31, 1922: Cases, 817; deaths, 60 colored; white, 2 cases.
Orange Free State.....				Oct. 1-31, 1922: Cases, 45, deaths, 13 (colored), white—1 case.
Transvaal.....				Oct. 1-31, 1922: Cases, 19, deaths, 4 (colored); white—1 case, 1 death. Oct. 1-31, 1922: Cases, 5 (colored).

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

Reports Received from December 30, 1922, to January 12, 1923.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Sept. 24—Oct. 28, 1922: Cases, 4,616; deaths, 3,070
Bombay.....	Oct. 27—Nov. 4.....	1		
Calcutta.....	Nov. 12—18.....	1	1	
Madras.....	Nov. 19—25.....	2	1	
Rangoon.....	Nov. 12—18.....	3	1	

PLAGUE.

Azores:				
Fayal Island—				
Castelo Branco.....	Dec. 2.....		2	Vicinity of Horta.
Pico Island—				
Lages.....	Nov. 27—Dec. 15.....		8	1 case present Dec. 15, 1922.
St. Michaels Island.....	Nov. 12—25.....	32	15	At localities 3-9 miles from Ponta Delgado.
Brazil:				
Bahia.....	Oct. 29—Nov. 18.....	1	1	
Porto Alegre.....	Nov. 19—25.....	1		
British East Africa:				
Kenya Colony—				
Tanganyika Territory..	Oct. 15—21.....		1	
Ceylon:				
Colombo.....	Nov. 12—18.....	9	5	Plague rodents, 3.
China:				
Hongkong.....	Nov. 5—18.....	6	6	
Ecuador:				
Guayaquil.....	Nov. 1—30.....	1	1	Rats examined, 8,750; found infected, 52.
Egypt.....				Jan. 1—Nov. 30, 1922: Cases, 480; deaths, 224.
City—				
Alexandria.....	Nov. 19—25.....		2	
Port Said.....	Nov. 19—27.....	4	2	
Suez.....	Nov. 18—19.....	1	2	
Province—				
Assiout.....	Nov. 19.....	1		
Minieh.....	Nov. 18—27.....	2	1	
India.....				Oct. 1—28, 1922: Cases, 7,799; deaths, 6,537.
Bombay.....	Oct. 27—Nov. 4.....	1		
Madras.....	Nov. 19—25.....	1	1	
Rangoon.....	Nov. 12—18.....	7	6	
Java:				
East Java—Soerabaya.....	Oct. 22—28.....	1	1	
Palestine:				
Jaffa.....	Nov. 27—Dec. 4.....	1		
Peru.....				Nov. 1—15: Cases, 8; deaths, 3.
Localities—				
Chepen.....	Nov. 1—15.....			Present.
Guadaloupe.....	do.....	3	0	
Lima (country).....	do.....	2	0	
Lima (city).....	do.....	1	1	
San Pedro.....	do.....	2	1	
Trujillo.....	do.....	0	1	
Portugal:				
Lisbon.....	Nov. 10—29.....	4	2	
Portuguese West Africa:				
Angola.....				
Loanda.....	Oct. 1—28.....		27	Fatal cases among white population.
Syria:				
Beirut.....	Nov. 6—12.....	2	1	
Turkey:				
Constantinople.....	Nov. 22—28.....	2		

SMALLPOX.

Algeria:				
Algiers.....	Dec. 1—10.....	1		
Arabia:				
Aden.....	Nov. 19—29.....	5	1	Nov. 26—Dec. 2, 1922: Cases, 2.
Brazil:				
Bahia.....	Nov. 5—11.....	1		

¹ From medical officers of the Public Health Service, American consuls, and other sources. For reports received from July 1 to Dec. 29, 1922, see Public Health Reports for Dec. 29, 1922. The tables of epidemic diseases are terminated semiannually and new tables begun.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.**Reports Received from December 30, 1922, to January 12, 1923—Continued.****SMALLPOX—Continued.**

Place.	Date.	Cases.	Deaths.	Remarks.
British East Africa: Kenya Colony— Tanganyika Territory..	Oct. 8-28.....	12	2	
Canada: Manitoba— Winnipeg.....	Dec. 10-16.....	6		
Ontario— Niagara Falls.....	Dec. 3-16.....	5		
Ottawa.....	Dec. 10-16.....	3		
Chile: Concepcion.....	Oct. 30-Nov. 20.....		3	
Valparaiso.....	Oct. 2-Nov. 5.....		51	
China: Antung.....	Nov. 13-25.....	1		
Hongkong.....	Nov. 5-11.....		1	
India: Calcutta.....	Nov. 12-18.....	1	1	
Madras.....	do.....	8	2	
Rangoon.....	Nov. 5-11.....	2	1	
Java: West Java— Batavia.....	Nov. 11-17.....	21		Province.
Mexico: Chihuahua.....	Dec. 4-10.....		3	
Nogales.....	Dec. 10-19.....		1	
Sonora, State.....				Nov. 1-30, 1922: Present in north- ern section.
Empalme.....	Nov. 1-30.....	4	1	
Peru: Callao.....	Nov. 1-15.....	2	0	
Lima (country).....	do.....	2	1	
Portugal: Lisbon.....	Nov. 19-Dec. 2.....	26	6	
Oporto.....	Oct. 15-Dec. 2.....	19	8	
Spain: Corunna.....	Nov. 26-Dec. 2.....		1	
Seville.....	Nov. 27-Dec. 3.....		12	
Valencia.....	Nov. 26-Dec. 2.....	1		
Switzerland: Zurich.....	Nov. 19-25.....	6		
Syria: Aleppo.....	Nov. 19-Dec. 2.....	24	12	
Turkey: Constantinople.....	do.....	45	18	
Tunis: Tunis.....	Dec. 1-8.....		1	
On vessel: S. S. Huntress.....	Nov. 11.....	1		At Fremantle, Australia, from Cape Town, South Africa.

TYPHUS FEVER.

Algeria: Algiers.....	Nov. 11-20.....	1	1	
Brazil: Porto Alegre.....	Nov. 19-25.....	1		
Chile: Concepcion.....	Oct. 17-Nov. 20.....		4	
China: Antung.....	Nov. 13-26.....	5		
Czechoslovakia: Prague.....	Nov. 19-25.....	1		
Egypt: Alexandria.....	do.....	1	1	
Palestine.....				Dec. 5-11, 1922: In northern sec- tion.
Portugal: Oporto.....	Oct. 15-Dec. 2.....	1	1	
Spain: Barcelona.....	Nov. 20-Dec. 6.....		2	
Turkey: Constantinople.....	Nov. 27-Dec. 2.....	3		

YELLOW FEVER.

Senegal: Saltpond.....				Reported present Dec. 21, 1922.
Warral.....				Do.