PUBLIC HEALTH REPORTS

VOL. 36 MAY 6, 1921 No. 18

INDUSTRIAL DERMATOSIS AMONG PRINTERS.

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A dermatosis, called "ink poisoning" by printers, which affects those parts of the arms and hands that are subject to constant contact with colored inks, is known to have prevailed for many years among printers in the large printing and engraving plants of this country; and the attention of dermatologists has been attracted by discussions in foreign medical periodicals of cases of a similar dermatosis.

The weight of blame for this dermatosis is attributed by foreign writers to the many substitutes for and adulterants of the pure oil of turpentine.

Oestreicher,[1] of Berlin, who has had occasion to treat a great many cases of skin diseases among printers, says that the workmen reported unanimously that the disease had appeared only since the introduction of a substitute for the oil of turpentine. In this particular instance the oil was replaced by a heavy benzine, benzol, and fats. He further remarks: "There remained only the problem why all the workmen who had to do with the turpentine substitute were not equally affected with the disease. The solution is found in the fact, familiar to all observers, that the skin of different individuals responds very differently to outer influences."

Zellner and Wolff[1] made an investigation into the same condition, because it was found that for many years skin diseases had been appearing more and more frequently among members of the Printer's Sick Fund. Their investigation, and information collected from questionnaires, led them to the following conclusions:

"1. It appears that pure oil of turpentine seldom causes disease. With the firms which used pure oil of turpentine as washing material, cases of sickness occurred only sporadically or not at all.

"2. Very different was the situation with those firms which used impure oil of turpentine or which used substitutes. Many of the substitutes for oil of turpentine were exclusively benzines. Since all the substitutes which were submitted to us turned out to be benzines, we have to advise against the use of these substitutes, and of course, against benzine also."

Gebert[2] in discussing similar cases, was not sure whether the impure hydrocarbons have something to do with the dermatosis, or

[1] Magazine of Hygiene and Infectious Diseases. Fluegge and Gaffky, Leipsic, 1913, vol. 75, pp. 69 90.

whether impurities proceeding from the ink are the final cause of the affection. In reply Blaschko [2] said:

"Several years ago I presented in this very association a number of workmen from a great printing establishment where an epidemic deterioration, so to speak, had suddenly appeared. This probably came from an irritation due to grease or to materials for cleaning. Among printers the source of irritation is hydrocarbon oil, but often turpentine and also printer's ink. This last consists essentially of fine coal dust, so that the conditions are similar to those which obtain among chimney sweeps. If printers escape cancerous formations, it is because they come in contact with these substances only with thickened epidermis of the hand, and because the workmen always wash immediately after the work."

Inquiries made of the larger printing and engraving firms of this country disclose the fact that although neither oil of turpentine nor a substitute is used, still the arms and hands of the pressmen develop lesions similar to those described by these writers.

The skin lesions vary from slight erythema to ulcerations, and are located on all regions of the forearms and hands, occasionally extending above the elbow. Some of the lesions present a dry and scaly appearance, while others are moist and vesicular. Some have a tendency to coalesce and spread, others are discrete. A history of erythema followed by vesicular eruption, with itching or burning or both, is given by most sufferers, only a few giving a negative history in this respect.

In response to requests for advice on methods of prevention and treatment of such cases, a study to determine the possible relationship of the dermatosis to the use of inks was recently undertaken by the United States Public Health Service.

Scope of Investigation.

While hearty cooperation in the investigation was offered by many plants where there were cases of dermatoses, on account of the similarity of the plant processes the study was confined to one plant, and embraces the following subdivisions:

1. Methods of plate printing.
2. Process in which the dermatosis occurs.
3. Materials used in processes.
4. Methods employed in removing the inks.
5. Physical examination of workers affected.
6. Physical examination of controls.
7. Discussion of medical findings.
8. Analyses of inks, oils, and soaps.

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[2] From the Proceedings of the Berlin Dermatological Society, June 10, 1913, Magazine of Dermatology, Berlin, 1913, p. 813.

9. Experimental work on volunteers.
10. Conclusions.
11. Preventive measures recommended.
12. Treatment.

1. METHODS OF PLATE PRINTING.

There are two types of printing presses in the plant where the study was made; one is operated by hand and the other is electrically driven. Two persons are employed at each hand press; one printer, male, and one printer's assistant, female, working on an 8-hour shift. The frame of the press is of cast iron, and it supports two steel rolls, between which a traveling iron platen operates. To this platen is attached the case-hardened engraving plate, which is inked and polished by hand before the press is started. A star wheel, operated by the printer, is connected to the lower roll in such a way that, after the plate has been inked and polished, and a predampened sheet of paper has been placed over it, the iron platen together with the paper and plate is carried underneath the upper roll, which forces the paper down sufficiently hard upon the inked plate to print the engraving. The upper or pressure roll is covered with two wool felt blankets. These, in turn, are protected from dampness by a rubber blanket, made by surfacing a coating of rubber on a cotton drill backing.

Each power press is operated by one printer, male, and two printer's assistants, female. On the power press, the bedplate, similar to the platen in use on the hand press, makes a complete circuit of the press. The engraved plate is inked mechanically, polished by hand, and carried across in front of the padded pressure roll, where the first printer's assistant places one sheet of dampened paper over the plate. It then passes under the pressure roll, where the impression is made. The second printer's assistant takes the sheet off the plate, which is reinked and carried back to the front of the press, ready for the next sheet.

Since the speed of the power presses is controlled by a motor, the printer must adjust himself to his machine, and the speed is usually great enough to require a fairly active operator. The speed of the hand press, on the contrary, depends upon the printer entirely, for the machine operates only as he sets it in motion.

2. THE PROCESS IN WHICH THE DERMATOSIS OCCURS.

A study of the processes and practices reveals the intimate and constant contact between the printer and the materials used. Over the face of the plate, which rests on a warm table heated by electricity, the pressman passes an inked roller, leaving a thick film of ink on the plate. He wears short sleeves, and soon his hands and

arms, particularly the ulnar surfaces which rub against the body, become covered with the ink to the elbow. The excess of ink on the plate is removed by a stiff starched cloth, and then the operator passes his right hand over the plate further to remove the ink. This movement is followed by passing the left hand (which has been previously passed over a cake of whiting and rubbed against a pad hanging at the side of the workman, to remove the excess of whiting) over the surface of the plate, to give it a final polish. This act removes the last traces of ink from the face of the plate, leaving only the engraved lines filled with the ink. The ink thus accumulates on the hands and arms of the workman, remains throughout the working period, and is removed only at the luncheon period and at the end of the shift. The printer's assistant, a woman, who places the paper on the plate and removes it after the impression is made, handles the paper only by the unprinted edges and comes very little into contact with the ink.

However, the tips of her fingers frequently become soiled; and since it is necessary to prevent soiling the paper, she often resorts to the harmful method of keeping within reach a cloth saturated with benzol, in order to remove the ink from her fingers effectively.

The power press does not require the operator to apply the ink or to remove the excess by hand; but in removing the last excess of ink and polishing the plate he soon accumulates the ink on his hands and arms, as the hand pressman does. His two assistants, one of whom places the paper on the plate, and the other, who removes the printed sheet, do not come into closer contact with the ink than do the hand-press assistants.

Only a small proportion of the ink, estimated at about 10 per cent, is used in the actual printing. The remainder is lost by the methods employed in inking and polishing the plate.

The plates are cleaned with benzol at noon and again at the end of shifts by the printer or his assistant. Gloves are not worn during the cleaning process. Kerosene is used for cleaning the machinery.

3. MATERIALS USED IN PROCESSES.

A variety of colored inks is used, and printers are subject to contact with all colors used, according to the work assigned them.

The starched cloth and whiting (calcium carbonate) mentioned in the description of the process, while they do not influence the character of the printing, are constantly employed, and may be considered as materials used in the process. Likewise, the benzol and kerosene are in daily use. A discussion of the analyses of the inks and of oils and of soaps used in removing the inks, is presented in a later section of this report.

4. METHODS EMPLOYED IN REMOVING INKS.

The removal of the ink from the hands and forearms at the end of the work period involves almost brutal treatment of the skin, the severity of the treatment varying according to the thoroughness and the special methods employed by the individual. Most workers first wash their hands and arms in a mineral oil supplied by the plant and kept in troughs in the wash rooms for cleansing purposes. Frequently the hands and arms are immersed in this oil, but in some cases the oil is applied by means of a cloth, which is often used in common. After as much of the ink as possible has been removed by the oil, the worker continues the cleansing process with soap and hot water. Frequently pumice soap and fine sand mixed with soap are used. A stiff brush and salts of tartar (potassium carbonate) are also used by some to assist in the ink-removing process. Few of the printers use emollients after washing, and so the unprotected skin is exposed to the atmosphere.

5. PHYSICAL EXAMINATION OF WORKERS AFFECTED.

In order to determine, if possible, why certain individuals acquired the dermatosis in a rather severe form after a short period of exposure, while others, working under identical conditions, either never developed the skin lesions or developed them only to a very mild degree after years of exposure, and on account of the many suppositions advanced by the men as to the cause of this dermatosis, it was decided to go thoroughly into the history of those affected, and to give each a complete physical examination. In all, 35 affected cases were examined.

6. PHYSICAL EXAMINATIONS OF CONTROLS.

At the same time, similar examinations were made of 18 men not affected with the dermatosis, but who worked, in many instances, on the same presses and under the same conditions as those affected.

7. DISCUSSION OF MEDICAL FINDINGS.

The exposure theories held by the men or advanced by other observers were given due consideration in the analysis of the findings. Most men adhere to the theory that either the inks themselves or certain ingredients contained in them act as chemical irritants of the skin. A few were of the opinion that the dermatosis is of an infectious nature; others that the materials used in removing the inks are the offending cause; and still others attributed the affection to carelessness in personal hygiene, individual susceptibility, or impaired physical condition.

Very marked differences of opinion as to the particular ink which causes the trouble were expressed by those examined. Green ink seemed to be most frequently accused; however, some of the men examined had developed lesions while working in every color, including black, so that apparently no particular ink is solely responsible for the condition. While not all cases examined presented lesions which could be attributed to the inks, each was prone, nevertheless, to blame the inks for his condition. There were no constitutional symptoms accompanying these skin lesions; neither did questioning as to habits and past history elicit information which threw any light on the causation of the condition. The workers examined were well distributed according to age, weight, and height. All were Americans.

The histories of these men failed to disclose a similar condition in any member of their families or in any individual worker himself prior to his employment involving the use of inks. This weakens any theory of infection which might be advanced. The physique and health of the individual apparently have no influence in the acquirement of the affection; some men with severe cases were otherwise in excellent physical condition, whereas some of the controls were physically below par. Nor was personal cleanliness a factor as a causative agent. One significant fact was very prominent: all persons suffering with dermatosis were found to have dry skin—that is, skin either partially or wholly devoid of natural oiliness; whereas those persons without eruptions had oily skin. This dryness of the skin is the only differentiating factor found to exist with any degree of constancy among the men so affected.

8. ANALYSES OF INKS, OILS, AND SOAPS.

A careful analysis has been made of all substances used by the men, on the hypothesis that some ingredient present is the source of the irritant action on the skin.

The Bureau of Standards, United States Department of Commerce, made most of these analyses. Assistant Chemist Harry Houghton, of the Office of Industrial Hygiene and Sanitation, United States Public Health Service, made certain additional tests to exclude specific adulterants suspected.

Linseed oil is used as the vehicle of the inks, the black ink containing the highest percentage of it and the brown the lowest. Lead chromates were found in all but the black ink. Prussian blue was found in the green and the black. Excess of lead sulphate, and also of calcium carbonate and barium sulphate, was found in all the inks with the exception of the black. Bone black is used in the black ink. All the inks were found to be free from arsenic and mercury. It seemed logical to blame the chromates for the trouble, but to do so

would not account for the action of the black ink, which is free from chromates. The thought occurred that perchance a chemical change may take place when the inks come into contact with the moisture of the skin. Pursuing this theory, the Bureau of Standards reported that the mixture of pigments in the green ink yields soluble calcium ferricyanide when leached with water.

The fact that the inks retard healing after abrasion of the skin indicates the presence in them of ingredients, perhaps of chromates, which aggravate an otherwise simple dermatosis. We have reason to believe that the driers in the inks have a tendency to extract the natural oiliness of the skin.

While a number of the workers suffering with the dermatosis said that they did not use benzol, and that their assistants cleaned the plates, others admitted that they themselves cleaned the plates with benzol. The injurious effects of benzol are well known, and it is possible that some cases of the dermatosis had their origin from its use. When it is necessary to use it for cleaning purposes the hands should be protected by gloves.

The mineral oil supplied by the plant in which the study was made was examined both chemically and bacteriologically. The chemical examination was made by the Bureau of Standards, and the bacteriological examination by the Hygienic Laboratory, United States Public Health Service. The chemical examination consisted in testing the oils for the following constituents: formaldehyde, turpentine, benzol, coal oil, phenol, analin oil, lye, wood alcohol, and gasoline. All these were absent. Samples of oil were taken from each trough used by the printers and were sent to the laboratory for bacteriological examination and culture. The results show that the oil in these troughs does not act as a culture medium, but some organisms were found which are capable of causing folliculitis and kindred conditions.

Several of the workers are opposed to the use of oil in troughs, and prefer to use instead fresh oil on clean cloths. The investigator believes that some satisfactory method could be worked out whereby this cleaning oil would not be used in common and yet would be used economically.

Two samples of soap used in the plant were examined for free alkali by the Hygienic Laboratory, but were found to contain no alkali.

9. EXPERIMENTAL WORK ON VOLUNTEERS.

It had been intended to carry on a series of experiments on laboratory animals, such as guinea pigs, rabbits, mice, dogs, and cats, to determine the effects of the inks when in prolonged contact with the skin; but reports on previous experimentation of this kind and the

necessity of shaving parts of the animals, a process which would in itself produce an abnormal condition, convinced the examiners that the results would be very unreliable and perhaps misleading; therefore volunteers from the Office of Industrial Hygiene and Sanitation were called for, and at the same time the printers affected with the dermatosis were asked to report at regular intervals for advice and treatment.

Eleven subjects were used for the experiments. The "trial and error" method was employed. The various colored inks were experimented with. Ink was applied to the posterior surface of the forearm, about midway between the wrist and elbow, upon an area of approximately 9 square inches. Instructions were given not to remove the ink. The application was repeated every day for a period of a week in some cases, and of four weeks in others. Five of the volunteers had oily skin, and six had dry skin. At the same time two printers afflicted with the dermatosis were instructed not to remove the ink from a similar area on the forearm. In no instance was there any sign of irritation.

The experiments were repeated with the oil supplied by the plant, and likewise no irritation was experienced. Two men suffering with the dermatosis gave a history of not using the oil for over a year, believing it to be the cause of their trouble, but their condition was in no way improved.

In the next series of experiments instructions were given to remove the ink each evening with soap and water and with the aid of a brush. One subject who had a very dry skin reported the next morning, complaining that the area from which the ink was removed was raw, tender, and painful. The remaining five with dry skins and one with an oily skin reported that their arms felt slightly sore, but no irritation was discernible. The others experienced nothing unusual. It was the opinion that the black ink was most easily removed, and that removal of brown and green required more effort. By repeating these experiments it was found that all those with dry skin complained more and sooner of the irritant action than did those with oily skin. In one case a lesion developed similar to those found among the printers. One man discovered that he could remove the ink as effectively with a rough wash cloth, soap, and water as with a brush, and with less pain. On account of the ferricyanide yielded by the green ink, this powder was used alone and also in combination with linseed oil and water, with the result that no irritation nor skin lesions were produced.

In another series of experiments the skin was first irritated, and in some cases the surface was abraded, as in the procedure followed in vaccinating, and the ink was then applied. A similar surface was abraded at the same time on each person, and the oil was applied.

The abraded surfaces where the oil was applied soon healed; those where the ink was applied required three to five days longer for healing. The green and brown inks delayed healing longest, and the black for the shortest time. It was found that when the skin was thoroughly dried and cleaned with alcohol, the ink was removed with greater difficulty. Again, after applying some of the linseed oil used in the inks and following this with an application of the ink, the latter was removed with less difficulty. In order to eliminate the use of sand, pumice soap, and hand brushes, as aids to the removal of the inks, sawdust mixed with liquid green soap was used. This was found more effective than any of the other agents. Again, when lanolin was applied to the skin before the application of the ink, the latter was very easily removed by washing with sawdust, green soap, and warm water.

The men suffering with the dermatosis who continued to report for treatment were furnished with lanolin and the mixture of sawdust and green soap, with instructions to apply the lanolin before entering the pressrooms, to wash at the lunch period, using the sawdust mixture to remove the ink, again to apply the lanolin before returning to the press, and to wash as before at the end of their shift.

Those men suffering with severe skin lesions were given the following compound in solid block form:

Zinc ore (calamine and a silicate of zinc), pulverized and passed through a 100-mesh sieve	3 parts.
Gelatine	4 parts.
Glycerine	5 parts.
Water	6½ parts.

They were also given a copy of the following directions for using the calamine paint:

"(1) Melt the solid block in the inner pan of a double saucepan, the outer pan of which is filled with water and heated on a fire or gas stove.

"(2) When completely melted, stir with a stiff-bristled, common paint brush. If the paint is too stiff, as it frequently is, add a little hot water until the proper consistency is obtained. This should be about that of a thick sauce or sticking paste. If too much water should be added in doing this, the excess can soon be eliminated by prolonged heating or by adding more of the solid block.

"(3) Paint over the part afflicted with a single thin layer of paint, and before it has set tap lightly all over with a piece of absorbent wool, so as to form a kind of feltwork with the paint.

"(4) Allow it to set completely before putting any clothes over it.

"(5) Leave it on until it begins to come loose; then peel off and apply more in the same manner.

"N. B.—If the patient complains of its being too hot when applied, it is probably because too much is taken up in the brush at a time; this is easily obviated by emptying the brush on the side of the pan before applying the paint."

Improvement in the lesions was soon noticed; and in some cases the results were surprising. One case in particular is significant—that of a young man who had just returned to work after over a month's absence, during which time he was receiving treatment which did not improve his condition. When first seen, on August 30, 1920, this man had well-developed lesions covering the dorsum of both hands and arms, and the interdigital spaces, together with a concurrent, inflamed, and swollen condition of the fingers and hands. In order to assist the treatment, two weeks' rest was recommended; but the patient refused to take it, saying that he had already lost too much time, and promising to avail himself of the rest on or about October 1. The treatment, as outlined above, was instituted, and without losing an hour's time, or changing inks, this man responded to treatment, and when last seen, on October 5, the lesions were hardly discernible. This is by no means an isolated case. Those who consistently followed the above instructions were soon repaid by a noticeable improvement of their condition. Others who failed to notice any magic change in their skin lesions on one or two applications discontinued the treatment.

10. CONCLUSIONS.

1. Our experiments in using the inks upon the unbroken skin failed to cause a dermatosis or even an irritation. The inks delayed healing to a varying degree when applied after abrasion of the skin; the brown and green delayed healing longest, and the black for the shortest time.

2. All inks, irrespective of color, when removed by the methods in vogue at the plant at the time of this study caused an irritation—and in one case a dermatitis—among those with dry skin.

3. The degree of dermatosis apparently depends upon the dryness of the skin, the amount of linseed oil in the ink, and the method of removing the ink. It is believed that the reason why some men develop the condition in a short time and others after a long period of time lies in the degree of natural oiliness in the skin of the individual. Again, with those who use the black ink, which has the largest proportion of oil of all the inks, the trouble is further delayed. It may be that the drier in the inks has a tendency to extract the oil from the skin of some individuals. Those who do not wear gloves when cleaning the plates with benzol may more readily acquire a dryness of the skin. The dry skin might be compared with a blotter, which very readily absorbs the oil in the inks and the pigments

which are carried with the oil. These pigments, in turn, are obviously removed from a dry skin with more difficulty than they are from a skin which is already oily and which absorbs little or no additional oil from the inks. More scrubbing is required in the case of the dry skin, and a dermatitis soon begins. The inks retard healing, and from repeating the process daily, a severe case of eczema may develop.

4. The oil supplied by the plant in no way contributes to nor influences the dermatosis.

5. The prophylactic measures recommended, if used constantly and under supervision, will prevent the dermatosis.

6. The skin lesions respond readily to the treatment with calamine paint.

11. PREVENTIVE MEASURES RECOMMENDED.

While it is desirable in various processes to remove substances which are detrimental to health, it is unfortunately not always possible to remove them, any more than it is possible to remove the electricity from a charged wire, in order that the worker handling it need not wear rubber gloves; therefore it becomes the duty of the worker to equip himself properly for his work, and it is advantageous to the management to see that the worker is so equipped.

A supply of lanolin or a mixture of lanolin and olive oil in equal parts should be placed in suitable receptacles in the wash room where the printers and those who handle the inks change their street clothes for work clothes. Before entering the press rooms, each worker should be required to rub lanolin well into the pores of the hands and arms. If the skin feels too greasy after this application, the excess may be wiped off with a clean cloth. At the luncheon period these workers should be supplied with a mixture of sawdust and liquid soap (the sawdust should be moistened with the soap), which, together with warm water, will readily remove the ink without injury to the skin. It is optional with the men to precede the sawdust and soap with the oil supplied by the plant. Before entering the press rooms, the first process described above should be repeated; and at the end of the shift, the second, or cleansing, process should be repeated. The foremen in these rooms should be responsible for their helpers' carrying out the preventive measures.

12. TREATMENT.

As soon as the foreman notices an incipient eruption on the hands or arms of any worker in his department, he should insist that the worker report to the medical officer, who will furnish him with the compound referred to above, and instructions for its use.

ANOPHELES AND SEA WATER,

WITH OBSERVATIONS ON THE INFLUENCE OF SALINITY ON THE DEVELOPMENT OF AMERICAN SPECIES.

By T. H. D. Griffitts, Epidemiologist, United States Public Health Service.

In interpreting the geographical distribution of malarial fevers and the occurrence of insect carriers of the disease, a more intelligent appreciation of the problem can be gained from a study of the chemical content of water as well as biological environments. The relation between the amount and kind of chemical in water and the presence of mosquitoes in it is not as well understood as the purely biological relationships. The influence of the presence of salt in varying degrees in bodies of water, on mosquito life, has not been given the consideration it deserves. Two points seem especially worthy of further investigation: first, whether *A. quadrimaculatus* ever thrives in brackish water, as the results of the work of Smith and others would seem to indicate; and, second, whether there is epidemiological evidence tending to prove that malaria is transmitted by anophelines developed in brackish waters. In this connection it has been stated by investigators in Malaya that there is evidence that *A. rossii* developed in brackish water is a vector of malaria whereas, when developed in fresh water, it is doubtfully so.

Various writers have recorded instances in which mosquito larvæ have been observed to thrive in sea water. Some references are given below.

Smith (1904) states: "The species of Anopheles will breed wherever they can find water. There is no limit of size or kind of pool, and except that they do not occur in really foul liquids, they may be found wherever any other mosquito can breed. I have seen them in my experiment pails, in rain barrels, in gutters, in lot pools, in swamps, in the salt marshes, in woodland pools, in ditches, at the edges of running streams, in ponds, and even in springs." The same writer elsewhere says of *A. punctipennis*: "On the whole, it breeds most abundantly in clean water along the edges of pond or swamp areas or in the eddies of shallow streams." Concerning *A. quadrimaculatus* he says: "The breeding places are similar, but this form also occurs in brackish water on the salt marshes, hence has a somewhat wider range and adds the positive danger of disease to the disadvantages of an undrained marsh."

Dutton (1903), on his malaria expedition to Gambia, collected tidal water on several occasions and found it to contain Anopheles larvæ, which later developed into adult mosquitoes (*A. costalis*). Water collected in tidal pools in drains near the sluice gates, supporting larvæ of *A. costalis*, contained 1,038.5 parts of chlorine per 100,000 parts.

De Vogel (1907) found that the investigations of several Italian workers have negatived the idea that Anopheles can multiply in pure sea water. According to Peronne the maximum proportion of sodium chloride in the water which Anopheles larvæ can stand is 1.87 per cent, and according to Vivante, 1.75 per cent. De Vogel, having made some elaborate studies in regard to malaria at Samarang, Java, found as early as 1902 that a species of Anopheles was breeding in a certain pool containing 2.8 per cent of chloride of sodium. As an example of anophelines occurring in saline pools, he cites a marine station on the island of Onrust, which is 2,000 meters from mainland and contains no fresh water, but which had to be abandoned because of the ravages of malaria. This was believed to be due to Anopheles breeding in the sea water on the island. Malaria was a serious problem in the Karimon Islands before the sea-water pools were dried. Anopheles larvæ were found on the island of Grand Marimon, in pools containing not less than 3 per cent of sodium chloride. In a pool of water at Samarang, which had a surface of 20 to 30 square meters, a depth of 10 to 30 centimeters, and a percentage of 2.88 of sodium chloride, Anopheles larvæ were swarming, whereas Culex larvæ were not found. The author draws the following conclusions:

1. There are species of Anopheles which can live very well in sea water.
2. These mosquitoes lay eggs which develop even in sea water which has been evaporated to half its original quantity.
3. These larvæ in the gradually evaporating pools of sea water can stand an evaporation of the water to one-third of its bulk, but do not appear to transform to adults if the concentration be greater than this.
4. The larvæ coming from eggs laid in sea water in high concentration can accomplish their entire metamorphoses in almost the normal time. This is true even when the water has such concentration that the development of larvæ originally hatching in unconcentrated sea water would be retarded by this salt water.

In the opinion of de Vogel, the bad malarial reputation which the coral islands of the East Indies suffer is explained by his investigations, since many cases of malaria are observed along the coast during the dry season, when the rivers and fresh water streams are dried up. Villages near the sea, in the middle of tidal pools, have during a period of ten years an average mortality of from 1 to 4 per cent each year. In villages farther away from the sea, where the ponds have been abandoned or neglected and the sea water is, therefore, isolated, there is a mortality which varies from 8 to 10 per cent each year. During the dry season the pools in these regions have a proportion of sea salt equal to that of the ocean. In this dry season the death rate is greatest, and this is exclusively due to the Anopheles breeding in the sea-water ponds. The difference in the malarial rate is not due to any change in the character of the water itself. When the pools were tide-water pools, fish and other

life had access and kept the mosquito larvæ in check, whereas in the subsequent isolated pools the Anopheles larvæ could develop unhindered.

Foley and Yvernault (1908) found in Algeria that an Anopheles, *Pyretophorus chaudoyei*, was able to breed in very saline waters. The same they note as being true of *Anopheles vagus* found in the Dutch East Indies.

Banks (1908) reports that *Myzomia ludlowii*, Theob., a species of Anopheles which probably transmits the subtertian malaria parasite, breeds in the Philippines, both in salt and fresh water, and altitude up to 1,500 meters has no appreciable effect upon its development. He thinks that it was originally a fresh-water species only, and has adapted itself to a marine life. *Nyssorhynchus stephensi*, an Indian species and a malaria carrier, has also been found breeding in salt water.

Clerc (1909) experimented with larvæ of *Anopheles maculipennis*, and found that the larvæ placed in water with 44 to 46 grams of salt to the liter of water would die if very young, but the older larvæ developed and produced imagoes.

Gholap (1910) discovered the larvæ of *N. stephensi* in ponds containing sea water at Colaba near Bombay. There were millions of the larvæ present in these water collections.

Willcocks (1910) records finding in Egypt, larvæ of a species of *Pyretophorus* (*P. cleopatræ*) flourishing in large numbers in brackish waters containing from 2.56 to 3.25 per cent of common salt. Even 1 per cent proved fatal to the larvæ of the common Egyptian Anopheles, *Cellia pharoensis*.

Le Prince and Orenstein (1916) give the following account of mosquito larvæ in salt and brackish waters:

"At Cristobal, Beach Island, in the Rio Grande Valley, and at Gatun, Anopheles larvæ have been found in brackish and salt water. In the first three locations the propagation areas were affected directly by tide water. At Cristobal, in that part of the tidal flats covered by high tides and by excessive tides, larvæ were found to be numerous wherever clearings were made and leaves remained in the water. Clumps of plant stems afforded hiding places to the larvæ of *A. albimanus* and *A. tarsimaculata*, even when small fish were present. Invariably larvæ were most numerous where the fallen leaves were most plentiful. In the swampy area in the Rio Grande Valley the percentage of salt water varied with the tide and rainfall. *Anopheles albimanus* was the prevailing species. The deep water contained many mangrove trees and drift from upstream, whereas the more shallow was well covered with grass, dead leaves, and plants that thrive in brackish water in the Tropics. Larvæ could always be found in untreated portions of this area where there were sufficient hiding places. The area was about a mile in length.

"The water in the grass around the edges of the newly formed lagoon (a flat depression north of Gatun Dam) remained nearly fresh, and no salt could be tasted along shore. In places where tall grass grew, salt was not perceptible to taste 600 feet from the shore line. In wading out from the shore the water was tasted every few yards, and it was noted that young Culex and Anopheles larvæ appeared with the first indication of brackishness. In going farther from the shore, as the water became more brackish the Anopheles larvæ found were more numerous and more mature. When the water became salty enough to be decidedly disagreeable to taste, Anopheles larvæ were most numerous. They were more numerous per unit of area than had been noted anywhere on the Isthmus during the previous nine years of antimosquito work. The absence of Anopheles and the scarcity of Culex larvæ in the wet zone not affected by salt water was unique. Tests made at many points along the shore established the fact. The condition was so uniform that by wading slowly from shore to shore with eyes closed, and testing by taste alone, we were able to reach the infested zone and secure larvæ in collecting cups. Small larvæ-destroying fish were quite numerous, but larvæ of Anopheles and Culex were so plentiful in the salty water that it was impossible for the fish to make any reduction. The species present was chiefly *A. tarsimaculata*, although *A. albimanus* and Culex were very plentiful. The production area continued in existence for several months, and frequent analyses of the water for sea-water content were made. In places where the larvæ were very numerous the water contained 60 per cent or more of sea water, and at times above 80 per cent."

Barber (1918), referring to *Anopheles rossii* states: "The comparatively high percentage of infections observed by me in the brackish water type of var. *indefinitus*, would bring this form under suspicion, although sporozoites apparently are not readily formed. Epidemiological evidence in the coast regions of the Federated Malay States is at fault, since this type of *rossii* is there so commonly associated with *ludlowi* and *umbrosus*, both known carriers. * * * The occurrence of this type (Giles) in brackish water, the ordinary breeding place of *A. ludlowi* in Malaya, is noteworthy, since the larvæ of type Giles and that of *ludlowi* appear identical."

Howard, Dyar, and Knab state: "In America several species of Anopheles have been found to breed in brackish water, but none of them exclusively so. *Anopheles crucians* has been found to breed in brackish water in New Jersey and Louisiana, and we have already mentioned that Smith has found larvæ of *A. quadrimaculatus* in New Jersey under similar circumstances. It is worthy of note in this connection that *A. crucians* seems to thrive best in the vicinity of tidewater and to occur much less abundantly inland."

With reference to the effect of salinity upon *mosquitoes other than Anopheles*, Chidester and Patterson (1916) reach the following conclusions:

The degree of salinity of the pools of the salt marshes on the New Jersey coast is about 7 or 8 per cent, but may be subject to greater fluctuations. Two series of experiments were carried out to determine the effect of marked changes in salinity on the larvæ of *Aëdes sollicitans* and *Aëdes cantator*. In the first series, larvæ were transferred from pools to water varying from a 13 per cent salinity to distilled water. In the second series, larvæ were placed in solutions varying from 16 to 35 per cent salinity. None was able to survive in the 22 per cent or higher concentration for more than two days. Further examination of pools showed that in one case, larvæ of *Aëdes sollicitans* were living in water with a 22 per cent salinity, at a temperature of 64° F., whereas none was present in a pool a short distance away, where the salinity was 24 per cent and the temperature 67° F. Other records show that *Aëdes sollicitans* was able to withstand a higher degree of salinity than *Aëdes cantator*. The distribution of various species of mosquitoes over the salt marshes appears to be dependent to a certain extent on the amount of salt present in the water; this factor may also influence the development of the eggs.

OBSERVATIONS ON THREE AMERICAN SPECIES.

In connection with the control of malaria in extra-cantonment zones located in "tidewater" country, and in the course of other malaria investigations, extending, in all, over a period of four years, the writer has had occasion to note something of the relative breeding habits of *A. quadrimaculatus*, *A. crucians*, and *A. punctipennis* in relation to various strengths of sea water. The observations herein noted were made in certain areas bordering upon the Chesapeake Bay, Hampton Roads (or its tidal tributaries), and the Atlantic Ocean at Virginia Beach, Va.

Anopheles crucians.—(1) Near Langley Field, Hampton, Va., in September, 1917, a large degree of infestation of *A. crucians* in barns was found. The production area was found to be a salt marsh three-fourths of a mile away. Subsequent and repeated examinations revealed *A. crucians* breeding (and producing) generally in the marsh in water showing a salinity of 10,088. (Hampton Roads at Newport News showed a salinity of 10,146). *Aëdes sollicitans* was also producing profusely in the same water. The *A. crucians* larvæ were usually found in the salt grass, *Distichlis spicata*, the smaller and finer of the principal marsh grasses found in this locality. The larger salt-marsh grass, *Spartina glabra*, grows more abundantly where there is more tidal action, and *A. crucians* was found propagating in this grass only where its growth was much retarded or where it was dead.

No other species of Anopheles bred in this marsh, although a fresh-water pond in the vicinity was producing *A. quadrimaculatus*, and the fresh-water streams near by were producing *A. punctipennis*.

(2) At Virginia Beach, Va., Lake Rudee, originally a tidal stream and salt marsh, is intermittently formed by a deposit of sand at the beach, which blocks the outlet and impounds salt water. With the addition of fresh water from small streams and from rainfall, the water of this lake becomes less saline. At different times from August to October, 1919, the grassy borders of this lake were found to be harboring *A. crucians* in great numbers, larvæ of all sizes, or pupæ, were taken at every selective dip. This lake, the salinity of which had undergone no appreciable change during several weeks, conformed to Carter's classification of a "complete" breeding place, i. e., the eggs deposited here hatched and the succeeding stages of larvæ or pupæ through to the imago stage were completed in the same water. The salinometer reading here was 10,068 (the salinity of the ocean water nearby was 10,196). This lake then had 34.6 per cent of sea water at this point. Here was a body of diluted sea water covering approximately five acres, producing *A. crucians*, a malaria vector, in sufficient numbers to be of decided sanitary importance to the community. Extending to near Lake Rudee and separated therefrom by a strip of elevated land only a few hundred feet wide, was Lake Holly, which, with very rare exceptions, was fresh water. During the time of observations, the highest salinity of Lake Holly was 10,003. This lake was producing *A. quadrimaculatus* in great numbers. Was not a striking contrast afforded by these lakes in the matter of selective breeding places of the two species? Lake Rudee, containing 34.6 per cent sea water, had an Anopheles production of 100 per cent *A. crucians;* Lake Holly, practically fresh (1.5 per cent sea water), an Anopheles production of 100 per cent *A. quadrimaculatus*. The two breeding places were separated by a distance of less than 600 feet. In a stable on this strip of land, on a day in early September, there were collected 67 specimens of *A. crucians* and 85 specimens of *A. quadrimaculatus*.

(3) At West Point, Va., York River showed a salinity of 10,110. A pond had been formed by dumping rubbish across a salt marsh, for the purpose of extending a street. The fill was very loose and porous. No culvert had been installed. The main tidal stream was blocked, and at high tide additional salt water entered the pond through the fill. However, the level of the pond varied little between tides. The salinity at the lower portion of the pond was 10,077, or 70 per cent York River water. This degree of salinity would be approximately 50 per cent of that of sea water along this section of the Atlantic coast. *A. crucians* was breeding and producing profusely in this water.

Two hundred feet away, in a different portion of the same body of water, at a point where, owing to the large amount of seepage and the lack of mixing of the waters by wave action, the salinity was only 10,003, *A. quadrimaculatus* was producing freely.

(4) Experimental: Larvæ of all sizes and pupæ of *A. crucians* collected from obstructed ditches (salinity 10,088) in the marsh of Back River, near Langley Field, September 9, 1920, were placed in sea water, salinity 10,160, on September 10, and were not unfavorably affected by the transfer. All but three, which were of the first molt when placed in the sea water, had developed into imagoes within 12 days. Even the smallest of the larvæ developed as well in the sea water as those in the fresh water control.

Anopheles quadrimaculatus.—(1) As has been stated, Lake Holly, at Virginia Beach, is practically always fresh. Some years ago a flume was constructed connecting this lake with the ocean, for the purpose of admitting sea water at high tide. In its condition at the time of these observations, salt water came into the lake only at times of very high storm tide; so that not even sufficient salinity was attained to prevent the production of *A. quadrimaculatus*. In many parts of the lake, prior to the successful control operations in 1920, this species was found breeding freely. The highest salinity found at any time was 10,003, or approximately 1.5 per cent sea water at this place. No species of Anopheles other than *A. quadrimaculatus* was found breeding in this lake at any time. *A. quadrimaculatus* was breeding profusely in another fresh-water pond one-half mile distant, and *A. crucians* bred in the saline Lake Rudee a few hundred feet away.

(2) The small body of impounded water at West Point, previously noted, covered an area approximately 3 acres in extent, in which a growth of reeds and salt grass (*Distichlis spicata*) still remained. As noted, the lower, saline portion of the pond was producing *A. crucians*. On the opposite side of the pond, 200 feet away, where seepage outcrop rendered the water fresh, only *A. quadrimaculatus* was breeding. The salinometer reading here was 10,003. The land rises abruptly from the narrow valley, and the protection of the steep sides of the valley in which this part of the pond lies, and the vegetation in the water, served to prevent wave action and the mixing of the waters. Consequently, the water on this side of the pond remained almost entirely fresh.

(3) A pond at the upper end of a salt marsh near Newport News produced *A. quadrimaculatus* in great numbers in 1917. This pond was one of those notorious products of road construction which are found in tidewater countries, where roads are built across salt marshes and culverts are set at too high an elveation or are inadequate in capacity, resulting in the impounding of fresh or more or less saline water above the fill. In this particular case, at times of

storm tides, salt water was admitted to the fresh water of the pond. However, the salinity was never so strong or so continuous as to kill the luxuriant growth of cat-tails that occupied practically all of the 2 acres of the pond, except a small portion near the effluent culvert. On one occasion at high tide the lower portion of the pond showed a salinity of 10,076. At this time, breeding was under control. The question naturally arises as to whether or not the larvæ and pupæ of *A. quadrimaculatus* may resist a relatively high degree of salinity intermittently. The determination of this point has a practical bearing on malaria control and could probably be demonstrated readily by experiments.

(4) In 1918, near Lee Hall and Camp Eustis, Va., Dr. F. E. Chidester and Mr. T. B. Hayne, jr., then associated with the writer in malaria-control work, collected Anopheles larvæ from the edge of a tidal marsh, in water showing a salinity of 10,048. Two specimens of *A. quadrimaculatus* emerged from this collection. Chidester and Hayne are both careful observers, and they expressed the opinion that this was a "complete" breeding place. However, in surveys extending over several seasons, under various conditions and in many salt-marsh areas, the writer has been unable to substantiate their findings.

(5) Experimental: Fourteen *A. quadrimaculatus* larvæ of all sizes were collected from a fresh-water pond and put into sea water, salinity 10,160. These were all dead within 12 hours, the larger ones surviving the longest. No mortality was noted in the pond-water controls.

Anopheles punctipennis.—The writer has never found breeding of *A. punctipennis* in salt or brackish water, nor is he aware of any report of such breeding. But there is much evidence that *A. punctipennis* has a wider range of breeding habits in fresh water than either *A. quadrimaculatus* or *A. crucians.* It is found in the coldest mountain springs and branches, and at times in streams and ditches foul with sewage. It is not resistant, however, to sea water.

Experimental: Twenty-five *A. punctipennis* larvæ of all sizes, collected from a ditch and a fresh-water lake, were transferred to sea water, salinity 10,160, and all were dead within seven hours. No mortality was noted in fresh-water controls.

Various experiments have been conducted by investigators to determine the value of salt as a larvicide. The following accounts are typical of the results obtained.

Veazie (1905) reports an attempt, during the outbreak of yellow fever in New Orleans, to destroy mosquito larvæ in the open gutters of the city by the use of common salt. The results were good where the work was properly done. Shortly after the operations were begun, there was a flight of *Aëdes sollicitans* from the salt marshes northeast

of New Orleans. Indignant citizens, ascertaining from experts the name and habits of the species, jumped to the conclusion that the salting of the ditches had brought about suitable breeding conditions for *sollicitans* and that the invasion of the city by that species was a direct result of the work by the sanitary officials.

Peryassu (1908), with other workers in Brazil, made a series of experiments to determine the degree of salinity in which the larvæ of *A. argyrotarsis* could develop to imagoes. They found that in slightly brackish water imagoes were produced in a normal manner. In a mixture of 19 per cent of sea water with fresh water only a very small proportion of larvæ developed to imagoes. Beyond this the larvæ failed to pupate. With 20 per cent sea water some of the larvæ survived three days; with 30 per cent all died after one day.

Graham (1910) recommends the salting of water containing the larvæ of *Pyretophorus costalis*. He adds common salt in the proportion of 3 per cent and finds that it causes disintegration and precipitation of the motile algæ upon which the larvæ feed. The latter being thus deprived of their natural food, become cannibalistic. Salt, he says, in lesser concentration appears to inhibit the growth of young larvæ, probably by diminishing their food supply, but seems to hasten the fully grown larvæ, which become pupæ more rapidly than usual.

Darling (1910), working with the mosquitoes of the Canal Zone, observed the effect of salt and sea water on Anopheles larvæ and says: "In general, the effect of an irritating, toxic, or otherwise unusual fluid on mosquito larvæ is to hasten pupation. A number of experiments were tried with sea water, salt water, and solutions of the heavy metals, and in most instances, in the more concentrated solutions, when the larvæ were not killed within 24 hours, they pupated, and occasionally the period of pupation was shortened; so that if, for instance, sea-water were used as a larvicide, the first effect would be to hasten pupation, and thus increase the number of anophelines in a district, and if later the sea water became diluted by rain, several species of malaria-transmitting anophelines might breed in it without difficulty, notably *A. albimanus* and *A. tarsimaculata*. On this account sea water could not be used with any degree of success as a larvicide for anophelines, except in large quantities and in certain locations."

According to Howard, Dyar, and Knab, the proposed destruction of Anopheles by the introduction of sea water does not seem to be rational, at least with certain species. At all events the specific identity of the Anopheles concerned must be taken into account. It appears certain that while some species may breed either in fresh or brackish waters, others may occur exclusively in saline water, and still others only in fresh water.

CONCLUSIONS.

1. *A. crucians* was found to propagate in sea water diluted to a maximum salinity of 10,088 or slightly more than 50 per cent average sea water. The transfer of *A. crucians* larvæ, which had started their developemnt in brackish water, to sea water did not unfavorably affect their subsequent development.

2. *A. quadrimaculatus* was not found to breed in numbers sufficient to be of sanitary importance in a higher salinity than 10,003, or 1.5 per cent sea water. In one case two larvæ found in water with a salinity of 10,048 developed into *A. quadrimaculatus* imagoes, but this observation requires confirmation as to whether this species may complete its entire water cycle in so high a percentage of sea water. The question is raised as to whether *A. quadrimaculatus* larvæ may not withstand a much higher salinity intermittently than continuously. Specimens of *A. quadrimaculatus* transferred from fresh pond water to sea water, salinity 10,160, were all killed within 12 hours.

3. *A. punctipennis* was not found developing in salt or brackish waters. This species breeds under a wider range of conditions than either *A. quadrimaculatus* or *A. crucians*, but apparently does not survive in salt or brackish waters. Larvæ of *A. punctipennis* all died within seven hours when put into sea-water.

ACKNOWLEDGMENTS.

The writer has made free use of quotations from the literature included in the works of Balfour, and of Howard, Dyar, and Knab, and from The Tropical Diseases Bulletin. Grateful acknowledgment is also made of the assistance rendered in the review of the literature and in the preparation of this paper by Associate Sanitarian Bruce Mayne and Dr. M. A. Barber, and to Surg. L. D. Fricks, medical officer in charge of Malaria Investigations; and to Asst. Surg. Gen. H. R. Carter for most valuable advice in conducting the field studies and observations.

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NATIONAL HOSPITAL DAY.

The suggestion that a National Hospital Day be established and celebrated annually on May 12, the birthday of Florence Nightingale, pioneer in modern hospital and nursing methods, has swept the country since it was first suggested, 40 States and 4 Canadian Provinces having organized for it. President Harding has warmly approved the suggestion, and Surg. Gen. Cumming has written the following letter in regard to it to M. O. Foley, who originated the idea:

I heartily approve the suggestion that May 12 be designated annual National Hospital Day, on which special efforts shall be made to diffuse information concerning hospitals.

The public naturally lacks information on many points in regard to hospitals. For instance, although everyone who has tried to rent a house or who reads a daily paper knows that there is a marked shortage in buildings, few people realize that this shortage is particularly marked both in hospitals and in buildings that can be converted into hospitals. Most people, indeed, think that nearly any building can be made over into a hospital.

Such beliefs are due, of course, to lack of information in regard to the essential requirements of both the site and the construction of a hospital building. The site, for instance, must have surroundings that are sanitary both in summer and in winter, an abundant supply of good water, a cheerful outlook, a satisfactory weather exposure, and must be quiet and yet not too far removed from noisy transportation and from markets. The buildings must have, besides the necessary wards, sleeping accommodations (either in themselves or close at hand) for a personnel more than half as great as the expected patients, and also bathing, cooking, and laundry facilities sufficient for a hotel, isolation wards, a laboratory or pharmacy, solidly built operating rooms, and so on. And buildings that are to be converted into hospitals must have rooms that can be altered to meet these needs at reasonable expense.

A National Hospital Day will justify itself if it does no more than to inform the public that barns can not be converted into hospitals, and that at present even barns are by no means easy to come by.

(Signed) H. S. CUMMING,
Surgeon General.

Instructions looking to earnest cooperation in the celebration of the day have been sent to the officers in charge of all Public Health Service hospitals.

AMERICAN PUBLIC HEALTH ASSOCIATION MOVES TO NEW YORK CITY.

The American Public Health Association, on May 1, 1921, removed its offices from Boston to New York, in order to promote closer cooperation with other national health agencies. A National Health Council was recently organized, embracing nine leading national agencies whose major functions relate to health. One of the first steps of the Council was to arrange for the renting of two floors of the Penn Terminal Building in New York City. This building is at 370 Seventh Avenue, adjoining the Pennsylvania Station. The following national health agencies will be housed there: American Social Hygiene Association, National Committee for Mental Hygiene, National Organization for Public Health Nursing, National Tuberculosis Association, American Public Health Association, Bureau of Social Hygiene, Child Health Organization of America, Maternity Center Association, New York Community Service, New York Diet Kitchen Association, and National Health Council.

The American Public Health Association and the other agencies which compose the National Health Council are thus entering upon a practical experiment in coordination. They will also cooperate in varying degrees in the use of a common library, multigraph, dictaphone, mailing, shipping, and similar services, which should result in increased efficiency and decreased expense.

A national headquarters office of the Council has been established at 411 Eighteenth Street NW., Washington, D. C., in addition to the cooperative office in New York.

The officers of the Council are as follows: Dr. Livingston Farrand, chairman; Lee K. Frankel, vice chairman; Dr. C. St. Clair Drake, secretary; Dr. William F. Snow, treasurer (acting); and Dr. Donald B. Armstrong, executive officer (acting).

DEATHS DURING WEEK ENDED APR. 23, 1921.

Summary of information received by telegraph from industrial insurance companies for week ended Apr. 23, 1921, and corresponding week, 1920. (From the "Weekly Health Index," Apr. 26, 1921, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Apr. 23, 1921.	Corresponding week, 1920.
Policies in force	46,621,006	39,527,947
Number of death claims	8,293	8,045
Death claims per 1,000 policies in force	9.3	10.6

Deaths from all causes in certain large cities of the United States during the week ended Apr. 23, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the "Weekly Health Index," Apr. 26, 1921, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population, July 1, 1921.	Week ended Apr. 23, 1921. Total deaths.	Week ended Apr. 23, 1921. Death rate.[1]	Average annual death rate per 1,000.[2]	Deaths under 1 year. Week ended Apr. 23, 1921.	Deaths under 1 year. Previous year or years.[2]	Infant mortality rate, week ended Apr. 23, 1921.[3]
Akron, Ohio	[4] 208,435	30	7.5	[5] 12.4	6	[5] 11	58
Albany, N. Y	115,071	42	19.0	C 22.9	4	C 5	90
Atlanta, Ga	207,473	70	17.6	C 26.1	5	C 10	.....
Baltimore, Md	751,537	193	13.4	A 18.6	34	A 32	96
Birmingham, Ala	186,133	58	16.2	A 20.5	9	A 6	.....
Boston, Mass	757,634	215	14.8	A 19.2	30	A 42	81
Bridgeport, Conn	149,967	30	10.4	A 18.1	0	A 8	0
Buffalo, N. Y	519,608	119	11.9	C 18.7	18	C 32	70
Cambridge, Mass	110,444	31	14.6	A 17.0	4	A 6	72
Camden, N. J	119,672	27	11.8	.....	3	.....	.....
Chicago, Ill	2,780,655	656	12.3	A 16.7	106	A 151	.....
Cincinnati, Ohio	403,418	106	13.7	C 25.7	11	C 19	73
Cleveland, Ohio	831,138	159	10.0	C 18.5	26	C 44	70
Columbus, Ohio	245,358	62	13.2	C 18.9	7	C 9	81
Dallas, Tex	165,282	39	12.3	A 13.5	5	A 4	.....
Dayton, Ohio	158,119	35	11.5	C 15.5	3	C 2	49
Denver, Colo	263,152	90	17.8	A 14.1	13	.....	.....
Detroit, Mich	1,070,450	237	11.5	.....	57	.....	108
Fall River, Mass	120,668	35	15.1	C 19.9	8	C 15	120
Grand Rapids, Mich	141,197	28	10.3	C 17.5	4	C 4	68
Houston, Tex	144,340	42	15.2	.....	6	.....	.....
Indianapolis, Ind	325,215	86	13.8	C 20.5	7	C 14	54
Kansas City, Kans	103,908	34	17.1	.....	6	.....	143
Kansas City, Mo	336,157	89	13.8	C 18.0	14	C 9	.....
Los Angeles, Calif	611,636	191	16.3	A 13.0	18	A 10	85
Louisville, Ky	236,083	54	11.9	C 24.3	3	C 8	35

[1] Annual rate per 1,000 population.
[2] "A" indicates data for the corresponding week of the years 1913 to 1917, inclusive. "C" indicates data for the corresponding week of the year 1918.
[3] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1920. Cities left blank are not in the registration area for births.
[4] Enumerated population Jan. 1, 1920.
[5] Data based on statistics of 1915, 1916, and 1917.

Deaths from all causes in certain large cities of the United States during the week ended Apr. 23, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the "Weekly Health Index," Apr. 26, 1921, issued by the Bureau of the Census, Department of Commerce.)—Continued.

City.	Estimated population, July 1, 1921.	Week ended Apr. 23, 1921.		Average annual death rate per 1,000.		Deaths under 1 year.			Infant mortality rate, week ended Apr. 23 1921.
		Total deaths.	Death rate.			Week ended Apr. 23, 1921.	Previous year or years.		
Lowell, Mass	113,757	32	14.7	A	19.0	4	A	8	64
Milwaukee, Wis	468,386	76	8.5	A	13.9	9	A	23	44
Minneapolis, Minn	392,815	86	11.4	C	20.0	13	C	16	74
Nashville, Tenn	119,536	38	16.6	C	37.0	10	C	12	.....
New Bedford, Mass	125,012	29	12.1	A	17.1	4	A	11	61
New Haven, Conn	167,007	40	12.5	C	20.8	8	C	10	95
New Orleans, La	394,657	123	16.3	A	19.9	20	A	18	.....
New York, N. Y	5,751,867	1,331	12.1	C	16.7	194	C	252	76
Newark, N. J	424,885	110	13.5	C	20.1	11	C	31	.....
Norfolk, Va	121,260	25	10.8	.....		3	.....		53
Oakland, Calif	226,472	46	10.6	A	10.7	3	A	3	38
Omaha, Nebr	197,066	55	14.6	.....		8	.....		.....
Paterson, N. J	137,463	41	15.6	.....		7	.....		.....
Philadelphia, Pa	1,866,212	503	14.1	[5]	18.1	78	[5]	72	94
Pittsburgh, Pa	596,413	199	17.4	C	34.7	28	C	59	99
Portland, Oreg	264,859	59	11.6	C	13.3	10	C	5	100
Providence, R. I	239,645	54	11.8	C	22.6	11	C	19	.....
Richmond, Va	175,686	57	16.9	C	21.5	9	C	13	110
Rochester, N. Y	305,229	67	11.4	C	14.5	12	C	13	93
St. Louis, Mo	786,164	191	12.7	C	16.4	14	C	28	.....
St. Paul, Minn	237,781	50	11.0	C	15.1	5	C	7	50
Salt Lake City, Utah	121,595	38	16.3	A	12.8	3	.....		46
San Francisco, Calif	520,546	161	16.1	C	19.9	13	C	13	75
Seattle, Wash	327,227	58	9.2	A	9.1	5	A	5	42
Spokane, Wash	104,442	34	17.0	C	9.5	4	C	3	87
Springfield, Mass	135,877	31	11.9	.....		4	.....		60
Syracuse, N. Y	177,265	47	13.8	C	19.4	9	C	18	108
Toledo, Ohio	253,696	48	9.9	A	17.0	5	A	14	50
Trenton, N. J	122,760	35	14.9	A	22.0	2	A	10	.....
Washington, D. C	454,026	132	15.2	A	17.3	20	A	14	117
Wilmington, Del	113,408	30	13.8	C	19.8	3	.....		.....
Worcester, Mass	184,972	44	12.4	C	22.4	11	C	8	118
Yonkers, N. Y	103,324	24	12.1	A	10.3	3	A	4	68

PREVALENCE OF DISEASE.

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

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended Apr. 30, 1921.

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

ALABAMA.

	Cases.
Chicken pox	13
Diphtheria	7
Dysentery	8
Hookworm	46
Malaria	4
Measles	43
Ophthalmia neonatorum	1
Pellagra	4
Pneumonia	4
Scarlet fever	4
Smallpox:	
Jefferson County	33
Mobile County	17
Scattering	39
Tetanus	1
Tuberculosis	23
Typhoid fever	12
Whooping cough	21

ARKANSAS.

Chicken pox	27
Diphtheria	6
Hookworm	2
Influenza	40
Malaria	49
Measles	95
Pellagra	5
Scarlet fever	3
Smallpox	11
Tuberculosis	19
Typhoid fever	3
Whooping cough	38

CALIFORNIA.

Cerebrospinal meningitis	4
Influenza	70
Paratyphoid fever	1
Pellagra	1
Smallpox:	
Oakland	9
Pomona	8
San Francisco	20
Scattering	50
Typhoid fever	7

COLORADO.

	Cases.
(Exclusive of Denver.)	
Chicken pox	28
Diphtheria:	
Pueblo	13
Scattering	14
Measles	103
Scarlet fever	27
Smallpox	51
Typhoid fever	3
Whooping cough	8

CONNECTICUT.

Cerebrospinal meningitis	3
Chicken pox	76
Conjunctivitis (infectious)	4
Diphtheria:	
New Haven	12
Scattering	47
German measles	3
Influenza	13
Lethargic encephalitis	1
Malaria	2
Measles:	
Hartford	29
Middletown (C)	8
Norfolk	9
Waterbury	15
Scattering	41
Mumps	89
Ophthalmia neonatorum	1
Pneumonia (lobar)	36
Scarlet fever:	
Bridgeport	25
New Haven	17
Scattering	52
Septic sore throat	1
Trachoma	2
Tuberculosis (all forms)	45
Typhoid fever	2
Whooping cough	62

DELAWARE.

Chicken pox	5
Diphtheria	1

CURRENT STATE SUMMARIES—Continued.

Telegraphic Reports for Week Ended Apr. 30, 1921—Continued.

DELAWARE—Continued.

	Cases.
Influenza	1
Measles	3
Mumps	8
Pneumonia	2
Scabies	1
Scarlet fever	8
Tuberculosis	5
Whooping cough	12

FLORIDA.

Cerebrospinal meningitis	1
Diphtheria	7
Influenza	3
Malaria	15
Pneumonia	2
Scarlet fever	2
Smallpox	52
Typhoid fever	16

GEORGIA.

Chicken pox	16
Diphtheria	2
Dysentery (bacillary)	38
German measles	1
Hookworm	4
Influenza	3
Malaria	54
Measles	45
Mumps	3
Paratyphoid fever	2
Pellagra	1
Pneumonia	9
Scarlet fever	5
Septic sore throat	2
Smallpox	37
Tetanus	1
Tuberculosis (pulmonary)	5
Typhoid fever	10
Whooping cough	8

ILLINOIS.

Cerebrospinal meningitis:	
Chicago	3
Place not stated	1
Diphtheria:	
Chicago	166
Scattering	64
Influenza	46
Pneumonia	222
Scarlet fever:	
Chicago	133
Magnolia	8
Pekin	8
Peoria	10
Springfield	14
Scattering	132
Smallpox:	
Murphysboro	15
Scattering	123
Typhoid fever	14

[1] Week ended Friday.

INDIANA.

	Cases.
Cerebrospinal meningitis—Lake County	1
Diphtheria	35
Poliomyelitis:	
Lawrence County	1
Marion County	1
Rabies in animals—Sullivan County	1
Scarlet fever	170
Smallpox	132
Typhoid fever	10

IOWA.

Diphtheria	24
Scarlet fever	101
Smallpox:	
Center Point	20
Scattering	122

KANSAS.

Cerebrospinal meningitis	1
Chicken pox	147
Diphtheria	81
Influenza	26
Measles	595
Mumps	16
Pneumonia	10
Scarlet fever	120
Smallpox	165
Tuberculosis	35
Typhoid fever	2
Whooping cough	68

LOUISIANA.

Cerebrospinal meningitis	1
Scarlet fever	9
Smallpox	41
Typhoid fever	15

MAINE.

Cerebrospinal meningitis	1
Chicken pox	13
Diphtheria	15
Influenza	7
Measles	146
Mumps	4
Pneumonia	8
Scarlet fever	27
Septic sore throat	1
Smallpox	2
Tuberculosis	5
Typhoid fever	5
Whooping cough	8

MARYLAND.[1]

Cerebrospinal meningitis	2
Chicken pox	74
Diphtheria	29
Influenza	22
Malaria	1
Measles	178
Mumps	70

CURRENT STATE SUMMARIES—Continued.

Telegraphic Reports for Week Ended Apr. 30, 1921—Continued.

MARYLAND—continued.

	Cases.
Ophthalmia neonatorum	1
Pellagra	1
Pneumonia (all forms)	68
Scarlet fever	38
Septic sore throat	2
Smallpox	9
Tetanus	2
Trachoma	1
Tuberculosis	92
Typhoid fever	8
Typhus fever	1
Whooping cough	203

MASSACHUSETTS.

Cerebrospinal meningitis	6
Chicken pox	184
Conjunctivitis (suppurative)	16
Diphtheria	146
German measles	26
Influenza	25
Lethargic encephalitis	1
Malaria	1
Measles	738
Mumps	169
Ophthalmia neonatorum	28
Pellagra	2
Pneumonia (lobar)	108
Poliomyelitis	1
Scarlet fever	199
Septic sore throat	2
Smallpox	3
Tetanus	1
Trachoma	3
Trichinosis	1
Tuberculosis (all forms)	196
Typhoid fever	14
Whooping cough	158

MINNESOTA.

Chicken pox	13
Diphtheria	46
Influenza	1
Malaria	1
Measles	49
Ophthalmia neonatorum	1
Pneumonia	4
Poliomyelitis	1
Scarlet fever	121
Smallpox	213
Trachoma	1
Tuberculosis	48
Typhoid fever	5
Whooping cough	5

MISSISSIPPI.

Cerebrospinal meningitis	1
Diphtheria	15
Poliomyelitis	1
Scarlet fever	5
Smallpox	31
Typhoid fever	11

MISSOURI.

	Cases.
Chicken pox	61
Diphtheria	83
Influenza	7
Measles	178
Mumps	55
Scarlet fever	104
Smallpox	163
Trachoma	3
Tuberculosis	56
Typhoid fever	3
Whooping cough	121

MONTANA.

Diphtheria	5
Influenza	2
Rocky Mountain spotted or tick fever:	
Roundup	1
Scarlet fever	12
Smallpox	52
Typhoid fever	6

NEBRASKA.

Chicken pox	33
Diphtheria:	
Omaha	14
Scattering	5
Measles	37
Mumps	13
Pneumonia	2
Scarlet fever:	
Antioch	12
Bertrand	8
Scattering	47
Smallpox:	
Fremont	9
Omaha	17
Walthill	19
Scattering	26
Tetanus	1
Tuberculosis	1
Whooping cough	9

NEW JERSEY.

Chicken pox	190
Diphtheria	133
Influenza	18
Malaria	2
Measles	302
Pneumonia	114
Poliomyelitis	1
Scarlet fever	227
Smallpox	4
Typhoid fever	3
Whooping cough	295

NEW MEXICO.

Chicken pox	20
Conjunctivitis	1
Diphtheria	31
Hookworm	1
Malaria	1

CURRENT STATE SUMMARIES—Continued.

Telegraphic Reports for Week Ended Apr. 30, 1921—Continued.

NEW MEXICO—continued.

	Cases.
Measles	111
Mumps	9
Pneumonia	8
Scarlet fever	19
Septic sore throat	1
Smallpox	2
Tuberculosis	72
Typhoid fever	1
Whooping cough	39

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis—Yonkers	1
Diphtheria	232
Influenza	44
Lethargic encephalitis	3
Measles	839
Paratyphoid fever	2
Pneumonia	205
Poliomyelitis—Binghamton	1
Scarlet fever	227
Smallpox	10
Typhoid fever	16
Whooping cough	384

NORTH CAROLINA.

Cerebrospinal meningitis	5
Chicken pox	55
Diphtheria	19
German measles	1
Measles	479
Ophthalmia neonatorum	2
Scarlet fever	13
Septic sore throat	3
Smallpox	59
Typhoid fever	20
Whooping cough	287

SOUTH DAKOTA.

Chicken pox	12
Diphtheria	13
Influenza	4
Measles	16
Pneumonia	4
Scarlet fever	34
Smallpox	48
Tuberculosis	3
Typhoid fever	1
Whooping cough	6

TEXAS.

	Cases.
Chicken pox	45
Measles	145
Mumps	32
Pellagra	3
Scarlet fever	17
Smallpox	46
Whooping cough	38
Typhus fever—Breckenridge	1

VERMONT.

Chicken pox	37
Diphtheria	2
Measles	84
Mumps	13
Pneumonia	4
Scarlet fever	24
Smallpox	8
Typhoid fever	5
Whooping cough	23

WEST VIRGINIA.

Diphtheria	10
Measles:	
Elkins	20
Scattering	13
Scarlet fever	15
Smallpox	7

WISCONSIN.

Milwaukee:	
Chicken pox	35
Diphtheria	19
German measles	1
Measles	2
Scarlet fever	33
Smallpox	6
Tuberculosis	16
Whooping cough	15
Scattering:	
Cerebrospinal meningitis	1
Chicken pox	115
Diphtheria	30
German measles	4
Influenza	53
Measles	117
Poliomyelitis	3
Scarlet fever	166
Smallpox	142
Tuberculosis	19
Typhoid fever	5
Whooping cough	105

CURRENT STATE SUMMARIES—Continued.

District of Columbia and Kentucky Reports for Week Ended Apr. 23, 1921.

DISTRICT OF COLUMBIA.

	Cases.
Chicken pox	16
Diphtheria	5
Influenza	1
Measles	236
Scarlet fever	11
Smallpox	4
Tuberculosis	29
Typhoid fever	1
Whooping cough	48

KENTUCKY.

Cerebrospinal meningitis:	
Clark County	1
Daviess County	1
Chicken pox	10
Diphtheria:	
Jefferson County	11
Scattering	19
German measles	1
Influenza	18
Measles:	
Jefferson County	24
Perry County	28

KENTUCKY—continued.

Measles—Continued.	Cases.
Shelby County	10
Scattering	13
Mumps	6
Paratyphoid fever	1
Pellagra	2
Pneumonia	14
Scarlet fever:	
Jefferson County	18
Scattering	22
Smallpox:	
Livingston County	42
Scattering	30
Trachoma	5
Tuberculosis:	
Jefferson County	13
Scattering	7
Typhoid fever	8
Whooping cough	14

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.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1921.										
Arizona (March)	.....	7	.....	.....	257	.....	1	36	25	.....
California (February)	11	518	603	12	3,144	1	2	586	1,033	29
California (March)	19	675	820	19	3,560	1	5	598	746	79
Iowa (March)	4	102	.....	.....	547	.....	3	475	997	.....
Maine (March)	1	69	4	.....	728	1	.....	111	12	15
Michigan (March)	.....	878	.....	.....	451	.....	3	1,396	870	60
Mississppi (March)	4	67	709	1,612	960	331	2	46	380	113
New York (March)	53	2,887	842	.....	6,249	.....	1	3,645	152	148
Ohio (March)	11	663	68	1	1,436	.....	1	1,270	1,315	72
Oregon (March)	.....	79	9	.....	839	.....	.....	52	212	3
Pennsylvania (March)	13	1,729	.....	.....	5,305	.....	5	3,227	65	119
South Carolina (March)	1	229	.....	23	458	3	1	8	135	20
Virginia (March)	7	178	2,352	192	3,853	14	3	244	385	63
Washington (March)	.....	98	80	.....	471	.....	2	218	608	19

PLAGUE.[1]

HUMAN CASES OF PLAGUE REPORTED.

Place.	Period covered.	Cases.	Deaths.	Remarks.
California:	1921.			
San Benito County	Feb. 7	.....	1	

[1] A summary of the reports received of the occurrence of plague and the finding of plague-infected rodents in the United States during 1920 was published in Public Health Reports, Jan. 7, 1921, p. 15.

PLAGUE—Continued.

PLAGUE-INFECTED RODENTS.

Place.	Period covered.	Rodents found plague infected.
	1921.	
Florida:		
Pensacola	Jan. 1 to Apr. 18	5
	Apr. 19 to 30	0
Louisiana:		
New Orleans	Jan. 1 to Apr. 12	34
	Apr. 13 to 26	0
	April 27	2

CITY REPORTS FOR WEEK ENDED APR. 16, 1921.

ANTHRAX.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Arkansas:			New York:		
Little Rock	1	.....	New York	1	.....
New Jersey:					
Atlantic City	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 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
California:				New Jersey:			
Los Angeles	0	6	.....	Elizabeth	0	1	.....
San Francisco	0	1	.....	Trenton	0	1	.....
Connecticut:				New York:			
Bridgeport	1	3	1	New York	10	6	4
New Haven	0	1	1	Ohio:			
Stamford	.....	1	.....	Cincinnati	0	2	1
Illinois:				Pennsylvania:			
Chicago	4	4	1	Allentown	0	1	.....
Massachusetts:				Philadelphia	3	2	2
Boston	2	1	.....	South Carolina:			
Greenfield	0	.....	1	Columbia	0	2	.....
Haverhill	0	1	.....	West Virginia:			
New Bedford	0	1	1	Charleston	0	1	.....
Michigan:				Wisconsin:			
Detroit	2	2	1	Milwaukee	1	1	.....
Hamtramck	.....	1	.....	Wyoming:			
Port Huron	0	2	.....	Cheyenne	.....	1	1
Missouri:							
Kansas City	0	1	.....				
St. Louis	2	.....	1				

DIPHTHERIA.

See p. 1016; also Telegraphic weekly reports from States, p. 1004, and Monthly summaries by States, p. 1008.

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

INFLUENZA.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alabama:			Montana:		
Birmingham		1	Anaconda		1
Mobile			New Jersey:		
California:		1	Bayonne	1	
Long Beach	2	1	East Orange	3	
Los Angeles	7	1	Harrison	1	
Oakland		2	Jersey City	2	
San Francisco	9	1	Kearny	6	
Stockton	1		Newark	9	
Connecticut:			New York:		
Bridgeport	1	1	Binghamton	2	
Meriden	5		Cohoes	1	
New Britain	1	1	Jamestown	1	
Stonington	3		Mount Vernon	2	
District of Columbia:			New York	176	15
Washington	1	1	North Tonawanda	4	
Georgia:			Rochester	3	
Atlanta	2		Ohio:		
Savannah		1	Cincinnati	1	1
Illinois:			Toledo		1
Chicago	26	2	Pennsylvania:		
Louisiana:			Philadelphia	4	3
Baton Rouge	1		South Carolina:		
Maryland:			Charleston		1
Baltimore	9	4	South Dakota:		
Massachusetts:			Sioux Falls	3	
Attleboro	1		Tennessee:		
Boston	9		Nashville		2
Cambridge	5		Texas:		
Haverhill	9		Dallas	2	
Quincy	1		Waco	1	
Saugus	3		Virginia:		
Worcester	3		Danville	2	
Michigan:			Richmond		2
Detroit	1		Washington:		
Highland Park	1		Seattle	2	
Minnesota:			Spokane	4	
St. Paul		1			
Missouri:					
Kansas City		4			

LEPROSY.

West Virginia:					
Wheeling		1			

LETHARGIC ENCEPHALITIS.

California:			Ohio:		
San Francisco	2	1	Akron	2	
Illinois:			Wisconsin:		
Oak Park		1	Milwaukee	1	
Massachusetts:					
Easthampton	1				

MALARIA.

Florida:			New York:		
Miami	1		New York	1	
Georgia:			Texas:		
Atlanta	2		Dallas	3	1
Valdosta	15		Waco	2	
Louisiana:					
Alexandria	10				

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

MEASLES.

See p. 1016; also Telegraphic weekly reports from States, p. 1004, and Monthly summaries by States, p. 1008.

PELLAGRA.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
Alabama:			Tennessee:		
Montgomery		1	Nashville		1
Louisiana:			Texas:		
Baton Rouge		1	Dallas	2	
New Orleans	1	1	Galveston		1
Massachusetts:			Virginia:		
Danvers	1		Danville	1	
North Carolina:					
Durham		1			

PNEUMONIA (ALL FORMS).

Alabama:			Indiana:		
Anniston	1		East Chicago		4
Birmingham		5	Fort Wayne		1
Mobile		1	Gary		2
Arizona:			Hammond		2
Tucson		3	Huntington		2
Arkansas:			Indianapolis		5
Fort Smith	1		La Fayette		1
Little Rock	2		Logansport		1
California:			Muncie		1
Bakersfield		1	Kansas:		
Eureka		1	Coffeyville	1	
Long Beach		1	Fort Scott		1
Los Angeles	34	7	Hutchinson	1	
Oakland		6	Lawrence		1
Pasadena	3	2	Topeka		2
Riverside	1		Wichita		2
Sacramento		2	Kentucky:		
San Diego		4	Covington		1
San Francisco	13	6	Louisville		6
Santa Barbara		1	Louisiana:		
Stockton		3	Baton Rouge	2	
Colorado:			New Orleans		9
Colorado Springs		2	Maine:		
Denver		9	Biddeford		1
Pueblo	2	1	Lewiston		2
Connecticut:			Portland		1
Bridgeport		5	Maryland:		
Hartford	4	1	Baltimore	48	20
Meriden	1		Cumberland		2
New Britain		2	Massachusetts:		
New Haven		3	Attleboro	1	
New London	2		Beverly		1
Norwalk		1	Boston	42	25
Stamford	12		Brockton	2	1
Waterbury	5	4	Brookline	1	
Delaware:			Cambridge	10	3
Wilmington		2	Chelsea	5	3
District of Columbia:			Easthampton	3	2
Washington		9	Fall River	9	8
Florida:			Gardner	1	
Miami		2	Haverhill	7	6
Georgia:			Holyoke		2
Atlanta		7	Lawrence	5	1
La Grange	3		Lowell	4	3
Illinois:			Malden	4	1
Blue Island	1	1	Medford	2	
Chicago	213	45	New Bedford	5	1
Danville	1		Newburyport		2
East St. Louis		2	Newton		5
Elgin	2		Peabody	1	
Evanston	1		Fittsfield		3
Freeport		1	Plymouth		1
Galesburg		1	Quincy	6	2
Jacksonville		1	Salem	3	
La Salle		1	Saugus	1	
Oak Park	3	1	Somerville	2	1
Peoria		3	Springfield	7	3
Rockford	1		Taunton		2

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

PNEUMONIA (ALL FORMS)—Continued.

Place.	Cases.	Deaths.
Massachusetts—Continued.		
Wakefield	1	
Winthrop	1	
Woburn		1
Worcester		11
Michigan:		
Ann Arbor		2
Detroit	57	22
Grand Rapids		2
Hamtramck	6	2
Kalamazoo		1
Marquette	1	
Pontiac	1	
Port Huron	3	
Saginaw		2
Sault Ste. Marie	1	
Minnesota:		
Duluth		3
Minneapolis		8
Rochester	1	
St. Paul		5
Missouri:		
Kansas City	15	13
St. Joseph		1
Montana:		
Butte		1
Great Falls	1	
Nebraska:		
Lincoln	1	
Omaha		6
Nevada:		
Reno	1	
New Hampshire:		
Concord		1
New Jersey:		
Atlantic City		3
Bayonne	1	
Belleville	2	
Clifton		2
East Orange	4	
Elizabeth		5
Garfield	1	
Hackensack	1	
Harrison	1	
Hoboken		7
Irvington	1	
Jersey City	2	
Kearny		1
Montclair	1	
Newark	66	14
Orange	2	
Passaic	2	1
Paterson	6	
Perth Amboy		3
Summit		1
Trenton	4	2
West Orange	3	1
New York:		
Albany	5	
Binghamton	9	2
Buffalo	30	22
Cohoes	1	
Elmira		1
Ithaca	4	2
Jamestown		2
Lackawanna	4	
Lockport	1	
Middletown	1	
Mount Vernon	5	
New York	370	177
Niagara Falls	4	1
North Tonawanda		2
New York—Continued.		
Olean	3	2
Peekskill	2	1
Rochester	13	10
Rome	6	
Saratoga Springs	2	
Schenectady	7	3
Syracuse	8	2
Troy		6
White Plains		1
Yonkers	16	4
North Carolina:		
Charlotte		1
Greensboro		2
Wilmington		5
Ohio:		
Akron	3	
Barberton		2
Chillicothe	1	
Cincinnati		6
Columbus		4
Coshocton	1	
Dayton	1	
East Cleveland	5	
Lima		1
Marion	1	
Piqua		1
Salem		1
Springfield		1
Toledo		10
Youngstown		2
Zanesville		1
Oklahoma:		
Oklahoma City		3
Oregon:		
Portland		4
Pennsylvania:		
Philadelphia	69	46
Rhode Island:		
Cranston		2
Pawtucket		1
Providence		7
South Carolina:		
Charleston		2
Tennessee:		
Nashville		1
Texas:		
Dallas	10	2
El Paso		8
Galveston		1
Waco		2
Utah:		
Salt Lake City		4
Vermont:		
Rutland		1
Virginia:		
Norfolk		3
Portsmouth		4
Richmond		5
Roanoke		2
West Virginia:		
Charleston		2
Huntington		1
Morgantown		1
Wheeling		2
Wisconsin:		
Green Bay		1
Janesville		1
Racine		5
Superior		1
Wausau		1

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—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 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Illinois:				New Jersey:			
Chicago	0	1	.....	Newark	0	1	.....
Iowa:				New York:			
Sioux Falls	0	1	1	New York	0	1	.....
Massachusetts:				South Carolina:			
Winthrop	0	1	.....	Charleston	0	2	.....
Michigan:							
Detroit	0	1	.....				

RABIES IN ANIMALS.

Place.	Cases.	Place.	Cases.
Iowa:		Massachusetts:	
Keokuk	1	Fall River	2

RABIES IN MAN.

Place.	Cases.	Deaths.
New York:		
New York	1	.....

SCARLET FEVER.

See p. 1016; also Telegraphic weekly reports from States, p. 1004, and Monthly summaries by States, p. 1008.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Illinois:			
Birmingham	0	7	.....	Bloomington	0	8	.....
Mobile	3	1	.....	East St. Louis	2	10	.....
Montgomery	1	1	.....	Elgin	0	2	.....
California:				Evanston	0	1	.....
Long Beach	1	1	.....	Freeport	0	1	.....
Los Angeles	2	3	.....	Galesburg	1	2	.....
Sacramento	0	4	.....	Rockford	0	12	.....
San Francisco	2	21	.....	Springfield	1	2	.....
Colorado:				Indiana:			
Colorado Springs	0	1	.....	Elkhart	0	5	.....
Denver	21	14	.....	Fort Wayne	1	6	.....
Pueblo	0	3	.....	Gary	3	1	.....
Florida:				Hammond	1	2	.....
Miami	.....	1	.....	Indianapolis	3	10	.....
Georgia:				La Fayette	1	4	.....
Atlanta	6	8	.....	Marion	1	4	.....
Macon	1	7	.....	South Bend	0	12	.....
				Terre Haute	0	13	.....

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

SMALLPOX—Continued.

Place.	Median for previous years.	Week ended Apr. 16, 1921. Cases.	Deaths.
Iowa:			
Cedar Rapids	5	9	.....
Clinton	0	1	.....
Council Bluffs	2	3	.....
Davenport	11	4	.....
Des Moines	9	17	.....
Dubuque	1	1	.....
Iowa City	0	1	.....
Muscatine	0	2	.....
Sioux City	1	10	.....
Kansas:			
Atchison	9	2	.....
Coffeyville	0	1	.....
Fort Scott	5	2	.....
Hutchinson	0	8	.....
Lawrence	0	1	.....
Parsons	1	4	.....
Salina	5	6	.....
Topeka	3	11	.....
Wichita	2	8	.....
Kentucky:			
Louisville	3	2	.....
Paducah	0	3	.....
Baton Rouge	0	2	.....
Louisiana:			
New Orleans	6	4	.....
Maryland:			
Baltimore	0	1	.....
Michigan:			
Battle Creek	0	2	.....
Benton Harbor	0	4	.....
Detroit	13	27	.....
Holland	0	3	.....
Ishpeming	0	1	.....
Marquette	0	1	.....
Pontiac	2	2	.....
Minnesota:			
Austin	.....	3	.....
Duluth	3	16	.....
Mankato	0	2	.....
Minneapolis	24	83	.....
Rochester	.....	2	.....
St. Cloud	2	12	.....
St. Paul	7	54	.....
Missouri:			
St. Louis	9	20	.....
Montana:			
Great Falls	0	2	.....
Missoula	0	5	.....
Nebraska:			
Lincoln	13	6	.....
Omaha	11	14	.....
New Jersey:			
Jersey City	0	5	.....
West Hoboken	.....	1	.....
West New York	.....	5	.....
New York:			
New York	0	2	.....
Syracuse	0	3	.....
North Carolina:			
Charlotte	0	1	.....
Durham	0	5	.....
Winston-Salem	2	10	.....
North Dakota:			
Fargo	1	4	.....
Grand Forks	1	2	.....
Ohio:			
Akron	0	2	.....
Canton	1	18	.....
Cincinnati	3	3	.....
Columbus	0	5	.....
Dayton	0	1	.....
Hamilton	.....	1	.....
Lancaster	0	3	.....
Lima	1	7	.....
Lorain	0	1	.....
Mansfield	.....	1	.....
Middletown	1	2	.....
Newark	0	10	.....
Toledo	1	15	.....
Oklahoma:			
Muskogee	1	3	.....
Oklahoma City	9	5	.....
Tulsa	5	8	.....
Oregon:			
Portland	2	9	.....
Pennsylvania:			
Connellsville	0	1	.....
Pittsburgh	0	1	.....
South Carolina:			
Charleston	0	8	.....
South Dakota:			
Sioux Falls	3	10	.....
Tennessee:			
Chattanooga	2	2	.....
Knoxville	1	1	.....
Nashville	0	1	.....
Texas:			
Dallas	10	1	.....
Port Arthur	.....	4	.....
Waco	0	6	.....
Utah:			
Salt Lake City	12	22	.....
Vermont:			
Rutland	0	3	.....
Virginia:			
Richmond	0	3	.....
Roanoke	1	1	.....
Washington:			
Aberdeen	.....	19	.....
Bellingham	0	3	.....
Everett	0	1	.....
Seattle	4	10	.....
Spokane	6	33	.....
Tacoma	0	2	.....
Vancouver	0	11	.....
Yakima	6	4	.....
West Virginia:			
Bluefield	2	10	.....
Charleston	0	1	.....
Huntington	0	1	.....
Wisconsin:			
Beloit	1	1	.....
Green Bay	0	1	.....
Kenosha	0	1	.....
La Crosse	0	2	.....
Madison	2	6	.....
Marinette	0	7	.....
Milwaukee	5	16	.....
Oshkosh	1	1	.....
Racine	0	1	.....
Wausau	0	1	.....

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

TETANUS.

Place.	Cases.	Deaths.	Place.	Cases.	Deaths.
California:			New York:		
Los Angeles	1		New York	1	
Santa Barbara		1	Ohio:		
Illinois:			Columbus		1
Chicago	3		Lima		1
Massachusetts:			Texas:		
Clinton	1		Galveston		1

TRICHINOSIS.

New Jersey:		
Paterson	1	

TUBERCULOSIS.

See p. 1016, also Telegraphic weekly reports from States, p. 1004.

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 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

Place.	Median for previous years.	Week ended Apr. 16, 1921.		Place.	Median for previous years.	Week ended Apr. 16, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Minnesota:			
Birmingham	1	1		Duluth	0	2	
Arkansas:				Hibbing	0	1	
Fort Smith	0	2		Minneapolis	0	4	
Little Rock	0	2		Missouri:			
California:				Kansas City	1	4	
Los Angeles	2	1		St. Louis	3	1	
San Francisco	3	4		New Jersey:			
Colorado:				Montclair	0	1	
Pueblo	0	1		Newark	1	1	
Connecticut:				Passaic	0	1	1
New Haven	0	3	2	New York:			
District of Columbia:				Buffalo	1	1	
Washington	1	1		Glens Falls	0		1
Florida:				Lackawanna	0	1	
Miami			1	New York	14	7	
Georgia:				Rochester	0	2	
Macon	0		1	Schenectady	0	2	
Valdosta		1		Syracuse	0	1	
Illinois:				North Carolina:			
Chicago	5	3		Charlotte	0	1	
Mattoon	1	1		Ohio:			
Pekin	1	1		Canton	0	2	1
Rock Island	0	1		Middletown	0	1	
Indiana:				Oklahoma:			
East Chicago	0		1	Tulsa	0	2	
Evansville	0		1	Pennsylvania:			
Fort Wayne	0	1		Philadelphia	6	3	
Mishawaka	0	1		Pittsburgh	2	1	
Iowa:				Tennessee:			
Council Bluffs	0	1		Nashville	1	1	2
Kansas:				Texas:			
Topeka	0	1		Beaumont	0		1
Kentucky:				Galveston	0	1	
Covington	1	1		Virginia:			
Louisville	1	1		Alexandria	1	1	
Louisiana:				Danville	0		1
New Orleans	5	1		Norfolk	0	1	
Maryland:				West Virginia:			
Baltimore	3	2		Charleston	0	2	
Massachusetts:				Fairmont	0	1	
Fall River	0	2		Huntington	0	3	
Lynn	0	1		Parkersburg	0	1	
New Bedford	0	1		Wisconsin:			
Michigan:				La Crosse	0	1	
Alpena	13	8	1	Marinette	0	1	
Detroit	3	9		Superior	0	1	
Highland Park	0	1					
Kalamazoo	0	1					

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston	17,734				1		1		2	
Birmingham	178,270	54			13				4	5
Mobile	60,151	18	2		2	1				
Montgomery	43,464	12							1	
Arizona:										
Tucson	20,292	21				3				3
Arkansas:										
Fort Smith	28,811		1		15					
Little Rock	64,997		1		27				8	
North Little Rock	14,018		1		8					
California:										
Alameda	28,806	2	1				1		2	1
Bakersfield	18,638	4	1		14		1		10	
Eureka	12,923	7	2				3			
Long Beach	55,593	14			21		2		4	1
Los Angeles	576,673	131	39		129		23		54	21
Oakland	215,361	51	4		2		8			6
Pasadena	45,354	7			33					2
Richmond	16,843	2	2							
Riverside	19,341	6	2		11				2	3
Sacramento	65,857	17	6				1			2
San Bernardino	18,721	6			6					
San Diego	74,683	32	4		23				5	1
San Francisco	508,410	135	24	1	16		23		31	13
Santa Barbara	19,441	6			1				2	
Stockton	40,296	10	1		3		1			
Colorado:										
Colorado Springs	30,105	16	3	1	4				6	7
Denver	256,369	67	5		61		7			15
Pueblo	42,908	11	5		10					1
Trinidad	10,906						1			
Connecticut:										
Bridgeport	143,538	36	7	1	5		24	1	10	3
Derby	11,238	4	1				2			1
Fairfield	11,475	0					2			
Hartford	138,036	34	8		12		4		4	
Manchester	18,370	5					1			
Meriden	29,842								1	
Milford	10,193	4	1				2		1	
New Britain	59,316	17	4	1	16	1	2		1	1
New Haven	162,519	30	5		4		26		8	2
New London	25,688	3							2	1
Norwalk	27,700	15	1						2	2
Stamford	35,086		1		10		2			
Stonington	10,235	1	1							1
Waterbury	91,410	23	4		10		4		5	2
Delaware:										
Wilmington	110,168	23	3				3			
District of Columbia:										
Washington	437,571	137	13	2	254	1	26	1	29	15
Florida:										
Miami	29,549	19	1		12		1			
Georgia:										
Atlanta	200,616	54	4		26	1	5		31	5
Brunswick	14,413	0	1							
La Grange	17,038		1		14					
Macon	52,995	17	2		1		1			
Savannah	83,252	33	1				2		2	1
Valdosta	10,783	0								
Idaho:										
Boise	21,393	3	1		39		3			
Illinois:										
Alton	24,682	0	1		12					
Bloomington	28,725	3					1		1	
Blue Island	11,424	4					1			1
Centralia	12,491	3								
Chicago	2,701,705	666	157	9	410	6	142	8	267	39
Danville	33,750	10							4	1
East St. Louis	66,740	14			3		4		3	2
Elgin	27,454	9	2		20		1			1
Evanston	37,215	12	2		7		5		2	
Freeport	19,609	7					1			
Galesburg	23,834	4			08					

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

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

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Illinois—Continued.										
Jacksonville	15,713	17	1	.....	5	.....	4	.....	.....	1
La Salle	13,050	3	1	.....	.....	.....	1	.....	.....	.....
Mattoon	13,552	3	.....	.....	.....	.....	.....	.....	.....	.....
Oak Park	39,830	16	3	.....	19	.....	3	.....	1	1
Pekin	12,086	.....	.....	.....	.....	.....	3	.....	.....	.....
Peoria	76,121	28	3	1	1	.....	18	.....	2	1
Rockford	65,651	14	.....	.....	37	.....	10	1	.....	1
Rock Island	35,177	5	.....	.....	.....	.....	.....	.....	.....	.....
Springfield	59,183	18	.....	.....	11	.....	10	.....	.....	3
Indiana:										
Bloomington	11,595	2	.....	.....	.....	.....	.....	.....	.....	.....
East Chicago	35,967	17	.....	1	.....	3	.....	.....	.....	2
Elkhart	24,277	6	.....	.....	1	.....	9	.....	2	.....
Elwood	10,790	4	.....	.....	.....	.....	.....	.....	.....	.....
Evansville	85,264	14	.....	.....	.....	.....	.....	4	.....	.....
Fort Wayne	36,549	14	7	.....	13	.....	4	1	.....	1
Frankfort	11,585	3	.....	.....	.....	.....	1	.....	.....	1
Gary	55,378	13	7	.....	2	.....	2	.....	.....	1
Hammond	36,004	11	2	1	1	.....	2	.....	.....	1
Huntington	14,000	8	5	.....	2	.....	2	.....	.....	.....
Indianapolis	314,194	89	2	.....	4	.....	52	.....	3	7
Kokomo	30,067	1	.....	.....	1	.....	1	.....	.....	.....
La Fayette	22,485	5	2	.....	.....	.....	.....	.....	.....	.....
Logansport	21,625	4	2	.....	.....	.....	.....	.....	.....	.....
Marion	23,747	10	1	.....	1	.....	.....	.....	.....	.....
Mishawaka	15,195	3	.....	.....	.....	.....	.....	.....	2	.....
Muncie	36,624	9	.....	.....	.....	.....	9	.....	.....	1
Richmond	26,765	2	.....	.....	.....	.....	1	.....	.....	.....
South Bend	70,983	14	3	3	3	.....	5	.....	1	.....
Terre Haute	66,083	13	3	1	.....	.....	5	.....	.....	1
Iowa:										
Cedar Rapids	45,566	.....	1	.....	.....	.....	2	.....	.....	.....
Clinton	21,151	.....	.....	.....	7	.....	1	.....	.....	.....
Council Bluffs	36,162	2	2	.....	.....	.....	3	.....	.....	.....
Davenport	56,727	.....	2	.....	2	.....	5	.....	.....	.....
Des Moines	126,468	.....	2	.....	4	.....	3	.....	.....	.....
Dubuque	39,141	.....	2	.....	.....	.....	2	.....	.....	.....
Iowa City	11,257	.....	.....	.....	15	.....	.....	.....	.....	.....
Keokuk	14,423	3	.....	.....	9	.....	.....	.....	.....	.....
Marshalltown	15,731	.....	.....	.....	7	.....	5	.....	.....	.....
Muscatine	16,068	5	.....	.....	6	.....	3	.....	.....	.....
Sioux City	71,227	.....	1	.....	.....	.....	3	.....	.....	.....
Kansas:										
Arkansas City	11,253	1	.....	.....	8	.....	.....	.....	.....	.....
Atchison	12,630	.....	.....	.....	.....	.....	2	.....	.....	.....
Coffeyville	13,452	.....	.....	.....	.....	.....	.....	.....	3	.....
Fort Scott	10,693	7	.....	.....	.....	.....	.....	.....	.....	.....
Hutchinson	23,293	.....	1	.....	.....	.....	2	.....	2	1
Lawrence	12,456	4	1	.....	.....	.....	1	.....	.....	.....
Leavenworth	16,912	.....	1	.....	15	.....	.....	.....	.....	.....
Parsons	16,028	4	.....	.....	2	.....	.....	.....	.....	.....
Salina	15,085	1	.....	.....	.....	.....	1	.....	.....	.....
Topeka	50,022	14	1	.....	1	.....	5	.....	11	1
Wichita	72,128	27	2	.....	119	.....	9	.....	1	1
Kentucky:										
Covington	57,121	13	3	.....	.....	.....	1	.....	.....	1
Lexington	41,534	14	.....	.....	2	.....	5	.....	.....	.....
Louisville	234,891	83	13	1	13	.....	19	.....	8	7
Louisiana:										
Alexandria	17,510	3	3	.....	.....	.....	.....	.....	.....	1
Baton Rouge	21,782	4	1	.....	2	.....	1	.....	2	2
Monroe	12,675	5	.....	.....	.....	.....	.....	.....	.....	.....
New Orleans	387,219	115	5	.....	6	1	1	.....	29	11
Maine:										
Auburn	16,985	3	.....	.....	1	.....	.....	.....	1	.....
Bangor	25,978	.....	.....	.....	.....	.....	1	.....	1	.....
Bath	14,731	3	.....	.....	.....	.....	.....	.....	.....	.....
Biddeford	18,008	10	.....	.....	6	.....	.....	.....	.....	1
Lewiston	31,791	13	.....	.....	1	.....	2	.....	1	1
Portland	69,272	17	1	.....	18	.....	.....	.....	.....	1
Sanford	10,691	2	.....	.....	.....	.....	.....	.....	1	.....
Waterville	13,351	.....	3	.....	8	.....	.....	.....	1	.....

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

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

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Maryland:										
Baltimore	733,826	199	21	1	57	.....	14	1	37	35
Cumberland	29,837	13	.....	.....	.....	.....	.....	.....	1	2
Massachusetts:										
Adams	12,967	1	.....	.....	.....	.....	1	.....	.....	.....
Amesbury	10,036	3	.....	.....	.....	.....	1	.....	.....	.....
Arlington	18,665	2	.....	.....	6	.....	2	.....	2	1
Attleboro	19,731	5	.....	.....	.....	.....	.....	.....	.....	2
Beverly	22,561	5	.....	.....	1	.....	2	.....	1	.....
Boston	748,060	214	58	2	123	1	60	.....	56	24
Braintree	10,580	3	.....	.....	.....	.....	1	.....	.....	1
Brockton	66,138	.....	4	.....	1	.....	3	.....	2	.....
Brookline	37,748	11	.....	.....	2	.....	4	.....	.....	.....
Cambridge	109,694	23	6	.....	47	.....	9	.....	3	5
Chelsea	43,184	20	4	.....	4	.....	5	1	1	1
Chicopee	36,214	3	.....	.....	.....	.....	.....	.....	2	.....
Clinton	12,979	3	.....	.....	1	.....	.....	.....	.....	.....
Dedham	10,792	2	.....	.....	.....	.....	1	.....	.....	.....
Easthampton	11,261	2	2	.....	.....	.....	1	.....	.....	.....
Fall River	120,485	39	3	.....	.....	1	14	.....	9	3
Gardner	16,971	3	.....	.....	19	.....	.....	.....	2	.....
Greenfield	15,462	1	.....	.....	.....	.....	.....	.....	.....	.....
Haverhill	53,884	21	7	.....	.....	.....	6	.....	2	3
Holyoke	60,203	8	.....	.....	4	.....	1	.....	1	.....
Lawrence	94,270	21	4	.....	4	.....	12	.....	1	.....
Leominster	19,744	0	.....	.....	56	.....	.....	.....	1	.....
Lowell	112,479	25	5	1	7	.....	.....	.....	6	3
Lynn	99,148	21	9	3	3	.....	3	.....	.....	4
Malden	49,103	13	6	.....	3	.....	1	.....	1	2
Medford	39,038	2	2	.....	17	.....	4	.....	.....	.....
Melrose	18,204	4	1	.....	1	.....	2	.....	.....	1
Methuen	15,189	5	1	.....	.....	.....	7	.....	.....	.....
New Bedford	121,217	35	2	1	.....	.....	8	.....	6	9
Newburyport	15,618	7	.....	.....	.....	.....	.....	.....	1	.....
Newton	46,054	12	.....	.....	.....	.....	3	.....	2	2
North Adams	22,282	2	.....	.....	.....	.....	.....	.....	.....	.....
Northbridge	10,174	7	.....	.....	9	.....	.....	.....	1	2
Norwood	12,627	2	.....	.....	.....	.....	.....	.....	1	.....
Peabody	19,552	4	1	.....	.....	.....	1	.....	.....	.....
Pittsfield	41,751	8	3	.....	1	.....	1	.....	1	.....
Plymouth	13,045	4	.....	.....	.....	.....	.....	.....	.....	.....
Quincy	47,876	7	1	.....	14	.....	2	.....	4	1
Salem	42,529	8	.....	.....	3	.....	.....	.....	.....	1
Saugus	10,874	2	.....	.....	16	.....	.....	.....	1	.....
Somerville	93,091	20	6	1	2	.....	8	.....	7	.....
Southbridge	14,245	5	.....	.....	11	.....	.....	.....	.....	2
Springfield	129,563	30	.....	.....	2	.....	3	.....	4	3
Taunton	37,137	12	1	.....	5	.....	3	.....	.....	.....
Wakefield	13,025	4	.....	.....	1	.....	.....	.....	.....	2
Watertown	21,457	4	.....	.....	2	.....	1	.....	.....	.....
West Springfield	13,443	2	.....	.....	.....	.....	.....	.....	.....	.....
Westfield	18,604	4	.....	.....	.....	.....	.....	.....	.....	.....
Winthrop	15,455	3	.....	.....	.....	.....	2	.....	.....	.....
Woburn	16,574	5	.....	.....	.....	.....	.....	.....	.....	2
Worcester	179,754	41	4	.....	92	.....	7	.....	10	5
Michigan:										
Alpena	11,101	.....	.....	.....	.....	.....	1	.....	.....	.....
Ann Arbor	19,516	.....	4	.....	.....	.....	4	.....	1	.....
Battle Creek	36,164	.....	6	.....	.....	.....	.....	.....	.....	.....
Detroit	993,739	214	111	6	45	.....	84	3	47	22
Grand Rapids	137,634	30	8	1	.....	.....	4	.....	9	1
Hamtramck	48,615	11	4	.....	7	1	.....	.....	.....	.....
Highland Park	46,499	3	6	1	1	.....	12	.....	.....	.....
Holland	12,166	1	.....	.....	.....	.....	1	.....	.....	.....
Ironwood	15,739	6	.....	.....	9	.....	.....	.....	1	1
Ishpeming	10,500	3	.....	.....	.....	.....	.....	.....	1	.....
Kalamazoo	48,858	16	2	.....	.....	.....	7	.....	.....	.....
Marquette	12,718	4	.....	.....	.....	.....	.....	.....	.....	.....
Pontiac	34,273	7	3	.....	.....	.....	2	.....	3	1
Port Huron	25,944	6	1	1	1	.....	1	.....	1	.....
Saginaw	61,903	11	1	.....	.....	.....	.....	.....	.....	.....
Sault Ste. Marie	12,096	2	1	.....	4	.....	.....	.....	.....	.....

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

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

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Minnesota:										
Austin	10,118	4								
Duluth	98,917	28	1				8	2	2	1
Mankato	12,469	6			1					
Minneapolis	380,582	86	22		6		53	1	18	5
Rochester	13,722	5			12		1		1	1
St. Cloud	15,873		2		1					
St. Paul	234,595	61	24	3	3	1	27		24	7
Virginia	14,022		3							
Winona	19,143						1			
Missouri:										
Cape Girardeau	10,252	3	1		1		2			
Independence	11,686	4	2							
Kansas City	324,410	98	14		76		6		7	8
St. Joseph	77,939	36	2		12	1	3		2	2
St. Louis	772,897	169	56	1	14		68	1	57	1
Springfield	39,631	11								2
Montana:										
Anaconda	11,668	3								
Billings	15,100	7			9				1	2
Butte	41,611	13								1
Great Falls	24,121	5			10					
Missoula	12,668	8			2	1				
Nebraska:										
Lincoln	54,924	14					4		1	
Omaha	191,601	54	4		29		4			2
Nevada:										
Reno	12,016	4								
New Hampshire:										
Berlin	16,104	2						1		
Concord	22,167	6			2		2			
Dover	13,029				4					
Manchester	78,384	9	5				3		14	
Nashua	28,379	6	2	1	1		3		6	2
New Jersey:										
Asbury Park	12,400	6								
Atlantic City	50,682	13	6		2		2		20	
Bayonne	76,754		4				9		2	
Belleville	15,660		2				1			
Bloomfield	22,019	4					2		1	1
Clifton	26,470	3	6		7				1	
East Orange	50,710	6	2		3		5		1	
Elizabeth	95,682		9	1	29		6		2	
Englewood	11,627	1	1		2		2			
Garfield	19,381		2		1		1			
Gloucester City	12,162		1		1					
Hackensack	17,667	3	3							
Harrison	15,721				2		1		1	
Hoboken	68,166	20	5	2	1		4			
Irvington	25,480		2		1		9		1	
Jersey City	297,864		22		13		16		10	
Kearny	26,724	7	1		4		3	1	2	1
Montclair	28,810	4			7		1			
Morristown	12,548	3			13		2		3	
New Brunswick	32,779		10		1		2		3	
Newark	414,216	97	17		28	1	47	1	35	10
Orange	33,268	5					6		1	
Passaic	63,824	10	1		4		2			
Paterson	135,866		7		3		6		23	
Perth Amboy	41,707	11	3		2		1		1	1
Phillipsburg	16,923	7								
Plainfield	27,700	5	1		2	1	4		1	2
Rahway	11,042	1	1				1			
Roosevelt	11,047	3						1		
Summit	10,174	5	1						2	1
Trenton	119,289	23	4		3		8		3	3
Union	20,651		4		12					
West Hoboken	40,068	5			2		1		1	
West New York	29,926	2	3				1		1	
West Orange	15,573	4			10		1			
New York:										
Albany	113,344		4		38		1		7	
Binghamton	66,800	14	2		3		7			

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

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

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York—Continued.										
Buffalo	508,775	144	40	5	49	.....	30	.....	15	10
Cohoes	22,987	1	.....	.....	.....	.....	.....	.....	.....	.....
Elmira	45,305	10	.....	.....	5	.....	3	.....	1	.....
Geneva	14,648	5	.....	1	.....	.....	.....	.....	.....	.....
Glens Falls	16,638	6	.....	.....	4	.....	.....	.....	.....	.....
Hudson	11,745	11	.....	1	.....	.....	.....	.....	.....	.....
Ithaca	17,004	.....	.....	.....	1	.....	.....	.....	.....	.....
Jamestown	38,917	12	3	.....	27	.....	3	.....	1	2
Lackawanna	17,918	1	.....	.....	1	.....	1	.....	2	.....
Lockport	21,308	2	6	.....	8	.....	1	.....	1	.....
Middletown	18,420	.....	.....	.....	.....	.....	2	.....	2	2
Mount Vernon	42,726	11	3	.....	1	.....	2	.....	4	.....
Newburgh	30,366	10	1	.....	1	.....	1	.....	5	2
New York	5,621,151	1,388	361	20	215	2	396	15	[1] 427	[1] 99
Niagara Falls	50,760	7	13	.....	2	.....	11	.....	1	1
North Tonawanda	15,482	6	3	.....	1	.....	1	.....	.....	1
Ogdensburg	14,609	5	.....	.....	.....	.....	.....	.....	.....	.....
Olean	20,506	5	.....	.....	.....	.....	2	.....	.....	.....
Peekskill	15,868	5	1	.....	.....	.....	2	.....	2	.....
Rochester	295,750	70	32	.....	2	.....	16	.....	7	.....
Rome	26,341	.....	2	.....	9	.....	3	.....	.....	.....
Saratoga Springs	13,181	4	9	.....	.....	.....	.....	.....	.....	.....
Schenectady	88,723	23	6	.....	4	.....	3	2	4	1
Syracuse	171,717	47	25	.....	34	2	15	.....	5	4
Troy	72,013	24	1	.....	11	1	.....	.....	2	1
White Plains	21,031	3	.....	.....	1	.....	2	.....	1	.....
Yonkers	100,226	26	12	.....	13	.....	11	1	.....	3
North Carolina:										
Charlotte	46,338	13	.....	.....	21	.....	2	.....	.....	5
Durham	21,719	3	1	.....	1	.....	.....	.....	1	1
Greensboro	19,861	4	.....	.....	.....	.....	.....	.....	.....	.....
Rocky Mount	12,742	4	.....	.....	.....	.....	.....	.....	.....	.....
Salisbury	13,884	2	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington	33,372	20	1	.....	30	.....	.....	.....	.....	.....
Winston-Salem	48,395	13	1	.....	38	.....	.....	.....	4	3
North Dakota:										
Fargo	21,961	8	.....	.....	2	.....	1	.....	.....	.....
Grand Forks	14,010	.....	1	.....	2	.....	.....	.....	.....	.....
Ohio:										
Akron	208,435	42	4	.....	13	.....	5	.....	16	.....
Barberton	18,811	10	.....	.....	.....	.....	.....	.....	.....	1
Bucyrus	10,425	2	.....	.....	.....	.....	1	.....	.....	.....
Canton	87,091	13	6	.....	6	1	4	.....	1	.....
Chillicothe	15,831	1	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati	401,247	108	20	.....	31	.....	16	.....	32	15
Cleveland Heights	15,236	.....	.....	.....	.....	.....	1	.....	.....	.....
Columbus	237,031	67	4	.....	2	.....	2	.....	3	5
Coshocton	10,847	.....	1	.....	.....	.....	.....	.....	.....	.....
Dayton	152,559	44	3	.....	3	.....	.....	.....	1	.....
East Cleveland	27,292	.....	.....	.....	1	.....	.....	.....	2	.....
Findlay	17,021	1	1	.....	.....	.....	.....	.....	.....	.....
Fremont	12,468	7	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton	39,675	8	.....	.....	2	.....	9	.....	.....	1
Kenmore	12,683	.....	.....	.....	.....	.....	2	.....	2	.....
Lancaster	14,706	4	.....	.....	6	.....	.....	.....	.....	.....
Lima	41,306	10	1	.....	.....	.....	2	.....	.....	1
Lorain	37,295	.....	.....	.....	11	.....	1	.....	.....	.....
Mansfield	27,824	5	.....	.....	.....	.....	.....	.....	2	.....
Marion	27,891	.....	1	.....	1	.....	.....	.....	1	.....
Middletown	23,594	5	.....	.....	2	.....	.....	.....	2	.....
Newark	26,718	7	.....	.....	.....	.....	.....	.....	.....	.....
Niles	13,080	2	.....	.....	41	.....	.....	.....	.....	.....
Norwood	24,966	2	.....	.....	.....	.....	1	.....	.....	.....
Piqua	15,044	3	.....	.....	.....	.....	.....	.....	.....	.....
Salem	10,305	4	.....	.....	.....	.....	.....	.....	.....	.....
Sandusky	22,897	3	.....	.....	.....	.....	.....	.....	.....	1
Springfield	60,840	15	3	.....	13	.....	17	.....	.....	.....
Steubenville	28,508	8	1	.....	.....	.....	6	.....	1	.....
Toledo	243,109	80	14	1	5	.....	9	.....	10	9
Youngstown	132,358	29	2	.....	80	.....	5	1	4	2
Zanesville	29,569	6	.....	.....	.....	.....	.....	.....	.....	.....

[1] Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS Continued.

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Oklahoma:										
Muskogee	30,277				29					
Oklahoma City	91,258	21			2		3		3	2
Tulsa	72,075		1		9					
Oregon:										
Portland	258,288	63	20	2	61		3		2	6
Pennsylvania:										
Allentown	73,502		7		12		9		1	
Altoona	60,331		2		17		2			
Ambridge	12,730				12		1		1	
Beaver Falls	12,802						1			
Bethlehem	50,358		2		6		10		1	
Braddock	20,879		6							
Bradford	15,525						2			
Bristol	10,273						2			
Carbondale	18,640		3				1			
Carlisle	10,916				1					
Carrick	10,504				1					
Chambersburg	13,171				1		1			
Charleroi	11,516						1			
Chester	58,030		5		1					
Coatesville	14,515						7			
Connellsville	13,804						4			
Dickson City	11,049		2							
Dubois	18,681		1							
Duquesne	19,011		2						1	
Easton	33,813		4		15					
Erie	93,372		4		25		4		3	
Greensburg	15,033				1		1			
Harrisburg	75,917		2		24		1			
Hazleton	32,277		3		3					
Homestead	20,452		1		3				1	
Johnstown	67,327		5		28		3		2	
Lancaster	53,150		5				5			
Lebanon	24,643						1		5	
McKeesport	45,975		3						1	
McKees Rocks	16,713		2		1				1	
Meadville	14,568				4		5			
Monessen	18,179				15					
Nanticoke	22,614		2		3				2	
New Castle	44,933		2		2					
Norristown	32,319						1		2	
North Braddock	14,928				2					
Oil City	21,274		2						2	
Old Forge	12,237						2			
Philadelphia	1,823,158	482	55	9	87	2	133	3	89	49
Pittsburgh	588,193		29		106		56		32	
Pittston	18,497						1			
Pottstown	17,431		5							
Pottsville	21,876		2		15					
Reading	107,784		2		24		2			
Scranton	137,783		5		9		2			
Shamokin	21,209		1							
Steelton	13,428				1		1			
Sunbury	15,721		1				1			
Uniontown	15,692						3		1	
Warren	14,256						2		1	
Washington	21,580				1					
West Chester	11,717				1				1	
Wilkes-Barre	73,833		2		25		9			
Wilkinsburg	24,403				2		2			
Williamsport	36,198		3				1			
York	47,512		12				1			
Rhode Island:										
Cranston	29,407	12			10	1	1			1
East Providence (town)	21,793						2			
Newport	30,255	10	4				10			1
Pawtucket	64,248	20	3				1			
Providence	237,595	82	16	1	68	4	10			7
South Carolina:										
Charleston	67,957	20	2							1
Columbia	37,524		1		49				1	

CITY REPORTS FOR WEEK ENDED APR. 16, 1921—Continued.

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

Place.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
South Dakota:										
Sioux Falls	25,176	2	2		3		2			
Tennessee:										
Chattanooga	57,895		1				2			
Knoxville	77,818								3	3
Nashville	118,342	31	3		4		12		3	1
Texas:										
Beaumont	40,422	9								
Corpus Christi	10,522	3							1	
Dallas	158,976	30			169		1		7	2
El Paso	77,543	55								13
Galveston	44,255	11	1							
Port Arthur	22,251	4								
Waco	38,500	12			1		2			2
Utah:										
Salt Lake City	118,110	22	3		8		7			
Vermont:										
Burlington	22,779	9	2		2					1
Rutland	14,954	5			6					
Virginia:										
Alexandria	18,060	4			18				2	
Danville	21,539	7	1		5					
Lynchburg	29,956	5			63		2		1	1
Norfolk	115,777		2		46		4		6	4
Petersburg	31,002	12			39		2		2	
Portsmouth	54,387	20	1		5		6		1	2
Richmond	171,667	45	6		36		3		12	6
Roanoke	50,842	12			55					
Washington:										
Aberdeen	15,337				2					
Bellingham	25,570				4		1			
Everett	27,644		1		14					
Seattle	315,652		2		2		5			
Spokane	104,437		3		17		2			
Tacoma	96,965		1		2		1			
Vancouver	12,637				3					
Walla Walla	15,503		1						2	
West Virginia:										
Charleston	39,608	9			7		2			
Fairmont	17,851				2					
Huntington	50,177	18					2			1
Morgantown	12,127	1								
Moundsville	10,669	2					2			
Parkersburg	20,050	8	2							
Wheeling	54,322	18	3	1	5		5			
Wisconsin:										
Appleton	19,561						11			
Beloit	21,284	2			1					
Eau Claire	20,880						4			
Fond du Lac	23,427	5	1		1					
Green Bay	31,017	5	1		4					
Janesville	18,293	4	2							
Kenosha	40,472	4	1		1		4			
La Crosse	30,363						3			
Madison	38,378	3			1		8		1	
Marinette	13,610		1							
Milwaukee	457,147		23		4		37		28	
Oshkosh	33,162	4								
Racine	58,593	20	5				15			
Superior	39,624	10	2				6			2
Wausau	18,661	6					1		1	
Wyoming:										
Cheyenne	13,829	5								

FOREIGN AND INSULAR.

AUSTRALIA.

Poliomyelitis (Infantile Paralysis)—Sydney.[1]

Epidemic poliomyelitis (infantile paralysis) was reported present at Sydney, Australia, during the month of February, 1921, and during the first two weeks in March, 1921.

CHILE.

Further Relative to Typhus Fever—Arica.[2]

Further information, dated March 25, 1921, relative to an outbreak of typhus fever at Arica, Chile, occurring among laborers arrived from Iquique, Chile, February 16, 1921, shows a total to March 25 of 12 cases with 1 death. The infection was stated to have been imported from Humapalca, a mountain locality near the border of Bolivia, typhus fever being reported to be present in that district among Indian inhabitants.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	Mar. 21–31, 1921.		Remaining under treatment Mar. 31, 1921.	Disease.	Mar. 21–31, 1921.		Remaining under treatment Mar. 31, 1921.
	New cases.	Deaths.			New cases.	Deaths.	
Cerebrospinal meningitis	1	1	[a] 3	Measles	9	.....	8
Chicken pox	5	1	5	Paratyphoid fever	.....	.....	1
Diphtheria	3	1	3	Scarlet fever	3	.....	5
Leprosy	.....	.....	14	Smallpox	1	.....	1
Malaria	48	.....	[b] 55	Typhoid fever	8	4	[c] 23

Disease.	Apr. 1–10, 1921.		Remaining under treatment Apr. 10, 1921.	Disease.	Apr. 1–10, 1921.		Remaining under treatment Apr. 10, 1921.
	New cases.	Deaths.			New cases.	Deaths.	
Cerebrospinal meningitis	1	1	[d] 1	Malaria	10	1	[e] 59
Chicken pox	13	1	15	Measles	6	.....	15
Diphtheria	1	.....	3	Scarlet fever	9	.....	19
Leprosy	.....	.....	14	Smallpox	3	.....	[a] 4
				Typhoid fever	4	3	[f] 25

[a] From the interior 2; from abroad 1.
[b] From the interior 37.
[c] From the interior 18.
[d] From abroad 1.
[e] From the interior 38.
[f] From the interior 16; from abroad 1.

[1] Public Health Reports, Apr. 1, 1921, p. 691.
[2] Idem, Apr. 29, 1921, p. 963.

DOMINICAN REPUBLIC.

Typhoid Fever—Santiago.

Under date of March 29, 1921, typhoid fever was reported to be spreading in Santiago, Dominican Republic, more than 150 cases being present. Several deaths were reported.

JAMAICA.

Infectious Disease (Alastrim or Kaffir Pox).

During the week ended April 9, 1921, 145 new cases of alastrim or Kaffir pox were reported on the island of Jamaica.

Measles—Kingston.

Under date of April 15, 1921, measles was reported present in the city of Kingston, Jamaica, with a large number of cases. The disease is stated not to be notifiable in Jamaica.

MEXICO.

Plague—Tampico.

A case of plague was reported at Tampico, Mexico, April 28, 1921.

PERU.

Yellow Fever—Trujillo.

Yellow fever was reported present in Trujillo, Peru, April 28, 1921.

VIRGIN ISLANDS.

Contagious Diseases—March, 1921.

The occurrence of contagious diseases in the Virgin Islands during the month of March, 1921, has been reported as follows:

Disease.	Cases.	Remarks.
In St. Thomas and St. John:		
Chancroid	4	Imported.
Dysentery	3	Unclassified.
Gonorrhea	8	6 imported.
Malaria	2	1 imported.
Measles	1	Do.
Mumps	129	
Syphilis	2	Secondary.
Tuberculosis	2	Chronic pulmonary; 1 imported.
In St. Croix:		
Filariasis	1	Bancrofti.
Gonorrhea	3	
Measles	3	
Syphilis	1	
Trachoma	8	
Tuberculosis	3	Chronic pulmonary.
Uncinariasis	1	Necator Americanus.

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

Reports Received During Week Ended May 6, 1921.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Madras	Mar. 16–22	2	2	
Siam:				
Bangkok	Feb. 20–26	2	2	

PLAGUE.

Algeria:				
Oran				Dec., 1920. One case.
Ceylon:				
Colombo	Mar. 6–12	5	6	
India				Feb. 27–Mar. 5., 1921: Cases, 4,435; deaths, 3,369.
Bombay	Feb. 27–Mar. 5	19	12	
Madras Presidency	Mar. 16–22	178	122	
Mexico:				
Tampico	Apr. 28	1		

SMALLPOX.

Canada:				
Ontario—				
Hamilton	Apr. 17–23	1		
Kingston	Apr. 3–9	2		
China:				
Amoy	Mar. 6–26		3	
Chungking	Mar. 6–12			Present.
Cuba:				
Antilla	Apr. 10–16	2		
Nuevitas	Apr. 11–17	2		
Santiago de Cuba	Apr. 1–10	22	1	Numerous cases of "alastrim" reported present.
India				Jan. 16–22, 1921: Deaths, 522.
Bombay	Feb. 27–Mar. 5	42	24	
Karachi	Mar. 6–19	16		
Madras	Mar. 16–22	10	4	
Italy:				
Catania				Mar. 21–27, 1921: Cases, 3. (Province.)
Messina	Apr. 21–27	3	2	In Province, 6 cases.
Japan:				
Kobe	Mar. 25–31	1		
Nagasaki	Mar. 27–Apr. 3	1		
Mexico:				
Mexico City	Mar. 20–26	31		Including municipalities in Federal district.
Newfoundland:				
St. Johns	Apr. 9–15	1		
Tunis:				
Tunis	Mar. 26–Apr. 1	5	3	

TYPHUS FEVER.

Chile	Mar. 25	12	1	Among laborers arriving from arid region by way of Iquique, Chile, Feb. 16, 1921.
Egypt:				
Alexandria	Mar. 19–25	1	1	
Cairo	Jan. 29–Feb. 11	12	8	
Great Britain:				
Dublin	Mar. 27–Apr. 2	1		
Japan:				
Nagasaki	Mar. 21–27	1		
Mexico:				
Mexico City	Mar. 20–26	12		Including municipalities in Federal district.
Turkey:				
Constantinople	Mar. 27–Apr. 2	5		

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

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

Reports Received During Week Ended May 6, 1921—Continued.

YELLOW FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru:				
Trujillo	Apr. 23			Present.

Reports Received from Jan. 1 to Apr. 29, 1921.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Canton	Nov. 1-30	7	6	
Changsha	Nov. 29			Present.
Chungking	do			Do.
Chosen (Korea)				Aug. 1-Dec. 2, 1920: Cases, 24,017; deaths, 13,329.
India				Sept. 26-Oct. 9, 1920: Deaths, 2,672. Oct. 31-Dec. 11, 1920: Deaths, 7,184. Jan. 2-22, 1921: Deaths, 3,081.
Bombay	Dec. 5-11	2	2	
Do	Jan. 16-Feb. 26	4	2	
Calcutta	Oct. 31-Dec. 25	321	283	
Do	Dec. 26-Mar. 5	542	438	
Madras	Dec. 12-18	77	44	
Do	Dec. 26-Mar. 12	207	114	
Rangoon	Nov. 28-Dec. 25	9	8	
Do	Dec. 26-Feb. 5	22	20	
Indo-China				July 1-31, 1920: Cases, 136; deaths, 98.
Saigon	Dec. 27-Feb. 27	7	4	Including surrounding country.
Japan:				
Taiwan Island (Formosa)	Nov. 11-Dec. 31	219	93	
Do	Jan. 1-20	2		
Java:				
West Java—				
Bandoeng	Oct. 29-Nov. 11	2	1	
Batavia	Nov. 25-Dec. 1	1		
Philippine Islands:				
Manila	Nov. 7-Dec. 25	9		
Do	Jan. 9-Mar. 5	11		
Provinces—				
Cagayan	Oct. 3-Nov. 20	11	9	
Samar	Aug. 1-7	1	1	
Poland				Oct. 1-31, 1920: Cases, 26; deaths, 13. Mar. 15, 1921: Cases present, 86 among prisoners: 8 in civil population; 2 among military.
Eastern frontier—				
Bialystok	Dec. 16			Present.
Galicia	Nov. 1-30	19	11	
Grodno	do			Do.
Olitza	do			Do.
Posen	do			Present in Russian prison camp Mar. 1, 1921: Cases, 31.
Stralkowo	do			
Strelno	do	1	1	
Warsaw	Oct. 1-31	2		In district.
Do	Dec. 16	5		Nov. 1-30, 1920: Cases, 7; deaths, 2.
Russia:				
Lithuania				Feb. 19, 1921: Cases reported, 35; mortality, 30 per cent.
Latvia—				
Riga	Jan. 22			Present.
Siam:				
Bangkok	Oct. 9-Nov. 7	7	1	
Do	Dec. 26-Jan. 22	3		

PLAGUE.

Algeria:				
Algiers	Nov. 1-Dec. 31	3	1	
Do	Jan. 1-31	3	1	

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Argentina:				
Rosario	Feb. 1-28		3	Jan. 1-31, 1921; 3 plague rodents found.
Azores:				
St. Michaels				Total, Oct. 1-Dec. 10, 1920: Cases, 149; deaths, 49. In vicinity of Ponta Delgada.
Ponta Delgada	Feb. 5-11	1		
Brazil:				
Bahia	Oct. 31-Dec. 18	6	4	
Do	Dec. 26-Mar. 12	14	4	
Ceara	Oct. 17-Feb. 5		16	
Pernambuco	Oct. 18-Dec. 5	1	3	
Porto Alegre	Nov. 14-Dec. 11		2	
Do	Dec. 26-Feb. 19		7	
British East Africa				Outbreak Nov. 8, 1920: Cases reported, 1,067.
Kenya Colony—				
Kisumu	Oct. 31-Dec. 25			Present.
Do	Dec. 26-Feb. 12			Do.
Mombassa	Oct. 31-Dec. 25	2	2	
Do	Dec. 26-Jan. 15			Do.
Nairobi	Oct. 31-Dec. 25	16	11	
Do	Jan. 2-Feb. 5	19	15	Pneumonic, present.
Uganda	Oct. 21-Dec. 25	111	103	Entire protectorate.
Do	July 1-Nov. 5	259	63	Do.
Ceylon:				
Colombo	Nov. 7-Dec. 18	18	60	
Do	Jan. 16-Mar. 5	102	87	
Chile:				
Antofagasta	Nov. 24-Dec. 5	6	2	
Do	Dec. 27-Jan. 2	2		
China:				
Chihli Province				Mar. 11, 1921: Present on Tientsin & Pukow R. R., 70 miles east of Tientsin. Pneumonic. Reappearance of plague reported Apr.-12, 1921.
Peking	Jan. 25		1	Chinese quarter.
Sang Yuan	Mar. 3		50	In Northern Shantung Province.
Hongkong	Nov. 7-Dec. 18	6	6	
Do	Jan. 9-Feb. 12	6	6	
Hwangsein	Feb. 12			A few cases reported.
Kwantung Province	Dec. 29			Reported present in Tapu district. Mar. 7, 1921: Recurrence.
Manchuria Province—				
Changchun	Feb. 18	15		
Harbin	Feb. 2-Mar. 26		148	West of Harbin, Feb. 7, 1921, 400 fatal cases reported. Feb. 14, 1921, fatal cases, 1,200. To Mar. 14, 1921: 4,000 fatal cases. Pneumonic. Fatal cases reported daily, about 40. Apr. 13, improving; east of Harbin, more serious.
Manchuria station	Jan. 1-Mar. 10		283	
Mukden	Feb. 20-26			Prevalent. Pneumonic.
Tsitsihar	Feb. 2-Mar. 10			Present.
Shanghai				Two plague rats found, Dec. 20 and Dec. 31, 1920.
Ecuador:				
Guayaquil	Nov. 16-Dec. 31	111	36	
Do	Jan. 1-Feb. 28	175	59	
Egypt				Jan. 1-Dec. 30, 1920: Cases, 462; deaths, 269. Jan. 1-Mar. 10, 1921: Cases, 33; deaths, 19.
Cities—				
Alexandria	Jan. 17-Mar. 6	2	1	
Port Said	Oct. 22-28	1	1	
Do	Jan. 22	1	1	
Suez	Nov. 18-27	10	3	
Do	Jan. 5-Mar. 3	12	10	Pneumonic, 6 cases; septicemic, 1 case.
Province—				
Assiout	Nov. 21	3	2	
Girgeh	Mar. 7	3		
Mineh	Feb. 14-Mar. 3	5	1	
France:				
Marseille	June-Aug. 31	58	20	
Paris	June-Oct. 15	50	11	In suburbs, June-Nov. 2, 1920: Cases, 38; deaths, 19.
Do				Jan. 1-13, 1921: Cases, 3; deaths, 1. (Suspect.)

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Great Britain:				
Dublin				1 case reported Dec. 15, 1920; date of occurrence, Oct. 18, 1920.
Liverpool				Plague-infected rat found, period Nov. 28–Dec. 11, 1920.
Greece:				
Kavala	Oct. 25–Nov. 7	2		
India				Oct. 24–Dec. 25, 1920: Cases, 21,376; deaths, 14,874. Jan. 2–Feb. 26, 1921: Cases, 36,852; deaths, 28,747.
Bombay	Nov. 28–Dec. 25	6	6	
Do	Dec. 26–Feb. 26	38	29	
Calcutta	Nov. 14–20	46	44	
Do	Jan. 30–Feb. 12	1	1	
Karachi	Dec. 25–31	2	2	
Madras	Dec. 5–25	7	4	
Do	Jan. 9–29	3	1	
Madras Presidency	Nov. 14–Dec. 25	4,349	2,991	
Do	Dec. 26–Mar. 12	9,745	7,063	
Rangoon	Oct. 31–Dec. 25	30	28	
Do	Dec. 26–Feb. 19	92	84	
Indo-China				July 1–31, 1920: Cases, 98; deaths, 74.
Saigon	Dec. 27–Feb. 27	8	4	Including surrounding country.
Java:				
West Java—				
Batavia	Nov. 21–Dec. 1	3	3	
Do	Jan. 13–26	1	3	
Jugoslavia:				
Cattaro	Feb. 23	3		Among French troops.
Madagascar:				
Tamatave	Mar. 9			Present.
Mesopotamia:				
Bagdad	Oct. 1–31	25	7	
Mexico:				
Carbonera	Dec. 5–20	3	1	State of San Luis Potosi. Dec., 1920–Feb. 12, 1921: Cases, 24.
Do	Dec. 26–Jan. 8	3		
Cerritos	Dec. 5–20	7	8	State of San Luis Potosi.
Do	Dec. 26–Feb. 5	5		
Tampico	Mar. 23–Apr. 18	7	2	Total plague cases, Jan. 1–Apr. 19, 1921: 9.
Vera Cruz				Mar. 21–Apr. 10, 1921: Four plague-infected rodents found. Mar. 14, 1921: Rodent plague present.
Paraguay:				
Asuncion	Feb. 4	1	1	
Peru				July–December, 1920: Cases, 292; deaths, 136. Jan.–Feb. 28, 1921, Cases, 141; deaths, 71.
Departments—				
Callao-Lima				July–December, 1920: Cases, 23; deaths, 10. Jan. 1–31, 1921: Cases, 3; deaths, 2.
Callao	Feb. 1–15	2		
Libertad	....do	1		
Trujillo-Salaverry	Dec. 27–Mar. 27	33	8	
Lima	Feb. 1–15	14	4	
Piura	....do	21	10	
Porto Rico:				
San Juan	Feb. 18–25	7	2	Feb. 17–Mar. 3, plague rats found, 19.
Portouguese West Africa:				
Angola—				
Loanda				Mar. 18–Apr. 8, 1921: Rat plague present.
Russia:				
Batum	Nov. 24–Dec. 3	38		Epidemic outbreak.
Siberia—				
Vladivostok	Apr. 22			Prevalent. A few deaths among Chinese.
Siam:				
Bangkok	Dec. 5–11	1	1	
Straits Settlements:				
Singapore	Oct. 31–Nov. 6	1	1	
Do	Feb. 13–19	1	1	
Tunis:				
Ben Gardane				June–July, 1920: Cases, 6. November–December, 1920: Cases, 10, in surrounding territory.
Zarzis	Jan. 25	1		Jan. 15, 1921: Ten cases notified in vicinity. (Corrected report received Mar. 30, 1921.)

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Turkey:				
Constantinople	Nov. 21-27	1	2	
Union of South Africa:				
Orange Free State—				
Hoopstad district	Nov. 28-Dec. 18	3	1	1 European, 2 natives. On Vryheid Farm. (Public Health Reports, June 25, 1920, p. 1560.)
Do	Jan. 23-Feb. 5	1	1	1 European: On farm.
Kroonstad district	Jan. 23-Feb. 26	4	3	On farms. Plague-infected wild rodents found.
On vessel:				
S. S. Kronprincessan Victoria.	Jan. 15			At Stockholm, Sweden. Rat plague found. Vessel left Buenos Aires, Argentina, Nov. 17, 1920. Stopped at Goteborg and Malmo, Sweden. Left Malmo Jan. 11, 1921. Rats found dead Jan. 13, 1921, at Stockholm.

SMALLPOX.

Algeria:				
Algiers	Jan. 1-31	5		
Austria				Aug. 29-Dec. 25, 1920: Cases, 75.
Azores:				
Ponta Delgada	Dec. 18-24	7		
Bolivia:				
La Paz	Oct. 1-Dec. 31	19	7	
Brazil:				
Bahia	Oct. 31-Dec. 25	6		
Do	Jan. 8-15	4		
Pernambuco	Oct. 18-Dec. 19	102	2	
Do	Dec. 27-Jan. 30	36		
Rio de Janeiro	Oct. 21-Dec. 25	108	24	
Do	Dec. 26-Feb. 5	21	6	
Sao Paulo	Dec. 13-19		1	
British East Africa:				
Kenya Colony—				
Mombasa	Jan. 23-29	1		
Uganda				May 1-June 30, 1920: Cases, 272.
Bulgaria:				
Sofia	Nov. 7-13	2		
Canada:				
Alberta—				
Calgary	Dec. 12-18	2		
Do	Jan. 2-Apr. 9	15		
British Columbia—				
Fernie	Feb. 6-12	2		
Vancouver	Dec. 5-11	1		
Do	Dec. 26-Mar. 19	21		
Victoria	Jan. 30-Mar. 5	5		
Manitoba—				
Winnipeg	Jan. 16-Mar. 19	17		
New Brunswick				From lumber camp on Canadian Government R. R., Feb 5, 1921, 5 cases.
Bonaventure and Gaspe Counties.	Feb. 1-Mar. 3	16		
Campbellton	Jan. 9-15			Present.
Gloucester County	Jan. 23-29	1		
Madawaska County	Jan. 30-Feb. 19	2		
Northumberland County.	Mar. 6-12	1		
Restigouche County	Dec. 12-18	1		
Do	Feb. 6-19	2		
St. Stephen	Feb. 27-Mar. 5	1		
York County	do	6		
Nova Scotia—				
Sydney	Feb. 13-Apr. 9	18		
Yarmouth	Jan. 9-Mar. 26	8		
Ontario				November-December, 1920: Cases, 992; deaths, 5. Jan. 1-31, 1921: Cases, 902; deaths, 3.
Hamilton	Dec. 19-31	9		
Do	Jan. 2-Apr. 16	73		
Kingston	Dec. 26-Mar. 26	11		
London	Jan. 2-Apr. 9	35		
Montreal	Jan. 2-Apr. 16	14		

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada—Continued.				
Ontario—Continued.				
Niagara Falls	Dec. 12-18	1		
North Bay	Dec. 12-25	4		
Do	Jan. 2-Apr. 16	33		
Ottawa	Dec. 12-25	75	1	
Do	Dec. 26-Apr. 16	718	2	
Peterborough	do	3		
Prescott	Apr. 3-9	1		
Sarnia	Feb. 20-Mar. 5	2		
Sault Ste. Marie	Jan. 9-Feb. 12	48		Mar. 27-Apr. 2, 1921: Present.
Toronto	Dec. 12-25	7		
Do	Dec. 26-Apr. 16	71		
Quebec—				
Quebec	Jan. 28-Feb. 19	2		
Saskatchewan—				
Moose Jaw	Dec. 19-25	1		
Do	Jan. 2-Apr. 2	43		
Regina	Dec. 12-25	11		
Do	Jan. 2-Apr. 14	55		
Saskatoon	Dec. 16-22	20		
Do	Jan. 9-Mar. 26	28		
Ceylon:				
Colombo	Nov. 21-Dec. 25	18	7	
Do	Dec. 26-Feb. 19	5	2	
Chile:				
Antofagasta	Mar. 21-27	1		
Iquique				Epidemic with high mortality.
Coquimbo	Feb. 13-19	2		
China:				
Amoy	Nov. 7-Dec. 25		7	
Do	Dec. 26-Mar. 5		7	
Antung	Dec. 20-26	1		
Do	Jan. 10-Mar. 6	3	3	
Canton	Dec. 1-31			Present.
Do	Jan. 1-Feb. 28			Do.
Chungking	Nov. 7-Dec. 25			Do.
Do	Dec. 26-Mar. 5			Do.
Foochow	Nov. 7-Dec. 25			Do.
Do	Dec. 26-Mar. 5			Do.
Hankow	Jan. 2-22	2	1	
Hongkong	Jan. 16-Feb. 19	11	6	
Manchuria Province—				
Dairen	Nov. 16-Dec. 20	12	3	
Do	Dec. 28-Mar. 6	375	55	
Mukden	Dec. 12-18			Prevalent.
Do	Jan. 16-Feb. 26			Present.
Nanking	Nov. 14-Dec. 18			Do.
Do	Dec. 26-Mar. 19			Do.
Shanghai	Feb. 7-13	1		
Tientsin	Nov. 14-Dec. 4	2		Dec. 12-25, 1920: Cases, 160; in camp for famine refugees.
Do	Dec. 26-Mar. 5	9		In camp for famine refugees, 477.
Tsinanfu	Oct. 31-Nov. 12	20		Statistics of Shantung Christian Hospital.
Tsingtau	Jan. 2-Mar. 13	5	2	
Chosen (Korea):				
Chemulpo	Dec. 1-31	1		
Fusan	Nov. 1-30	1		
Do	Jan. 1-31	4	1	
Gensan	Dec. 1-31	15	12	
Do	Jan. 1-31	24	8	
Colombia:				
Barranquilla	Jan. 16-Mar. 12			Present.
Santa Marta	Dec. 5-25			Do.
Do	Dec. 26-Apr. 2			Do.
Cuba:				
Antilla	Dec. 7-27	10		For port of Preston.
Do	Jan. 2-Apr. 2	87		Do.
Camaguey Province				Reported seriously prevalent during January, 1921. Mar. 17, 1921: 386 cases reported.
Cienfuegos	Mar. 13-Apr. 2	3		1 from Jatibonico, Cuba; 1 from Jamaica.
Habana	Dec. 31-Feb. 16	11		Vicinity of Nuevitas. Dec. 6-12 1920: 1 case.
Lugareno	Mar. 7-13	2		
Matanzas	Jan. 2-29	6		
Nuevitas	Dec. 6-19	2		
Do	Jan. 3-Apr. 10	39		

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Cuba—Continued.				
Oriente Province				Mar. 17, 1921: 394 cases reported.
Santiago	Nov. 20–Dec. 10	26		
Do	Feb. 1–Mar. 30	299		"Alastrim" reported present. cases, estimated, about 1,000: July 11–Aug. 14, 1920: Cases, 141; deaths, 29.
Czechoslovakia				
Danzig	Dec. 5–18	2		
Dominican Republic				Nov. 15–Dec. 25, 1920: Cases, 9; occurring in 4 localities.
Santo Domingo	Jan. 9–Feb. 19	13	1	
Ecuador:				
Guayaquil	Nov. 16–Dec. 31	33	2	
Do	Jan. 1–Feb. 28	43		
Egypt:				
Alexandria	Dec. 17–31	3	1	
Do	Jan. 1–Mar. 11	10	2	
Cairo	Oct. 1–Dec. 9	3		
Do	Jan. 8–14	1		
Port Said	Nov. 19–Dec. 31	1	1	
Do	Jan. 8–14		1	
France:				
Paris	Nov. 1–30	2	1	
Do	Jan. 1–31	7	1	
Rouen	Nov. 21–Dec. 31	7	2	
Do	Feb. 13–Mar. 19	4	1	
St. Etienne	Dec. 3–15	2	1	
Do	Jan. 23–Feb. 12	3		
Germany				Aug. 29–Nov. 6, 1920: Cases, 40.
Great Britain:				
Glasgow	Dec. 25	11	2	
Do	Jan. 2–Mar. 19	23	8	
Liverpool	Jan. 30–Feb. 5	1		
London	Dec. 26–Jan. 1	1		
Greece:				
Saloniki	Nov. 15–Dec. 26	39	14	In surrounding country: Cases, 21; deaths, 2.
Do	Dec. 27–Feb. 5	21	18	
Haiti				Sept. 22, 1920–Jan. 8, 1921: Cases, 2,262; deaths, 64.
Cape Haitien	Feb. 13–Apr. 2	50		
Port au Prince	Sept. 22–Dec. 2	486	2	In 8 interior towns, 20 cases. In one locality, 18 cases. In country districts, vicinity of Port au Prince, cases numerous. From date of outbreak to Feb. 11, 1921: Cases, 2,874; deaths, 221.
Honduras:				
Ceiba	Feb. 13–Mar. 5	4		
India				Sept. 26–Oct. 9, 1920: Deaths, 250. Oct. 31–Dec. 11, 1920: Deaths, 3,902. Dec. 19–25, 1920: Deaths, 353. Dec. 26, 1920–Jan. 22, 1921: Deaths, 1,741.
Bombay	Nov. 7–Dec. 25	11	3	
Do	Dec. 26–Feb. 26	149	34	
Calcutta	Dec. 5–11	2	2	
Do	Jan. 2–Mar. 5	17	10	
Karachi	Jan. 16–Mar. 5	29	2	
Madras	Nov. 14–Dec. 18	7	5	
Do	Dec. 26–Mar. 12	56	11	
Rangoon	Nov. 21–Dec. 25	5	1	
Do	Jan. 2–Feb. 19	9	1	
Indo-China				July 1–21, 1920: Cases, 107; deaths, 24.
Italy:				
Catania	Nov. 29–Dec. 5	1		In Province, Nov. 29–Dec. 26, 1920: Cases, 43. Jan. 3–10, 1921: Cases, 32. Jan. 17–Mar. 20, 1921: Cases, 78.
Do	Feb. 14–Mar. 12	11		
Genoa	Feb. 7–13	3		
Messina (city and Province)	Jan. 3–Mar. 20	49	9	Dec. 5, 1920–Jan. 2, 1921: Cases, 15.
Palermo	Oct. 30–Dec. 27	410	124	
Do	Jan. 23–Mar. 8	238	35	
Japan:				
Kobe	Mar. 16–22	4		
Java:				
West Java				Nov. 12–Dec. 29, 1920: Cases, 72; deaths, 6. Jan. 6–12, 1921: One case, 1 death.
Bandoeng	Nov. 19–25	1	1	
Do	Feb. 3–9	1	1	
Batavia	Nov. 12–Dec. 25	14	5	
Do	Jan. 27–Feb. 23	7	2	
Buitenzorg	Feb. 10–23	12	2	
Garoet	Jan. 27–Feb. 16	1		

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Java—Continued.				
West Java—Continued.				
Indramayoe	Nov. 12–Dec. 29	1		
Krawang	do	1		
Do	Jan. 13–Feb. 23	29	7	
Lebak	do	30	10	
Pandeglang	Jan. 27–Feb. 23	15	2	
Jugoslavia	July 25–Aug. 28	128	42	Feb. 7–13, 1920: Cases, 122; deaths, 27.
Belgrade	Feb. 27–Mar. 5	1		
Zagreb	Jan. 9–Mar. 5	4	1	
Luxembourg	Dec. 15–Jan. 1	1		
Madagascar:				
Tananarive	Jan. 17–23		2	
Madeira:				
Funchal	Dec. 5–18		2	
Do	Dec. 26–Mar. 19		9	
Mesopotamia:				
Bagdad	Nov. 1–Dec. 31	2		
Do	Jan. 1–31	1	2	
Mexico:				
Chihuahua	Dec. 6–26	11	3	
Do	Dec. 27–Apr. 3		16	
Ciudad Juarez	Mar. 21–27		1	
Guadalajara	Dec. 1–31	1		
Do	Jan. 1–31	1		
Mexico City	Nov. 14–Dec. 25	17		Including municipalities in the Federal district.
Do	Jan. 2–Mar. 19	127		Do.
Monterey	Mar. 29–Apr. 4		4	
Salina Cruz	Jan. 1–Mar. 31	5	1	
San Luis Potosi	Feb. 6–12		1	
Tecate	Jan. 17	3		
Torreon	Jan. 1–Feb. 28	6	3	
Newfoundland:				
Bonne Bay	Mar. 26–Apr. 1	1		
Grand Falls	Mar. 12–18	1		
Lewisport	Apr. 2–8			Present.
St. John's	Jan. 22–26	1		
Norway	Jan. 23–29	3		
Panama:				
Colon	Jan. 5–Apr. 5	108		
Poland				Sept.–Oct., 1920: Cases, 175; deaths, 37.
Warsaw	Sept. 1–30	3		
Portugal:				
Lisbon	Nov. 28–Dec. 18		5	
Do	Dec. 26–Mar. 26		17	
Portuguese East Africa:				
Chai-Chai	Jan. 9–29			Present.
Chinde	Jan. 2–8			Do.
Gaza district	Dec. 18–23			Do.
Inhambane district	Dec. 26–Jan. 8			Do.
Lourenco Marques	Oct. 24–Dec. 11	10		Reported present in interior of Chia-Chai district.
Quelimane	do	3		
Rumania:				
Bessarabia Province	Jan. 1–27	202		
Bucharest	Nov. 1–30	1		
Cernowitz	Jan. 1–31	5	1	
Galatz	Dec. 1–31	1		
Jassy	Nov. 1–Dec. 31	7	1	
Kisseneff	Jan. 1–Mar. 18	18		District.
Russia:				
Esthonia Province				Dec. 1–31, 1920: Cases, 17. Jan. 1–Feb. 28, 1921: Cases, 50, not including cases in military hospitals.
Reval	Oct. 1–Nov. 30	28		
Latvia—				
Riga	Nov. 1–Dec. 31	17		
Do	Feb. 1–28	21		
Siberia—				
Vladivostok	Oct. 1–Dec. 31	3	1	
Siam:				
Bangkok	Feb. 13–19	1		
Spain:				
Barcelona	Nov. 18–Dec. 29		13	
Do	Jan. 13–Mar. 30		30	
Corunna	Dec. 12–18		1	
Madrid	Nov. 1–30		1	Year ended Dec. 31, 1920: Deaths, 9.
Do	Feb. 6–13		1	

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Spain—Continued.				
Malaga	Oct. 1-Dec. 31		77	
Do	Jan. 1-Feb. 28		32	
Tarragona	Jan. 30-Feb. 19		2	
Valencia	Dec. 5-25	3		
Do	Dec. 26-Mar. 26	21	2	
Syria:				
Aleppo	Nov. 14-Dec. 4			Dec. 12-25, 1920: Present.
Do	Jan. 16-Feb. 5			Present.
Tunis:				
Tunis	Nov. 30-Dec. 28	10	18	
Do	Jan. 8-Mar. 25	51	34	
Turkey:				
Constantinople	Nov. 21-Dec. 11	4		
Do	Jan. 2-Mar. 26	27	1	
Union of South Africa	Feb. 27-Apr. 12			Fresh outbreaks, Cape Province, Natal, Orange Free State, and Transvaal.
Cape Province	Jan. 23-Feb. 5			Outbreaks.
Natal				Feb. 13-19, 1921: Present in rural areas.
Durban district	Jan. 23-Feb. 5			Outbreak.
Orange Free State	do			Outbreaks, Feb. 13-19, 1921 Present in rural area.
Transvaal				Jan. 23-Feb. 5 1921: Outbreak in 1 district.
Johannesburg	Oct. 1-31	1		
Do	Feb. 13-19	2		From Portuguese East Africa.
Uruguay:				
Montevideo	Dec. 1-31	6	2	
On vessel:				
S. S. Alfonso XIII	Dec. 27	1		At Habana, Cuba, from ports in northern Spain.
S. S. Cadiz	Jan. 5	1		At Habana, Cuba, from Mediterranean ports.
U. S. S. Mississippi	Feb. 18-20	22		In Canal Zone.
S. S. Ohioan	Jan. 4	1		At San Pedro, Calif., from New York, via Balboa, Canal Zone.
S. S. Ventura	Jan. 18	1		At Sydney, Australia, from San Francisco, Calif., via Honolulu, and Pago Pago, Samoa.
S. S. ————	Mar. 27-Apr. 2	2	1	At quarantine, St. John, New Brunswick. From Europe.

TYPHUS FEVER.

Algeria:				
Algiers	Jan. 1-Feb. 28	6	1	
Belgium:				
Ghent				Five cases of typhus fever noted in Public Health Reports of Jan. 21, 1921, p. 105, and subsequent issues, stated in later reports to have been erroneously reported.
Bolivia:				
La Paz	Dec. 1-31	13	9	
Brazil:				
Ceara	Oct. 17-Dec. 26		3	
Do	Jan. 2-29		5	
Bulgaria:				
Sofia	Jan. 2-Mar. 12	8		
Chile:				
Arica	Mar. 14	9		Among laborers arriving from the arid region by way of Iquique, Chile, Feb. 16, 1921.
Concepcion	Nov. 1-Dec. 27		23	
Do	Dec. 28-Feb. 26		14	Present in vicinity. Year 1920, in public hospital, 89 cases, 13 deaths.
Coquimbo	Dec. 1-7		1	
Valparaiso	Oct. 25-Nov. 27		13	
Do	Jan. 30-Mar. 19		14	
China:				
Manchuria (Province)—				
Harbin	Nov. 22-28	1		On Chinese Eastern Railway.
Do	Jan. 3-9	1		
Manchuria Station	Nov. 22-28	2		Do.
Do	Jan. 10-16	1		
Chosen (Korea):				
Seoul	Dec. 1-31	1		
Do	Jan. 1-Feb. 28	31	2	
Chemulpo	Feb. 1-28	1	1	
Colombia:				
Barranquilla	Mar. 13-19		1	

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Czechoslovakia				July 11–Aug. 28, 1920: Cases, 138; deaths, 18. Reported present, Feb. 19, 1921.
Prague	Feb. 1–21	2		
Danzig	Dec. 20	1		In emigrant from Brest-Litovsk, with 2 weeks' stay at Warsaw.
Do	Jan. 16–Feb. 5	3	1	
Egypt:				
Alexandria	Nov. 19–Dec. 31	13	6	
Do	Jan. 1–Mar. 18	23	10	
Cairo	Oct. 1–Dec. 28	44	32	
Do	Jan. 1–28	18	15	
Germany				Sept. 12–Dec. 25, 1920: Cases, 259, including 11 in a camp. Dec. 26, 1920–Jan. 8, 1921: Cases, 7.
Great Britain:				
Belfast	Dec. 5–25	13		
Do	Jan. 9–Mar. 19	8	1	
Dublin	Nov. 28–Dec. 18	4	3	
Do	Jan. 9–Mar. 5	11	2	
Greece:				
Drama	Nov. 22–28	1		
Do	Feb. 28–Mar. 6	1		
Kavalla	do	2		
Patras	Nov. 29–Dec. 5		1	
Saloniki	Oct. 25–Dec. 26	34	9	
Do	Jan. 10–Mar. 13	488	15	Among refugees from Russia.
Serres	Nov. 8–14	1		Present among Caucasian refugees in vicinity. At other localities, Feb. 28–Mar. 13, 1921: Cases, 27; deaths, 2.
Guatemala				Feb. 1–Mar. 12, 1921: Present in highland departments.
Guatemala City	Mar. 1–12		1	
Hungary				Aug. 3–Dec. 5, 1920: Cases, 38.
Budapest	Nov. 8–Dec. 5	2		
Italy:				
Naples	Feb. 23	2		
Trieste	Feb. 14	30		Among emigrants intending to come to United States.
Japan:				
Nagasaki	Nov. 15–Dec. 26	10	1	
Do	Dec. 27–Mar. 13	23	6	
Jugoslavia	July 25–Aug. 28	27	5	Feb. 7–13, 1920: Cases, 84; deaths, 2. Dec. 12–25, 1920: Cases, 112.
Belgrade	Jan. 9–Mar. 26	5		114 remaining cases.
Medjumurju Province	Jan. 2–8	73		51 remaining cases.
Do	Feb. 13–19	42		
Zagreb	Dec. 12–25	27		
Do	Dec. 26–Feb. 21	41	6	City and country.
Malta	Dec. 1–31	1		
Mesopotamia:				
Bagdad	Nov. 1–30	1	1	
Mexico:				
Guadalajara	Dec. 1–31	11		
Do	Jan. 1–31	6	3	
Mexico City	Nov. 14–Dec. 25	67		Including municipalities in the Federal district.
Do	Dec. 26–Mar. 19	170		Do.
San Luis Potosi	Dec. 5–31			Present.
Do	Jan. 16–Apr. 2		4	
Netherlands:				
Rotterdam	Jan. 23–29	1		
Poland				Sept.–Oct., 1920: Cases, 3,845; deaths, 371. Nov. 1–30, 1920: Cases, 3,059; deaths, 350. Dec. 1–31, 1920: Cases, 4,644; deaths, 550. Jan. 1–31, 1921: Cases, 5,208; deaths, 597. Year 1920: Cases, 161,846.
District—				
Galicia	Nov. 1–30	1,192	283	
Kielce	do	270	15	
Lodz	do	83	6	
Lublin	do	403	20	
Posen	do	17		
Silesia	do	6		
Warsaw	do	191	15	
Warsaw city	Nov. 1–Dec. 16	96	8	
District—				
Bialystok	Jan. 1–31	321	33	
Galicia	do	3,427	457	
Kielce	do	426	42	
Lodz	do	200	14	
Lublin	do	383	18	
Posen	do	13		
Silesia	do	1		
Warsaw	do	340	16	
Warsaw city	do	197	17	

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Portugal:				
Oporto	Nov. 28–Dec. 4	1		
Do	Dec. 26–Mar. 28	5	2	
Rumania:				
Cities—				
Bucharest	Nov. 1–Dec. 31	9	1	
Do	Jan. 1–31	7		
Constanza	Dec. 1–31	9		
Provinces—				
Bessarabia				Nov. 30, 1920: Cases, 101.
Do	Jan. 1–Feb. 27	426		
Bukowina				Jan. 29, 1921: Cases, 103.
Transylvania	Dec. 1–31	81		Including Banat.
Do	Jan. 1–Feb. 14	41		In the old Kingdom of Roumania on Dec. 31, 1920, 119 cases reported present.
Russia:				
Province—				
Esthonia				Sept. 1–Dec. 31, 1920: Cases, 455.
Latvia—				Jan. 1–Feb. 28, 1921: Cases, 314.
Riga	Nov. 1–Dec. 31	185		
Do	Jan. 1–Feb. 23	394		
Lithuania				Feb. 19, 1921: Cases, 175; mortality, 5 to 6 per cent.
Ruthenia				Feb. 19, 1921: Occurrence of about 5 fatal cases daily. Mar. 5, 1921, 200 fatal cases previously unreported.
Ukraine				Feb. 19, 1921: Occurrence of about 5 fatal cases daily.
Siberia—				
Vladivostok	Jan. 1–31	1	6	Dec. 1–31, 1920: Cases, 11; deaths, 6.
Turkey:				
Constantinople	Nov. 21–Dec. 25	25	1	
Do	Jan. 2–Mar. 12	45		
Union of South Africa	Feb. 27–Mar. 12			Outbreaks reported in Cape Province and Transvaal.
Cape Province				Feb. 13–19, 1921: Outbreaks reported.
Cape Town	Dec. 20–26	16	5	
East London	Jan. 29–Feb. 12	5	3	
Port Elizabeth	Jan. 30–Feb. 5	1		
Natal	Feb. 13–19			Outbreak.
Orange Free State	Jan. 23–Feb. 5			Outbreaks.
Transvaal—				
Johannesburg	do	1		District.
On vessels:				
S. S. Presidente Wilson	Feb. 1–6	15		At New York. From Trieste, Italy, Jan. 15; Naples, Jan. 18; and Algiers, Jan. 22, 1921.
S. S. San Giusto	Feb. 10–Mar. 3	22		At New York. From Trieste, Jan. 23, and Naples, Jan. 26, 1921.

YELLOW FEVER.

Brazil:				
Pernambuco	Nov. 14–21	1	1	
Mexico:				
Orizaba	Dec. 5–18	2	1	
Papantla	do	8	2	
Do	Jan. 9–15		1	
Tampico	Dec. 12–18	1	1	
Tuxpam	Dec. 5–18	9	4	
Do	Dec. 26–Jan. 1	5	1	
Vera Cruz	Dec. 5–26	8	3	
Do	Dec. 26–Mar. 20	6	1	
Zamora	Dec. 12–18	1	1	Also called Guiterrez, State of Vera Cruz.

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

Reports Received from Jan. 1 to Apr. 29, 1921—Continued.

YELLOW FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru:				
Department—				
Lambayeque				Outbreak reported Jan. 22, 1921.
Chiclayo	Feb. 1-28	18	6	
Eten	do	7	2	
Ferrenafe	Jan. 1-31	18	17	
Do	Feb. 1-28	44	19	
Lambayeque	Jan. 1-30	2	1	
Do	Feb. 1-28	4		
Monsefu	Feb. 16-28	2		
On vessel:				
S. S. Savoia	Jan. 11-15	4		At Habana, Cuba, from Vera Cruz, Mexico. Vessel arrived Habana, Jan. 10, 1920, with three cases sickness on board. Two cases confirmed. Two cases developed later on board; confirmed Jan. 15. Savoia left Vera Cruz Jan. 6, 1921.