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A STUDY OF THE PELLAGRA-PREVENTIVE ACTION OF THE TOMATO, CARROT, AND RUTABAGA TURNIP

By JOSEPH GOLDBERGER and G. A. WHEELER, *Surgeons, United States Public Health Service*

Following upon the demonstration of the preventability of pellagra by means of an appropriate diet (1) a study of the preventive value of individual foods was begun at the Georgia State Sanitarium and, thanks to the sustained cooperation of its trustees, superintendent, officers, and staff, has been carried on there steadily ever since, now about 10 years. Certain of the results of that study, namely, those of fresh meat (2) (5), milk (2) (3) (4) (5), butter (2) (5), cod-liver oil (2), dried beans (4), casein (4), and yeast (4) (5), have already been reported. At this time we desire to report the results of that study dealing with tomatoes, carrots, and rutabagas.

TOMATOES

Soon after beginning the study of the pellagra-preventive value of individual foods it was found that, although there was reason to believe that the diet of the institution at which the study was being conducted included, in general, sufficient of the vitamin-containing foods to provide at least the minimum requirement of the known vitamins, the supply of these, particularly of vitamins C and A, was quite irregular and fluctuated widely, depending as it did practically exclusively on the supply of fresh vegetables, a supply that is markedly influenced by season and other factors affecting availability. Accordingly, with the object of improving the diet by correcting any possible faults that might arise from this cause, we replaced the fluctuating and irregular supply of fresh vegetables in the diet of the patients coming under our observation with a regular daily supply, at first, of 3 ounces, later of 4.5 ounces, of the juice expressed from canned tomatoes. The incidence of pellagra among patients receiving this tomato juice was not appreciably different from what it had been before this change in the fresh-vegetable ration was made. In consequence, a previously formed impression that tomatoes, or at least canned tomatoes, were lacking in the pellagra-preventive factor, was strengthened in our minds, and this all the more as we had observed two or three instances of pellagra in patients

who, for considerable periods, had taken daily approximately 170 grams (6 ounces) of such tomato juice (3) (5). Somewhat later, however, some observations in connection with our study of experimental black tongue (8) suggested that this view might not be well founded; that we had, perhaps, not taken sufficient account of the factor of quantity; for, although 170 grams (6 ounces) of tomato juice a day would seem to be a fairly liberal amount, yet, recalling our experience with milk (2) (3) (4) (5), it seemed possible that, if taken as liberally as milk is frequently taken, the tomato juice might be found to possess definite pellagra-preventive action.

These and other considerations suggested the desirability of studying this vegetable more directly than we had yet done. Accordingly, we began a test of the pellagra-preventive action of tomato juice early in April, 1925. A high grade of commercial canned tomatoes was secured and the desired daily quantity of juice was obtained by pressing through a cloth. The daily ration of this juice was the same as that which had been allowed of buttermilk (2) in the study of that food, namely, 1,200 grams (40 ounces). This was divided into three portions and was taken by the patients as a beverage with each of the three daily meals.

Encouraged by the indications afforded by preliminary trials of this quantity of juice in some active cases of pellagra, we continued the study as a preventive one until late in June, 1926. It may, in passing, be stated that with hardly a single exception the patients took this juice with relish. The composition of the tomato juice-supplemented diet is shown in Table 1.

In all, 21 insane patients came under observation for preventive treatment with tomato juice. Of these, 1 remained under observation for too brief a period to be of significance, 1 for approximately 11 months, and 19 for at least one year. None developed any recognizable evidence of the disease while under observation.

Since our long experience with this class of patients has led us to expect that some 40 or 50 per cent of them would have developed evidence of an attack of pellagra within some three to seven or eight months in the absence of the tomato juice or equivalent preventive, the absence of recognizable evidence of the disease in any of this group of patients is, in our judgment, conclusive evidence of the pellagra-preventive action of the tomato juice.

Clearly, our earlier idea that tomatoes lacked pellagra-preventive properties was erroneous and arose as the result of an unjust appraisal of the factor of quantity. When, as appears in the foregoing, the daily quantity is sufficiently liberal, the preventive action of tomatoes becomes unmistakable. What the minimum quantity must be it is impossible to state more definitely than that this would seem to fall somewhere between 170 grams (6 ounces) and 1,200 grams (40 ounces) of the juice of the canned vegetable.

CARROTS

In 1925, as a result of their study of the Chittenden-Underhill pellagralike syndrome in dogs, Underhill and Mendel (6) reported that carrots were found by them to be particularly effective in alleviating that syndrome when once initiated. Being strongly impressed with the possibility that this syndrome in the dog, identified by us as black tongue, might be the analogue of pellagra in man (7) (4), it seemed highly desirable to test the pellagra-preventive action of carrots in the human disease. Accordingly, we began a study of this vegetable early in September, 1925.

The carrots were peeled and sliced, then steamed until tender. They were then mashed, and one-half the day's ration, stirred into the other food, was served at the midday meal and the other half similarly served at supper. The daily ration was the equivalent of 453 grams (1 pound) of the dressed, raw vegetable. The composition of the carrot-supplemented diet thus served to the patients in this preventive study is shown in Table 2.

The study was continued for about nine months, or until early in June, 1926, when it was discontinued by reason of the development of pellagra in five of a small group of insane patients that had come under observation for preventive treatment with carrots.

Three of the five who developed the disease had been good eaters and had regularly consumed all or nearly all (approximately 90 per cent or more) of their ration of carrots. Both of the other two started with good appetites. During the first two or three months each consumed approximately 90 per cent of the daily offering of carrots; later their appetites declined so that the daily consumption of carrots gradually became reduced to 50 per cent or less prior to the appearance of the distinctive dermal lesions of the disease. Although not certain, we are nevertheless disposed to consider it highly probable that the decline in appetite in these two patients was a symptom of the approaching attack of pellagra and thus an early indication of the inadequacy of the carrots. It is to be noted, however, that although some 400 to 450 grams of carrots daily were clearly inadequate as a pellagra-preventive (in insane women weighing 46 to 63 kilos), the attacks of the disease appeared after somewhat longer periods (five to eight months) than our experience had led us to expect in this class of patients, among whom were some that had suffered several (as many as eight) previous attacks. A delaying or slightly protective effect is thus suggested but can not be vouched for on the basis of this experience.

RUTABAGAS

The indications of preventive activity afforded by our study of tomatoes and the possibility above referred to that carrots might be potent in the prevention of pellagra led us to undertake a study of

another common vegetable, the turnip, early in February, 1926. It was at first intended to work with the ordinary white turnip, but finding that an adequate supply of this vegetable was less certain than that of the rutabaga we decided to work with the latter vegetable.

The rutabagas were prepared by peeling and, after running through a food chopper, steaming for approximately two hours. The daily ration was the same as that of carrots, namely, the equivalent of 453 grams (1 pound) of the dressed, raw vegetable. One half was served at the midday meal and the other half at supper. The composition of the rutabaga-supplemented diet is shown in Table 3.

The study was continued for but about five months, being discontinued late in June, 1926, by reason of the failure of the rutabagas to prevent recurrences of the disease in some five or six patients (colored insane women weighing between 52 and 75 kilos) who, for periods of three or four months, had consumed, seemingly with relish, practically all of their allowance of this vegetable. The daily consumption of approximately 1 pound of rutabagas was unaccompanied by any evidence of a preventive action that we could recognize.

DISCUSSION

From the results presented in the foregoing, it would appear that tomatoes are effective as pellagra preventives, while both carrots and rutabagas lack this property. In view of the importance of the factor of quantity, however, so clearly brought out by our experience with tomatoes, this conclusion as it relates to carrots and rutabagas can not be accepted as entirely valid. For, although the test ration (1 pound), both of the carrots and of the rutabagas was, we believe, a very liberal one, it is readily conceivable that had it been larger a protective effect might have become evident just as it did in the case of the tomatoes. It would seem, nevertheless, that if carrots and rutabagas actually possess pellagra-preventive action this must be rather feeble.

It may be remarked in this connection that if, lacking a better practical standard, the preventive potency of a food is appraised, as is here attempted, on the basis of the preventive adequacy of the quantity conventionally considered as constituting an ordinary adult male's portion, the pellagra-preventive action of tomatoes, or more properly of canned tomatoes, must also be rated as of a feeble order.

The idea suggested by the work of Underhill and Mendel (6), on the Chittenden and Underhill syndrome (black tongue) in dogs, that carrots might be highly potent pellagra preventives would seem not to be borne out by the results of our study. Actually, however, it is difficult, or impossible, to form a sound judgment on this point, since Underhill and Mendel have not yet published the details needed

to permit of a valid comparison. We may remark, here, that our own studies (8) of carrots as black-tongue preventives indicate that this vegetable contains the black-tongue preventive factor, but in relatively small amounts, for we found that what we judge to be a considerable daily quantity must be ingested by the dog before the preventive action of the carrots becomes clearly manifest. Our work with carrots in the human disease is, therefore, not inconsistent with the results of our work in black tongue of dogs, nor, until we have more detailed information, is it to be regarded as necessarily inconsistent with that of Underhill and Mendel.

In a previous report (5) we presented evidence which indicates that the pellagra-preventive factor ("P-P") is very probably identical with the so-called growth-promoting essential theretofore included with the antineuritic or beriberi factor proper in the term "water-soluble vitamin B." If this is correct, as appears very probable, it follows that all foods heretofore proved to contain the so-called vitamin B contain the pellagra-preventive factor ("P-P"). Having due regard for the factor of quantity, the results of the studies herein reported are clearly in harmony or, at least, not inconsistent, with this view and thus tend to support and give it strength. In harmony with this view, it may here be remarked, are, with one exception, also the results of all our previously reported studies. The exception relates to our study of soy beans and cowpeas, both of which are regarded as rich in the so-called "vitamin B," but neither of which, it may be recalled, seemed in our study (4) to be adequate to prevent the recurrence of pellagra. We believe it very probable, however, that this, like our earlier experience with tomatoes and the studies of carrots and rutabagas reported above, is to be explained as due largely, if not entirely, to the ingestion of too small a quantity of these foods, even though the quantity actually consumed would ordinarily be regarded as a liberal one.

The demonstration of the pellagra-preventive action of tomatoes would seem to be of considerable practical importance, for this vegetable is easily grown nearly everywhere and may be had at relatively low cost at all seasons of the year. We would recommend its use in the treatment of active cases, in which it may be administered in the fresh, raw state, in the form of the juice, or as a soup. The daily quantity should be as liberal a one as is permitted by the digestive condition of the patient. A liter (1 quart) a day of the juice is not too much.

In endemic localities a more liberal use of tomatoes than now obtains, particularly during the late winter and spring, may well be encouraged as a measure tending to the prevention of the disease.

SUMMARY AND CONCLUSIONS

The expressed juice of canned tomatoes given in a daily quantity of approximately 1,200 grams (40 ounces) was found to possess well-marked pellagra-preventive action.

A daily supplement of cooked carrots equal to 453 grams (1 pound) of the dressed, raw vegetable failed as a pellagra preventive.

A daily supplement of cooked rutabagas equal to 453 grams (1 pound) of the dressed, raw vegetable failed as a pellagra preventive.

The failure of the carrots and of the rutabagas may have been due to the ingestion of a quantity which, although seemingly liberal, was too small; nevertheless, if carrots and rutabagas, as is probable, actually possess pellagra-preventive action, this must be rather feeble.

Although definitely demonstrated, the pellagra-preventive potency of canned tomatoes must be rated as of a feeble order.

Tomatoes are recommended for use in the treatment of active cases of pellagra, and it is suggested that a more liberal use of this vegetable, particularly in the late winter and spring, be encouraged as a preventive measure.

TABLE 1.—*Approximate composition* [1] *of the tomato juice-supplemented diet offered daily to each of a group of white female pellagrins, 1925–26*

(Total calories, 2,249)

Diet		Nutrients		
Articles of diet	Quantity	Protein	Fat	Carbohydrate
Basic:	*Grams*	*Grams*	*Grams*	*Grams*
Corn meal [2]	200	16.8	9.4	148.0
Wheat flour	84	9.6	.8	63.1
Cowpeas (*Vigna sinensis*) [3]	28	6.0	.4	17.0
Rice	14	1.1		11.1
Lard	44		44.0	
Vegetable salad oil (cottonseed)	28		28.0	
Sirup	90			63.9
Supplemental:				
Tomato juice [4]	1,200	8.3		
Cod-liver oil	14		14.0	
Calcium carbonate	3			
Dilute hydrochloric acid (U. S. P.) (90 drops).				
Sirup iodide of iron (U. S. P.) (2 drops).				
Total nutrients		41.8	96.6	303.1
Nutrients per 1,000 calories		18.6	43.0	134.7

[1] Factors used in computing are from Atwater and Bryant, Office of Experiment Stations, U. S. Department of Agriculture Bull. 28, 1906.

[2] Whole maize meal sifted in the kitchen and made into corn bread and mush.

[3] The variety known as the California black-eye pea.

[4] Expressed through a cloth by hand from a high grade of commercial canned tomatoes.

TABLE 2.—*Approximate composition* [1] *of the carrot-supplemented diet offered daily to each of a group of white female pellagrins, 1925–26*

(Total calories, 2,168)

Diet		Nutrients		
Articles of diet	Quantity	Protein	Fat	Carbohydrate
Basic:	*Grams*	*Grams*	*Grams*	*Grams*
Corn meal [2]	200	16.8	9.4	148.0
Wheat flour	84	9.6	.8	63.1
Cowpeas (*Vigna sinensis*) [3]	28	6.0	.4	17.0
Rice	14	1.1	.0	11.1
Lard	44		44.0	
Sirup	90			63.9
Supplemental:				
Carrots [4]	453	5.0	1.8	42.1
Cod-liver oil	14		14.0	
Calcium carbonate	3			
Dilute hydrochloric acid (U.S.P.) (90 drops).				
Sirup iodide of iron (U.S.P.) (2 drops).				
Total nutrients		38.5	70.4	345.2
Nutrients per 1,000 calories		17.7	32.4	159.0

[1] Factors as given by Atwater and Bryant, Office of Experiment Stations, U. S. Department of Agriculture Bull. No. 28, 1906.
[2] Whole maize meal, sifted in the kitchen and made into corn bread and mush.
[3] The variety known as the California black-eye pea.
[4] Peeled, then ground and steamed for about 2 hours; one-half served at dinner and one-half at supper.

TABLE 3.—*Approximate composition* [1] *of the rutabaga-supplemented diet offered daily to each of a group of colored female pellagrins, 1926*

(Total calories, 2,149)

Diet		Nutrients		
Articles of diet	Quantity	Protein	Fat	Carbohydrate
Basic:	*Grams*	*Grams*	*Grams*	*Grams*
Corn meal [2]	200	16.8	9.4	148.0
Wheat flour	84	9.6	.8	63.1
Cowpeas (*Vigna sinensis*) [3]	28	6.0	.4	17.0
Rice	14	1.1		11.1
Lard	44		44.0	
Sirup	90			63.9
Supplemental:				
Rutabagas [4]	453	5.9	.9	38.5
Cod-liver oil	14		14.0	
Calcium carbonate	3			
Dilute hydrochloric acid (U.S.P.) (90 drops).				
Sirup iodide of iron (U.S.P.) (2 drops).				
Total nutrients		39.4	69.5	341.6
Nutrients per 1,000 calories		18.3	32.3	159.0

[1] Factors used in computing are from Atwater and Bryant, Office of Experiment Stations, U. S. Department of Agriculture Bull. No. 28, 1906.
[2] Whole maize meal, sifted in the kitchen and made into corn bread and mush.
[3] The variety known as the California black-eye pea.
[4] Peeled, then ground and steamed for about 2 hours; one-half served at dinner and one-half at supper.

REFERENCES

(1) Goldberger, Waring and Willets: The Prevention of Pellagra. Pub. Health Rep., vol. 30, No. 43, Oct. 22, 1915, p. 3117.

Goldberger, Waring and Tanner: Pellagra Prevention by Diet Among Institutional Inmates. Pub. Health Rep., vol. 38, No. 41, Oct. 12, 1923, p. 2361.

(2) Goldberger and Tanner: A Study of the Treatment and Prevention of Pellagra. Pub. Health Rep., vol. 39, No. 3, Jan. 18, 1924, p. 87.
(3) Goldberger and Tanner: Amino-Acid Deficiency as Primary Etiologic Factor in Pellagra. Jour. Am. Med. Assoc., vol. 79, Dec. 23, 1922, p. 2132.
(4) Goldberger and Tanner: A Study of the Pellagra-Preventive Action of Dried Beans, Casein, Dried Milk, and Brewers' Yeast, with a Consideration of the Essential Preventive Factors Involved. Pub. Health Rep., vol. 40, No. 2, Jan. 9, 1925, p. 54.
(5) Goldberger, Wheeler, Lillie, and Rogers: A Further Study of Butter, Fresh Beef, and Yeast as Pellagra Preventives, with Consideration of the Relation of Factor P-P of Pellagra (and Black Tongue of Dogs) to Vitamin B. Pub. Health Rep., vol. 41, No. 8, Feb. 19, 1926, p. 297.
(6) Underhill and Mendel: The Effective Agent in the Prevention or Alleviation of the Chittenden-Underhill Pellagra-like Syndrome in Dogs. Pub. Health Rep., vol. 40, No. 22, May 29, 1925, p. 1087.
(7) Wheeler, Goldberger, and Blackstock: On the Probable Identity of the Chittenden-Underhill Pellagra-like Syndrome in Dogs and "Black Tongue." Pub. Health Rep., vol. 37, No. 18, May 5, 1922, p. 1063.
Goldberger, Tanner, and Saye: A Case of Black Tongue, with Post-Mortem Findings. Pub. Health Rep., vol. 38, No. 46, Nov. 16, 1923, p. 2711.
(8) Goldberger and Rogers: Unpublished data.

SOME CASES OF NONTUBERCULOUS GRANULOMATOUS LYMPHADENITIS IN MISSISSIPPI

By M. A. Barber, *Special Expert*, and C. P. Coogle, *Acting Assistant Surgeon, United States Public Health Service*

It is not within the province of this paper to review in detail the very considerable literature that has appeared under the titles of "Nontuberculous Granulomatous Lymphadenitis," "Subacute Lymphogranuloma of the Groin," "Subacute Inguinal Poradenitis," and other variants. A bulky paragraph could be made of the synonomy alone. The French literature, beginning in 1890 with a paper by Nélaton (1), is the most extensive, and papers have appeared in the Italian and Spanish languages as well. Gaté (2) has made an extensive review of the literature up to 1913, and Hansmann (3) published a thorough description of some cases appearing near Boston and included a summary of the French literature in his paper. Those who wish a more extensive review of the literature or description of the disease are referred to these authors. Only a brief summary of the salient characteristics of this disease will be given here.

There is a tumor in the inguino-crural region, involving one or more lymph nodes and tending to the formation of abscesses and chronic suppuration. In untreated cases the mass tends to persist for months. The appearance of the swelling is usually preceded by a sharp clinical attack characterized by headache, fever, and chills, the onset suggesting that of malaria, typhoid, or other acute infec-

tious disease. Often pain and tenderness occur in the groin. The prognosis is good.

The microscopic examination of the local lesion, cultures, and animal inoculation give no hint as to the etiology of the disease. The usual tests for the presence of the organisms of tuberculosis, syphilis, gonorrhea, soft chancre, or bubonic plague consistently fail.

In some cases small lesions have been found on the external genitalia, usually consisting of a small ulcer or other minor lesion on the prepuce or corona of the penis. These lesions are considered to be primary and evidence of a sexual origin of the disease, but they may be found on the skin of other parts of the body. The histology of these primary lesions is very similar to that in the involved glands. A few authors consider nontuberculous granulomatous lymphadenitis a modification of one of the common venereal diseases; but the great majority of writers consider the disease a pathologic entity, of infectious origin, etiology unknown. The port of entry may be through the sexual organs; but it is certainly not so in all cases.

Several authors point out the resemblance between nontuberculous granulomatous lymphadenitis and climatic bubo. The history, histopathology, negative character of laboratory findings, and prognosis of the two diseases have many points in common. It is further pointed out that both diseases tend to appear in warm climates and during the warm season of the year, characteristics certainly not universal. Comparison of the two diseases from descriptions given in the literature is difficult, for sometimes one is left in doubt as to which of the two conditions (if there are only two) the author's cases belong; but it would seem that the two diseases, if not identical, are closely related.

The majority of cases of nontuberculous granulomatous lymphadenitis have been reported from the Old World. Hansmann (3) has reported a series of four cases appearing near Boston, Mass. Under the name of "Subacute Inguinal Poradenitis" De Bellard (4) has reported an interesting series of 22 cases from Venezuela. All of these cases appeared in young Americans who had resided in Venezuela from two weeks to two years.

Cases of climatic bubo have been reported in this country. Smith (5) states that he has seen cases in Galveston, Tex., and in Memphis, Tenn. Several authors have described cases of climatic bubo seen in sailors who have returned from ports in the tropics. Phillips (6) records two such cases. The disease appeared in the patients three weeks after sexual intercourse in Panama; the onset was that of an acute infectious disease, and the gland enlargement developed secondarily. Guenther (7) described 35 cases observed among sailors appearing at the Tropeninstitut at Hamburg. Hanschell (8) has described 26 cases appearing at the Seaman's Hospital in London.

It is evident that this disease is often imported into temperate zones and may appear anywhere.

The history of one of the cases of nontuberculous granulomatous lymphadenitis seen by us in Mississippi is given here in detail.

The patient was N. F., colored, 47 years of age, married, farmer. About Christmas, 1925, he was attacked by chills, fever, night sweats, and pain in the back. The inguinal glands on both sides began to enlarge soon after the attack. These at first were tender, but soon were no longer so. The patient consulted Dr. L. H. Hightower, Itta Bena, Miss.

January 19, 1926, the patient was examined at Itta Bena by Doctor Hightower and the authors. The inguinal glands on both sides were then much enlarged, but not tender; the skin was unbroken. From one gland we aspirated 4 or 5 cubic centimeters of thick pus. The other glands apparently had not suppurated. There were no sores or scars on the penis. The patient was well enough to be about and at his work.

The pus of January 19 was negative in cultures. Smears were negative, stained by Gram, Leishman, and Ziehl-Neelsen. Thick blood smears were negative for malaria and *Filaria*. Blood serum, sent to Dr. Edward Francis, Hygienic Laboratory, Washington, D. C., was reported negative for tularaemia. Wassermann, negative.

February 22, 1926: Patient was seen at his home. He was able to be about his work. The glands were suppurating; the patient said he pressed out pus daily. Smears of pus obtained at this date were negative. From cultures we obtained *Staphylococcus albus*, probably a contaminant. Two guinea pigs were inoculated subcutaneously with this pus. The pigs were alive and well 52 days afterwards.

February 24, 1926: Operation under local anaesthesia, by Dr. L. B. Otken, Greenwood, Miss. The glands were removed from one side only. The largest was about 2 by 3 by 5 centimeters. Some of the glands had necrosed areas. One, at least, was broken down and suppurating. Two guinea pigs were inoculated with material from the glands—one pig subcutaneously, one intraperitoneally. The pigs were healthy 50 days later.

A small fissured abrasion on the corona penis was observed at the time of the operation.

March 28, 1926: The patient seen at his home. He was well and about his work. The operated side was wholly healed. The nonoperated side was improving and giving the patient but little trouble. The patient was unwilling to have the rest of the diseased glands removed.

March 6, 1927: We examined the patient at Greenwood, Miss. He was perfectly well. A small, hard tumor was still present on the nonoperated side. The patient stated that about February 1, 1927,

he had an attack of illness with chills and other symptoms resembling those of his first attack; that there was some pain in the inguinal region, but no swelling of the glands. The illness was brief and quickly yielded to an "influenza" treatment. From all the evidence we could obtain, it seemed unlikely that this illness was a relapse of the original lymphadenitis or that the patient had ever suffered a recurrence of it.

Specimens of the glands excised from Patient N. F. were sent to Surg. G. C. Lake, of the Hygienic Laboratory, Washington, D. C., who kindly made sections of them. Doctor Lake reported that the histopathology of the glands did not correspond in every particular with the published descriptions of nontuberculous granulomatous lymphadenitis, but might represent an early stage of the disease. Sections were submitted to Dr. G. H. Hansmann, of the department of pathology, Medical School of the University of Iowa, who kindly examined them and made the following report:

> The sections that you sent me resemble the cases that I reported in that there is extensive necrosis surrounded by granulation tissue and endothelial cells. Some of the areas of necrosis have a definite stellate appearance. There is also quite extensive periadenitis, which would, no doubt, cause the discharge of necrotic material in the various abscesses by separate sinuses. It differs from the cases I reported in that the histology is not as near to the pathology of tuberculosis. Langerhans giant cells can not be found, and the arrangement of endothelial cells is not as definite, and, of course, there is no section of the local lesion. The histology of your cases is very like that described by Mueller and Justi [(9)]. Their cases are supposed to be climatic bubo. They hold that the condition is identical to nontuberculous granulomatous lymphadenitis. Of course, it is impossible to answer this question one way or the other, as the etiological factor is not known. It certainly is possible that they are identical.

Four cases very similar in character occurred in a small town about 5 miles from the farm of case N. F. All of the four occurred in the same immediate neighborhood, and all were attacked in the autumn of the same year—1925.

All were adults; three white, one negro; three males and one female. Two of the cases were husband and wife. In all patients the onset was rather sudden, with fever, chills, and headache, the attack resembling that of an acute infectious disease. In three cases, at least, malaria was suspected. The negro described his symptoms as those of an attack of "dumb ague." Later, typhoid was suspected in at least one case. Within two or three weeks after the onset of the disease, the inguinal lymph glands began to enlarge in all cases. The primary enlargement was unilateral in three cases and bilateral in one case. There was suppuration of the glands in all cases; the glands were sometimes tender and sometimes not. In all, the glands were either removed or drained, and all recovered after an illness of about three months. There was no relapse in any up to March,

1927, except in the negro, G. W., who, three months after his first attack, suffered a repetition of the clinical attack with enlargement of the glands on the side opposite to that at first affected.

All of these four cases were again seen at different times between February 14 and March 6, 1927. One patient stated that he still felt some discomfort in the inguinal region when he attempted heavy work, but was otherwise perfectly well. He still had a small tumor on the side where the glands had been drained only, not excised. All the other patients were perfectly well and none gave any history of relapse except the case G. W., above-described.

In three cases there was a history of local sores; in two cases on the penis—possibly primary lesions, but the exact description of which we were unable to obtain.

All gave negative Wassermann tests. The sera of three cases sent to Dr. Edward Francis at the Hygienic Laboratory, Washington, D. C., were reported to be negative for tularaemia.

A sixth case, negro adult, residing within a few miles of the patients just described, showed enlargement of both inguinal and axillary glands and gave a history suggesting nontuberculous granulomatous lymphadenitis. The patient stated that he had suffered recurrent attacks during the preceding seven years. Another case, an adult negro male, seen by us at the office of Doctor Hightower, Itta Bena, Miss., January 19, 1926, had an enlargement of the inguinal glands similar to that of patient N. F., but no satisfactory history of the case could be obtained, and the patient subsequently disappeared.

SUMMARY

Five, possibly seven, cases apparently of nontuberculous granulomatous lymphadenitis were found in Mississippi during the autumn or early winter of 1925. All were found in the same neighborhood, within a radius of perhaps 5 miles. No precise evidence of the origin of the infection could be obtained. There was no history in any of the cases of recent residence outside of Mississippi.

Our cases afford no new data in regard to treatment. Extirpation of the diseased glands, or drainage alone, was followed by recovery. In the case of N. F., the untreated side, as well as that from which the glands were removed, apparently healed. The treatment commonly recommended is the surgical extirpation of the affected glands. Emetine hydrochloride, tartar emetic, and iodine have also been recommended. Recently, Hanschell (8) has employed, successfully, the intravenous injections of T. A. B. vaccine in the treatment of climatic bubo.

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REFERENCES

(1) Nélaton, A.: De l'adénite subaiguë simple à foyers purulents intraganglionnaires. La Semaine Médicale, 1890, vol. 10, pp. 402–403.
(2) Gaté, J.: Lymphogranulomatose inguinale subaigue à foyers purulents intraganglionnaires d'origine génitale probable, peut-être vénérienne. Thesé de Lyon, 1913, June 26, No. 93, 159 p.
(3) Hansmann, George H.: Nontuberculous Granulomatous Lymphadenitis. Surgery, Gynecology, and Obstetrics, July, 1924, vol. 39, pp. 72–82.
(4) DeBellard, E. P.: Subacute Inguinal Poradenitis, or Climatic Bubo. Jour. Trop. Med. and Hyg., April 1, 1926, vol. 29, No. 7, pp. 103–108.
(5) Smith, A. C.: Inguinal Bubo as a Complication of Malarial Fever. N. Y. Med. Jour. June 22, 1901, vol. 73, p. 1080.
(6) Phillips, E. W.: Two Cases of Climatic (Nonvenereal) Bubo. U. S. Naval Med. Bul. 1912, vol. 6, pp. 402–404.
(7) Guenther, Reinhard: Beobachtungen uber klimatische Bubonen bei Seeleuten. Archiv. f. Schiffs-und Tropen-Hygiene, Oktober 1925. Band 29, Heft 10, S. 546–554.
(8) Hanschell, H. M.: Climatic Bubo. Lancet, August 7, 1926, vol. 2, pp. 276, 277.
(9) Mueller, O., and Justi, K.: Beitrag zur Kenntnis der klimatischen Bubonen. Beihefte z. Arch. f. Schiffs- u. Tropen-Hyg. Leipzig, 1914. Band 15, Beihefte 8, S. 1–32.

TYPHOID-FEVER OUTBREAK IN MONTREAL AND TYPHOID CARRIERS

The extensive outbreak of typhoid fever that occurred in Montreal, Canada, during the months of March and April is a matter of concern to all health officers. In order that all possible precautions may be taken to minimize the danger of typhoid infection being introduced into the United States by the large number of typhoid-fever carriers that will result from this outbreak in Montreal, the Surgeon General issued a letter, a copy of which is printed below, addressed to all State health officers and others concerned.

The epidemic of typhoid fever at Montreal, Canada, which began about March 4, 1927, is now reported as being under control. The source of the infection has been attributed by the Canadian health authorities to a typhoid carrier in the person of the foreman of a large milk-Pasteurizing plant in Montreal.

Among the approximate number of 2,500 persons reported as having contracted typhoid fever in Montreal, there will be a number of carriers. An increase in carriers among the general population of the city will probably also occur through unrecognized cases.

In view of the fact that many persons from Montreal will visit the United States during the vacation season, and that some will seek employment in sum-

mer resorts, hotels, and recreation camps as food handlers and in related lines of occupation, it is desired to emphasize the unusual care which should be exercised by health officials, resort owners, and others in regard to sanitation and the examination of food handlers, if disastrous outbreaks of typhoid fever are to be averted.

It is urged that local health authorities in communities which receive summer visitors be alert to the necessity of establishing sanitary conditions and maintaining them on a high plane throughout the season. Sanitary methods of sewage disposal, adequate protection of water and milk supplies, and bacteriological examinations of food handlers are of paramount importance.

It is recommended that health officers immediately inform local governmental officials and citizens of the importance of adequate public-health protection under existing conditions and secure whatever funds may be necessary for the support and maintenance of adequate local health measures. Failure to present this matter at the present time is likely to result in sickness and loss of life among summer visitors and in heavy financial losses to local citizens. It is believed that the people of this country will be reassured by statements as to the sanitary safeguards which have been afforded for their protection, and that knowledge of such measures will be of definite advantage to communities and resorts which let the public know that precautions have been taken.

Typhoid vaccination is considered of importance as an individual means of protection for persons who are necessarily exposed to insanitary conditions, or who are to travel in places where sanitary conditions are questionable or unknown.

FATAL CASE OF ANTHRAX CONTRACTED FROM ORIENTAL SHIPMENT OF HIDES

In the Weekly Bulletin of the New York City Department of Health for March 26, 1927, Doctor Somerset, chief diagnostician of the department, reports a fatal case of anthrax contracted from a shipment of hides from the Orient. The following is taken from the report:

A stevedore working along the Brooklyn water front noticed, on December 31, 1926, a pimple over his right lower jaw. He cut this pimple while shaving on January 1, 1927. A hard lump at once began to form, while the sore rapidly became a dime-sized ulcer from which a bloody serum began to ooze. His face and neck and upper chest began to swell. On January 3 he went to a hospital. By that time the swelling was extreme, extending from the forehead to below the clavicle. The tissues of the neck were pushed out level with the face. A diagnosis of anthrax was made and serum was injected locally, intravenously. The local conditions responded at once; the sore became smaller and less angry in appearance. The edema diminished rapidly. On January 5 the patient looked much improved and felt much better, complaining only of feeling rather weak. The blood culture was positive for anthrax bacilli. The patient died on January 7, 1927.

Doctor Somerset states:

Formerly, when we regularly had 20 or more cases of anthrax yearly, the shaving brush was frequently a carrier of anthrax spores. Now that the department of health has eliminated the shaving brush as a spore carrier, the search for the source of contagion leads further afield. Circumstances, both of

time and of location of lesion, looked bad for the shaving brush in this case, but it was found to be free from infection.

The cargo on which the patient was working came from China and consisted of the skins, hides, hair, wool, and bristles of several herbivorous animals. These articles had, in the meantime, been delivered to their various destinations. They were traced, samples taken, and anthrax spores found. Some of these goods were disinfected, some turned over for disposal to the Federal Bureau of Animal Industry, and one lot of 35 bales was ordered returned to China.

It has been found extremely difficult to get rid of anthrax spores without destroying the goods which contain them.

COURT DECISIONS RELATING TO PUBLIC HEALTH

Sexual sterilization law of Virginia upheld.—(United States Supreme Court; Buck *v.* Bell; decided May 2, 1927.) An act (chapter 394) of the Legislature of Virginia, approved March 20, 1924, provided for the sexual sterilization of inmates of certain State institutions who were afflicted with hereditary forms of insanity, idiocy, etc. The constitutionality of this law was attacked in a case where the sterilization of a feeble-minded woman had been ordered under it. The Virginia Supreme Court of Appeals upheld the act, and the case was carried to the United States Supreme Court, where the judgment of the State court was affirmed. The opinion of the Supreme Court of the United States, written by Justice Holmes, reads as follows:

This is a writ of error to review a judgment of the Supreme Court of Appeals of the State of Virginia, affirming a judgment of the circuit court of Amherst County, by which the defendant in error, the superintendent of the State Colony for Epileptics and Feeble Minded, was ordered to perform the operation of salpingectomy upon Carrie Buck, the plaintiff in error, for the purpose of making her sterile. (143 Va. 310.) The case comes here upon the contention that the statute authorizing the judgment is void under the fourteenth amendment as denying to the plaintiff in error due process of law and the equal protection of the laws.

Carrie Buck is a feeble-minded white woman who was committed to the State colony above mentioned in due form. She is the daughter of a feeble-minded mother in the same institution, and the mother of an illegitimate feeble-minded child. She was 18 years old at the time of the trial of her case in the circuit court, in the latter part of 1924. An act of Virginia approved March 20, 1924, recites that the health of the patient and the welfare of society may be promoted in certain cases by the sterilization of mental defectives, under careful safeguard, etc.; that the sterilization may be effected in males by vasectomy and in females by salpingectomy, without serious pain or substantial danger to life; that the Commonwealth is supporting in various institutions many defective persons who if now discharged would become a menace but if incapable of procreating might be discharged with safety and become self-supporting with benefit to themselves and to society; and that experience has shown that heredity plays an important part in the transmission of insanity, imbecility, etc. The statute then enacts that whenever the superintendent of certain institutions including the above-named State colony shall be of opinion

that it is for the best interests of the patients and of society that an inmate under his care should be sexually sterilized, he may have the operation performed upon any patient afflicted with hereditary forms of insanity, imbecility, etc., on complying with the very careful provisions by which the act protects the patients from possible abuse.

The superintendent first presents a petition to the special board of directors of his hospital or colony, stating the facts and the grounds for his opinion, verified by affidavit. Notice of the petition and of the time and place of the hearing in the institution is to be served upon the inmate, and also upon his guardian, and if there is no guardian the superintendent is to apply to the circuit court of the county to appoint one. If the inmate is a minor notice also is to be given to his parents if any with a copy of the petition. The board is to see to it that the inmate may attend the hearings if desired by him or his guardian. The evidence is all to be reduced to writing, and after the board has made its order for or against the operation the superintendent, or the inmate, or his guardian, may appeal to the circuit court of the county. The circuit court may consider the record of the board and the evidence before it and such other admissible evidence as may be offered, and may affirm, revise, or reverse the order of the board and enter such order as it deems just. Finally, any party may apply to the supreme court of appeals, which, if it grants the appeal, is to hear the case upon the record of the trial in the circuit court and may enter such order as it thinks the circuit court should have entered. There can be no doubt that so far as procedure is concerned the rights of the patient are most carefully considered, and as every step in this case was taken in scrupulous compliance with the statute and after months of observation, there is no doubt that in that respect the plaintiff in error has had due process of law.

The attack is not upon the procedure but upon the substantive law. It seems to be contended that in no circumstances could such an order be justified. It certainly is contended that the order can not be justified upon the existing grounds. The judgment finds the facts that have been recited and that Carrie Buck "is the probable potential parent of socially inadequate offspring, likewise afflicted, that she may be sexually sterilized without detriment to her general health and that her welfare and that of society will be promoted by her sterilization," and thereupon makes the order. In view of the general declarations of the legislature and the specific findings of the court obviously we can not say as matter of law that the grounds do not exist, and if they exist they justify the result. We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the State for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetence. It is better for all the world, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. Jacobson *v.* Massachusetts (197 U. S. 11). Three generations of imbeciles are enough.

But, it is said, however it might be if this reasoning were applied generally, it fails when it is confined to the small number who are in the institutions named and is not applied to the multitudes outside. It is the usual last resort of constitutional arguments to point out shortcomings of this sort. But the answer is that the law does all that is needed when it does all that it can, indicates a policy, applies it to all within the lines, and seeks to bring within the lines all similarly situated so far and so fast as its means allow. Of course, so far as the

operations enable those who otherwise must be kept confined to be returned to the world, and thus open the asylum to others, the equality aimed at will be more nearly reached.

Requirements as to adoption and recording of health regulations.—(Minnesota Supreme Court; State *v.* Trask, 211 N. W. 673; decided January 14, 1927.) The defendant was convicted of keeping horses on his premises in the city of St. Paul without first obtaining a permit from the city health department. The city ordinance involved provided that horses could not be kept on the same lot or premises with a dwelling house "except under such conditions as may be prescribed by the health officer." The health officer had orally adopted the uniform practice of approving an application to keep horses if there were no objections on the part of the neighbors and if the building was constructed with waterproof flooring and connected with the sewer. The defendant's building did not meet these requirements. The supreme court in reversing the judgment of conviction stated:

The accusation is failure to procure a permit to keep horses. But what law requires such a permit? No ordinance so commands. * * * The health officer may prescribe conditions under which horses may be kept, which means that he may make regulations consistent with the purpose of his office. Doubtless the regulation is directed at the manner of keeping horses. * * * The right to regulate does not include the right to prohibit. * * * The record fails to show any oral or written regulation commanding defendant to get a "permit" to keep his horses. The record shows that the health officer has orally adopted the uniform practice that, if there are no objections on the part of the immediate neighbors, and the building is constructed with waterproof flooring and connected with the sewer, he approves the application. It is said that such conduct is a permit on the part of the department to keep such animals. This is claimed to have been the custom for several years. * * * It does not appear that the so-called rule or practice ever had any publicity or that defendant knew of the same. Nor do we appreciate how a citizen could be expected to know of the existence of the same. The accusation in this case is based on a failure to comply with this traditional policy. Being penal in its nature and operation, the requirement should not rest in parol. Such a regulation is not a public law which is conclusively presumed to be known. To permit a criminal conviction to stand thereon would lead to opportunity for oppression. Our attention has not been called to any authority that permits such procedure. It would seem that a statute or ordinance is the written will of the enacting body. (26 Am. Eng. Enc. Law (2d ed.) 529.) It is equally important that a penal regulation be officially adopted, reduced to writing, and made a public record, so that the citizens may become informed thereof. (People *v.* Tait, 261 Ill. 197, 103 N. E. 750.)

Our conclusion is that (1) there is no requirement for a "permit," as charged in the complaint; and (2) that such "conditions" as the health officer may prescribe, pursuant to the ordinance, must be specified in writing, and that his oral regulations, of which the public are not advised, can not be the basis for a criminal prosecution.

Occupational diseases not compensable under workmen's compensation act.—(Delaware Superior Court; Hendrickson *v.* Continental Fibre

Co., 136 A. 375; decided December 13, 1926.) A tort action was brought by an employee against the employer to recover damages on account of certain diseases alleged to have resulted from the gradual and cumulative effect of certain chemicals used in the work. The defendant contended that the diseases were personal injuries cognizable under the workmen's compensation act, and that, such act being the exclusive remedy for matters cognizable by it, the common-law action could not be maintained. The compensation act covered such "personal injury" as was a "violence to the physical structure of the body" sustained "by accident" and "such disease or infection as naturally results directly therefrom when reasonably treated." The court decided that occupational diseases were not embraced within the terms of the compensation act and, therefore, were not compensable under it. The opinion stated:

> We are holding, under the facts of this case, that a slow, gradual, idiopathic disease unaccompanied by and unrelated to any injury by accident, as we have construed such terms, is not embraced within the terms of our workmen's compensation law.

Wrongful revocation of milk dealer's permit.—(New York Supreme Court; In re Morris, 219 N. Y. S. 143; decided November 22, 1926.) At a meeting of the New York City board of health, to which all the wholesale milk dealers or jobbers were invited, the dealers were advised that "unfair competition, such as the solicitation or the taking away of another dealer's customer, by the giving of free milk, or a cash inducement, or the slashing of prices out of relation to the prevalent market price, would be looked upon with disfavor" by the department of health, "as it tended to precipitate these trade wars, in which the sale of adulterated or a low quality of milk generally followed." The dealers were also advised that any such unfair practices "would be treated as an act that tends to undermine the purity and wholesomeness of the milk supply" and "would be ground for revocation of the dealer's permit as a person unfit to sell and deliver milk in the city." A complaint was made to the department of health that Morris, the petitioner in this case, had violated the so-called order, and, after a hearing before the trial board of the department, his permit was revoked. In a mandamus proceeding to compe' the issuance to him of a permit, the court held that he was entitled to the relief he sought, stating as follows in the opinion:

> Assuming that petitioner did deliver milk free of charge to certain dealers, and made cash payments to other dealers for the purpose of procuring their business, he was not guilty, as far as I have been able to discover, of the commission of any illegal acts. If he can successfully sell pure milk of the required standard to the distributors at prices lower than the so-called market rate, other dealers can, and eventually must, do likewise, with a resulting reduction in cost to the consumer. In that way the public will receive the benefit derived

from open competition. It seems to me that a strict enforcement of the penal laws, with severe penalties for violation, will result in keeping milk and milk products pure and wholesome. If the possibility of adulteration, as a result of free competition, brings about a departmental policy which practically eliminates competition, then the effect is to deprive the public of the benefits which it has heretofore derived from the enforcement of section 340 of the general business law (as amended by laws of 1921, c. 712), commonly called the Donnelly Act. The purpose of this particular provision of our law "is to destroy monopolies in the manufacture, production, and sale in this State of commodities in common use, to prevent combinations in restraint of competition in the supply or price of such commodities, or in restraint of the free pursuit of any lawful business, trade, or occupation." (Matter of Davies, 168 N. Y. 89, 61 N. E. 118, 56 L. R. A. 855.)

* * * In this proceeding it appears that petitioner had not been convicted of an illegal practice, at least since the board of health issued the permit to him, and has conformed to the spirit and intent of the general business law by the breaking down of prices of milk in fair competition with others. * * *

Migratory livestock law declared void.—(Arizona Supreme Court; State *v.* Pugh, 252 P. 1018; decided February 7, 1927.) A State law (ch. 28) enacted at the special session of the legislature in 1922 related to migratory livestock. The said act contained provisions governing the inspection of such livestock for communicable diseases, etc. A provision of the State constitution read as follows:

The governor may call a special session, whenever in his judgment it is advisable. In calling such special session, the governor shall specify the subjects to be considered at such session, and at such session no laws shall be enacted except such as relate to the subjects mentioned in such call.

The supreme court declared the migratory livestock act void because the subject of such act was not among the subjects specified by the governor in calling the special session. The court said:

This provision, like all others of our constitution, is mandatory, no express words otherwise declaring (sec. 32, art. 2), and unless a law passed at a special session is related to some subject named in the governor's call, the legislature is without power to pass it. If the legislation is fairly germane to any of the subjects mentioned in the call, it will be sustained, but if foreign it is void. * * *

The governor's call names no subject bearing any relation whatever to the subject named in the title or body of chapter 28. * * *

To state the subject of chapter 28 and the subjects named in the governor's call is enough to demonstrate conclusively, that they are not related to each other, even remotely. Consequently, chapter 28 is void, and any conviction thereunder would likewise be void.

Piggery for disposal of city's garbage enjoined as nuisance.—(Michigan Supreme Court; Trowbridge et al. *v.* City of Lansing et al., 212 N. W. 73; decided February 4, 1927.) The city of Lansing, in order to dispose of garbage collected therein, established a piggery about 3 miles from the city, where the said garbage was fed to several hundred hogs. Persons who lived in the vicinity of the piggery brought suit, alleging that the piggery was a nuisance and seeking to have it abated. The lower court granted the relief asked for.

On appeal, the supreme court entered an order permitting the operation of the piggery to continue for several months so that correction of methods could be attempted. On the expiration of the period granted, the matter again came before the supreme court, and the decree of the lower court was affirmed.

PUBLIC HEALTH ENGINEERING ABSTRACTS

Filter Plants with Low Cost of Construction and Operation. James H. Fuertes. Paper presented at Ninth Texas Water Works Short School, January 24–29, 1927, Dallas, Tex. (Abstract by Dave Morey.)

This paper deals with the filter plants at Steelton, Pa., Dallas, Tex., and Denver, Colo., all of which are characterized by low cost of construction and operation by reason of the low head required for their operation. By reason of utilizing the head between the settling basins and the filtered water reservoir for forcing the water, instead of a low lift pumping station, a considerable economy is effected in the operation of the filters. Anthracite coal is used as a filter medium and the total loss of head through the filter, when the filter is dirty, is about 3 feet.

A Dairy Infection with Streptococcus Epidemicus Davis. W. D. Frost and A. M. Carr, professor of agricultural bacteriology, University of Wisconsin, and health officer, Madison, Wis. *American Journal of Public Health*, vol. 17, No. 2, February, 1927, pp. 139–141. (Abstract by R. E. Irwin.)

In the latter part of April, 1926, attention was called to one of the very best dairies supplying milk to the city of Madison, Wis. For years the bacteria count of the milk of this dairy had been very low, usually only a few thousand per cubic centimeter, but suddenly the count jumped to over 150,000 per cubic centimeter. About the same time, several physicians reported to the health department a number of cases of septic sore throat, in their own families and among their patients, and stressed the fact that they were all users of the milk from this particular dairy. As soon as this state of affairs came to the attention of the health department, the dairyman was called in and questioned about conditions on the farm, and especially about mammitis among the cows. At this conference arrangements were made for Pasteurizing the milk and a veterinarian was ordered to examine the herd for symptoms of mammitis. Later in the day the veterinarian brought to the laboratories of the department of agricultural bacteriology of the University of Wisconsin three samples of milk from cows Nos. 1, 2, and 3. These cows were regarded by him as suffering from mammitis.

No. 2 revealed the enormous number of 36,000,000 bacteria per cubic centimeter, and these bacteria were apparently all hemolytic streptococci of the beta type. The same day that capsules were found, the third day after plating, representative samples of the entire raw milk supply of this dairy, which at this time included the milk of cow No. 2, were plated. One of these samples was found, in due course, to contain *Streptococcus epidemicus*. The next day cow No. 2 was removed from the herd and the milk from the remainder of the herd was examined, each cow's milk being plated separately. All these tests proved negative for *Streptococcus epidemicus* and the herd appeared to be clean.

After the removal of cow No. 2, the milk from the herd proved negative for *Streptococcus epidemicus* for several days. A positive result was then obtained and this lead to the reculturing of the milk from the individual cows, with the result that cow No. 8 was found positive. The milk from the herd then proved

negative for *Streptococcus epidemicus* for a period of nearly three months, which was as long as the observations were continued.

An attempt was made to locate the source of infection in the cows. Swabs were made from the nose and throat of each person in the dairy in question. Out of 10 persons examined, 2 yielded cultures of *Streptococcus epidemicus*. One of these two persons was one of the women in the house who never had any part in the handling of the milk and no doubt became infected from drinking the milk. The other person was the hired man whose chief duties were the care of the cows and milk. After he left the dairy, *Streptococcus epidemicus* was not found again in the milk.

Cows Nos. 2 and 3, infected with *Streptococcus epidemicus* from this dairy farm, were brought to the University of Wisconsin isolation barns, primarily for the purpose of determining how long this type of infection would persist. The infection did not appear in the milk from cow No. 2 after she was brought to the university. The organisms did not appear in the milk from cow No. 3 for three months, but then reappeared and have persisted in small numbers for two months, to date of the report.

In the conclusion it is stated that cows once infected with *Streptococcus epidemicus* are likely to remain sources of danger over long periods of time and probably should never be returned to the milking line.

Injunction Granted Against Infringement of Ornstein Chlorinating Patent. Anonymous pamphlet of 6 pages. (Abstract by W. Fowler.)

A suit for a preliminary injunction was brought against the village of Garden City by the Electric Bleaching Gas Co. and Wallace & Tiernan Co. (Inc.) in the United States District Court for the Eastern District of New York on the ground that the village was infringing a patent for a process of antisepticizing water issued to one Ornstein in 1915. The claims of the patent on which the action was based were the same as were involved in former actions which had resulted in the patent being held valid. One of the former actions had been against the Paradon Engineering Co. (Inc.), and the United States District Court for the Eastern District of New York had decided that the Ornstein patent was contributorily infringed by the apparatus manufactured by the defendant, the apparatus being the equivalent of patentee's disclosed means. The decree of the district court was affirmed by the United States Circuit Court of Appeals, Second Circuit, and a petition for a writ of certiorari was denied by the United States Supreme Court. The village opposed the granting of a preliminary injunction because, although it used the same character of chlorinating apparatus as was in question in the Paradon case, it contended that there had been added to such apparatus what was called a "Bull pot" and that by reason of this addition, if the Bull pot was kept filled with iron particles, it was not practicing the process of the Ornstein patent. The village contended that the chlorinating unit with the pot embodied the apparatus covered by a patent issued to one Bull, and that the said apparatus, when normally used, was adapted to and did practice the process covered by another patent issued to Bull. The purpose of the Bull process patent was to make ferric chlorine as a precipitant or coagulant by causing the chlorine-containing solution to pass upward in the receptacle through the comminuted iron, which is acted upon to produce an iron solution, which passes into the water to be purified and not to accomplish a treatment of the major flow with the free chlorine. The court in its opinion stated that "From all of the evidence it does not seem to me that defendant was using its apparatus to make ferric chlorine as a precipitant or coagulant, but was using it for the purpose of chlorination, by the process involved in the suit against Paradon Engineering Company, (Inc.), tried in this district." A preliminary injunction was granted the plaintiffs.

Earlier Determination of Bacterium Coli. C. J. Lauter, chief chemist water filtration plant, Washington, D. C. *Journal American Water Works Association*, vol. 16, No. 5, November, 1926, pp. 625–630. (Abstract by C. T. Butterfield.)

The author presents data and a discussion reviewing to date the research work carried on at his plant on the brilliant green bile medium, originally proposed by Hale of New York.

His results indicate that the colon index obtained, by calling all presumptive brilliant green bile tubes positive which show gas at the end of 72 hours' incubation, agrees quite closely with the index obtained by the Standard Methods "Completed Test." When confirmatory tests were made on the brilliant green bile gas formers approximately 20 per cent failed to confirm. The author also reports excellent agreement when brilliant green bile lactose broth was used as a confirmatory medium in place of eosin methylen blue or indo.

A Cemented Gravel Slab-Vitrified Clay Pipe Distribution System for Rapid Sand Filters. Harry N. Jenks, Associate professor of sanitary engineering, Iowa State College. *Journal of the American Water Works Association*, vol. 16, No. 5, November, 1926, pp. 542–581. (Abstract by Dana E. Kepner.)

Realizing a need for simplification in filter underdrains, the author while superintendent of the Sacramento, Calif., filter plant, designed and constructed first an experimental unit and later a full-size filter bottom of this unique and promising type. It consists of a collecting system of 3-inch vitrified-clay, bell and spigot sewer pipe, perforated with ½-inch holes, spaced 6 inches on centers. This is laid, perforations down, in lines 16 inches apart, on the concrete floor of the filter basin, and over it a porous cemented gravel slab is poured. Rock salt, laid directly under the pipes before pouring the slab and later dissolved, forms a clear waterway around the perforations. The slab is 8 inches thich and is made with the following proportions: 1 part cement, 9 parts gravel, having an effective size of 2.1 millimeter and a uniformity coefficient of 1.36, and 1 part water. The filter sand is placed on top of this slab, no supporting gravel being necessary.

Among the advantages of this type of underdrain are: Exceedingly even distribution of wash water; low first cost, amounting to 45.3 cents per square foot of filter area compared with $1.10 for a typical perforated pipe and graded gravel underdrain system; and saving in depth of basin permitted by the omission of gravel generally used to support the filter sand.

Experience with this filter bottom for several months indicated disintegration of the cemented gravel slab, probably due to the corrosiveness of the water. Consequently an asphalt gravel slab was prepared. This has some advantages over the cemented slab, such as ready availability and greater durability in corrosive waters. Its cost is slightly higher, however, and complete test data are not yet available.

Organization of the Public Health Services of Czechoslovakia. Dr. Hynek J. Pelc. Bulletin C. H. 268, League of Nations, December, 1924. 76 pages. (Abstract by I. W. Mendelsohn.)

Administration.—The Ministry of Public Health and Physical Training was organized soon after October, 1918, as one of the 14 ministries of the Czechoslovak Republic. It comprises departments of administration; sanitary policy and pharmacies; hospitals; institutes; general public health; industrial and commercial hygiene—hygiene in connection with labor; physical training and the child; legal questions; and an accountancy section and certain auxiliary offices. Certain specialists (medical, legal, and engineering) are attached to the heads of departments.

Of interest is the program for the establishment, by the Ministry, of a State Institute of Hygiene, through the assistance of the International Health Board.

This is to be a central public-health laboratory, a training college for medical officers and sanitary personnel, and a research institute. The section for hygiene research of the institute will include school hygiene, an experimental station for water purification and sewage disposal, and subsections for industrial hygiene and housing.

There is a corps of medical officers in the employ of the ministry who are in the central office, and the provincial and district health bureaus. It is contemplated to have the health officers of local communities included in this corps.

Housing.—The building regulations now in force no longer meet modern requirements. A new building law is in preparation by the Ministry of Public Works. Some of its provisions include: (1) Submission for Government approval of plans for extension in communities of 2,000 or over; (2) reconstruction of bad housing quarters; (3) provisions for water-supply, sewage-disposal, and refuse-disposal systems and housing inspection in communities; (4) adoption of a one-family type of house. State grants in aid for the construction of dwelling houses are provided for by the Ministry of Social Welfare, while the Ministry of Health will deal with the sanitary aspect of the housing problem.

Industrial hygiene.—There are 25 factory-inspection boards under the Ministry of Social Welfare, with 73 industrial inspectors. There are also special boards for the building industry and navigation. Inspection of agricultural undertakings is carried out by the Ministry of Agriculture.

The duties of the industrial inspectors include: (1) Supervision of sanitation in factories and dwelling-houses of workmen; (2) supervision over employment of minors, women, and children, and working hours; (3) inspection of factory regulations.

An eight-hour law was enacted on December 19, 1918. According to this law, children up to 18 years of age may not be employed in factories.

Water supply.—In accordance with an agreement between the three ministries, the Ministry of Public Works deals with the water supply of larger towns, the Ministry of Agriculture deals only with the water supply of rural communities, and the Ministry of Health exercises a certain measure of control in both cases by giving or refusing grants in aid for the proposed projects. Inspection of public water-supply systems is carried out by the district health officers, who report to the provincial administration.

According to a recent investigation of the Ministry of Health, there were 1,678 central water-supply systems, with 1,099 public and 516 private.

Sewage disposal.—The Ministry of Public Works and the Ministry of Health are responsible for the building of sewage-disposal plants according to the same basis as for water-supply systems. A recent investigation by the Ministry of Health showed a total of 610 sewage-disposal systems, of which 454 are storm water, 131 combined, and 25 domestic sewage with treatment plants.

Town Planning and Town Development. S. D. Adshead. 204 pp., 8vo. Methuen & Co., London, 1926. Abstract by E. W. in the *Journal of The Royal Sanitary Institute*, vol. 47, No. 9, March, 1927, p. 104.

The art of town planning is at present but little understood by the man in the street, and any work which will educate the public to appreciate the importance of this subject is of value.

The writer of the above book is well known as a professor of town planning at the London University, and therefore any work of which he is the author should prove of value.

The book is essentially original in the way it is written, and through the excellent illustrations of seaside health resorts and aerial photographs not only the student but all those seeking information are enabled to appreciate the real

value of good planning. In the illustrations, such photographs of Southend, Folkestone, Southport, and Port Sunlight are especially attractive, whilst there are many other photographs and sketches illustrative of planning and typical features which the town planner must consider if he is to prove his value and create ideal conditions for posterity.

There is much that will appeal to the student of town planning in the 14 chapters which are contained in the book, and its price brings it within the range of most students as well as those others who may be interested.

The work must not be considered a complete textbook by any means, but in the preface it is suggested that it is the first of a series of primers dealing with the social, economic, and administrative aspects only, and as such it is one which not only gives a great deal of useful information but is most interesting to read.

The Law of Town Planning. A. Safford and Graham Oliver. 272 pp., 8vo. Hadden, Best & Co. (Ltd.), London, 1925. Abstract by E. W. in the *Journal of The Royal Sanitary Institute*, vol. 47, No. 9, March, 1927, p. 105.

The law of town planning in its modern form commenced with the 1909 act of Parliament, but we do not in any way suggest that the subject was in its infancy. Town planning has practically existed from the earliest days where numbers of persons have taken up their abode on one spot, but it is only the man of foresight and vision, and those with powerful driving force, who have anticipated the requirements of the future and endeavored to prepare for same.

During the past 20 years the law of town planning has gradually evolved from the public health acts, and the regulations and by-laws made thereunder, and in 1925 the consolidating act became law. Many private towns and cities, however, have important clauses bearing on this subject in their private acts of Parliament, and it is well for this country that such has been the case.

The authors of the above work have endeavored to collect much information on the legal side which, in itself, is of the utmost importance; and have added a number of cases bearing on the law of town planning. They have also included tables of statutes and numerous appendices giving the statutory rules and orders, model forms, memoranda, and model clauses; but the actual book, which comprises 12 chapters, summarizes the work of the local authority from the inception of the scheme to its confirmation so far as the legal work is concerned.

It is probably the most useful work of this kind available, and every town clerk and borough surveyor should find useful information therein if engaged in the preparation of a town planning scheme.

Whilst it is mainly a compilation of information, it is well arranged and the information contained is bound to be of use when framing a scheme.

PATIENTS IN INSTITUTIONS FOR THE FEEBLE-MINDED

Data for September, 1926

Reports for the month of September, 1926, were received from 26 institutions for the care of the feeble-minded.

The following tables give a summary and analysis of the reports:

Movement of patient population in 26 institutions for the feeble-minded, September, 1926

	Male	Female	Total
Number of institutions included:			
Public			25
Private			1
Total			26
Patients on books Sept. 1, 1926:			
In institutions	11,659	11,509	23,168
On temporary leave	2,218	1,699	3,917
Total	13,877	13,208	27,085
Admitted during September:			
First admissions	188	145	333
Readmissions	8	7	15
Admitted by transfer	36	55	91
Total received during September	232	207	439
Total on books during month	14,109	13,415	27,524
Discharged or placed on indefinite parole during September	48	30	78
Transferred	37	56	93
Died during September	35	19	54
Total discharged, transferred, and died	120	105	225
Patients on books Sept. 30, 1926:			
In institutions	11,996	11,743	23,739
On temporary leave	1,993	1,567	3,560
Total	13,989	13,310	27,299

Analysis of movement of patient population of 26 institutions for the feeble-minded, September, 1926

	Male	Female	Total
Per cent increase in number of patients during September:			
Total	0.81	0.77	0.79
In institutions	2.89	2.03	2.46
On temporary leave (decrease)	10.14	7.77	9.11
Per cent of total patients absent on temporary leave:			
Sept. 1	15.98	12.86	14.46
Sept. 30	14.25	11.77	13.04
Per cent of total admissions (excluding transfer) which were:			
First admissions	95.92	95.39	95.69
Readmissions	4.68	4.61	4.31
Per cent of total patients discharged during September (based on average number for month)	0.34	0.23	0.29
Male patients for 1,000 females, Sept. 30			1,051
Deaths per 1,000 under treatment (annual basis)	30.18	17.23	23.87

DEATHS DURING WEEK ENDED APRIL 30, 1927

Summary of information received by telegraph from industrial-insurance companies for week ended April 30, 1927, and corresponding week of 1926. (From the Weekly Health Index, May 5, 1927, issued by the Bureau of the Census, Department of Commerce)

	Week ended Apr. 30, 1927	Corresponding week 1926
Policies in force	67,499,046	64,211,097
Number of death claims	13,807	15,378
Death claims per 1,000 policies in force, annual rate	10.7	12.5

Deaths from all causes in certain large cities of the United States during the week ended April 30, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, May 5, 1927, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Apr. 30, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Apr. 30, 1927 [2]
	Total deaths	Death rate [1]		Week ended Apr. 30, 1927	Corresponding week 1926	
Total (69 cities)	7,722	13.5	[3] 14.1	824	[3] 941	[4] 68
Akron	33			7	11	75
Albany [5]	45	19.6	14.0	2	1	42
Atlanta	74			8	8	
White	43			2	6	
Colored	31	(6)		6	2	
Baltimore [5]	224	14.3	16.3	24	29	74
White	170		14.7	15	22	58
Colored	54	(6)	25.4	9	7	140
Birmingham	65	15.8	17.5	6	12	
White	29		11.4	5	6	
Colored	36	(6)	27.0	1	6	
Boston	246	16.2	15.6	26	36	73
Bridgeport	30			3	4	56
Buffalo	146	13.8	15.3	19	27	80
Cambridge	35	14.7	12.8	4	2	71
Camden	35	13.7	10.7	5	4	86
Canton	27	12.5	14.7	3	8	71
Chicago [5]	760	12.8	12.4	76	67	66
Cincinnati	138	17.5	21.1	18	22	112
Cleveland	192	10.2	12.9	27	35	71
Columbus	87	15.6	15.2	6	7	56
Dallas	39	9.7	13.1	5	7	
White	32		10.7	5	6	
Colored	7	(6)	29.0	0	1	
Dayton	41	11.9	14.4	4	3	66
Denver	87	15.6	15.6	10	12	
Des Moines	40	14.0	10.4	4	0	67
Detroit	338	13.2	13.2	47	65	74
Duluth	22	10.0	15.7	3	1	65
El Paso	36	16.5	20.1	5	10	
Erie	34			5	4	98
Fall River [5]	28	11.0	12.7	5	9	88
Flint	29	10.6	10.7	5	6	82
Fort Worth	33	10.5	15.1	2	7	
White	25		14.2	2	7	
Colored	8	(6)	22.0	0	0	
Grand Rapids	23	7.5	11.4	3	7	44
Houston	57			5	7	
White	36			4	6	
Colored	21	(6)		1	1	
Indianapolis	115	16.0	15.3	14	12	110
White	101		13.1	12	10	108
Colored	14	(6)	32.0	2	2	122
Jersey City	62	10.0	13.0	8	8	60
Kansas City, Kans	27	12.0	10.7	2	2	39
White	20		9.2	2	0	45
Colored	7	(6)	17.8	0	2	0
Kansas City, Mo	103	14.0	16.7	9	14	
Knoxville	35	17.9		6		
White	31			4		
Colored	4	(6)		2		
Los Angeles	271			26	18	74
Louisville	74	12.1	16.6	3	6	26
White	53		15.0	1	5	10
Colored	21	(6)	25.5	2	1	140
Lowell	33	15.6	15.6	6	4	116
Lynn	26	12.9	10.0	6	3	159

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Data for 68 cities.
[4] Data for 64 cities.
[5] Deaths for week ended Friday, Apr. 29, 1927.
[6] In the cites for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Norfolk, 38; Richmond, 32; and Washington, D. C., 25.

Deaths from all causes in certain large cities of the United States during the week ended April 30, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926—Continued

City	Week ended Apr. 30, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Apr. 30, 1927
	Total deaths	Death rate		Week ended Apr. 30, 1927	Corresponding week 1926	
Memphis	62	18.1	16.5	6	2	
White	27		12.3	1	1	
Colored	35	(6)	24.0	5	1	
Milwaukee	127	12.6	11.6	19	23	89
Minneapolis	99	11.7	13.3	6	9	34
Nashville [5]	50	18.9	17.9	6	3	
White	27		14.4	3	2	
Colored	23	(6)	26.7	3	1	
New Bedford	33	14.4	15.7	1	5	17
New Haven	47	13.2	14.3	3	5	42
New Orleans	152	18.7	14.3	25	8	
White	79		10.8	12	2	
Colored	73	(6)	24.4	13	6	
New York	1,499	13.1	13.5	149	195	62
Bronx Borough	164	9.2	8.8	14	11	45
Brooklyn Borough	524	12.0	11.5	64	65	66
Manhattan Borough	620	17.8	19.5	65	94	76
Queens Borough	131	8.4	9.7	6	21	26
Richmond Borough	60	21.3	16.8	0	4	0
Newark, N. J	119	13.3	10.0	15	11	74
Norfolk	38	11.1	10.5	5	4	101
White	16		8.0	1	1	33
Colored	22	(6)	14.9	4	3	212
Oakland	50	9.8	10.2	2	4	23
Oklahoma City	31			2	2	
Omaha	60	14.3	12.6	6	3	67
Paterson	44	15.9	17.1	4	0	71
Philadelphia	555	14.2	14.9	57	62	76
Pittsburgh	190	15.4	15.1	20	29	70
Portland, Oreg	76			3	2	32
Providence	58	10.8	11.9	12	11	102
Richmond	60	16.3	17.1	4	10	53
White	36	(6)	13.6	4	6	81
Colored	24		25.6	0	4	0
Rochester	76	12.2	14.1	8	9	67
St. Louis	205	12.7	16.3	13	20	
St. Paul	62	12.9	12.0	5	2	45
Salt Lake City [5]	40	15.3	9.8	2	3	30
San Antonio	61	15.1	14.8	17	13	
San Diego	44	20.0	21.3	0	3	0
San Francisco	172	15.6	15.5	7	5	44
Schenectady	17	9.5	12.9	1	5	30
Seattle	69			9	3	94
Somerville	23	11.8	17.2	2	4	72
Spokane	33	15.8	17.7	2	1	50
Springfield, Mass	44	15.6	15.1	4	5	62
Syracuse	45	11.9	14.9	6	6	77
Tacoma	24	11.7	12.3	1	0	24
Toledo	80	13.7	16.1	7	10	67
Trenton	41	15.6	18.3	7	3	122
Utica	25	12.7	19.7	1	3	23
Washington, D. C	141	13.0	13.5	18	17	104
White	94		10.8	7	10	59
Colored	47	(6)	21.4	11	7	202
Waterbury	24			2	6	47
Wilmington, Del	34	14.1	15.1	1	5	25
Worcester	49	13.1	19.7	7	10	84
Yonkers	32	14.0	7.6	2	3	45
Youngstown	40	12.3	12.6	10	4	140

[5] Deaths for week ended Friday, Apr. 29, 1927.

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

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Week Ended May 7, 1927

DIPHTHERIA	Cases
Alabama	18
Arkansas	2
California	119
Colorado	9
Connecticut	22
Delaware	1
Florida	12
Idaho	5
Illinois	112
Indiana	21
Iowa [1]	22
Kansas	8
Louisiana	21
Maine	7
Maryland [1]	42
Massachusetts	81
Michigan	97
Minnesota	28
Mississippi	7
Missouri	49
Montana	2
New Jersey	113
New Mexico	2
New York [2]	92
North Carolina	18
Oklahoma [3]	11
Oregon	14
Pennsylvania	174
Rhode Island	3
South Carolina	18
South Dakota	6
Tennessee	11
Utah [1]	12
Washington	17
West Virginia	15
Wisconsin	20
Wyoming	2

INFLUENZA	Cases
Alabama	62
Arkansas	48
California	33
Connecticut	4
Florida	16
Illinois	56
Indiana	29
Kansas	7
Louisiana	19
Maine	6
Maryland [1]	27
Massachusetts	12
Michigan	4
Minnesota	2
New Jersey	14
New Mexico	1
Oklahoma [3]	58
Oregon	20
South Carolina	722
South Dakota	2
Tennessee	86
West Virginia	21
Wisconsin	60
Wyoming	3

MEASLES	
Alabama	248
Arizona	46
Arkansas	140
California	2,069
Colorado	273
Connecticut	51
Delaware	11
Florida	86
Illinois	1,384
Indiana	182
Iowa [1]	313

[1] Week ended Friday.
[2] Exclusive of New York City.
[3] Exclusive of Oklahoma City and Tulsa.

MEASLES—continued	Cases
Kansas	1,154
Louisiana	54
Maine	116
Maryland [1]	28
Massachusetts	373
Michigan	316
Minnesota	147
Montana	43
New Jersey	80
New Mexico	63
New York [2]	691
North Carolina	1,503
Oklahoma [3]	341
Oregon	341
Pennsylvania	667
Rhode Island	2
South Carolina	43
South Dakota	103
Tennessee	90
Utah [1]	41
Vermont	215
Washington	532
West Virginia	173
Wisconsin	605
Wyoming	111

MENINGOCOCCUS MENINGITIS	
California	3
Colorado	4
Connecticut	1
Florida	5
Idaho	1
Illinois	10
Iowa [1]	1
Kansas	4
Massachusetts	2
Minnesota	4
Mississippi	1
Montana	9
New Jersey	3
New York [2]	2
Oregon	2
Pennsylvania	4
Tennessee	1
Washington	3
Wisconsin	2

POLIOMYELITIS	
Arizona	1
Arkansas	1
California	4
Kansas	1
Louisiana	1
Massachusetts	2
Minnesota	1
New York [2]	2
South Carolina	2
Washington	1

SCARLET FEVER	
Alabama	11
Arizona	11
Arkansas	7
California	178
Colorado	167
Connecticut	103
Delaware	9
Florida	12
Idaho	12
Illinois	260
Indiana	141
Iowa [1]	38
Kansas	98
Louisiana	10
Maine	35
Maryland [1]	71
Massachusetts	469
Michigan	296
Minnesota	172
Mississippi	12
Missouri	77
Montana	111
New Jersey	372
New Mexico	4
New York [2]	301
North Carolina	25
Oklahoma [3]	27
Oregon	19
Pennsylvania	500
Rhode Island	14
South Carolina	7
South Dakota	27
Tennessee	28
Utah [1]	25
Vermont	6
Washington	51
West Virginia	31
Wisconsin	134
Wyoming	19

SMALLPOX	
Alabama	27
Arkansas	2
California	23
Florida	30
Idaho	3
Illinois	53
Indiana	105
Iowa [1]	5
Kansas	32
Louisiana	4
Michigan	56
Minnesota	2
Missouri	24
Montana	8
New Mexico	1
New York [2]	6
North Carolina	69
Oklahoma [3]	53
Oregon	17
South Carolina	17
South Dakota	1
Tennessee	16
Utah [1]	4
Washington	49
West Virginia	47
Wisconsin	11
Wyoming	2

[1] Week ended Friday.
[2] Exclusive of New York City.
[3] Exclusive of Oklahoma City and Tulsa.

TYPHOID FEVER	Cases
Alabama	17
Arizona	1
Arkansas	11
California	5
Colorado	33
Connecticut	1
Delaware	2
Florida	7
Illinois	9
Indiana	1
Iowa [1]	1
Kansas	3
Louisiana	11
Maine	1
Maryland [1]	5
Massachusetts	7

TYPHOID FEVER—continued	Cases
Michigan	5
Minnesota	2
Mississippi	9
Missouri	10
Montana	1
New Jersey	6
New York [2]	6
North Carolina	9
Oklahoma [3]	10
Oregon	4
Pennsylvania	15
South Carolina	15
Tennessee	17
Washington	3
West Virginia	7
Wisconsin	1

Reports for Week Ended April 30, 1927

DISTRICT OF COLUMBIA	Cases
Chicken pox	63
Diphtheria	16
Influenza	2
Measles	6
Pneumonia	23
Scarlet fever	29
Tuberculosis	29
Whooping cough	5
NORTH DAKOTA	
Chicken pox	6
Diphtheria	2
Measles	73
Mumps	3
Pneumonia	10

NORTH DAKOTA—continued	Cases
Scarlet fever	69
Smallpox	12
Tuberculosis	4
Typhoid fever	2
SOUTH DAKOTA	
Cerebrospinal meningitis	1
Chicken pox	12
Influenza	9
Measles	219
Mumps	8
Pneumonia	5
Scarlet fever	57
Smallpox	7
Tuberculosis	3
Whooping cough	7

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Cerebrospinal meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
November, 1926										
New Mexico	0	8	2	2	9	1	0	119	0	40
December, 1926										
New Mexico	1	21	1	----	49	----	1	110	0	15
March, 1927										
Arizona	0	10	10	----	271	1	0	92	0	9
Arkansas	1	28	399	155	542	42	1	65	19	45
Montana	29	24	8	----	25	----	0	304	86	5
Pennsylvania	9	883	----	2	3,619	----	3	2,999	2	70
South Dakota	0	17	34	----	1,168	----	0	416	73	4
Virginia	5	115	8,089	68	3,533	19	3	186	80	32

[1] Week ended Friday.
[2] Exclusive of New York City.
[3] Exclusive of Oklahoma City and Tulsa.

	Cases
November, 1926	
New Mexico:	
Chicken pox	13
Conjunctivitis	1
German measles	9
Mumps	3
Vincent's angina	2
Whooping cough	22
December, 1926	
New Mexico:	
Chicken pox	50
Dysentery	5
Conjunctivitis	1
German measles	10
Milk sickness	9
Mumps	10
Septic sore throat	1
Trachoma	1
Vincent's angina	2
Whooping cough	10
March, 1927	
Actinomycosis:	
South Dakota	2
Anthrax:	
Pennsylvania	1
Chicken pox:	
Arizona	107
Arkansas	170
Montana	126
Pennsylvania	3,419
South Dakota	73
Virginia	897
Conjunctivitis:	
Montana	1
Dysentery:	
Virginia	40
German measles:	
Montana	7
Pennsylvania	687
March, 1927—Continued	
Hookworm disease:	
Arkansas	1
Virginia	2
Impetigo contagiosa:	
Pennsylvania	34
Leprosy:	
Arizona	1
Lethargic encephalitis:	
Pennsylvania	7
Malta fever:	
Arizona	1
Mumps:	
Arizona	13
Arkansas	160
Montana	96
Pennsylvania	2,623
South Dakota	32
Ophthalmia neonatorum:	
Arkansas	1
Pennsylvania	27
Puerperal fever:	
Pennsylvania	2
Rabies in man:	
Pennsylvania	3
Tetanus:	
Pennsylvania	6
Trachoma:	
Arizona	3
Arkansas	6
Pennsylvania	4
Trichinosis:	
Pennsylvania	6
Whooping cough:	
Arizona	6
Arkansas	277
Montana	8
Pennsylvania	1,178
South Dakota	54
Virginia	2,134

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 101 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,900,000. The estimated population of the 95 cities reporting deaths is more than 30,280,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended April 23, 1927, and April 24, 1926

	1927	1926	Estimated expectancy
Cases reported			
Diphtheria:			
42 States	1,766	1,151	
101 cities	1,066	689	856
Measles:			
41 States	14,490	21,920	
101 cities	4,661	10,459	

Weeks ended April 23, 1927, and April 24, 1926—Continued

	1927	1926	Estimated expectancy
Cases reported—Continued			
Poliomyelitis:			
42 States	7	11	----------
Scarlet fever:			
42 States	4,663	4,118	----------
101 cities	2,154	1,655	1,155
Smallpox:			
42 States	767	878	----------
101 cities	197	181	128
Typhoid fever:			
42 States	233	186	----------
101 cities	43	45	47
Deaths reported			
Influenza and pneumonia:			
95 cities	1,029	1,364	----------
Smallpox:			
95 cities	0	4	----------
Omaha	0	1	----------
Los Angeles	0	2	----------
San Francisco	0	1	----------

City reports for week ended April 23, 1927

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

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

Division, State, and city	Population July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	75,333	4	1	0	0	0	2	0	4
New Hampshire:									
Concord	22,546	0	0	0	0	1	8	0	0
Manchester	83,097	0	2	0	0	1	0	0	1
Vermont:									
Barre	10,008	0	0	0	0	0	0	0	2
Burlington	24,089	5	0	0	0	0	7	8	1
Massachusetts:									
Boston	779,620	42	53	29	4	1	93	94	25
Fall River	128,993	3	3	1	0	1	1	3	3
Springfield	142,065	4	2	2	0	0	4	24	5
Worcester	190,757	12	4	4	0	1	5	4	3
Rhode Island:									
Pawtucket	69,760	2	1	0	0	0	0	1	0
Providence	267,918	0	9	7	0	1	0	0	1
Connecticut:									
Bridgeport	(1)	1	5	6	0	0	6	4	2
Hartford	160,197	2	6	8	0	0	3	3	8
New Haven	178,927	8	3	1	0	0	5	10	12

[1] No estimate made.

City reports for week ended April 23, 1927—Continued

Division, State, and city	Population July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MIDDLE ATLANTIC									
New York:									
Buffalo	538,016	14	9	7	-------	1	5	15	16
New York	5,873,356	271	216	410	37	18	61	332	228
Rochester	316,786	8	8	0	-------	0	8	5	12
Syracuse	182,003	12	6	0	-------	0	80	2	6
New Jersey:									
Camden	128,642	1	4	17	6	2	1	1	7
Newark	452,513	60	15	8	7	1	3	53	17
Trenton	132,020	11	3	5	4	0	0	1	5
Pennsylvania:									
Philadelphia	1,979,364	83	71	77	-------	15	24	167	73
Pittsburgh	631,563	49	17	24	-------	4	67	8	37
Reading	112,707	19	3	0	-------	0	46	53	3
[1] No estimate made.									
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	409,333	14	7	5	0	3	1	16	14
Cleveland	936,485	80	22	46	1	0	5	74	23
Columbus	279,836	5	3	2	0	3	3	1	11
Toledo	287,380	65	3	2	1	1	22	7	10
Indiana:									
Fort Wayne	97,846	2	2	4	0	0	23	0	1
Indianapolis	358,819	46	5	5	0	0	10	26	19
South Bend	80,091	0	1	1	0	0	8	0	1
Terre Haute	71,071	1	0	0	0	0	38	0	1
Illinois:									
Chicago	2,995,239	85	78	70	18	6	870	158	73
Peoria	81,564	7	0	0	0	1	20	2	0
Springfield	63,923	4	1	3	1	1	11	0	1
Michigan:									
Detroit	1,245,824	98	45	43	8	3	16	144	42
Flint	130,316	27	2	3	0	0	16	0	2
Grand Rapids	153,698	2	4	0	1	1	3	0	3
Wisconsin:									
Kenosha	50,891	8	1	0	1	0	46	47	0
Madison	46,385	5	1	0	0	0	16	2	0
Milwaukee	509,192	87	11	13	0	0	132	88	10
Racine	67,707	6	1	2	0	0	11	23	1
Superior	39,671	0	1	0	0	0	2	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	110,502	15	1	0	0	0	50	2	3
Minneapolis	425,435	76	15	22	0	2	13	0	13
St. Paul	246,001	39	15	1	0	2	29	0	12
Iowa:									
Davenport	52,469	0	0	1	0	-------	2	3	-------
Des Moines	141,441	0	2	0	0	-------	8	0	4
Sioux City	76,411	10	1	1	0	-------	53	12	-------
Waterloo	36,771	1	0	1	0	-------	24	0	-------
Missouri:									
Kansas City	367,481	21	6	4	1	3	83	7	9
St. Joseph	78,342	4	1	0	0	0	62	0	3
St. Louis	821,543	29	39	40	1	0	51	78	-------
North Dakota:									
Fargo	26,403	0	0	0	0	1	28	7	1
Grand Forks	14,811	0	0	0	0	-------	0	0	-------
South Dakota:									
Aberdeen	15,036	6	0	0	0	-------	9	1	-------
Sioux Falls	30,127	1	0	0	0	-------	11	0	-------
Nebraska:									
Lincoln	60,941	7	1	1	0	0	91	11	0
Omaha	211,768	5	3	0	0	0	91	23	12
Kansas:									
Topeka	55,411	8	0	1	0	2	289	0	2
Wichita	88,367	14	1	1	0	0	11	0	5

City reports for week ended April 23, 1927—Continued

Division, State, and city	Population July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
SOUTH ATLANTIC									
Delaware:									
Wilmington	122,049	5	2	2	0	0	0	0	13
Maryland:									
Baltimore	796,296	68	23	31	11	2	4	14	44
Cumberland	33,741	0	0	2	0	0	0	0	1
Frederick	12,035	0	0	0	0	0	0	2	1
District of Columbia:									
Washington	497,906	54	10	29	2	0	11	0	12
Virginia:									
Lynchburg	30,395	12	1	1	0	0	27	0	2
Norfolk	(1)	17	1	1	0	0	221	5	9
Richmond	186,403	5	1	3	0	3	167	1	3
Roanoke	56,208	4	0	0	0	1	2	0	1
West Virginia:									
Charleston	49,019	2	0	1	0	0	0	0	0
Wheeling	56,208	2	1	1	0	0	35	0	3
North Carolina:									
Raleigh	30,371	10	0	1	0	0	76	0	2
Wilmington	37,061	0	0	0	0	0	14	6	0
Winston-Salem	69,031	1	0	0	0	2	148	31	1
South Carolina:									
Charleston	73,125	0	0	0	36	1	7	0	0
Columbia	41,225	10	0	0	0	----	0	7	1
Greenville	27,311	2	0	0	0	0	4	0	1
Georgia:									
Atlanta	(1)	4	2	3	7	1	70	5	0
Brunswick	16,809	0	1	0	0	0	0	3	0
Savannah	93,134	1	0	0	14	2	5	0	4
Florida:									
Miami	69,754	20	3	1	0	0	4	4	2
St. Petersburg	26,847	----	0	----	----	0	----	----	1
Tampa	94,743	1	1	0	0	0	90	0	1
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,309	0	1	2	0	0	0	4	2
Louisville	305,935	5	4	2	0	0	1	9	12
Tennessee:									
Memphis	174,533	10	3	1	0	4	5	17	6
Nashville	136,220	7	0	1	0	2	0	0	1
Alabama:									
Birmingham	205,670	3	2	0	10	5	51	2	7
Mobile	65,955	0	0	0	0	0	10	0	2
Montgomery	46,481	5	0	0	0	0	35	1	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	31,643	0	1	0	0	----	105	0	1
Little Rock	74,216	3	0	0	0	0	12	0	2
Louisiana:									
New Orleans	414,493	2	7	13	4	4	11	0	4
Shreveport	57,857	3	1	0	0	1	19	15	0
Oklahoma:									
Oklahoma City	(1)	----	1	----	----	1	----	----	8
Tulsa	124,478	16	----	0	0	----	281	13	----
Texas:									
Dallas	194,450	9	3	3	0	0	148	3	1
Galveston	48,375	0	0	1	0	0	0	0	0
Houston	164,954	3	2	3	2	0	4	1	5
San Antonio	198,069	1	1	10	0	2	3	0	6
MOUNTAIN									
Montana:									
Billings	17,971	3	1	0	0	0	4	0	0
Great Falls	29,883	4	1	0	0	0	1	1	2
Helena	12,037	0	0	0	0	0	0	0	1
Missoula	12,668	6	1	0	0	0	0	7	1
Idaho:									
Boise	23,042	0	0	0	0	0	0	1	0

[1] No estimate made.

City reports for week ended April 23, 1927—Continued

Division, State, and city	Population July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MOUNTAIN—continued									
Colorado:									
Denver	280,911	7	11	11	-------	0	129	2	9
Pueblo	43,787	12	1	1	0	0	46	0	0
New Mexico:									
Albuquerque	21,000	0	1	0	0	0	4	10	2
Utah:									
Salt Lake City	130,948	50	3	9	0	0	17	3	5
Nevada:									
Reno	12,665	0	0	0	0	0	3	0	0
PACIFIC									
Washington:									
Seattle	(1)	40	4	1	0	-------	74	61	-------
Spokane	108,897	8	2	0	0	-------	7	0	-------
Tacoma	104,455	18	1	3	0	1	70	1	0
Oregon:									
Portland	282,383	10	6	2	1	1	243	5	5
California:									
Los Angeles	(1)	45	36	47	25	1	540	13	20
Sacramento	72,260	4	2	0	0	1	11	10	2
San Francisco	557,530	47	20	9	0	0	103	53	6

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	3	0	0	0	0	0	0	0	0	0	30
New Hampshire:											
Concord	1	0	0	0	0	0	0	0	0	0	6
Manchester	2	0	0	0	0	1	0	0	0	0	17
Vermont:											
Barre	1	0	0	0	0	0	0	0	0	0	4
Burlington	1	1	0	0	0	0	0	0	0	0	7
Massachusetts:											
Boston	61	102	0	0	0	13	1	0	1	14	251
Fall River	3	4	0	0	0	3	1	0	0	6	28
Springfield	5	6	0	0	0	1	0	0	0	3	43
Worcester	8	5	0	0	0	2	0	0	0	5	45
Rhode Island:											
Pawtucket	1	3	0	0	0	0	0	0	0	0	20
Providence	8	9	0	0	0	3	0	0	0	6	76
Connecticut:											
Bridgeport	9	12	0	0	0	1	0	0	0	0	39
Hartford	3	6	0	0	0	1	0	0	0	5	32
New Haven	9	2	0	0	0	1	0	0	0	0	42
MIDDLE ATLANTIC											
New York:											
Buffalo	19	21	0	0	0	9	0	0	0	9	145
New York	248	818	0	0	0	[2] 142	9	11	1	91	1,584
Rochester	15	19	0	0	0	3	0	1	0	2	39
Syracuse	10	6	0	0	0	2	0	1	0	6	63
New Jersey:											
Camden	6	4	0	0	0	1	0	0	0	1	59
Newark	25	49	0	0	0	4	1	0	0	51	103
Trenton	3	1	1	0	0	9	0	0	0	1	49
Pennsylvania:											
Philadelphia	78	119	1	0	0	38	3	2	0	30	627
Pittsburgh	26	32	0	0	0	11	1	0	0	13	184
Reading	3	4	0	0	0	2	0	0	0	5	28

[1] No estimate made.

[2] Pulmonary tuberculosis only.

City reports for week ended April 23, 1927—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	15	43	2	2	0	10	1	2	1	1	153
Cleveland	30	37	0	0	0	16	1	0	1	48	206
Columbus	10	5	2	0	0	8	0	0	0	13	103
Toledo	14	3	4	0	0	6	1	1	0	25	78
Indiana:											
Fort Wayne	4	11	3	2	0	1	0	0	0	1	24
Indianapolis	10	25	9	35	0	6	0	0	0	27	95
South Bend	3	3	0	2	0	0	0	0	0	1	8
Terre Haute	2	0	1	2	0	2	0	0	0	2	22
Illinois:											
Chicago	110	124	3	0	0	56	2	1	0	77	733
Peoria	2	3	1	0	0	3	0	0	0	0	17
Springfield	2	7	1	0	0	0	1	0	0	1	18
Michigan:											
Detroit	84	87	2	0	0	31	2	1	0	57	347
Flint	6	29	1	0	0	0	0	0	0	2	24
Grand Rapids	7	15	1	0	0	2	0	0	0	2	37
Wisconsin:											
Kenosha	2	7	1	0	0	0	0	0	0	3	9
Madison	3	3	0	0	0	0	0	0	0	9	4
Milwaukee	26	43	2	0	0	10	1	0	0	35	120
Racine	3	4	1	0	0	0	0	0	0	16	14
Superior	3	7	1	0	0	0	0	0	0	0	5
WEST NORTH CENTRAL											
Minnesota:											
Duluth	4	9	0	0	0	1	0	0	0	2	23
Minneapolis	40	42	8	0	0	2	1	0	0	0	110
St. Paul	27	32	4	0	0	8	1	1	0	11	70
Iowa:											
Davenport	2	1	3	0	-------	-------	0	0	-------	0	-------
Des Moines	6	7	2	0	-------	1	0	0	-------	0	45
Sioux City	2	4	1	2	-------	-------	0	0	-------	6	-------
Waterloo	1	0	0	0	-------	-------	0	0	-------	3	-------
Missouri:											
Kansas City	11	16	1	8	0	8	0	0	0	6	88
St. Joseph	2	11	0	5	0	1	0	0	0	1	32
St. Louis	33	40	4	3	0	8	2	1	0	35	216
North Dakota:											
Fargo	2	4	0	0	0	0	0	0	0	0	4
Grand Forks	0	4	0	0	-------	-------	0	0	-------	0	-------
South Dakota:											
Aberdeen	2	3	0	0	-------	-------	0	0	-------	0	-------
Sioux Falls	1	2	0	0	-------	-------	0	0	-------	0	-------
Nebraska:											
Lincoln	2	0	1	0	0	2	0	0	0	1	19
Omaha	3	10	9	1	0	1	0	0	0	0	49
Kansas:											
Topeka	3	1	2	1	0	0	0	0	0	3	20
Wichita	2	4	2	0	0	1	0	0	0	3	31
SOUTH ATLANTIC											
Delaware:											
Wilmington	3	8	0	0	0	2	0	0	0	0	45
Maryland:											
Baltimore	33	26	0	0	0	12	2	1	0	57	260
Cumberland	1	0	0	0	0	1	0	1	0	0	13
Frederick	0	0	0	0	0	1	0	0	0	0	4
District of Col.:											
Washington	24	27	1	0	0	14	1	0	0	5	141
Virginia:											
Lynchburg	0	2	0	0	0	0	0	0	0	5	10
Norfolk	1	11	1	0	0	5	0	0	0	16	-------
Richmond	2	3	0	0	0	8	0	0	0	2	53
Roanoke	1	1	0	12	0	2	0	0	0	0	15
West Virginia:											
Charleston	0	2	1	3	0	0	0	0	0	4	6
Wheeling	2	2	0	0	0	1	0	1	0	4	17
North Carolina:											
Raleigh	0	0	0	0	0	0	0	0	0	21	12
Wilmington	0	0	0	0	0	1	0	0	0	0	14
Winston-Salem	1	0	5	0	0	3	0	0	0	44	24

City reports for week ended April 23, 1927—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
SOUTH ATLANTIC—continued											
South Carolina:											
Charleston	1	0	0	1	0	2	1	0	1	0	25
Columbia	0	0	1	1		2	0	0		6	11
Greenville	0	0	0	1	0	0	0	0	0	3	8
Georgia:											
Atlanta		5	3	9	0	4	0	2	0	24	60
Brunswick	0	0	0	2	0	0	1	0	0	0	5
Savannah	0	0	1	3	0	2	0	1	0	0	38
Florida:											
Miami	1	0		3	0	2	1	2	0	14	36
St. Petersburg	0		0		0	0	0		0		12
Tampa	0	2	0	4	0	2	0	0	0	3	27
EAST SOUTH CENTRAL											
Kentucky:											
Covington	1	2	0	0	0	4	0	0	0	0	21
Louisville	6	9	1	0	0	3	1	1	0	35	74
Tennessee:											
Memphis	4	18	4	27	0	6	0	3	0	11	64
Nashville	2	0	1	0	0	5	0	2	0	0	46
Alabama:											
Birmingham	2	4	9	2	0	2	1	0	0	14	69
Mobile	0	0	1	2	0	2	1	0	0	0	25
Montgomery	0	0	1	1	0	0	1	0	0	0	
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	1	0	0			0	0		3	14
Little Rock	1	0	1	0	0	3	0	0	0	2	
Louisiana:											
New Orleans	5	5	2	0	0	13	2	2	1	4	123
Shreveport	1	0	1	3	0	1	0	0	0	1	25
Oklahoma:											
Oklahoma City	2		3		0	1	0		0		35
Tulsa		3		0				0		6	
Texas:											
Dallas	2	2	2	14	0	6	1	0	1	0	35
Galveston	1	1	1	0	0	1	1	1	0	0	8
Houston	0	1	1	5	0	5	0	0	0	0	67
San Antonio	1	0	0	1	0	12	0	0	0	6	80
MOUNTAIN											
Montana:											
Billings	1	1	1	0	0	0	0	0	0	0	
Great Falls	1	6	1	0	0	2	0	2	1	0	12
Helena	0	0	0	0	0	0	0	0	0	0	2
Missoula	1	5	1	0	0	0	0	0	0	0	8
Idaho:											
Boise	2	3	1	0	0	0	0	1	0	0	3
Colorado:											
Denver	10	59	2	0	0	13	0	0	0	1	83
Pueblo	1	15	0	0	0	4	0	0	0	1	18
New Mexico:											
Albuquerque	0	4	0	0	0	4	0	0	0	0	11
Utah:											
Salt Lake City	1	15	1	6	0	0	1	0	0	18	39
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	3
PACIFIC											
Washington:											
Seattle	8	8	4	0			1	1		37	
Spokane	4	22	5	14			0	0		0	
Tacoma	2	3	3	22	0	0	1	0	1	4	27
Oregon:											
Portland	7	5	6	3	0	6	0	0	1	6	74
California:											
Los Angeles	18	25	5	0	0	44	1	1	2	19	291
Sacramento	2	1	0	1	0	1	1	0	0	0	26
San Francisco	12	21	4	0	0	10	1	2	1	26	160

City reports for week ended April 23, 1927—Continued

Division, State, and city	Cerebrospinal meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston	0	1	0	0	0	0	0	0	0
Worcester	0	0	1	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York [1]	2	3	4	7	0	0	1	0	2
New Jersey:									
Newark	0	0	1	0	0	0	0	0	0
Pennsylvania: [1]									
Philadelphia	1	2	1	1	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	1	0	0	0	0	0	0	0	0
Columbus	0	0	0	1	0	0	0	0	0
Illinois:									
Chicago	3	4	2	1	0	0	0	0	0
Wisconsin:									
Madison	1	1	0	0	0	0	0	0	0
Milwaukee	7	1	0	0	0	0	0	0	0
Racine	0	1	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	0	1	0	0	0	0	0	0	0
Minneapolis	2	1	0	0	0	0	0	0	0
Missouri:									
Kansas City	1	0	0	0	0	0	0	0	0
South Dakota:									
Aberdeen	0	------	0	------	0	------	0	1	------
Kansas:									
Topeka	0	1	0	0	0	0	0	0	0
SOUTH ATLANTIC									
North Carolina:									
Winston-Salem	0	0	0	0	1	1	0	0	0
South Carolina:									
Greenville	0	0	0	0	0	1	0	0	0
Georgia:									
Atlanta	0	0	0	1	2	0	0	0	0
Savannah	0	0	0	0	1	1	0	0	0
Florida: [2]									
St. Petersburg	------	0	------	0	------	0	0	------	1
EAST SOUTH CENTRAL									
Kentucky:									
Louisville	0	0	1	0	0	0	0	0	0
Alabama:									
Birmingham	0	0	0	0	2	0	0	0	0
Mobile	0	0	0	0	0	1	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock	0	0	0	0	0	1	0	0	0
Louisiana:									
New Orleans	0	0	1	0	1	1	0	0	0
Texas:									
Dallas	0	0	0	0	1	1	0	0	0
Galveston	1	0	0	0	0	0	0	0	0
MOUNTAIN									
Colorado:									
Denver	0	1	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	1	------	0	------	0	------	0	0	------
Spokane	1	------	0	------	0	------	0	0	------
Tacoma	0	0	0	0	0	0	0	1	0
Oregon:									
Portland	1	0	0	0	0	0	0	0	0
California:									
Los Angeles	2	0	1	0	0	0	1	0	0
Sacramento	1	1	0	0	0	0	0	0	0
San Francisco	2	0	3	0	0	0	0	3	0

[1] Rabies (human): 1 case and 1 death at New York, N. Y., and 1 death at Pittsburgh, Pa.
[2] Typhus fever: 1 case at Tampa, Fla.

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended April 23, 1927, compared with those for a like period ended April 24, 1926. The population figures used in computing the rates are approximate estimates as of July 1, 1926 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 30,440,000 in 1926 and 30,960,000 in 1927. The 95 cities reporting deaths had nearly 29,780,000 estimated population in 1926 and nearly 30,290,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, March 20 to April 23, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Mar. 27, 1926	Mar. 26, 1927	Apr. 3, 1926	Apr. 2, 1927	Apr. 10, 1926	Apr. 9, 1927	Apr. 17, 1926	Apr. 16, 1927	Apr. 24, 1926	Apr. 23, 1927
101 cities	[2] 131	178	[3] 126	[3] 191	116	[4] 202	110	[3] 175	118	180
New England	139	130	80	137	125	181	47	104	73	135
Middle Atlantic	142	227	146	264	125	269	119	271	162	270
East North Central	102	179	[3] 113	[3] 160	88	[3] 170	86	[3] 136	87	132
West North Central	149	121	159	159	204	171	246	109	182	141
South Atlantic	[2] 62	147	95	157	86	[2] 126	89	141	67	136
East South Central	36	41	57	61	114	66	47	87	26	31
West South Central	155	176	60	180	60	340	30	143	47	126
Mountain	255	81	146	108	118	171	191	108	82	189
Pacific	238	194	201	170	137	126	134	115	145	157

MEASLES CASE RATES

101 cities	[2] 1,834	934	[3] 1,693	[3] 805	1,781	[4] 864	1,770	[3] 762	1,792	785
New England	1,344	197	1,460	204	1,568	269	1,809	223	1,663	295
Middle Atlantic	1,839	114	1,850	128	1,773	159	1,702	173	1,596	146
East North Central	2,091	1,092	[3] 1,504	[3] 884	1,572	[3] 920	1,471	[3] 861	1,459	778
West North Central	2,323	1,519	2,428	1,558	3,283	1,304	3,354	1,318	4,148	1,556
South Atlantic	[2] 2,731	977	2,649	1,096	2,630	[2] 1,003	2,919	1,317	2,516	1,596
East South Atlantic	2,906	438	2,875	285	3,020	611	2,772	397	3,434	520
West South Central	125	1,778	43	948	236	2,143	133	1,019	163	1,267
Mountain	310	5,088	556	3,452	419	2,796	529	2,086	1,075	1,798
Pacific	450	3,170	246	2,767	388	3,058	372	2,212	501	2,107

SCARLET FEVER CASE RATES

101 cities	[2] 324	424	[3] 296	[3] 439	274	[4] 397	307	[3] 391	284	363
New England	354	478	391	513	318	362	373	423	222	346
Middle Atlantic	210	581	210	614	176	595	187	583	201	529
East North Central	407	351	[3] 331	[3] 323	330	[3] 272	343	[3] 280	288	296
West North Central	897	401	789	469	845	435	910	397	899	343
South Atlantic	[2] 155	179	173	197	145	[2] 189	181	150	158	161
East South Central	140	163	217	173	165	178	150	219	228	168
West South Central	146	59	86	55	116	101	133	50	172	42
Mountain	210	1,133	146	1,214	100	944	173	953	210	935
Pacific	267	361	249	340	155	243	338	243	260	209

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1926 and 1927, respectively.
[2] Norfolk, Va., not included.
[3] Madison, Wis., not included.
[4] Madison, Wis., and Norfolk, Va., not included.

Summary of weekly reports from cities, March 20 to April 23, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued.

SMALLPOX CASE RATES

	Week ended—									
	Mar. 27, 1926	Mar. 26, 1927	Apr. 3, 1926	Apr. 2, 1927	Apr. 10, 1926	Apr. 9, 1927	Apr. 17, 1926	Apr. 16, 1927	Apr. 24, 1926	Apr. 23, 1927
101 cities	[3] 37	30	[3] 42	[3] 28	32	[4] 27	26	[3] 24	31	33
New England	0	0	0	2	0	0	0	0	0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	10	29	[3] 17	[3] 34	18	[3] 37	14	[3] 32	22	29
West North Central	54	69	46	30	50	42	42	56	44	40
South Atlantic	[3] 95	42	41	62	67	[3] 27	43	27	47	65
East South Central	57	107	98	122	88	87	52	97	98	163
West South Central	142	75	90	63	133	105	95	88	112	96
Mountain	27	18	55	9	27	27	27	27	46	54
Pacific	209	99	346	68	137	55	137	26	139	97

TYPHOID FEVER CASE RATES

101 cities	[3] 8	8	[3] 10	[3] 8	7	[4] 8	7	[3] 8	8	7
New England	0	5	7	12	9	7	9	9	5	0
Middle Atlantic	10	7	8	6	5	6	7	5	8	7
East North Central	4	4	[3] 3	[3] 1	3	[3] 5	2	[3] 1	1	3
West North Central	2	4	8	2	10	2	4	12	6	4
South Atlantic	[3] 16	13	17	16	6	[3] 10	4	13	7	11
East South Central	16	41	31	20	10	36	0	36	26	31
West South Central	9	29	34	25	17	38	34	17	26	13
Mountain	27	0	36	0	18	0	9	9	0	27
Pacific	13	10	11	24	13	8	13	18	21	10

INFLUENZA DEATH RATES

95 cities	[3] 97	27	[3] 89	[3] 22	74	[4] 23	53	[3] 22	38	18
New England	68	7	108	12	83	7	52	16	40	12
Middle Atlantic	112	26	100	21	76	26	59	21	34	20
East North Central	104	16	[3] 110	[3] 14	81	[3] 9	67	[3] 11	42	11
West North Central	38	15	38	4	32	17	23	12	32	21
South Atlantic	[3] 83	63	59	37	59	[3] 41	43	39	30	22
East South Central	253	92	98	102	238	71	47	87	103	56
West South Central	115	26	102	30	66	52	53	43	62	31
Mountain	64	27	27	27	46	36	46	18	46	0
Pacific	14	28	21	24	14	17	21	14	4	10

PNEUMONIA DEATH RATES

95 cities	[3] 372	166	[3] 335	[3] 163	277	[4] 163	241	[3] 154	201	159
New England	429	156	467	156	358	139	302	156	233	151
Middle Atlantic	494	199	433	186	339	199	288	176	240	199
East North Central	352	141	[3] 322	[3] 148	245	[3] 132	233	[3] 142	192	135
West North Central	160	102	160	93	186	137	133	129	137	125
South Atlantic	[3] 333	215	291	224	236	[3] 159	208	188	206	180
East South Central	476	188	357	127	429	209	331	132	259	153
West South Central	163	116	185	159	159	142	181	78	128	78
Mountain	191	171	155	162	137	243	165	153	109	162
Pacific	117	110	57	128	148	117	117	117	71	97

[2] Norfolk, Va., not included.
[3] Madison, Wis., not included.
[4] Madison, Wis., and Norfolk, Va., not included.

Number of cities included in summary of weekly reports, and aggregate population of cities in each group, approximated as of July 1, 1926 and 1927, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1926	1927	1926	1927
Total	101	95	30,438,500	30,960,600	29,778,400	30,289,990
New England	12	12	2,211,000	2,245,900	2,211,000	2,245,900
Middle Atlantic	10	10	10,457,000	10,567,000	10,457,000	10,567,000
East North Central	16	16	7,644,900	7,804,500	7,644,900	7,804,500
West North Central	12	10	2,585,500	2,626,600	2,470,600	2,510,000
South Atlantic	21	20	2,799,500	2,878,100	2,757,700	2,835,700
East South Central	7	7	1,008,300	1,023,500	1,008,300	1,023,500
West South Central	8	7	1,213,900	1,243,300	1,181,500	1,210,400
Mountain	9	9	572,100	580,000	572,100	580,000
Pacific	6	4	1,946,400	1,991,700	1,475,300	1,512,800

FOREIGN AND INSULAR

THE FAR EAST

Report for week ended April 9, 1927.—The following report for the week ended April 9, 1927, was transmitted by the Eastern Bureau of the Health Section of the Secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva:

Maritime towns	Plague		Cholera		Smallpox		Maritime towns	Plague		Cholera		Smallpox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths
Arabia: Aden	0	0	0	0	1	0	French Indo-China:						
British India:							Saigon and Cholon	0	0	11	10	0	0
Karachi	----	0	0	0	4	0	Haiphong	0	0	8	----	0	0
Bombay	----	8	0	0	73	44	China:						
Calcutta	----	0	----	74	232	172	Canton	0	0	0	0	13	----
Rangoon	----	2	----	3	56	13	Shanghai	0	0	0	0	1	0
Bassein	----	4	----	10	0	0	Hongkong	0	0	0	0	4	3
Madras	----	0	----	0	10	0	Manchuria: Mukden	0	0	0	0	1	0
Negapatam	----	0	----	0	1	1	Kwantung: Dairen	0	0	0	0	2	1
Vizagapatam	----	0	----	0	3	2	Egypt: Alexandria	1	0	0	0	1	0
Siam: Bangkok	1	1	34	24	5	2							

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

ASIA

Arabia.—Jeddah, Perim, Kamaran.
Persia.—Mohammerah, Bender-Abbas, Bushire, Lingah.
British India.—Chittagong, Cochin, Tuticorin.
Portuguese India.—Nova Goa.
Federated Malay States.—Port Swettenham.
Straits Settlements.—Penang, Singapore.
Sarawak.—Kuching.
British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.
Portuguese Timor.—Dilly.
French Indo-China.—Tourane.
Philippine Islands.—Manila, Iloilo, Jolo, Cebu, Zamboanga.
China.—Amoy, Tientsin.
Macao.
Formosa.—Keelung, Takao.
Chosen.—Chemulpo, Fusan.
Manchuria.—Yingkow, Antung, Changchun, Harbin.
Kwantung.—Port Arthur.
Japan.—Yokohama, Nagasaki, Niigata, Hakodate, Shimonoseki, Moji, Tsuruga, Kobe, Osaka.

AUSTRALASIA AND OCEANIA

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

AUSTRALASIA AND OCEANIA—continued

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

AFRICA

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

Reports had not been received in time for publication from:

Ceylon.—Colombo.
Iraq.—Basrah.
Kenya.—Mombasa.
Dutch East Indies.—All ports.
U. S. S. R.—Vladivostock.

Erratum:

Due to a telegraphic mistake, Public Health Reports April 29, 1927, page 1203, erroneously states that 16 smallpox cases and 12 deaths had occurred at Harbin. This information referred to Hongkong.

Movement of infected ships:

Cape Town.—The mail steamer *Armadale Castle* arrived on April 4 from Durban, having touched at East London and Port Elizabeth. On April 7, one case of pneumonic plague bacteriologically confirmed occurred among the crew. The ship sailed on April 8 for Madeira and Southampton.

ANGOLA (PORTUGUESE WEST AFRICA)

Disease prevalence—February 16-28, 1927.—During the period February 16 to 28, 1927, prevalence of certain diseases was reported in Angola, according to districts, as follows: *Benguela*—malaria, 18 cases; typhus fever, recurrent, 1 case. *Cuanza Norte*—influenza, 4 cases; malaria, 11. *Loanda*—leprosy, 1 case; malaria and dysentery present. *Mossamedes*—influenza, 20 cases; malaria, 20 cases; plague, 4 cases.

CANADA

Communicable diseases—Weeks ended April 16 and 23, 1927.—The Canadian Ministry of Health reports cases of certain communicable diseases in seven Provinces of Canada for the weeks ended April 16 and 23, 1927, as follows:

WEEK ENDED APRIL 16, 1927

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever			1					1
Smallpox				2		1	7	10
Typhoid fever		1	214		5	3		223

WEEK ENDED APRIL 23, 1927

Cerebrospinal fever				2				2
Influenza	9			10	1			20
Lethargic encephalitis					1			1
Smallpox				7	1	3	20	31
Typhoid fever	1		136	31	1	1	1	171

Typhoid fever—Montreal—April 10-23, 1927.—During the two weeks ended April 23, 1927, 295 cases of typhoid fever were reported at Montreal, Quebec, Canada. The number of cases has decreased since the week ended April 2. (See Public Health Reports, April 22, 1927, p. 1139.)

CHILE

Typhoid fever—Smallpox—Typhus fever—January 1–March 15, 1927.—During the period January 1 to March 15, 1927, 159 cases of typhoid fever with 4 deaths were reported in Chile. At Iquique 2 cases of smallpox were reported from March 1 to 15. During the month of January 4 cases of typhus fever with 3 deaths were reported at Chillan, and 4 cases at Valparaiso. At Santiago 3 cases of typhus fever were reported during February.

CUBA

Communicable diseases—Provinces—February 20–April 16, 1927.—Cases of disease were notified in the Provinces of Cuba for eight weeks ended April 16, 1927, as follows:

Disease	Pinar del Rio	Habana	Matanzas	Santa Clara	Camaguay	Oriente	Total
Chicken pox	6	79	14	51	34	41	225
Diphtheria	----------	22	5	1	3	5	36
Malaria	1	68	1	12	162	1,633	1,877
Measles	4	54	16	34	2	2	112
Paratyphoid fever	----------	3	2	6	2	4	17
Poliomyelitis	1	----------	----------	----------	----------	----------	1
Scarlet fever	----------	17	3	1	----------	----------	21
Tetanus (infantile)	1	----------	2	----------	----------	----------	3
Typhoid fever	1	93	12	31	18	56	211

EGYPT

Plague—Alexandria—Guerga Province.—Plague has been reported in Egypt as follows: At Alexandria, April 2 to 5, 1927, two cases with one death, occurring in the same family and in the same locality, a stable in which one of the patients was employed as groom. In the Province of Guerga, April 5, 1927, one fatal case at El-Berba.

GREAT BRITAIN

Smallpox outbreak at Dundee, Scotland—Type of disease.—Under date of March 21, 1927, 42 cases of smallpox were reported at Dundee, Scotland,[1] and during the two weeks ended April 16, 46 cases were reported.

According to a later statement appearing in the Glasgow Health Bulletin for March, 1927, the type of the disease reported at Dundee resembled that of the smallpox prevailing in central and northern England. More than 90 per cent of the cases were in children previously unvaccinated. The constitutional symptoms were stated to be slight at onset, only one case showing temperature when admitted to hospital. In only a few cases was there severe headache or vomiting. The distribution of the rash was typical, appearing first on forehead, face, and limbs, leaving the trunk untouched. The eruption was

[1] Public Health Reports, April 8, 1927, p. 1018.

superficial, and the course of the disease much more rapid than in ordinary smallpox. In some cases the secondary temperature characteristic of typical smallpox was absent.

IRELAND (IRISH FREE STATE)

Typhus fever—Donegal County—March 27-April 2, 1927.—During the week ended April 2, 1927, eight cases of typhus fever were reported in Donegal County, Irish Free State, occurring in Letterkenny district with five cases and in Milford district with three cases. The localities are rural districts.

LATVIA

Communicable diseases—February, 1927.—During the month of February, 1927, communicable diseases were reported in the Republic of Latvia as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	2	Mumps	38
Diphtheria	53	Puerperal fever	2
Erysipelas	34	Scarlet fever	488
Influenza	3,201	Tetanus	1
Leprosy	7	Trachoma	28
Malaria	1	Typhoid fever	48
Measles	264	Whooping cough	177

Population, 1,900,000; estimated.

PERU

Mortality from communicable diseases—Arequipa—Year 1926.—During the year 1926 mortality from communicable diseases was reported in the city and district of Arequipa, Peru, as follows:

Disease	Deaths	Disease	Deaths
Diphtheria and croup	4	Puerperal fever	7
Dysentery	23	Smallpox	3
Gastroenteritis	[1]56	Tuberculosis, pulmonary	140
Influenza	70	Tuberculosis, other forms	89
Malaria	16	Typhoid fever	17
Measles	9	Typhus fever	9

[1] 0 to 1 year, 31; 1 year to 2 years, 25. Population, 43,000.

Mortality—Cancer—Year, 1926.—During the year 1926 a total of 992 deaths from all causes was reported in Arequipa. There were reported 35 deaths from cancer.

Mortality—Callao-Lima—January, 1927.—During the month of January, 1927, mortality from certain diseases was reported as follows for the cities of Callao and Lima, Peru:

Disease	Callao	Lima	Disease	Callao	Lima
Cerebrospinal meningitis	------	3	Tuberculosis	36	88
Gastroenteritis	30	59	Typhoid fever	1	------
Influenza	4	13	Typhus fever	------	1
Malaria	5	13	Whooping cough	1	1

Population: Callao, 60,000; Lima, 240,000; estimated.

UNION OF SOUTH AFRICA

Plague—Typhus fever—March 13–19, 1927.—During the week ended March 19, 1927, one fatal case of plague was reported in the Orange Free State, occurring in Bloemfontein District and in a native. The occurrence was on a farm. During the same period typhus fever was reported present in the Cape Province and the Orange Free State.

Typhus fever—Month of February, 1927.—During the month of February, 1927, 18 cases of typhus fever in the native population and 2 cases in Europeans were reported. The distribution according to locality was as follows:

Cape Province, 13 cases; Orange Free State, 5 (native).

YUGOSLAVIA

Communicable diseases—March, 1927.—During the month of March, 1927, communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	9	1	Measles	1,417	27
Cerebrospinal meningitis	19	5	Rabies	1	1
Diphtheria	151	33	Scarlet fever	319	69
Dysentery	14	1	Tetanus	16	8
Influenza	62,663	1,185	Typhoid fever	78	11
Leprosy	4	----	Typhus fever	9	----
Lethargic encephalitis	5	2	Whooping cough	199	2

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

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

Reports Received During Week Ended May 13, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
India:				
Rangoon	Mar. 20–26	7	4	
Siam				Mar. 6–19, 1927: Cases, 172; deaths, 100.
Do				Apr. 1, 1926–Mar. 19, 1927: Cases, 8,410; deaths, 5,554.
Bangkok	Mar. 6–19	41	23	

PLAGUE

Angola:				
Mossamedes district	Feb. 16–28	4	----	
Ceylon:				
Colombo	Mar. 20–26	2	2	
Egypt:				
Alexandria	Apr. 2–5	2	1	In same locality.
Guerga district	Apr. 5	1	1	
Greece:				
Athens	Mar. 1–31	5	1	Including Piraeus.

[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 13, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
India:				
Bombay	Mar. 20–26	8	7	
Madras Presidency	Mar. 6–12	51	37	
Rangoon	Mar. 20–26	3	4	
Java:				
Batavia	do	11	11	Province.
Siam				Mar. 13–19, 1927: Cases, 2; deaths, 2.
Do				Apr. 1, 1926–Mar. 19, 1927: Cases, 41; deaths, 32.
Union of South Africa:				
Orange Free State—				
Bloemfontein district	Mar. 13–19	1	1	Native. On Rietvli farm.

SMALLPOX

Algeria:				
Algiers	Mar. 21–31	4		
Oran	Apr. 1–10	21		
Arabia:				
Aden	Apr. 3–9	1		
Brazil:				
Rio de Janeiro	Mar. 20–Apr. 2	11	3	
British South Africa:				
Rhodesia	Mar. 12–18	75	2	Northern Rhodesia.
Canada	Apr. 10–23			Cases, 41.
Alberta				Apr. 10–23, 1927: Cases, 27.
Calgary	Apr. 10–16	7		
British Columbia—				
Vancouver	Apr. 11–17	1		
Manitoba				Apr. 17–23, 1927: Cases, 1.
Ontario				Apr. 10–23, 1927: Cases, 9.
Ottawa	Apr. 17–23	1		
Toronto	Apr. 10–23	9		
Saskatchewan	do	4		
Chile:				
Iquique	Mar. 1–15	2		
China:				
Amoy	Mar. 6–26	6		
Chungking	Feb. 27–Mar. 12			Prevalent.
Hongkong	Mar. 20–26	18	9	
Manchuria—				
Dairen	Feb. 20–Mar. 6	6		
Shanghai	do	1		
France:				
Paris	Mar. 22–31	1		
Great Britain:				
England and Wales	Mar. 27–Apr. 16	1,131		
Scotland—				
Dundee	Apr. 3–16	46		
Greece:				
Athens	Mar. 1–31	9	2	Including Piræus.
India:				
Bombay	Mar. 20–26	73	45	
Karachi	Mar. 27–Apr. 2	5		
Madras	do	20	2	
Rangoon	Mar. 20–26	51	14	
Japan:				
Kobe	Mar. 27–Apr. 2	1		
Mexico:				
Mazatlan	Apr. 11–17		1	
San Luis Potosi	Apr. 3–9		2	

TYPHUS FEVER

Algeria:				
Algiers	Mar. 21–31	5		
Angola:				
Benguela District	Feb. 16–28	1		
Chile:				
Chillan	Jan. 1–31	4	3	
Santiago	Feb. 1–28	3		
Valparaiso	Jan. 1–31	4		

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

Reports Received During Week Ended May 13, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
China:				
Chungking	Feb. 27-Mar. 12			Present.
Egypt:				
Alexandria	Mar. 26-Apr. 7	3	2	
Greece:				
Athens	Mar. 1-31	13	3	Including Piræus.
Ireland (Irish Free State):				
Donegal County—				
Letterkenny	Mar. 27-Apr. 2	5		Rural District.
Milford	do	3		Do.
Mexico:				
Mexico City	Mar. 27-Apr. 2	4		Including municipalities in Federal District.
Palestine:				
Majdal District	Apr. 5-11	1		
Peru:				
Arequipa	Year 1926		9	District.
Lima	Jan. 1-31		1	
Poland				Feb. 20-Mar. 5, 1927: Cases, 174; deaths, 24.
Tunisia:				
Tunis	Reported Apr. 13	3		
Union of South Africa				February, 1927: cases, 18; in native population. European, 2 cases.
Cape Province				February, 1927: Cases, 13. Colored or native.
Do	Mar. 13-19			Outbreaks.
Orange Free State				February, 1927; Cases, 5. Colored or native.
Do	Mar. 13-19			Outbreaks.
Yugoslavia	Mar. 1-31	9		

Reports Received from January 1 to May 6, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Canton	Nov. 1-30	10	3	
Chungking	Nov. 14-20			Present.
Do	Jan. 2-Feb. 19			Do.
Tsingtao	Nov. 14-Dec. 11			Do.
Chosen	Sept. 1-Oct. 31	252	159	
French Settlements in India	Aug. 29-Dec. 18	131	97	
Do	Jan. 2-22	10	7	
India	Oct. 10-Jan. 1			Cases, 20,298; deaths, 3,507.
Do	Jan. 2-Feb. 12			Cases, 15,862; deaths, 8,910.
Bombay	Jan. 9-29	2	1	
Calcutta	Oct. 31-Jan. 1	385	313	
Do	Jan. 2-Mar. 19	601	468	
Madras	Dec. 26-Jan. 1	2	2	
Do	Jan. 2-Mar. 19	12	9	
Rangoon	Nov. 21-Jan. 1	11	7	
Do	Jan. 2-Mar. 19	53	47	
Indo-China	July 1-Dec. 31			Cases, 8,508.
Do	Jan. 1-31	490		
Saigon	Oct. 31-Nov. 13	2	2	
Province—				
Annam	July 1-Aug. 31	511	401	
Cambodia	do	727	472	
Cochin-China	do	432	349	
Kwang-Chow-Wan	do	703	361	
Laos	do	056	47	
Tonkin	do	1,017	646	
Japan:				
Hiogo	Nov. 14-20	3		

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

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

Reports Received from January 1 to May 6, 1927—Continued

CHOLERA—Continued

Place	Date	Cases	Deaths	Remarks
Philippine Islands:				
Manila	Oct. 31–Nov. 6	1		
Russia	Aug. 1–Sept. 30	8		
Siam	Apr. 1–Jan. 1			Cases, 7,847; deaths, 5,164.
Do	Jan. 2–Mar. 5			Cases, 333; deaths, 251.
Bangkok	Oct. 31–Jan. 1	16	5	
Do	Jan. 9–Mar. 5	40	21	
Straits Settlements	July 25–Oct. 16		60	
Singapore	Nov. 21–Jan. 1	14	8	
Do	Feb. 6–12	1		

PLAGUE

Algeria:				
Algiers	Reported Nov. 16	1		
Bona	Jan. 11–19	3	2	
Oran	Nov. 21–Dec. 10	32	22	
Tarafaraoui	Nov. 1–Dec. 9	10	9	Near Oran.
Angola:				
Benguela district	Oct. 1–Dec. 31	17	10	
Do	Jan. 19–31	1		At Cavaco.
Cuanza Norte district	Dec. 1–31	18	10	
Mossamedes district	Dec. 16–31	10		
Do	Jan. 19–31	3		At Port Alexander.
Port Alexander	Feb. 9–15	1		
Argentina	Jan. 9–15	5		
Azores:				
St. Michaels Island—				
Furnas	Nov. 3–17	4	1	27 miles distant from port.
Brazil:				
Porto Alegre	Jan. 1–31	4	2	
Rio de Janeiro	Nov. 28–Dec. 4	2	2	
Do	Dec. 26–Jan. 1	1	1	On vessel in harbor.
Do	Jan. 2–8	1		
Sao Paulo	Nov. 1–14	1	1	
British East Africa:				
Kenya—				
Kisumu	Jan. 16–22	1	1	
Mombasa	Feb. 27–Mar. 19	7	7	
Tanganyika Territory	Nov. 21–Dec. 18		12	
Uganda	Sept. 1–Oct. 31	162	152	
Canary Islands:				
Atarfe	Dec. 20	1	1	Vicinity of Las Palmas.
Las Palmas	Jan. 8–Feb. 12	2		
San Miguel	....do	1		Vicinity of Santa Cruz de Teneriffe.
Celebes:				
Makassar	Dec. 22			Outbreak.
Ceylon:				
Colombo	Nov. 14–Dec. 11	3	1	2 plague rodents.
Do	Jan. 2–Mar. 19	41	22	13 plague rodents.
China:				
Mongolia	Reported Dec. 21	500		
Nanking	Oct. 31–Dec. 18			Present.
Do	Feb. 6–Mar. 5			Do.
Ecuador:				
Guayaquil	Nov. 1–Dec. 31	26	8	Rats taken, 50,615; found infected, 184.
Do	Jan. 1–Feb. 15	43	10	Rats taken, 36,124; found infected, 129.
Egypt	Jan. 1–Dec. 9			Cases, 149.
Do	Jan. 1–Mar. 18			Cases, 14.
Alexandria	Nov. 19–Dec. 2	2		
Charkia Province	Jan. 5	1	1	At Zagazig (Tel el Kebir).
Gharbia Province	Jan. 4	1	1	
Kafr el Sheikh	Dec. 3–9	2		
Marsa Matrah	Dec. 23–29	10		
Do	Jan. 27	1		
Port Said	Mar. 12–18	2	1	
Tanta district	Nov. 19–Dec. 20	3		
Greece	Nov. 1–30	10	1	Athens and Piræus.
Athens	Nov. 1–Dec. 31	9	4	
Patras	Nov. 28–Dec. 4		1	
Piræus	Apr. 2	1		
Pravi	Nov. 27	1	1	Province of Drama-Kevalla.

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

Reports Received from January 1 to May 6, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
India	Oct. 10-Jan. 1			Cases, 16,162; deaths, 9,905.
Do	Jan. 2-Feb. 19			Cases, 9,697; deaths, 6,413.
Bombay	Nov. 21-27	1	1	
Do	Jan. 16-Mar. 19	14	12	
Madras	Jan. 31-Jan. 1	581	324	
Do	Oct. 2-Mar. 5	846	505	
Rangoon	Nov. 14-Dec. 25	11	9	
Do	Jan. 2-Mar. 19	48	43	Rats found plague infected, 12.
Indo-China	July 1-Dec. 31			Cases, 52; deaths, 34.
Do	Jan. 1-31	12		
Province—				
Cambodia	do	10	10	
Cochin-China	do	14	9	
Kwang-Chow-Wan	do	10		July, 1925: Cases, 22; deaths, 18.
Iraq:				
Baghdad	Jan. 23-Feb. 5	2	1	
Java:				
Batavia	Nov. 7-Jan. 1	91	90	Province.
Do	Jan. 2-Mar. 19	287	280	Do.
East Java and Madura	Oct. 24-Jan. 1	17	17	
Do	Jan. 2-Mar. 5	18	18	
Madagascar:				
Province—				
Ambositra	Dec. 16-31	10	10	
Do	Jan. 1-Feb. 15	46	44	
Analalava	Oct. 16-31	1	1	
Antisirabe	Dec. 16-21	2	2	
Do	Jan. 1-Feb. 15	54	54	
Diego-Suarez	do	7	7	
Itasy	Oct. 16-Dec. 31	39	39	
Do	Jan. 1-Feb. 15	92	86	
Maevatanana	Oct. 16-31	10	10	
Majunga	do	3	1	
Moramanga	Oct. 16-Dec. 31	92	67	
Do	Jan. 1-Feb. 15	50	48	
Tamatave	Oct. 16-Dec. 31	107	69	Cases, 533; deaths, 497.
Tananarive	do			
Do	Jan. 1-Feb. 15	244	239	
Town—				
Tamatave	Nov. 16-30	2		
Tananarive	Oct. 16-Dec. 31	48	34	
Do	Jan. 1-Feb. 15	19	18	
Mauritius:				
Plaines Wilhems	Oct. 1-Nov. 30	3	3	
Pamplemousses	Dec. 1-31	3	3	
Port Louis	Oct. 1-Dec. 31	39	35	
Do	Jan. 1-31	5	3	
Nigeria	Aug. 1-Nov. 30	999	902	
Peru	Nov. 1-Dec. 31			Cases, 90; deaths, 26
Do	Jan. 1-Feb. 28	79	18	
Departments—				
Ancash	Dec. 1-31	6	6	
Do	Jan. 1-31			Present.
Cajamarca	do	36	6	
Ica—				
Chincha	Nov. 1-30	1		
Lambayeque	Feb. 1-28	6	2	
Chiclayo	Nov. 1-30	3		
Do	Jan. 1-31	2		
Libertad	Dec. 1-31	2		
Do	Jan. 1-Feb. 28	6		
Lima	Nov. 1-Dec. 31	42	14	
Do	Jan. 1-Feb. 28	66	16	
Piura	Feb. 1-28	1		
Portugal:				
Lisbon	Nov. 23-26	3	2	In suburb of Belem.
Russia	May 1-June 30	44		
Do	July 1-Sept. 30	64		
Senegal	July 1-31	178	162	
Diourbel	Nov. 20-30	12	1	
Thies	Mar. 28-Apr. 3	3	5	
Tivaouane	Dec. 19-25	6	2	In interior.
Do	Mar. 21-Apr. 3	4	4	Do.

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

Reports Received from January 1 to May 6, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
Siam	Apr. 1-Jan. 1			Cases, 30; deaths, 22.
Do	Jan. 16-Mar. 5			Cases, 9; deaths, 7.
Bangkok	Feb. 27-Mar. 5	1	1	
Syria:				
Beirut	Nov. 11-Dec. 20	4		
Do	Feb. 1-10	1		
Tunisia	Dec. 1-31			Cases, 48.
Do	Jan. 12-26			Cases, 34.
Acheche district	Feb. 11-14	14	14	Pneumonic.
Bousse	Jan. 12-26	8		
Djeneniana	Feb. 11-14	8		
Kairouan	do	3		
Mahares	do	15		
Sfax	Oct. 1-Dec. 31	304	128	
Turkey:				
Constantinople	Dec. 15-25	1		
Union of South Africa:				
Cape Province—				
Cradock district	Jan. 2-Feb. 19	3	1	
De Aar district	Nov. 21-27	1		Native.
Glen Gray district	Jan. 31-Feb. 12	8	8	
Hanover district	Nov. 14-Jan. 1	3	2	
Do	Jan. 2-8	1	1	
Middleburg district	Dec. 5-11	1	1	Do.
Richmond district	Mar. 6-12	3	2	
Orange Free State	do			Cases, 12; deaths, 2.
Bloomfontein district	Feb. 27-Mar. 5	2	2	
Bothaville district	Dec. 5-18	2	1	
Hoopstad district	Nov. 7-13	1	1	Native.
Do	Dec. 5-25	2	1	Do.
Do	Jan. 2-Feb. 12	4		
Vredefort district	Dec. 19-25	10	5	
Do	Feb. 6-12	2	1	
On vessel:				
S. S. Leconte de Lisle	Feb. 21-23	2		At Tamatave, Madagascar.

SMALLPOX

Algeria	Sept. 21-Dec. 31			Cases, 797.
Do	Jan. 1-Feb. 20			Cases, 327.
Algiers	Dec. 11-31	4		
Do	Jan. 1-Mar. 10	8		
Oran	Mar. 21-31	1		
Angola	Oct. 1-15			Present in Congo district.
Congo	Feb. 2-15	1		
Cuanza Norte	Nov. 1-15			Present.
Malange	Feb. 2-15	2		
Arabia:				
Aden	Dec. 12-18	1		Imported.
Belgium	Oct. 1-10	1		
Brazil:				
Bahia	Oct. 30-Dec. 18	12	8	
Para	Oct. 31-Nov. 6		1	
Do	Feb. 5-12		1	
Pernambuco	Oct. 17-Dec. 25	58	4	
Rio de Janeiro	Year 1926			Cases, 4,033; deaths, 2,180.
Do	Jan. 2-Mar. 19	63	31	
Sao Paulo	Aug. 23-Dec. 5	34	18	
British East Africa:				
Kenya—				
Nairobi	Dec. 1-31	15	5	
Tanganyika Territory	Oct. 31-Nov. 20	2		
Do	Jan. 2-Mar. 5	34	21	
Zanzibar	Oct. 1-31	23	12	
British South Africa:				
Northern Rhodesia	Nov. 27-Dec. 3			Cases, 200. In natives.
Do	Feb. 26-Mar. 4	55	2	
Bulgaria	Nov. 1-30	1		
Canada	Dec. 5-Jan. 1			Cases, 155.
Do	Jan. 2-Apr. 9			Cases, 548.
Alberta	Dec. 5-Jan. 1	132		
Do	Jan. 2-Apr. 9	203		
Calgary	Nov. 28-Dec. 25	12		
Do	Jan. 2-Apr. 2	40	1	
Edmonton	Dec. 1-31	4		
Do	Jan. 1-Mar. 31	18		

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

Reports Received from January 1 to May 6, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Canada—Continued.				
British Columbia—				
Vancouver	Jan. 31–Mar. 20	7		
Manitoba	Dec. 5–Jan. 1	9		
Do	Jan. 2–Apr. 9	22		
Winnipeg	Dec. 19–25	1		
Do	Jan. 2–Apr. 22	9		
New Brunswick	Feb. 13–26	2		
Ontario	Dec. 5–Jan. 1	96		
Do	Jan. 2–Apr. 9	273		
Kingston	Jan. 1–Feb. 19	3		
Ottawa	Dec. 12–31	5		
Do	Jan. 9–Apr. 16	8		
Toronto	Dec. 14–25	14		
Do	Jan. 1–Apr. 9	79	1	
Saskatchewan	Dec. 5–Jan. 1	18		
Do	Jan. 2–Apr. 9	48		
Regina	Jan. 16–22	1		
Chile:				
Concepcion	Dec. 26–Jan. 1		5	
China:				
Amoy	Jan. 1–Feb. 26	2		
Canton	Nov. 1–Dec. 31	6		
Chefoo	Jan. 23–Mar. 20			Present.
Chungking	Nov. 7–Dec. 25			Do.
Do	Jan. 2–Feb. 26			Do.
Foochow	Nov. 7–Dec. 25			Do.
Do	Feb. 27–Mar. 19			Do.
Hankow	Nov. 6–30			Do.
Hongkong	Jan. 23–Mar. 19	70	41	
Manchuria—				
Harbin	Dec. 16–31	3		
Do	Feb. 7–13	1		
Kai-Yuan	Mar. 20–26	1		
Mukden	Dec. 5–11	1		
Nanking	Dec. 12–25			Do.
Do	Jan. 2–Mar. 5			Do.
Shanghai	Dec. 12–18		1	
Do	Jan. 20–Feb. 26		2	
Swatow	Nov. 21–27			Do.
Tientsin	Jan. 16–Mar. 26	23		
Chosen	Aug. 1–Nov. 30	53	19	
Do	Jan. 21–Feb. 20	7	1	
Seoul	Nov. 1–30	2		
Egypt:				
Alexandria	Jan. 8–14	1		
Cairo	June 11–Aug. 26	27	4	
Estonia	Oct. 1–30	2		
France	Sept. 1–Dec. 31	293		
Paris	Dec. 1–31	10	3	
Do	Jan. 1–Mar. 20	19	3	
French Settlements in India	Aug. 29–Jan. 1	127	127	
Do	Jan. 2–22	24	24	
French Sudan:				
Kita	Mar. 28–Apr. 3			Present.
Germany:				
Stuttgart	Nov. 28–Dec. 4	7		
Gold Coast	Aug. 1–Nov. 30	59	14	
Great Britain:				
England and Wales	Nov. 14–Jan. 4			Cases, 2,262.
Do	Jan. 2–Mar. 26			Cases, 5,749.
Birmingham	Mar. 13–19	5		
Bradford	Jan. 9–22	2		
Cardiff	Feb. 13–19	1		
Leeds	Mar. 27–Apr. 2	1		
London	Reported Apr. 28	6		
Monmouthshire	Feb. 25	22		
Newcastle-on-Tyne	Dec. 5–13	2		
Do	Jan. 2–Apr. 9	19		
Normanton	Dec. 30	1		9 miles from Leeds.
Sheffield	Nov. 28–Jan. 1	60		
Do	Jan. 2–Apr. 2	543	1	
Wakefield	Jan. 30–Feb. 2	2		
Scotland—				
Dundee	Mar. 31	42		
Greece	Nov. 1–Dec. 31	25		
Athens	Dec. 1–31	14	2	

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

Reports Received from January 1 to May 6, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Guatemala:				
Guatemala City	Nov. 1-Dec. 31		15	
Do	Jan. 1-Feb. 28		51	
India	Oct. 10-Jan. 1			Cases, 22,946; deaths, 6,006.
Do	Jan. 2-Feb. 19			Cases, 31,471; deaths, 7,645.
Bombay	Nov. 7-Jan. 1	37	20	
Do	Jan. 2-Mar. 19	411	219	
Calcutta	Oct. 31-Jan. 1	449	311	
Do	Jan. 2-Mar. 19	1,876	1,372	
Karachi	Dec. 19-25	1	1	
Do	Jan. 2-Mar. 26	33	25	
Madras	Nov. 21-Jan. 1	32	2	
Do	Jan. 2-Mar. 26	264	9	
Rangoon	Nov. 28-Jan. 1	2	2	
Do	Jan. 2-Mar. 19	210	44	
Indo-China:				
Saigon	Dec. 26-Jan. 1	3		
Do	Feb. 6-12	1		
Iraq:				
Baghdad	Oct. 31-Dec. 4	7	4	
Do	Jan. 23-Mar. 5	5	1	
Basra	Nov. 7-13	1	1	
Italy	Aug. 29-Jan. 1	28		
Do	Jan. 2-15	2		
Genoa	Dec. 30-31	1		
Do	Jan. 1-10	2		
Jamaica	Nov. 26-Jan. 1	37		Reported as alastrim.
Do	Jan. 2-Apr. 2	105		Do.
Japan	Oct. 24-Jan. 1	27		
Do	Jan. 2-9	28		
Kobe	Nov. 14-20	1		
Do	Jan. 23-Feb. 5	2		
Yokohama	Nov. 27-Dec. 3	2		
Java:				
Batavia	....do	2		Province.
Do	Mar. 13-19	1		
East Java and Madura	Oct. 24-Dec. 25	11	1	
Do	Jan. 2-27	4	3	
Lithuania	Nov. 1-30	2		
Luxemburg	Nov. 1-Dec. 31	2		
Mexico	July 1-Oct. 31		534	
Chihuahua	Dec. 31			Several cases; mild.
Do	Jan. 31-Feb. 6			Present.
Ciudad Juarez	Dec. 14-27		2	
Manzanillo	Mar. 5-Apr. 4		4	
Mazatlan	Feb. 14-20		2	
Mexico City	Nov. 23-Dec. 25	6		Including municipalities in Federal District.
Do	Dec. 26-Mar. 26	6		Do.
Nuevo Leon State—				
Cerralvo	Mar. 11			Epidemic.
Montemorelos	Feb. 24			Reported present.
Monterey	Feb. 24-Mar. 20	64	2	Other cases stated to exist.
Parral	Jan. 31-Feb. 6			Cases, 25. Unofficially reported.
Piedras Negras district	Feb. 25	68		At Nueva Rosita.
Saltillo	Feb. 6-Apr. 9		2	
San Luis Potosi	Nov. 12-Dec. 18		3	
Do	Jan. 9-Apr. 2		25	
Tampico	Jan. 21-31	1		
Torreon	Nov. 28-Jan. 1		12	
Do	Jan. 2-Mar. 19		13	
Victoria	Feb. 24			Present.
Netherlands East Indies	Dec. 14			Island of Borneo; epidemic in two villages.
Nigeria	Aug. 1-Dec. 31	165	40	
Persia:				
Teheran	Nov. 22-Dec. 23		5	
Peru:				
Arequipa	Dec. 1-31		1	
Do	Jan. 1-31		1	
Laredo	Dec. 1			Severe outbreak; vicinity of Trujillo.
Poland	Oct. 11-Dec. 31			Cases, 32; deaths, 3.
Do	Jan. 1-8			Deaths, 1.
Portugal:				
Lisbon	Nov. 22-Jan. 1	43	4	
Do	Jan. 2-Apr. 2	33		

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

Reports Received from January 1 to May 6, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Rumania	Jan. 1–Sept. 30	7	1	
Russia	May 1–June 30	705		
Do	July 1–Sept. 30	884		
Senegal:				
Dakar	Jan. 9–Apr. 3	4		
Ouakam	Mar. 20–27	4		Vicinity of Dakar.
Siam	Apr.–Jan. 1			Cases, 711; deaths, 265.
Do	Jan. 2–Mar. 5			Cases, 64; deaths, 30.
Bangkok	Oct. 31–Jan. 1	28	10	
Do	Jan. 2–Mar. 5	34	21	
Sierra Leone:				
Makeni	Feb. 22–28	3		
Nanowa	Dec. 1–15	1		Pendembu district.
Spain	July 1–Sept. 30		9	
Valencia	Feb. 8–Apr. 2	9		
Sumatra:				
Medan	Feb. 20–26	1		
Straits Settlements:				
Singapore	Oct. 31–Jan. 1	12	2	
Do	Jan. 2–Feb. 26	4	3	
Tunisia	Oct. 1–Dec. 31	9		
Do	Jan. 1–Feb. 20	18		
Tunis	Jan. 1–Mar. 10	3		
Turkey:				
Constantinople	Feb. 1–7		1	
Union of South Africa:				
Cape Province—				
Albany district	Jan. 23–29			Outbreaks.
Caledon district	Dec. 5–11			Do.
Steynsburg district	do			Do.
Stutterheim district	Nov. 21–27			Do.
Wodehouse district	Jan. 30–Feb. 12			Do.
Natal—				
Durban district	Nov. 7–27	9		Including Durban municipality. Total from date of outbreak: Cases, 62; deaths, 16.
Orange Free State	Nov. 14–27			Outbreaks.
Bothaville district	Nov. 21–27			Do.
Transvaal	Nov. 7–20	2		Europeans.
Bethel district	Jan. 23–29			Outbreaks.
Johannesburg	Nov. 14–20	1		
West Africa:				
French Guinea—				
Kissidougou	Feb. 19			Present.
French Sudan—				
Kayes	do			Do.
Yugoslavia	Nov. 1–Dec. 31	4	1	
Do	Jan. 1–31	3		

TYPHUS FEVER

Algeria	Sept. 21–Dec. 20	59	2	
Do	Jan. 1–Feb. 20			Cases, 64; deaths, 7.
Algiers	Feb. 1–Mar. 20	33		
Oran	Mar. 21–31	7		
Argentina:				
Rosario	Dec. 1–31		1	
Do	Jan. 25–31		3	
Bulgaria	July 1–Dec. 31	39	5	
Do	Jan. 1–31	7	3	
Chile	Sept. 15–Nov. 15	39	4	
Concepcion	do	1		
Do	Jan. 23–29		1	
Lebu	Sept. 15–Nov. 15	6	2	
Linares	do	2		
Los Andes	do	8		
Santiago	Sept. 15–Dec. 31	25	2	
Valparaiso	Sept. 15–Dec. 25	10		
Do	Jan. 2–Mar. 19	5	1	
China:				
Antung	Nov. 22–Dec. 5	4		
Chefoo	Oct. 24–Nov. 6			Present.
Chungking	Dec. 25–31			Do.

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

Reports Received from January 1 to May 6, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
Chosen	Aug. 4–Dec. 31	54	5	
Seoul	Nov. 1–30	1		
Do	Jan. 1–31	2	1	
Czechoslovakia	Oct. 1–Dec. 31	10		
Do	Jan. 1–Feb. 28	48		
Egypt:				
Alexandria	Dec. 3–9		1	
Do	Jan. 22–Mar. 25	2		
Cairo	Oct. 29–Nov. 4	1	1	
Estonia	Dec. 1–31	1		
Do	Jan. 1–Feb. 28	13		
France	Nov. 1–30	1		
Gold Coast	Sept. 1–30	1	1	
Greece	Nov. 1–30			Cases, 12.
Athens	Nov. 1–Dec. 31	19	2	
Do	Feb. 1–28	4		
Drama	Dec. 1–31	2		
Kavalla	do	2		
Patras	Jan. 23–29		1	
Ravokan	do	1		
Saloniki	Jan. 25–31	1		
Indo-China:				
Tonkin	Aug. 1–31	2		
Ireland:				
Clare County—				
Tulla district	Jan. 9–15	1		Suspect.
Italy	Aug. 29–Sept. 23	3		
Japan	Jan. 2–29			Cases, 2.
Tokyo Prefecture	Dec. 5–25	9		
Tokyo city	do	5	1	
Latvia	Jan. 1–31	2		
Lithuania	Sept. 1–Dec. 31	41	4	
Do	Jan. 1–31	24		
Mexico	July 1–Nov. 30			Deaths, 576.
Aguascalientes	Jan. 9–Feb. 5	2		
Durango	Jan. 1–31		1	
Guadalajara	Jan. 25–31		1	
Mexico City	Dec. 5–11	3		Including municipalities in Federal district.
Do	Jan. 2–Mar. 26	70		Do.
Parral	Jan. 30–Feb. 5	1		
Nigeria	Sept. 1–30	1		
Palestine:				
Acre	Dec. 29–Jan. 3	1		
Beisan	Dec. 21–27	1		
Haifa	Nov. 23–Dec. 13	5		
Do	Dec. 28–Feb. 7	7		
Jaffa	Nov. 23–Dec. 27	7		
Do	Jan. 11–Feb. 21	3		
Majdal	Dec. 28–Jan. 3	1		
Nazareth	Nov. 16–Jan. 3	12		
Do	Mar. 1–7	1		
Ramleh	Jan. 31–Feb. 7	1		
Safad	Dec. 21–Jan. 3	2		
Peru:				
Arequipa	Dec. 1–31		2	
Poland	Oct. 11–Dec. 25			Cases, 341; deaths, 27.
Do	Jan. 1–Mar. 5			Cases, 515; deaths, 43.
Rumania	Aug. 1–Nov. 30	255	11	
Russia	May 1–June 30	6,043		
Do	July 1–Aug. 31	3,060		
Spain	July 1–Sept. 30		4	
Seville	Mar. 16–22		1	
Syria:				
Aleppo	Mar. 13–19	1		
Tunisia	Oct. 1–Dec. 27	30		
Do	Jan. 1–Feb. 20	72		
Tunis	Jan. 21–Mar. 31	4		
Turkey:				
Constantinople	Dec. 12–25	3		
Do	Jan. 16–22			1 death reported by press.

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

Reports Received from January 1 to May 6, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
Union of South Africa	Oct. 1-Dec. 31			Cases, 233; deaths, 30.
Cape Province	do	47	7	
Do	Jan. 1-31	38	4	
Clydesdale	Mar. 6-12			Outbreaks.
East London	Nov. 21-27	1		Native. Imported.
Port St. Johns district	Dec. 5-11			Outbreaks. On farm.
Natal	Oct. 1-31	1		
Do	Jan. 1-31	6		
Orange Free State	Oct. 1-Dec. 31	31	2	
Do	Jan. 1-Feb. 19	12	3	
Transvaal	Oct. 1-31	1		
Do	Jan. 1-31	1		Native.
Yugoslavia	Nov. 1-Dec. 31	30	2	
Do	Jan. 1-Feb. 28	65	4	

YELLOW FEVER

French Sudan	Dec. 19-25	1	1	
Gold-Coast	Aug. 1-Nov. 30	10	5	
Nigeria	Sept. 1-Nov. 30	4	3	
Senegal	Dec. 19-25	3	3	
Diourbel	Dec. 6	1	1	
Do	Jan. 1-20	1	1	At N'Bako.
Guinguineo	Dec. 7	1	1	
Rufisque	Nov. 27-Dec. 29	2	1	In European.
Do	Jan. 2-8	3	3	
Upper Volta:				
Gaoua district	Oct. 25	2		