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TULARAEMIA: OCCURRENCE IN THE SAGE HEN, *Centrocercus urophasianus*

Also Report of Additional Cases Following Contacts with Quail, *Colinas virginianus*[1]

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A study of a recent localized epizootic among sage hens, *Centrocercus urophasianus*, in northeastern Fergus County, Mont., has resulted in the recovery of *Bacterium tularense* from the tissues of dead and killed sage hens and also from infesting ticks of the species *Haemaphysalis cinnabarina*. These findings are of interest for three reasons: (1) They provide added evidence that at least some species of gallinaceous birds constitute a definite potential source of human infection; (2) they point to the bird tick, *H. cinnabarina*, a tick not heretofore incriminated as a carrier of tularaemia, as the most probable agent of the spread of this disease from bird to bird in the area studied; and (3) they afford additional reasons for believing that *Bact. tularense* is deserving of serious consideration as one possible causal factor of the periodic epizootics that occur among various species of grouse, a question which has been of deep interest to game conservationists in recent years.

The possibility that *Bact. tularense* may sometimes be concerned in the causation of epizootics among grouse was first suggested by one of the writers (Parker) in 1925, as a result of observations made in Montana incidental to studies of Rocky Mountain spotted-fever virus in nature. These observations were: (1) That the prevalence of tularaemia was known or suspected among the local rabbit populations in areas where grouse epizootics had occurred; (2) that rabbits and the several species of grouse observed were common hosts of the rabbit tick, *H. leporis-palustris*, a known carrier of tularaemia; (3) that the close habitat association between rabbits and certain game birds would facilitate the transfer of rabbit ticks from rabbits to birds and from birds to rabbits; and (4) that local epizootics which up to that time had been personally observed or had been reported to the station had all been in areas in which rabbits had been dying, the beginning of the grouse epizootic in each instance being

[1] Contribution from the Rocky Mountain Spotted Fever Field Station, Hamilton, Mont.

subsequent to the beginning of deaths among the local rabbits. This chronological relationship, it was thought, might be due in part at least to the fact that rabbit ticks, as observed in Montana, do not infest grouse until much later in the season than they do rabbits.

Similar observations of ruffed grouse epizootics in Minnesota by Green brought him independently to like conclusions.[2] These ideas led to tests of the susceptibility of various species of gallinaceous birds by Parker and Spencer,[3] by Parker,[4] and by Green,[2,5] but the results have not materially helped as regards the actual relationship of tularaemia to epizootics. The most suggestive data were the essentially simultaneous demonstration of a high degree of susceptibility among quail, *Colinas virginianus*, by Parker [6] and the recovery of *Bact. tularense* from the tissues of a quail found dead in nature by Green.[7] Green's observation showed that tularaemia does occasionally, at least, infect birds in nature.

The first opportunity to secure actual field data was afforded in the late summer of 1931, when a correspondent in Lewistown, Mont., reported that during a 3-day open hunting season, August 13–15, dead and patently sick sage hens had been observed on a farm northeast of Roy, and also that numerous ticks had been noticed on killed birds. Tick specimens submitted were identified as *H. cinnabarina*.

A trip was made by one of us (Philip) to the affected area early in September; but owing to the unexpected isolation of the farm concerned and attendant difficulties of transportation, it was possible to spend only one and one-half hours on the ground. However, there were secured (*a*) one sage hen but recently dead and in good flesh; (*b*) one sage hen shot on the wing; (*c*) one recently dead jack rabbit; and (*d*) one cottontail which was killed. In addition, there were seen in the course of a 2-mile walk eight dead cottontails and six dead sage hens. All the latter appeared to be young birds. The farm owner reported rabbits as having died in greatest numbers in 1930, and sage hens in 1931, his information giving the impression of a subsiding epizootic.

On the recently dead sage hen there were 488 ticks, of which 30 partially to fully engorged females were dead, but still attached. On the one killed sage hen there were 180 ticks. All these ticks were *H. cinnabarina*—larvae, nymphs, and adults being present. On the cottontail there were 17 *H. leporis-palustris*, but the jack rabbit had been dead so long that any ticks, if present, had crawled from the carcass. The spleen and a piece of liver from each of the two sage

[2] Green, R. G., and Wade, E. M.: Proc. Soc. Exp. Biol. and Med., vol. 25, p. 515, 1928.
[3] Parker, R. R., and Spencer, R. R.: Sixth Bien. Rept., Mont. State Board of Entomology, p. 30, 1925–26.
[4] Unpublished data.
[5] Green, R. G., and Wade, E. M.: Proc. Soc. Exp. Biol. and Med., vol. 26, p. 637, 1928.
[6] Parker, R. R.: Pub. Health Rep., vol. 44, No. 17, p. 999, Apr. 26, 1929.
[7] Green, R. G., and Wade, E. M.: Proc. Soc. Exp. Biol. and Med., vol. 26, p. 626, 1929.

hens, and the heart and a piece of breast muscle from the dead grouse were preserved separately in glycerine. From the jack and cottontail rabbits pieces of heart, liver, and spleen were similarly preserved. A few tapeworms were the only macroscopic endoparasites observed.

A later trip (September 23 to 27) to the same area and adjacent territory was made. The farm owner reported that no additional dead birds or rabbits had been seen, and careful search revealed but two dead sage hens that could by any chance have died since the previous trip. These observations tended to confirm the impression of a subsiding epizootic. Within the epizootic area eight sage hens and one cottontail rabbit were shot. Eighteen sage hens, eight jack rabbits, and one cottontail were secured at distances varying from 2 to 10 miles from the farm. From the 26 sage hens a total of 1,450 *H. cinnabarina* and one *H. leporis-palustris* were collected. The highest *H. cinnabarina* count from a single bird was 377, the lowest 1, while 2 birds were uninfested. The average tick infestation of the 8 birds from the epizootic area was 154.34; the average of those from a distance was only 11.94. From the cottontail rabbit killed within the epizootic area 95 *H. leporis-palustris* were taken; from the other 9 rabbits only one tick was secured. It is worthy of note that this single tick was a specimen of *H. cinnabarina* from one of the jack rabbits. From each of 24 sage hens the spleen and pieces of lung, liver, and kidney were preserved in glycerine; blood samples were secured from 17 birds, of which 4 were grouse shot within the area.

The ticks and tissues secured were tested at the United States Public Health Service laboratory at Hamilton by the intraperitoneal and subcutaneous injection of salt solution emulsions into guinea pigs, and all tests noted as positive for tularaemia were verified by the isolation of *Bact. tularense* in pure culture and the agglutination of the latter by known antitularense rabbit serum. From guinea pigs which died with suggestive but atypical lesions, tissue transfers were made to new guinea pigs and when necessary from these to a third group. Typical infection in some tests was discovered in an initial guinea pig and in others only in animals of the second or third group.

The following data are the records of tests and results secured with materials from the first trip:

Dead sage hen.—Eleven groups of 10 or 25 ticks each. The larval, nymphal, and adult ticks were segregated and were injected into separate guinea pigs; two groups were composed of 10 dead ticks each. Four guinea pigs were injected with spleen, two with heart, and two with breast muscle emulsion.

Four adult-tick-injected guinea pigs and one of each of the groups of two receiving heart and breast muscle, respectively, died of tula-

raemia. Of the four positive tick-injected guinea pigs, two were those which had received the dead ticks.[8]

Killed sage hen.—Six guinea pigs were injected with groups of 10 to 25 ticks each, 3 with spleen and 2 with liver emulsion.

One of the adult-tick-injected and one of the spleen-injected guinea pigs died of tularaemia.

Dead jack rabbit.—No ticks recovered. Two guinea pigs were injected with liver, two with heart, and four with spleen emulsion.

All the heart- and spleen-injected animals died of tularaemia. Those injected with liver remained well.[9]

Killed cottontail.—Six tissue-injected and one tick-injected (*H. leporis-palustris*) guinea pigs from this rabbit remained well.

The data for the tests of material secured during the second trip are as follows:

Sage hens.—A pooled emulsion of spleen, liver, kidney, and lungs of each sage hen was injected into three guinea pigs; all or a large portion of the ticks from each bird were injected into separate guinea pigs.

Only one of the tissue-injected guinea pigs died. The lesions were suggestive, however, and transfers resulted in typical infection. The remaining guinea pigs were killed, and autopsied on the 17th day. From several spleens which were slightly suspicious individual transfers were made to new guinea pigs, while all enlarged spleens not otherwise suggestive were pooled in groups of 10 and also injected in fresh animals. No typical infections resulted.

Of the 24 tick-injected guinea pigs, 3 died of tularaemia. Each of the latter had been injected with ticks from sage hens killed within the epizootic area. Ticks from the 18 sage hens shot at some distance from the area were negative.

None of the blood samples agglutinated *Bact. tularense* and none was from tissue-positive or tick-positive grouse.

These data, though suggestive, can not be viewed as establishing a primary relationship between *Bact. tularense* and the epizootic reported. The following points, however, have some bearing on this question:

1. The mortality among sage hens began subsequent to the beginning of an epizootic among rabbits in the same area.

2. Tularaemia infection was shown to be present among the local rabbit population and was the probable cause of the local rabbit mortality.

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[8] It is possible that the deaths of these ticks were due to *Bact. tularense*. Deaths of ticks suspected to have been due to tularense infection have occasionally been observed in *Dermacentor andersoni* and *D. variabilis*. It is not usual to find ticks dead *in situ*.

[9] It will be noted that all tests with preserved liver herein recorded are negative, though other tissues from the same animal in some instances were positive. This accords with Francis's observation that "liver is inimical to the life of the infection" in glycerine-preserved tissues. (Francis, Edward: Symptoms, Diagnosis, and Pathology of Tularaemia. Jour. Amer. Med. Assoc., vol. 91, p. 1155, Oct. 20, 1928.)

3. Of 10 sage hens secured in the epizootic area, 1 of them recently dead in nature, tularaemia was recovered from the dead and from 1 killed sage hen; all 10 were heavily tick infested; and ticks from 5 of the 10 were tularaemia-infected, an especially heavy concentration of infected ticks being indicated on the grouse found dead. Of 18 sage hens from outside the epizootic areas, the tissue of only 1 of the 16 tested yielded *Bact. tularense;* all were either lightly tick-infested or carried no ticks; and none of these ticks was found infected. The number of ticks available for test, however, was relatively small as compared with the number tested from sage hens within the area.

4. It was improbable that the occurrence of *Bact. tularense* in the affected sage hens came from any other source than a blood-sucking parasite, and can presumably be accounted for in one of two ways: (*a*) By an initial epizootic in the local rabbits, infection being subsequently carried to sage hens by the rabbit tick and then spread from bird to bird by the bird tick; or (*b*) by assuming that tularaemia is a long established infection in bird ticks and that the resultant prevalence of the infection in sage hens was largely or wholly independent of tularaemia infection among rabbits and the rabbit tick.

5. The negative agglutination tests are probably of significance only as indicating the absence of quite recent infection. This conclusion has been suggested by observations by the writers on certain wild birds and on domestic chickens and has been definitely proved in wild ducks, in which it has also been shown that agglutinins will reappear if subsequent injections of antigenic material are given (unpublished data).

The true significance of the above points can not be determined because (1) of the short period of time during which the epizootic was under observation; (2) there are no records which show the extent to which sage hens are normally infested with rabbit ticks (the present records were secured too late in the season to be of significance); (3) there are no reliable records to show whether or not *H. cinnabarina* infests rabbits and might derive tularaemia infection from this source (the single bird tick nymph from a jack rabbit herein recorded is the second such record known to the writers); (4) the nature of the sage hen tissue tests as made does not preclude the chance that some other bacterial or disease-causing parasite may have been present; (5) the susceptibility of sage hens to tularaemia has not been studied experimentally, but it is considered likely, from the present observations and experience with other birds, that they are normally fairly resistant. Among some gallinaceous birds we have evidence of a difference in the susceptibility of individuals. There may also be an age factor; and (6) because the evidence, though suggestive, is not fully conclusive that *H. cinnabarina* is a tularaemia-transmitting agent, although stage-to-stage transmission of infection by this tick

is certainly indicated by the fact that *Bact. tularense* was recovered from ticks from three grouse but not from the grouse tissues, the seemingly obvious deduction being that, since *H. cinnabarina* is a "three-host tick," infection must have been acquired from the host of some antecedent stage of the ticks concerned.[10]

If sage hens are normally fairly resistant to tularaemia infection, the question is naturally suggested, How can *Bact. tularense* be the main factor of an epizootic among these birds? However, that this eventuality is possible in an animal species having a considerable degree of resistance has been shown by Parker and Dade[11] in connection with extensive losses of sheep from tick-borne tularaemia epizootics in southern Idaho. The obviously possible processes involved are (1) an increased pathogenicity of the disease-producing agent, or (2) a lowering of animal resistance. It may be that the virulence of *Bact. tularense* is at a low point during interepizootic periods, but is gradually enhanced with the increasingly frequent animal passage of the bacterium which must occur as the population of susceptible animals and of their accompanying numerous species of blood-sucking tularaemia-transmitting parasites is again built up. Green, in a recent paper, has briefly discussed possible changes of virulence of *Bact. tularense* in nature as suggested by studies in Minnesota.[12] On the other hand, a lowered animal resistance is conceivable as a result either of heavy infestation by ticks or other parasites or of a massive, repeated, or continuous inoculation of the disease agent, such as could result from the simultaneous presence on the host of a considerable number of tularaemia-infected ticks or other parasites or repeated or continuous infestation by them. It is possible that increased susceptibility under such conditions may be the result of specific sensitization. In fact, in experimental studies at Hamilton the writers have observed in the highly susceptible guinea pig that animals injected with killed *tularense* cultures and subsequently with viable organisms show at autopsy more accentuated and more extensive gross lesions than do those not previously injected.

The data here recorded concerning sage hens, bird ticks, and tularaemia do not detract from the significance of the independently secured epidemiological evidence of Parker and of Green relative to the potentialities of tularaemia in the rabbit–rabbit-tick–grouse

[10] Deaths of turkeys infested with *H. cinnabarina* were reported in 1909 from Taftsville, Vt. On one farm, 40 of a flock of 46 young turkeys died. A parallel experience was reported from Fergus County, Mont., in 1926, a year during which tularaemia was epizootic in nature in the area concerned. Although an infectious disease factor was not suggested in either instance, a careful investigation of similar epizootics in the future, with this possibility in mind, might prove worth while.

[11] Parker, R. R., and Dade, J.: Jour. Amer. Vet. Med. Assoc., vol. 75, n. s. 28, No. 2, p. 173, August, 1929.

[12] Green, R. G.: Amer. Jour. Hyg., vol. 14, No. 3, p. 600, November, 1931.

complex in nature.[13] It is probable that the sage hen and the other gallinaceous birds that frequent sagebrush areas are, like the jack rabbit (which is their closest rabbit associate as regards both habits and habitat), relatively far more free from rabbit ticks than are those gallinaceous birds that are closely associated by habitat adaptation with snowshoe and cotton-tail rabbits. The latter birds and rabbits are commonly heavily infested, and not infrequently the number of ticks per host is almost unbelievable—many hundreds, and often even thousands. Under such conditions of infestation it is certain that when a tularaemia epizootic is in progress among rabbits, with every apparent opportunity for infecting immense numbers of rabbit ticks, numerous infected ticks must be picked up by the habitat-associated gallinaceous birds. What the result of such infestation actually is can be determined only by thorough studies of time-correlated rabbit and bird epizootics.

There are very few reports concerning the host relationships of the bird tick, although birds are without question the usual hosts. It has, however, been reported from cattle in Manitoba and once from a rabbit in British Columbia.[14] It is quite certain that it does not occur on rodents except accidentally, unless possibly on rabbits. The immature stages of the bird tick and the rabbit tick are superficially so similar that microscopic examination is necessary for differentiation, and well-qualified specialists have been known erroneously to identify *H. leporis-palustris* from birds as *H. cinnabarina*. It may be that a similar error has been made in the identification of ticks from rabbits.

In previous papers Parker [15] has called attention to two definite tularaemia cases and one possible case that could have resulted from direct or indirect contact with game birds (Columbian grouse, *Dendrogapus obscurus richardsoni*, and quail, respectively). In connection with the epizootic here concerned, A. C., a resident of Lewistown, has reported that he punctured a finger with a bone while dressing a sage hen shot during the 3-day open season in August, and that beginning a few days later he was ill for three weeks with aching muscles and marked prostration and that an ulcer developed at the site of the finger puncture. He did not consult a physician nor has it been possible to secure a blood sample.

Fergus County and Garfield County, which adjoins it on the east, are the only Montana counties in which tularaemia in man has been reported during 1931.

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[13] Parker has previously suggested that *H. cinnabarina* would be found to be a tularaemia-transmitting tick should it be determined that *Bact. tularense* is a factor in grouse epizootics. Transactions of the Seventeenth American Game Conference, p. 232, 1931.

[14] Hewitt, C. G.: Trans. Roy. Soc. Can., vol. 9, sec. 4, p. 225, 1915.

[15] See footnotes 3 and 6.

Through the kindness of Medical Director Edward Francis we are able to include three cases of tularaemia following contacts with quail. The patient in the first case had dressed quail only; the other two patients had handled rabbits also. The agglutination tests were made at the National Institute of Health.

Mrs. A. C., aged 39, Adrian, Mo., house-wife, patient of Dr. Geo. W. Griffith, Garden, Mo., dressed five quail on November 18, 1929. She did not dress rabbits. She became ill on November 24 with fever, pain in right arm, chills. A sore on right thumb later became an ulcer. There was enlargement of the right epitrochlear and axillary glands without suppuration. Blood samples taken on December 9 and 22 agglutinated *Bact. tularense* in dilutions of 1:160 and 1:1,280, respectively, but were negative against *Brucella abortus*.

H. T. P., male, aged 39, patient of Dr. T. E. Strain, Shreveport, La., punctured left middle finger with a quail bone just prior to dressing two rabbits on February 15, 1929. He became ill the next day with severe chill, followed by vomiting, headache, fever, and malaise. A punched-out ulcer developed at the site of the finger abrasion; the regional lymph glands became painful but had not suppurated by March 12. A blood sample taken on that date agglutinated *Bact. tularense* in dilution of 1:1,280, but failed to agglutinate *Brucella abortus*.

C. W. K., male, aged 29, Ada, Okla., patient of Dr. Lee Riely, Oklahoma City, pricked terminal phalanx of right thumb November 20, 1929, with bone while dressing a quail. The patient had killed and dressed a rabbit a few days prior to November 20, but had handled none on the same day as that on which he dressed the quail. He became ill on November 27 with headache, vomiting, sweating, muscular pain, chills, and fever. The thumb lesion became an ulcer. The right axillary gland became enlarged and suppurated. Serum collected February 14, 1930, was tested both at the National Institute of Health and at the Oklahoma State Laboratory; *Bact. tularense* was agglutinated by a 1:640 dilution.

SUMMARY

1. Data secured from a small area near Roy, Fergus County, Mont., during a period of mortality among local sage hens, have furnished added evidence that gallinaceous game birds are a potential source of human infection.

2. *Bact. tularense* was recovered from the tissues of dead and killed sage hens, and also from ticks of the species *H. cinnabarina* with which the sage hens were infested.

3. It was not evident whether *Bact. tularense* was the cause of the epizootic or a secondary or incidental factor. However, a comparison of data secured from both within and without the affected area has

shown that sage hens from within were much more heavily tick infested; they were the only ones shown to be carrying infected ticks; and that a higher percentage of the sage hens themselves were tularaemia-infected.

4. The evidence secured suggests that *H. cinnabarina*, a tick not previously incriminated, is a natural carrier of tularaemia.

5. Reports are included of a tularaemia case infected from quail, of two cases in which there was a possibility that infection was from quail, and of a possible case from dressing a sage hen.

THE HEALTH OFFICER'S VIEWPOINT OF CHILD HYGIENE[1]

By TALIAFERRO CLARK, *Assistant Surgeon General, United States Public Health Service*

Child hygiene, beginning one generation ahead of disease, treating with the cause of bad health rather than with the effects, offers the most certain way of assuring a healthy adult generation. Child hygiene, therefore, is a great entering wedge for the entire public health program; and, as a means of assuring a generation free from disease, it occupies a peculiar position in the public health field. The problems of child health and protection are manifold, they stand in intimate relationship with every phase of public health administration, but fortunately, and quite naturally, they may be considered from the standpoint of varying periods and relationships of child life, such as prenatal and maternal care, the hygiene of early infancy, health protection and health promotion of preschool children, supervision of the health of the school child, protection of children from the health hazards of industry and other special groups, and from numerous other angles and approaches. There will be considered here only the problems of prenatal and maternal care, the neonatal and early infancy periods, touching only on some of the more important health problems of preschool and school children.

Comparisons of the census data over a number of years reveal the fact that the relative percentage of the total population of any particular age group of the population varies but little from year to year. Therefore the relative importance of the child health problem at different age periods, both in Iowa and in the death registration area, may be seen on reference to Table 1.

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[1] Read before the meeting of the Iowa Public Health Association held in Des Moines, Iowa, April 2-4, 1931.

TABLE 1.—*Percentage of the population of 1920 and 1930 that were children in certain age groups, and the number and percentage of deaths from all causes in Iowa and the United States death registration area in 1928, in the same age groups*

Age group	Per cent of population			Deaths in registration area, 1928			
	Iowa		United States	Iowa		United States	
	1920	1930	1920	Number	Per cent	Number	Per cent
Under 1 year	2.0	1.7	2.1	2,300	9.1	155,858	11.3
Under 2 years	4.1	(1)	4.3	2,601	10.3	185,037	13.4
2 to 4 years	6.3	(1)	5.5	463	1.8	31,053	2.3
Under 5 years	10.4	8.9	10.9	3,064	12.1	216,090	15.7
5 to 9 years	10.0	9.8	10.8	373	1.5	25,245	1.8
10 to 14 years	9.5	9.5	10.1	303	1.2	19,494	1.4
15 to 19 years	8.9	9.0	8.9	410	1.6	33,226	2.4
Under 10 years	20.4	18.7	21.7	3,442	13.6	241,335	17.5
Under 15 years	29.9	28.2	31.8	3,745	14.8	260,829	18.9
Under 20 years	38.8	37.2	40.7	4,155	16.4	294,055	21.3
Deaths in puerperal state				210	0.8	15,691	1.1

[1] Not available.

It will be observed that one-tenth of the deaths from all causes in Iowa occur in one-fiftieth of the population represented by infants under 1 year of age, and that approximately one-eighth of all the deaths in Iowa and one-sixth of the total deaths from all causes in the registration area occurred in approximately one-ninth of the population of Iowa and one-eighth in the registration area as represented by children under 5 years of age. These data are important as indicating the population groups among which more intensive protective measures are needed.

MATERNAL HYGIENE

The number of births in the birth registration area of the United States in 1928 was 2,233,149. This means that approximately two and a quarter million mothers went down into the "valley of the shadow," many of them without proper attention, without thoughtful care, without adequate service during this perilous period, with the result that more than 15,000 of them did not survive the ordeal, while uncounted numbers emerged crippled for life, less able to extend sheltering arms to the needs of the growing family. It is quite evident, therefore, that the provision of adequate supervision and proper instruction of expectant mothers is a prime objective of any well-organized child health movement. Numerous measures have been offered for the accomplishment of this task, but the problem resolves itself largely into the organization of prenatal clinics, classes, and conferences where expectant mothers may be taught those things it is necessary for them to know for their own protection and for the preservation of the unborn child. The adequacy of these provisions will depend in large measure on community support, the amount of funds available for such purpose and the number, experience, and

training of the personnel whose task it will be to make this information known. To be effective, the instruction given at clinics, in classes, and at conferences must be supplemented by visits to the home by properly qualified nurses else this advice and instruction will frequently be forgotten, misapplied, or neglected.

Moreover, there will be found in every community large numbers of mothers who will not or do not avail themselves of the opportunities for such instruction who may and should be reached by a series of simple, timely, plainly written monthly prenatal letters describing the things that expectant mothers should do and the things not to do at the various stages of pregnancy. The files of every State health organization that has adopted this plan, and those of the United States Public Health Service, contain many letters from mothers who have found such information a comfort and a help.

Also, effort should be made to encourage expectant mothers to place themselves under the care of a competent physician from the beginning of pregnancy and to remain under such supervision throughout its course instead of consulting their medical advisor in the last stages of gestation, as is so commonly the practice.

The imperative need for the health supervision of expectant mothers is revealed by the maternal mortality in the United States, which, on the basis of available reports, stands high among the countries of the world for which data are available. It may be that it is relatively higher on account of differences in the completeness of reporting, in statistical methods, and in the interpretation of the term "maternal mortality" in various countries. For example, during the great influenza year, 1918, there was a marked fall in the English maternal mortality rate whereas in the United States there was a rise in this rate from the previous year of approximately one-third. It is reasonable to assume that the percentage of mothers suffering from influenza who died during childbirth was no greater in the United States than in England. The inference is clear, therefore, that there must be a difference in the interpretation of the cause of death in this class of cases, and that statistics based on such differences are not strictly comparable. But it is true that the maternal mortality rate in this country does not show a downward trend. In fact, according to data studied by the United States Public Health Service, there was a rise of 8 per cent in the maternal mortality rate from all puerperal causes in the total registration area from 1915 to 1924—a rise of 14 per cent in the urban area and an increase of 5 per cent in the rural. The only decrease manifested in this period was in the rate for white rural mothers, which fell from 5.5 to 5.1, a decrease of 7 per cent.

In 1929 the total rural rate was 20 per cent lower than the urban—the white rate was 27 per cent lower, and the negro rate 15 per cent lower in the rural than in the urban.

Race exercises a distinct influence on the maternal mortality rate. In the total registration area from 1915 to 1928, both inclusive, in States having more than 2,000 negro births annually, the maternal mortality rate for whites was 6.5 and for negroes 11.6 per 1,000 births.

Considering all of the factors of maternal mortality during the last 15 years, it is found that sepsis is the greatest single cause of puerperal deaths, with a slight upward trend. Next in order of frequency are deaths from albuminuria and convulsions, which show a slightly downward trend.

The knowledge of these tendencies emphasizes the need for prenatal care, examination and instruction of the mother by competent trained personnel, persistent training and supervision of persons licensed to practice midwifery, preparation and widest distribution of educational material adapted to special capacities and individual needs, and the creation of more adequate lying-in facilities and obstetrical care in the management of normal labor and its complications.

THE PROBLEM OF STILLBIRTHS AND NEONATAL MORTALITY

The size of the stillbirth problem is not accurately known, not only because of the failure on the part of many physicians and midwives to report such births, but also because the rules and regulations for the reporting of stillbirths vary in the several States, ranging from the requirement that the product of every conception be reported to that applying only to fetuses of from six to seven months. In the year 1928, 89,765 stillbirths were reported from the birth registration area. Numerically, the problem of stillbirths is of greater magnitude than that of neonatal mortality.

Moreover, it is shown by further analysis of available data that the stillbirth rate in urban communities is approximately 10 per cent higher than in the rural districts, probably due to the less complete reporting in these areas. It is also found that the negro stillbirth rate is more than twice that for the whites, the difference being much greater than either the neonatal or the general infant mortality rates.

The complications of labor, syphilis, and the toxemias of pregnancy are the most common causes of stillbirths. Of these causes, syphilis offers the greatest promise of control. We are told that at least one pregnancy in every hundred in any group of society is terminated prematurely by the death of the fetus from syphilis; that of the 752,101 infants born in France in 1924 there were, due to syphilis, 42 abortions, 21 stillbirths, and 33 deaths of children under 1 year of age per 1,000 total births.[2]

[2] World's Health, Paris, 1925. VI, 526.

Recent studies made by the Public Health Service point to the fact that there are not less than 1,000,000 new cases of venereal-disease infection in the United States each year. The crippling effect of gonorrhea on the female reproductive organs and the tremendous toll on fetal and neonatal life exacted by syphilis are mute evidence of the imperative need for more intensive work by public health authorities for the control of these diseases in all classes of the population.

NEONATAL PROBLEMS

In the year 1928 there were reported 83,086 deaths of children under 1 month of age in the birth registration area. It is important to note in this connection that while the total infant mortality rate steadily declined from 1916 to 1928 from 101 to 68, the neonatal rate fell only from 47 to 37. This difference is mute evidence that the concerted efforts of more than a decade have made but slight, if any, impress on the problem of neonatal deaths in comparison with the marked effect on the total infant mortality rate. It is highly probable that the causative factors of stillbirths and neonatal deaths are the same; therefore, the indications for the reduction of neonatal mortality are the more strict application of measures for the conservation of intrauterine life and the exercise of greater postpartum care by physicians and midwives in the examination, handling, and treatment of the newborn.

The instillation of drops in the eyes immediately after, or during, birth to prevent opbthalmia neonatorum, now a requirement in practically all of the States, should be religiously observed. Distinctly encouraging results follow the routine compliance with this legal requirement. The Proceedings of the 1929 Annual Conference of the National Society for the Prevention of Blindness show that in the schools for the blind, where records are carefully made, the cases of blindness due to ophthalmia neonatorum among children admitted to these schools decreased from 28 per cent in 1908 to about 9 per cent in 1928, largely due to the more general prophylactic treatment of the eyes of newborn babies.

There is increasing evidence that unrecognized respiratory infections are more and more frequently found on the autopsy of neonatal cases reported dead from unknown causes. This fact was first brought to the writer's attention by the late Clemens Pirquet, of Vienna, while serving with him as a member of the special commission of the Health Section of the League of Nations in 1926–1928. The greatest care must be exercised in the late stages of pregnancy, therefore, to protect the mother from exposure to colds and other respiratory infections and to exclude affected persons from the lying-in room and the nursery.

The toll of fetal life exacted by maternal syphilis in the early months of uterogestation is but slight, but in the seventh and eighth months of pregnancy it is an important cause of both stillbirth and neonatal deaths. It has been found by abundant experience that the institution of prompt and adequate treatment of syphilitic mothers discovered before the fifth month of pregnancy will permit of the birth of a healthy infant. Probably in no form of prenatal care are the results as great in preventing fetal and neonatal death as in the treatment of syphilis among expectant mothers.

According to Stokes, the death rate of a syphilitic family, once a child manages to come into the world at term, ranges from 8 to 10 per cent, and the proportion of sickly children ranges from 25 to 48 per cent. Solomon found a mortality of 20 per cent among children of syphilitic families and Jeans, in a survey of 100 families, found 22.7 per cent dead children.[3]

The census report on births, stillbirths, and infant mortality in the birth-registration area for 1924 assigns prematurity as the most important cause of death under one month; 43.9 of the total deaths in this age group. According to Kehrer, 29 per cent of the dead births in Germany in 1923 were due to syphilis, which also was the cause of death of 20 per cent of the cases of prematurity.[4]

INFANT HYGIENE

No constructive system of infant hygiene can be established in the absence of accurate knowledge of how many babies there are, where they are, and how healthy or sick they are. Important links in this chain are prompt birth registration, routine reporting of cases of communicable diseases, and accurate records of deaths. Armed with this information the health officer is in the best possible position to investigate the causes of unusual infant mortality, control threatened epidemics of communicable diseases, and promote other measures for the protection of infant health and life.

In common with other countries, there has been a marked decline in the general infant mortality rate in the birth registration area during the last 15 years. In Norway, the decline was from 90.3 in 1900 to 49.3 in 1928. In the city of Oslo the decline was still more marked, from 182.6 to 42.7 during this same period. However, the downward trend in infant mortality in the United States has not been uniform.

In the 15 years from 1915 to 1929 this rate has fallen in the birth registration area from 100 to 68, a reduction of 32 per cent. Up to 1921 the fall was rapid, a reduction of 24 per cent in six years. From 1921 on the fall was more gradual, less than 11 per cent.

[3] Stokes, John H.: Modern Clinical Syphilology. Philadelphia. Saunders, 1926. p. 1000.
[4] Kehrer, E.: Zentralbl. f. Cynak., Leipzig, 1923, XLVII, 226.

Moreover, careful study of the decline in the mortality over a period of years will indicate to the alert health officer that there are marked differences in the rates according to race and geographical location which must be taken into consideration, as shown by Table 2.

TABLE 2.—*Percentage of decline in infant mortality for the birth registration area for white and negroes, and for urban and rural areas, from 1915 to 1928*

	1915 to 1928	1915 to 1920	1921 to 1928		1915 to 1928	1915 to 1920	1921 to 1928
	Per cent	*Per cent*	*Per cent*		*Per cent*	*Per cent*	*Per cent*
White rates have fallen	35	27	11	White urban	----	26	13
Colored rates have fallen	41	40	2	Negro urban	----	29	5
Urban rates have fallen	33	24	12	White rural	----	26	10
Rural	28	21	8	Negro rural	----	45	1

It is observed that the greatest fall during the period 1915 to 1920 was for the negro rural rate, 45 per cent, and the least for both the white urban and rural rate 26 per cent. During the second period, 1921 to 1926, the greatest fall was the white urban rate, 13 per cent, the least the negro rural rate, 1 per cent.

The noticeable slowing of the rate from 1921 on is due in part to the almost stationary neonatal rate, and in part to the better organization of public health administrative bodies, improvement in the domestic and civic environment, and the effect of the wider dissemination of health information rapidly reaching the saturation point, if the use of the term may be permitted. But there are still important problems remaining to be solved, and points of possible contact. Of these may be mentioned immunization against diphtheria at not less than 6 months of age, and smallpox before the infant is 1 year old.

THE PRE-SCHOOL CHILD

According to the census report of 1920, there were at that time in the United States 11,701,524 children 2 to 6 years of age, both inclusive, and in the State of Iowa 249,611. To the health officer this age group is of special interest, not only because of their number but also because children of this age are most easily impressed by discordant and insanitary environment and are more susceptible to the acute infectious diseases than at any other time of life. Moreover, it is the period of life during which there can more assuredly be corrected incipient physical defects that, if neglected, develop into serious physical handicaps in later life. It is also the period during which the nutritional needs require the greatest attention for the proper development of the child.

In 1928, the deaths among children under 5 years of age from whooping cough, approximately 6,000 in number, exceeded those from either diphtheria, scarlet fever, measles, or tuberculosis. The

number was greater than that of measles and scarlet fever combined—21 per cent greater than that from diphtheria and over 50 per cent greater than that from tuberculosis. It is increasingly prevalent from the first to tenth year.

The maximum incidence of measles is from the sixth to the seventh year of age, with the highest mortality about the third year. It is important to take cognizance of the rather frequent periodicity of epidemics of measles and to make special effort to protect susceptible age groups. The potentialities of the common cold must be guarded against. Rest in bed and isolation especially during the acute stages of colds should be encouraged and a physician should be called early in the disease, measures so successfully carried out during an outbreak which occurred in Syracuse, N. Y., in 1926–27.[5] During a previous epidemic, when no special effort at control was made, which occurred in 1923–24, there were reported 4,722 cases of German measles and measles combined, with a mortality rate of 1.38 per 100 cases, as against 5,317 cases of true measles reported during the 1926–27 outbreak with a mortality rate of 0.34 per 100 cases, representing 68 per cent reduction.

Among children under 1 year of age there were 119 cases with 9 deaths, a mortality rate of 7.6 during the previous epidemic, as compared with 164 cases with 5 deaths, or a rate of 3 in the 1926–27 epidemic. Of marked interest is the fact that in 726 cases of primary measles a physician was called in 653 cases before the fourth day of illness.

The susceptibility to diphtheria begins to increase from the second to the third year, with the maximum incidence from the fifth to the seventh year. Some idea of the value of diphtheria prevention work may be gained by the results of the 5-year campaign for the eradication of diphtheria in the State of New York which ended December 31, 1930:[6]

There were 23,326 fewer cases of diphtheria and 1,484 fewer deaths during 1926 to 1930 than in the 5-year period 1921 to 1925 preceding the toxin-antitoxin campaign. In the State, exclusive of New York City, deaths from the disease decreased from 337 in 1925 to 144 in 1930, while the number of cases dropped from 4,370 to 1,594. The diphtheria death rate has decreased from an average of 10.1 per 100,000 population for the period 1921 to 1925 to 3.8 for the years 1926 to 1930 during which approximately three-quarters of a million children were immunized against diphtheria with toxin-antitoxin. Of this number over 185,000 were under 5, the age group most susceptible to the disease and most likely to die from it.

It has been estimated that at least 35 per cent of the children under 5 years old must be protected against diphtheria before a community is safe from an epidemic of the disease.

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[5] George C. Ruhland and A. Clement Silverman: What Can We do About Measles? Amer. Jour. Pub. Health, February, 1928, vol. 18, No. 2.

[6] Health News, New York State Dept. of Health, Vol. VIII, No. 8, February 23, 1931.

Approximately 75 per cent of all cases of scarlet fever occur by the sixth year and 90 per cent of the fatal cases under 10 years. Unfortunately, we are not yet in position to achieve such striking results by the use of scarlet fever streptococcus toxin for the control of scarlet fever as by immunization against diphtheria. At the Annual Conference of State and Territorial Health Officers with the United States Public Health Service, held at Washington in 1926, the following opinions were formulated regarding the use of scarlet fever streptococcus toxin, which apparently are as true to-day as then.

1. The intradermal reaction to scarlet fever streptococcus toxin is a fairly dependable measure of the susceptibility of the individual tested.
2. The majority of the individuals giving a positive reaction can be effectively immunized by the proper use of scarlet fever streptococcus toxin.
3. The use of scarlet fever streptococcus antitoxin, either for passive immunization or for the treatment of the individual ill with scarlet fever, is not yet founded on sufficient clinical data to permit a mature opinion as to the efficacy of this form of treatment.

According to Veldee,[7] there seems to be fairly general agreement that scarlet fever streptococcus toxin has found a definite field of usefulness in the active immunization of persons susceptible to scarlet fever, but agreement has not yet been reached as to the number of injections or the total dose of toxin required for the production of immunity. Also the time has not yet arrived for the proper evaluation of scarlet fever streptococcus antitoxin in the treatment of scarlet fever.

SCHOOL HEALTH SUPERVISION

There are approximately 27,000,000 children of school age in the United States of whom about 60 per cent are enrolled in rural schools. Large numbers of these children are without any form of health supervision whatever. Not only is the need for such supervision very great, but, also, the work in this field is most valuable, because it offers such ready approach to the solution of many of the neglected child health problems. School health service is frequently, and probably the best, beginning for rural child health work, because of the close association of the schools with the home through follow-up service, and the need to teach the rising generation the observance of proper health habits and the place of personal and general hygiene. The schools offer special advantages in this respect, because representatives from so many families in attendance are more readily accessible for health examinations and health instruction.

[7] M. V. Veldee: Value of Scarlet Fever Toxin, Antitoxin and the Dick Test. Pub. Health Rep., August 8, 1930.

Unfortunately, health work in rural schools is confronted with two serious difficulties not so obvious in urban areas: (1) The lack of personnel for adequate medical supervision, and (2) the absence of facilities for the correction of hampering physical defects. At present and probably for a long time to come, without the aid of special grants, the only form of school health supervision possible in many of the outlying districts will be that furnished by the public health nurse.

The securing of the correction of physical defects is one of the most difficult of all the problems confronting the school health authority. These difficulties may be solved in part by the establishment of small hospitals in rural districts for this and for other health purposes, subsidizing medical service in the sparsely settled districts at State expense, and by organizing mobile dental, refraction, and ear, nose, and throat clinics for the relief of preschool and school children.

Success in child health work will depend on the ability of the official health agencies to function with thoroughness. One can not entirely disassociate the health problems of expectant mothers, infants, and older children from those of the general health programs. For these and other reasons, therefore, the declaration of principles and policies by the Committee on Public Health Organization of the White House Conference on Child Health and Protection, is of special interest, and is quoted in part as follows:

"1. The organized promotion of child health in the future will depend as it has in the past upon the quality of trained professional leadership for, and the organization and financial support of, full time administrative health services provided to benefit persons of all ages and of both sexes, in each community in our Nation.

"2. The health interests of the child as an individual, and as a member of the family, and of the community, are inseparable from those of adults, both men and women.

"3. Public health organization throughout the world, and in particular in the States, counties, and municipalities of this country, has recognized the wisdom of concentrating its administrative resources under one direction for a common purpose, whatever be the particular problem of preventive medicine uppermost in the public mind at the moment, or however great the immediate needs of a limited age or sex group in the community for which additional efforts or resources are required.

"4. The problems of health protection of the child show in common with those of the adult a great complexity of origins, consequently it is only through a centralized authority trained in the medical and biological sciences and with understanding of the fields of economics

and sociology that we may expect to obtain comprehensive and enduring results.

"5. No public health organization, Federal, State, or local which lacks provision for expert, specially trained direction for child health can be considered adequate for the needs of the American family of to-day.

"6. The best health service to the child is to be accomplished by inclusion of child health within a program of general health service applicable according to age and condition to all members of the community."

For these and other reasons an increasing number of authorities advocate the establishment of local boards of health wherever possible, not alone for general sanitation purposes, but as one of the first steps, if not the first step, for the most effective control of conditions harmful to the health of mothers and children. In rural sections the units may not necessarily be large, depending on the area, population, and resources of a particular community, with a minimum of at least one physician to serve as health officer aided by a well-trained public health nurse.

Furthermore, in nearly every political subdivision of a State may be found a number of nonofficial volunteer agencies, with local representatives already engaged in child health work. These should be drawn together and given scientific direction under centralized administrative control. The combined support of such agencies will be of the utmost value, and enable the local health authority successfully to attack some of the more fundamental problems relating to child life which otherwise could not be done for many years to come.

Unfortunately, not every community is ready and willing to organize a local board of health. In some places this is due to lack of funds; in others it is largely because of the failure to appreciate the need for, and the value of, the services of such an organization. In many of these communities it is possible to bring about the employment of a public health nurse at the expense of local public funds, or local funds supplemented by State aid or assistance from private sources. In fact, because of the present limited development of public health administration or lack of financial resources, the public health nurse is the main reliance in many rural districts for health supervision and instruction. Her ministrations are not infrequently instrumental in stimulating local interest and action to make more adequate provision for the protection of the community health.

It is not easy to say what form of child health supervision should be undertaken in a given district. Much will depend on the resources of the State health departments, the existence or otherwise of local health departments and their efficiency, the size of the district, the density of the population, the average wealth, intelligence and

education of the citizens, and the health problems most in need of attention.

To some the task may appear simple, but there is no royal road to success. Methods and measures which give good results in cities, in incorporated towns, and even in thickly settled rural areas, can not be employed successfully for the scattered rural population. Our knowledge of the principles of maternal and infant hygiene is ample, but the personnel and facilities for the application of this knowledge are lacking in many communities. Prenatal clinics, child hygiene centers, intensive school health supervision and other similar measures of tested worth are possible and effective, as a rule, directly as the density of population which connotes available funds and personnel.

It should be the duty of the official State health administrative body to establish policies, carry on research, standardize methods of procedure, maintain supervision, make surveys and furnish advice and assistance in planning and organizing local work. It should be the duty of the local boards of health to carry out the policies and apply the principles and procedure established by the State department of health with such modification as may be found necessary to meet the local conditions. In other words, the central body is a factory that builds the engine, the local body is the driver who turns on the steam, maintains the engine in good working order, and on whose endurance, knowledge, and skill satisfactory results will largely depend.

COURT DECISION RELATING TO PUBLIC HEALTH

Narcotic act held constitutional.—(California District Court of Appeal, Second District; People *v.* Beesly, 6 P. (2d) 114; decided Dec. 9, 1931.) The defendant was charged with violating the narcotic law by forging a prescription for narcotics. One of his contentions was that section 8 of the act (Deering's Gen. Laws, act 5994) was unconstitutional because violative of section 24 of article 4 of the State constitution, requiring that laws be published in no other than the English language. The argument made was that, while the words "cocaine," "opium," "morphine," and "heroin" were commonly recognized, the words describing other drugs in the same paragraph of the statute, viz, "codeine, alpha eucaine, beta eucaine, flowering tops and leaves, extracts, tinctures and other preparations of hemp or loco weed (*Cannabis sativa*) or peyote (anhalonium)," were not in the English language and that the statute was, therefore, void for uncertainty. The district court of appeal held the defendant's contention to be untenable. In this connection the court said:

* * * Appellant's counsel, with a confidence deserving of a more substantial foundation, asserts that "Several of the above terms having a Latin derivation

can not be found in the English dictionary." However, on examination of our nearest available dictionary, Funk & Wagnalls New Standard Dictionary of the English language (copyright in 1919), we find that it defines "codeine," "cucaine," "alpha" and "beta," "hemp," "cannabis," "loco weed," "peyote," and "anhalonium." The only word included in the quoted list which is not defined is lonely little "sativa." But, as the terms "cannabis sativa" and "anhalonium" are inclosed in brackets in the statute to indicate that they are the synonymous botanical names for the English words immediately preceding them, they are not necessary to the interpretation of the statute, may be treated as surplusage, and can not affect its validity. We might add that even a 1909 copyright edition of Webster's International Dictionary of the English Language defines all of the quoted words except "sativa," "peyote," and "anhalonium," and here in the Southwest "mescal" or "peyote" is certainly well enough known to be a part of our language even if it be but a mere spineless cactus. While the presence in the dictionary of the words in question disposes of counsel's argument by eliminating his major premise, we do not wish to be understood as holding that only those words which are found in an English dictionary are a part of the English language. When a word, whether coming from a foreign language or coined to meet a particular need of expression, has been used as an English word in speech or writing to such an extent that its meaning has become commonly understood by people dealing with the subject to which it relates, it becomes a part of the English language with the meaning attached to it by such use. Thus, even if the word "codeine" were not in the English dictionary, its use as an English word for more than a quarter of a century by people buying, selling, and using that drug would make it such. * * *

DEATHS DURING WEEK ENDED FEBRUARY 6, 1932

Summary of information received by telegraph from industrial insurance companies for the week ended February 6, 1932, and corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended Feb. 6, 1932	Corresponding week, 1931
Policies in force	74, 038, 950	75, 182, 838
Number of death claims	13, 795	16, 511
Death claims per 1,000 policies in force, annual rate	9. 7	11. 5
Death claims per 1,000 policies, first 5 weeks of year, annual rate	10. 0	11. 2

Deaths [1] from all causes in certain large cities of the United States during the week ended February 6, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census]

City	Week ended Feb. 6, 1932				Corresponding week, 1931		Death rate for [2] the first 5 weeks	
	Total deaths	Death rate [2]	Deaths under 1 year	Infant mortality rate [3]	Death rate [2]	Deaths under 1 year	1932	1931
Total (83 cities)	8,240	11.8	597	[4] 49	14.3	863	12.0	14.4
Akron	17	3.3	2	25	9.5	7	7.7	8.6
Albany [5]	44	17.6	1	20	13.7	3	16.0	14.6
Atlanta [6]	97	17.9	12	117	14.1	13	16.1	15.8
White	53	14.8	8	118	13.3	9	12.4	13.6
Colored	44	24.0	4	115	15.7	4	23.3	20.0
Baltimore [5 6]	186	11.9	21	74	21.7	24	13.9	17.9
White	140	10.9	17	77	21.3	15	13.1	16.5
Colored	46	16.0	4	64	23.8	9	17.8	24.1
Birmingham [6]	61	11.5	3	31	13.9	9	12.3	14.9
White	35	10.7	2	33	10.3	5	9.8	11.1
Colored	26	12.9	1	27	19.8	4	16.3	21.2
Boston	224	14.9	12	36	18.5	23	14.9	17.3
Bridgeport	27	9.6	1	18	14.5	4	11.6	14.8
Buffalo	140	12.5	16	77	15.7	14	13.2	14.6
Cambridge	22	10.0	2	41	16.9	2	13.5	13.8
Camden	32	14.0	1	18	21.9	3	14.7	18.7
Canton	24	11.6	2	50	11.2	1	10.2	10.7
Chicago [5]	736	10.9	55	54	14.5	82	10.6	12.6
Cincinnati	151	17.1	14	90	18.0	13	16.1	18.6
Cleveland	185	10.5	18	58	11.7	17	10.8	11.1
Columbus	73	12.7	1	10	15.9	12	15.5	14.2
Dallas [6]	66	12.2	9	-------	10.3	3	11.3	12.9
White	53	11.9	5	-------	7.4	2	10.7	11.6
Colored	13	14.0	4	-------	24.2	1	14.4	18.9
Dayton	47	10.3	3	43	10.1	5	10.3	11.8
Denver	77	13.7	6	59	16.3	7	17.7	16.1
Des Moines	29	10.4	3	51	8.7	1	11.1	12.4
Detroit	243	7.4	23	41	9.9	42	8.2	8.7
Duluth	23	11.8	2	58	10.8	2	9.5	12.4
El Paso	35	17.1	1	-------	19.4	11	16.2	21.1
Erie	23	10.1	1	21	8.0	5	9.8	10.9
Fall River [5 7]	31	14.1	2	53	11.8	0	12.3	12.7
Flint	27	8.3	2	29	5.7	3	8.0	7.7
Fort Worth [6]	40	12.3	4	-------	9.7	1	11.5	12.5
White	29	10.5	3	-------	9.7	1	10.2	11.9
Colored	11	21.5	1	-------	9.6	0	18.4	15.7
Grand Rapids	23	6.9	2	34	13.1	3	7.7	10.2
Houston [6]	58	9.3	9	-------	9.8	4	10.4	12.0
White	37	8.1	7	-------	9.2	1	9.4	11.1
Colored	21	12.8	2	-------	11.3	3	13.3	14.6
Indianapolis [6]	97	13.5	5	41	16.2	5	13.5	14.5
White	82	13.1	5	46	15.6	4	12.9	14.0
Colored	15	17.0	0	0	20.8	1	17.2	17.5
Jersey City	77	12.5	5	41	15.2	13	11.0	15.3
Kansas City, Kans. [6]	41	17.3	2	44	19.1	3	13.7	16.5
White	34	17.8	2	54	18.4	2	13.2	14.9
Colored	7	15.4	0	0	22.2	1	15.9	23.1
Kansas City, Mo.	116	14.6	9	102	14.5	16	12.2	14.6
Knoxville [6]	25	11.7	5	126	10.5	3	12.1	15.0
White	23	12.8	5	140	11.4	3	11.2	13.9
Colored	2	5.7	0	0	5.9	0	16.6	20.5
Long Beach	37	12.0	2	52	12.3	1	11.6	10.7
Los Angeles	339	12.8	20	59	10.4	21	12.8	13.0
Louisville [6]	95	16.1	3	27	13.9	6	15.0	18.7
White	67	13.4	1	10	12.8	6	13.1	16.6
Colored	28	30.6	2	149	19.7	0	25.2	30.4
Lowell [7]	40	20.9	1	26	15.1	3	15.4	15.5
Lynn	26	13.2	2	57	10.7	2	11.2	14.1
Memphis [6]	87	17.3	3	33	17.5	9	16.9	17.8
White	39	12.5	2	34	15.7	4	12.9	15.5
Colored	48	24.9	1	30	20.6	5	23.3	21.4
Miami [6]	29	13.3	1	28	15.8	1	13.9	13.1
White	24	14.2	1	39	13.8	1	13.3	12.8
Colored	5	10.3	0	0	22.7	0	15.7	14.0
Milwaukee	88	7.6	5	24	10.4	19	9.0	10.4
Minneapolis	102	11.1	6	39	13.1	14	9.4	12.4

See footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended February 6, 1932, infant mortality, annual death rate, and comparison with corresponding week of 1931. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Feb. 6, 1932				Corresponding week, 1931		Death rate for the first 5 weeks	
	Total deaths	Death rate	Deaths under 1 year	Infant mortality rate	Death rate	Deaths under 1 year	1932	1931
Nashville [6]	42	14.0	2	30	15.8	6	13.5	17.0
White	29	13.3	2	39	15.7	6	13.0	15.1
Colored	13	15.8	0	0	15.8	0	14.6	22.2
New Bedford [7]	27	12.5	4	115	13.9	4	11.8	13.0
New Haven	37	11.9	0	0	13.8	3	12.7	13.6
New Orleans [6]	141	15.5	14	80	20.3	18	15.8	21.1
White	79	12.3	11	96	15.7	6	13.1	17.9
Colored	62	23.6	3	49	31.7	12	22.4	29.0
New York	1,455	10.5	93	42	13.7	170	10.7	15.2
Bronx Borough	228	8.6	14	40	9.7	15	8.4	11.0
Brooklyn Borough	489	9.5	33	37	12.5	70	9.7	14.4
Manhattan Borough	557	16.4	35	50	20.7	61	16.5	22.6
Queens Borough	145	6.3	9	37	9.7	18	7.0	10.5
Richmond Borough	36	11.2	2	39	14.4	6	13.5	15.1
Newark, N. J	80	9.3	4	22	17.9	10	10.6	14.9
Oakland	77	13.5	6	75	9.3	3	12.2	12.3
Oklahoma City	31	7.9	2	27	12.2	8	9.9	11.8
Omaha	57	13.6	6	68	14.9	4	13.8	14.7
Paterson	35	13.2	5	91	19.2	4	13.6	16.4
Peoria	26	12.2	1	28	15.9	4	11.8	15.6
Philadelphia	488	12.9	36	56	18.0	54	12.7	17.7
Pittsburgh	194	14.9	22	101	16.5	28	13.6	16.8
Portland, Oreg	77	12.9	4	51	11.7	2	12.8	13.4
Providence	49	10.0	4	39	15.8	7	14.8	15.8
Richmond [6]	56	15.8	3	45	24.0	5	15.1	18.4
White	32	12.6	2	45	19.0	2	12.9	14.9
Colored	24	23.8	1	46	36.5	3	20.6	27.2
Rochester	67	10.5	4	38	11.8	7	11.9	13.1
St. Louis	202	12.7	7	25	19.1	22	14.6	17.3
St. Paul	55	10.3	4	43	8.9	3	9.8	10.8
Salt Lake City [5]	42	15.1	3	47	13.9	3	12.1	12.8
San Antonio	71	15.0	14	-------	15.4	8	14.5	16.4
San Diego	59	18.9	4	87	18.3	2	17.8	17.2
San Francisco	178	14.1	9	62	13.0	8	14.8	14.6
Schenectady	15	8.1	1	29	16.3	1	11.7	11.4
Seattle	90	12.5	3	30	10.9	1	11.9	12.7
Somerville	18	8.9	1	40	13.4	5	9.6	11.2
South Bend	22	10.3	2	58	6.3	1	8.8	7.1
Spokane	26	11.6	3	80	9.4	1	13.3	13.5
Springfield, Mass	43	14.6	2	34	16.4	3	12.9	13.8
Syracuse	45	10.9	5	64	12.7	5	12.7	13.3
Tacoma	30	14.5	0	0	14.5	0	12.0	13.9
Tampa [6]	29	14.0	0	0	16.4	2	12.3	16.4
White	25	15.3	0	0	15.7	1	11.9	14.9
Colored	4	9.2	0	0	18.8	1	13.8	22.1
Toledo	75	13.0	9	98	11.9	3	12.2	12.5
Trenton	31	13.1	1	20	23.6	2	14.9	19.5
Utica	24	12.2	3	85	15.3	2	17.0	16.9
Washington, D. C. [6]	155	16.4	8	45	20.0	9	15.8	19.1
White	97	14.2	7	57	17.7	4	14.0	16.6
Colored	58	22.2	1	18	25.9	5	20.5	25.6
Waterbury	23	11.8	2	66	15.0	1	9.8	11.2
Wilmington, Del. [7]	27	13.2	3	68	17.6	3	14.0	15.9
Worcester	51	13.4	1	14	19.6	4	12.7	16.7
Yonkers	18	6.6	3	77	12.8	2	7.4	12.0
Youngstown	32	9.5	2	32	9.3	5	10.0	10.9

[1] Deaths of nonresidents are included. Stillbirths are excluded.

[2] These rates represent annual rates per 1,000 population, as estimated for 1932 and 1931 by the arithmetical method.

[3] Deaths under 1 year of age per 1,000 live births. Cities left blank are not in the registration area for births.

[4] Data for 78 cities.

[5] Deaths for week ended Friday.

[6] For the cities for which deaths are shown by color the percentages of colored population in 1930 were as follows: Atlanta, 33; Baltimore, 18; Birmingham, 38; Dallas, 17; Fort Worth, 16; Houston, 27; Indianapolis, 12; Kansas City, Kans., 19; Knoxville, 16; Louisville, 15; Memphis, 38; Miami, 23; Nashville, 28; New Orleans, 29; Richmond, 29; Tampa, 21; and Washington, D. C., 27.

[7] Population Apr. 1, 1930; decreased 1920 to 1930, no estimate made.

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended February 13, 1932, and February 14, 1931

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended February 13, 1932, and February 14, 1931

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931
New England States:								
Maine	4	8	31	64	625	13	0	1
New Hampshire	1	----	----	212	20	73	0	0
Vermont	----	----	----	1	143	23	0	0
Massachusetts	57	50	13	154	373	505	0	2
Rhode Island	8	13	----	21	991	1	0	0
Connecticut	6	12	9	261	207	269	0	2
Middle Atlantic States:								
New York	146	106	[1] 81	[1] 179	1,461	760	8	15
New Jersey [2]	49	45	37	236	104	633	4	6
Pennsylvania	128	98	----	----	1,806	1,880	4	12
East North Central States:								
Ohio	102	62	97	509	678	348	2	8
Indiana	56	39	75	111	102	684	4	0
Illinois	128	147	167	288	144	970	13	10
Michigan	40	48	9	111	441	179	2	6
Wisconsin	12	18	122	137	199	363	0	0
West North Central States:								
Minnesota	8	10	2	13	26	54	0	0
Iowa	17	9	4	----	6	11	0	3
Missouri	39	37	40	151	48	969	0	6
North Dakota	1	11	----	----	116	12	0	3
South Dakota	3	3	1,200	1	18	45	0	2
Nebraska	12	18	16	14	32	4	4	3
Kansas	31	9	43	22	96	18	0	2
South Atlantic States:								
Delaware	----	1	1	29	----	7	0	0
Maryland [3]	34	21	14	1,040	21	433	0	3
District of Columbia	8	6	3	15	5	48	0	0
Virginia	----	----	----	----	----	----	----	----
West Virginia	26	9	52	134	387	91	0	0
North Carolina	25	35	40	312	204	378	2	7
South Carolina [2]	11	16	505	3,742	29	140	0	3
Georgia [2]	12	10	144	1,933	4	132	1	4
Florida	16	9	1	229	1	145	4	2

[1] New York City only.
[2] Typhus fever, week ended Feb. 13, 1932, 10 cases: 2 cases in New Jersey, 1 case in South Carolina, 5 cases in Georgia, 1 case in Tennessee, and 1 case in Texas.
[3] Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended February 13, 1932, and February 14, 1931—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931
East South Central States:								
Kentucky	49	----	361	----	50	189	2	3
Tennessee [2]	22	9	301	367	47	174	4	1
Alabama	46	15	54	332	3	411	2	7
Mississippi	12	16	----	----	----	----	0	4
West South Central States:								
Arkansas	6	21	31	223	6	3	0	2
Louisiana	35	21	14	189	26	3	3	2
Oklahoma [4]	41	40	747	265	19	27	0	0
Texas [2]	60	45	202	51	48	91	0	1
Mountain States:								
Montana	4	3	1,138	10	30	1	0	0
Idaho	2	----	----	3	2	6	1	1
Wyoming	----	2	202	----	2	2	0	1
Colorado	13	9	----	----	37	205	1	2
New Mexico	14	4	64	83	55	22	0	1
Arizona	5	6	58	18	2	173	0	3
Utah [3]	----	1	----	18	----	----	3	1
Pacific States:								
Washington	4	9	2	----	488	50	0	0
Oregon	3	12	323	32	55	63	0	0
California	64	54	371	300	358	809	5	8

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931
New England States:								
Maine	0	0	32	38	0	0	0	2
New Hampshire	0	0	42	3	1	0	1	0
Vermont	0	0	19	12	29	0	1	0
Massachusetts	0	1	471	378	0	0	7	2
Rhode Island	0	0	53	31	0	0	0	0
Connecticut	0	0	71	73	12	0	1	0
Middle Atlantic States:								
New York	6	4	1,213	768	1	10	6	6
New Jersey [2]	2	0	244	280	0	0	3	2
Pennsylvania	0	2	833	550	0	0	23	7
East North Central States:								
Ohio	1	2	501	704	45	64	7	8
Indiana	1	0	106	306	13	82	2	2
Illinois	4	3	462	461	6	42	17	3
Michigan	1	2	364	366	2	31	2	5
Wisconsin	1	0	123	133	3	7	0	2
West North Central States:								
Minnesota	0	1	129	95	0	13	4	0
Iowa	0	0	59	136	79	64	0	0
Missouri	0	0	49	253	17	73	2	1
North Dakota	1	0	19	23	6	25	0	3
South Dakota	0	1	9	13	8	26	0	0
Nebraska	0	0	33	55	16	54	1	0
Kansas	0	0	64	71	1	77	0	2
South Atlantic States:								
Delaware	1	0	17	21	0	0	2	0
Maryland [2]	1	0	108	113	0	0	6	1
District of Columbia	0	0	23	25	0	0	1	0
Virginia	----	----	----	----	----	----	----	----
West Virginia	2	1	46	30	0	8	13	1
North Carolina	1	1	52	77	2	1	4	3
South Carolina [2]	1	1	5	12	1	3	8	2
Georgia [2]	0	0	24	62	0	0	14	1
Florida	0	0	4	9	0	0	5	5

[2] Typhus fever, week ended Feb. 13, 1932, 10 cases: 2 cases in New Jersey, 1 case in South Carolina, 5 cases in Georgia, 1 case in Tennessee, and 1 case in Texas.
[3] Week ended Friday.
[4] Figures for 1932 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended February 13, 1932, and February 14, 1931—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931	Week ended Feb. 13, 1932	Week ended Feb. 14, 1931
East South Central States:								
Kentucky	2	1	66	97	5	9	17	3
Tennessee[2]	0	0	44	47	31	5	8	3
Alabama	2	0	18	35	2	2	13	3
Mississippi	0	0	8	22	14	10	5	8
West South Central States:								
Arkansas	0	1	37	28	16	25	6	6
Louisiana	0	1	16	27	5	57	7	7
Oklahoma[4]	0	1	55	36	3	87	6	6
Texas[2]	0	0	72	46	16	60	6	8
Mountain States:								
Montana	0	0	44	56	3	1	2	0
Idaho	0	0	10	12	3	0	0	4
Wyoming	0	0	4	38	0	2	0	0
Colorado	0	0	23	47	0	7	2	1
New Mexico	1	0	15	5	8	1	0	0
Arizona	0	0	3	3	0	3	0	0
Utah[3]	0	0	7	13	0	0	0	1
Nevada								
Pacific States:								
Washington	2	1	28	46	18	30	0	2
Oregon	0	0	20	26	18	22	1	1
California	2	6	129	149	8	50	7	12

[2] Typhus fever, week ended Feb. 13, 1932, 10 cases: 2 cases in New Jersey, 1 case in South Carolina, 5 cases in Georgia, 1 case in Tennessee, and 1 case in Texas.
[3] Week ended Friday.
[4] Figures for 1932 are exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
January, 1932										
Arizona	3	22	124	----	15	----	0	41	3	3
Iowa	2	92	----	----	14	----	1	227	269	4
North Dakota	5	5	----	----	185	----	2	82	107	5
Tennessee	18	198	289	26	71	8	2	311	66	82
Vermont	----	----	----	----	1,467	----	0	44	63	1
Wyoming	----	2	7	----	7	----	0	51	0	2

January, 1932

Chicken pox:	Cases
Arizona	234
Iowa	267
North Dakota	176
Tennessee	151
Vermont	298
Wyoming	34
Dysentery:	
Tennessee	1
German measles:	
Arizona	2
Tennessee	3
Hookworm disease:	
Tennessee	1
Impetigo contagiosa:	Cases
Iowa	2
North Dakota	1
Lethargic encephalitis:	
North Dakota	2
Tennessee	3
Mumps:	
Arizona	6
Iowa	40
North Dakota	27
Tennessee	78
Vermont	449
Wyoming	35
Ophthalmia neonatorum:	
Tennessee	3

	Cases
Paratyphoid fever:	
North Dakota	1
Puerperal septicemia:	
Tennessee	4
Scabies:	
Iowa	4
North Dakota	1
Tennessee	3
Septic sore throat:	
Iowa	2
Tennessee	14
Wyoming	4
Trachoma:	
Arizona	3
Trichinosis:	
Iowa	1
Tularemia:	
Iowa	1
Tennessee	5
Undulant fever:	
Arizona	1
Iowa	8
Tennessee	8
Vincent's angina:	
Iowa	4
North Dakota	32
Tennessee	1
Whooping cough:	
Arizona	25
Iowa	108
North Dakota	14
Tennessee	259
Vermont	280
Wyoming	8

ADMISSIONS TO HOSPITALS FOR THE INSANE, MARCH, 1930

Reports for the month of March, 1930, showing new admissions to hospitals for the care and treatment of the insane, were received by the Public Health Service from 115 hospitals, located in 39 States, the District of Columbia, and the Territory of Hawaii. The 115 hospitals had 181,784 patients on March 31, 1930, 97,109 males and 84,675 females, the ratio being 115 males per 100 females.

The following table gives the number of new admissions for the month of March, 1930, by psychoses:

Psychoses	Number of first admissions		
	Male	Female	Total
1. Traumatic psychoses	12	3	15
2. Senile psychoses	173	100	273
3. Psychoses with cerebral arteriosclerosis	176	100	276
4. General paralysis	226	46	272
5. Psychoses with cerebral syphilis	27	12	39
6. Psychoses with Huntington's chorea	4	1	5
7. Psychoses with brain tumor	2	0	2
8. Psychoses with other brain or nervous disease	23	13	36
9. Alcoholic psychoses	143	12	155
10. Psychoses due to drugs and other exogenous toxins	8	15	23
11. Psychoses with pellagra	5	15	20
12. Psychoses with other somatic diseases	44	31	75
13. Manic-depressive psychoses	199	215	414
14. Involution melancholia	23	35	58
15. Dementia præcox (schizophrenia)	374	283	657
16. Paranoia and paranoid conditions	27	29	56
17. Epileptic psychoses	53	28	81
18. Psychoneuroses and neuroses	24	41	65
19. Psychoses with psychopathic personality	18	12	30
20. Psychoses with mental deficiency	64	41	105
21. Undiagnosed psychoses	103	90	193
22. Without psychosis	184	60	244
Total	1,912	1,182	3,094

During the month of March, 1930, there were 3,094 new admissions to the hospitals, 61.8 per cent of these new admissions being males and 38.2 per cent females, the ratio being 162 males per 100 females; 437 of the new admissions were reported as being undiagnosed or "without psychosis." There were 2,657 new admissions for whom

provisional diagnoses were made. Of these 2,657 patients, cases of dementia præcox constituted 24.7 per cent; manic-depressive psychoses, 15.6 per cent; psychoses with cerebral arteriosclerosis, 10.4 per cent; senile psychoses, 10.3 per cent; and general paralysis, 10.2 per cent. These five classes accounted for 71.2 per cent of the new admissions for whom diagnoses were made.

The following table shows the number of patients in the hospitals and on parole on March 31, 1930:

	Male	Female	Total
Patients on books Mar. 31, 1930:			
In hospitals	87,935	77,663	165,598
On parole or otherwise absent, but still on books	9,174	7,012	16,186
Total	97,109	84,675	181,784

Of the 181,784 patients, 9,174 males and 7,012 females were on parole or otherwise absent at the end of the month—9.4 per cent of the males, 8.3 per cent of the females, and 8.9 per cent of the total number of patients.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 95 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregated population of more than 33,805,000. The estimated population of the 88 cities reporting deaths is more than 32,245,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended February 6, 1932, and February 7, 1931

	1932	1931	Estimated expectancy
Cases reported			
Diphtheria:			
46 States	1,413	1,263	----------
95 cities	509	498	839
Measles:			
45 States	8,113	10,172	----------
95 cities	2,901	3,030	----------
Meningococcus meningitis:			
46 States	83	133	----------
95 cities	28	60	----------
Poliomyelitis:			
46 States	39	27	----------
Scarlet fever:			
46 States	5,452	5,708	----------
95 cities	2,259	2,020	1,586
Smallpox:			
46 States	354	1,356	----------
95 cities	13	148	53
Typhoid fever:			
46 States	234	168	----------
95 cities	33	25	32
Deaths reported			
Influenza and pneumonia:			
88 cities	806	1,772	----------
Smallpox:			
88 cities	0	1	----------
Indianapolis, Ind	0	1	----------

City reports for week ended February 6, 1932

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

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1923 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	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	4	0	0	1	0	252	0	10
New Hampshire:								
Concord	0	0	0		0	0	0	4
Manchester	0	0	0		2	0	0	4
Nashua	1	0	0			1	0	
Vermont:								
Barre	0	0	0		0	0	1	2
Burlington	0	0	0		0	16	1	0
Massachusetts:								
Boston	40	30	7	1	1	12	20	23
Fall River	4	4	5		1	6	0	4
Springfield	13	4	0	1	1	4	26	1
Worcester	15	4	3		0	1	58	2
Rhode Island:								
Pawtucket	0	1	0		0	0	0	0
Providence	16	7	4		1	694	7	2
Connecticut:								
Bridgeport	5	5	0		0	0	0	5
Hartford	8	5	1	1	0	0	24	3
New Haven	25	1	0	1	0	0	17	4
MIDDLE ATLANTIC								
New York:								
Buffalo	43	11	5		0	23	4	17
New York	182	193	125	102	11	43	138	145
Rochester	10	6	1		0	140	12	3
Syracuse	21	2	1		0	99	10	3
New Jersey:								
Camden	4	7	2		0	1	0	3
Newark	36	15	5	5	0	5	18	6
Trenton		2						
Pennsylvania:								
Philadelphia	112	64	16	13	4	11	53	32
Pittsburgh	39	20	9		2	189	55	20
Reading	14	2	0		0	0	0	2
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	1	8	6		2	0	0	18
Cleveland	84	33	13	22	1	190	88	17
Columbus	12	3	7		3	0	1	9
Toledo	37	4	3	3	2	12	0	7
Indiana:								
Fort Wayne	2	4	16		0	0	0	5
Indianapolis	59	6	4		0	1	60	14
South Bend	10	1	0		1	0	0	3
Terre Haute	0	0	2		0	0	0	2
Illinois:								
Chicago	100	96	55	44	8	131	6	71
Peoria	11		7		1	1	0	0
Springfield	1	0	0		0	0	4	1

City reports for week ended February 6, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued								
Michigan:								
Detroit	60	45	21	----	3	36	11	15
Flint	9	2	0	----	0	34	67	0
Grand Rapids	9	2	1	----	1	91	13	0
Wisconsin:								
Kenosha	6	0	0	----	0	0	0	1
Madison	1	0	0	----	0	3	0	1
Milwaukee	60	14	7	1	1	52	53	6
Racine	22	2	1	----	0	4	111	0
Superior	2	0	0	----	0	0	24	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth	10	1	0	----	0	0	0	0
Minneapolis	15	15	3	----	1	2	24	13
St. Paul	11	3	2	1	1	1	10	3
Iowa:								
Davenport	2	0	0	----	----	0	0	----
Des Moines	0	2	1	----	----	1	0	----
Sioux City	3	1	2	----	0	0	0	----
Waterloo	9	1	0	----	0	0	0	----
Missouri:								
Kansas City	18	5	7	----	0	1	1	13
St. Joseph	10	1	7	----	0	0	0	0
St. Louis	21	39	12	3	1	4	6	8
North Dakota:								
Fargo	4	0	0	----	0	35	1	1
South Dakota:								
Aberdeen	2	0	0	----	----	24	0	----
Nebraska:								
Omaha	10	5	3	----	0	0	0	12
Kansas:								
Topeka	19	1	2	1	1	0	0	0
Wichita	26	2	5	----	0	48	0	5
SOUTH ATLANTIC								
Delaware:								
Wilmington	1	1	0	----	0	0	3	1
Maryland:								
Baltimore	69	23	15	20	2	3	85	12
Cumberland	2	0	1	----	0	0	0	0
Frederick	0	0	5	----	0	0	0	0
District of Columbia:								
Washington	23	16	16	2	1	0	0	27
Virginia:								
Lynchburg	2	2	0	----	0	0	0	1
Norfolk	8	1	2	----	0	0	1	3
Richmond	3	4	2	----	1	0	0	7
Roanoke	3	1	0	----	0	0	0	0
West Virginia:								
Charleston	7	1	0	2	0	47	0	1
Huntington	0	----	2	----	0	0	0	0
Wheeling	1	0	0	----	0	0	0	1
North Carolina:								
Raleigh	1	0	0	----	0	48	0	1
Wilmington	3	1	0	----	0	0	0	2
Winston-Salem	5	1	0	----	0	0	0	2
South Carolina:								
Charleston	1	1	1	34	1	0	0	5
Columbia	0	0	0	----	0	0	0	7
Greenville	0	0	0	----	----	0	0	----
Georgia:								
Atlanta	8	3	1	27	2	0	1	13
Brunswick	0	0	0	----	0	0	0	0
Savannah	1	1	0	57	1	0	1	4
Florida:								
Miami	0	1	5	----	0	0	0	1
Tampa	0	2	2	----	0	2	0	0

City reports for week ended February 6, 1932—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL								
Kentucky:								
Covington	---	1	---	---	---	---	---	---
Lexington	1	---	2	1	0	2	10	2
Tennessee:								
Memphis	5	4	7	---	2	0	1	12
Nashville	0	0	4	---	2	0	0	4
Alabama:								
Birmingham	0	4	3	5	1	0	1	6
Mobile	0	0	1	---	1	0	0	1
Montgomery	0	2	0	---	---	0	0	---
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	1	0	0	---	0	0	1	0
Little Rock	1	1	1	---	3	2	3	1
Louisiana:								
New Orleans	1	14	15	6	4	0	0	11
Shreveport	5	2	0	---	0	46	1	6
Oklahoma:								
Muskogee	1	---	0	6	---	0	3	---
Tulsa	9	2	3	---	---	0	0	---
Texas:								
Dallas	8	7	14	1	1	12	0	7
Fort Worth	6	3	4	---	1	0	1	3
Galveston	0	1	2	---	0	0	0	2
Houston	0	7	13	---	1	0	0	14
San Antonio	0	3	1	---	0	0	0	10
MOUNTAIN								
Montana:								
Billings	3	0	0	---	0	5	0	0
Great Falls	3	0	0	---	0	0	0	0
Helena	0	1	0	---	0	22	0	0
Missoula	0	0	0	---	0	0	0	0
Idaho:								
Boise	0	0	0	---	0	0	2	0
Colorado:								
Denver	21	8	7	---	2	5	32	15
Pueblo	19	1	0	---	1	0	0	2
New Mexico:								
Albuquerque	1	0	4	---	0	1	3	3
Utah:								
Salt Lake City	8	2	0	---	3	1	0	6
Nevada:								
Reno	0	0	0	---	0	0	0	2
PACIFIC								
Washington:								
Seattle	19	4	0	---	---	356	5	---
Spokane	4	1	0	---	---	4	0	---
Tacoma	4	1	0	---	0	4	6	2
Oregon:								
Portland	9	7	1	3	2	22	4	8
Salem	3	0	0	25	---	0	1	---
California:								
Los Angeles	130	34	34	167	3	10	8	27
Sacramento	26	1	0	---	0	136	1	7
San Francisco	54	13	4	8	2	88	0	7

City reports for week ended February 6, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	4	3	0	0	0	0	1	0	0	13	35
New Hampshire:											
Concord	0	9	0	0	0	0	0	0	0	0	9
Manchester	2	4		0	0	0	0	0	0	0	12
Nashua	0	0	0	0			0	0		0	
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	4
Burlington	0	0		0	0	0	0	0	0	0	13
Massachusetts:											
Boston	100	176	0	0	0	12	1	0	0	54	224
Fall River	4	7	0	0	0	2	0	0	0	0	31
Springfield	10	4	0	0	0	2	0	0	0	5	42
Worcester	12	46	0	0	0	0	1	1	0	13	51
Rhode Island:											
Pawtucket	2	0	0	0	0	0	0	0	0	0	9
Providence	16	22	0	0	0	0	0	0	0	9	49
Connecticut:											
Bridgeport	10	3	0	1	0	1	0	0	0	0	27
Hartford	7	8	0	0	0	0	0	0	0	27	17
New Haven	7	16	0	0	0	1	0	0	0	16	37
MIDDLE ATLANTIC											
New York:											
Buffalo	30	75	0	0	0	6	0	0	0	27	138
New York	275	553	0	0	0	89	7	7	1	154	1,455
Rochester	11	62	0	0	0	3	1	0	0	4	65
Syracuse	12	17	0	0	0	0	0	0	0	63	45
New Jersey:											
Camden	7	25	0	0	0	1	0	0	0	4	32
Newark	33	21	0	0	0	6	0	0	0	50	83
Trenton	7		0				0				
Pennsylvania:											
Philadelphia	108	184	0	0	0	29	2	0	0	282	488
Pittsburgh	35	60	0	0	0	17	0	1	1	40	194
Reading	5	4	0	0	0	2	0	0	0	18	27
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	24	36	1	0	0	4	0	1	0	1	151
Cleveland	49	63	0	0	0	11	1	1	0	163	185
Columbus	12	7	0	0	0	3	0	0	0	7	73
Toledo	15	10	2	0	0	3	1	0	0	74	75
Indiana:											
Fort Wayne	6	4	1	0	0	1	0	0	0	2	24
Indianapolis	14	10	5	0	0	3	0	0	0	26	
South Bend	2	1	0	0	0	1	0	0	0	3	22
Terre Haute	5	2	0	0	0	0	0	0	0	0	15
Illinois:											
Chicago	146	227	2	0	0	30	3	1	0	158	736
Peoria		2		0	0	0		1	0	0	26
Springfield	3	7	0	0	0	2	0	0	0	0	24
Michigan:											
Detroit	119	141	2	0	0	19	1	4	0	129	243
Flint	16	7	1	0	0	0	0	0	0	8	27
Grand Rapids	15	7	0	0	0	2	0	0	0	0	23
Wisconsin:											
Kenosha	3	6	0	0	0	0	0	0	0	2	7
Madison	5	2	1	0	0	2	0	0	0	14	20
Milwaukee	39	26	0	0	0	7	0	0	0	148	88
Racine	7	1	0	0	0	0	0	0	0	2	10
Superior	3	0	0	0	0	0	0	0	0	0	5

City reports for week ended February 6, 1932—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL											
Minnesota:											
Duluth	12	2	0	0	0	0	0	0	0	0	23
Minneapolis	44	64	0	0	0	1	0	0	0	2	102
St. Paul	29	14	0	0	0	4	0	0	0	3	63
Iowa:											
Davenport	1	11	2	0	-------	-------	0	0	-------	0	-------
Des Moines	8	5	2	0	-------	-------	0	0	-------	0	29
Sioux City	2	5	0	3	-------	-------	0	0	-------	2	-------
Waterloo	2	0	1	0	-------	-------	0	0	-------	4	-------
Missouri:											
Kansas City	19	21	1	0	0	7	0	0	0	26	116
St. Joseph	3	4	0	0	0	0	0	0	0	1	8
St. Louis	52	32	2	1	0	9	0	1	0	85	202
North Dakota:											
Fargo	2	1	0	0	0	0	0	0	0	0	3
South Dakota:											
Aberdeen	0	0	0	1	-------	-------	0	0	-------	0	-------
Nebraska:											
Omaha	8	4	2	1	0	2	1	0	0	2	57
Kansas:											
Topeka	4	1	0	0	0	0	0	0	0	19	9
Wichita	6	2	0	0	0	1	0	0	0	1	32
SOUTH ATLANTIC											
Delaware:											
Wilmington	7	8	0	0	0	0	0	0	0	2	27
Maryland:											
Baltimore	37	48	0	0	0	16	2	0	1	137	186
Cumberland	0	13	0	0	0	0	0	1	0	4	13
Frederick	1	4	0	0	0	0	0	0	0	1	3
Dist. of Columbia:											
Washington	26	23	0	1	0	14	0	0	0	23	155
Virginia:											
Lynchburg	1	5	0	0	0	0	0	0	0	14	7
Norfolk	3	3	0	0	0	1	0	0	0	0	-------
Richmond	5	10	0	0	0	5	0	0	0	2	56
Roanoke	3	3	0	0	0	1	0	0	0	1	19
West Virginia:											
Charleston	1	1	0	0	0	0	0	1	0	3	14
Huntington	-------	0	-------	0	0	0	-------	0	0	0	0
Wheeling	2	1	0	0	0	0	1	0	0	8	16
North Carolina:											
Raleigh	0	2	0	0	0	1	0	0	0	1	16
Wilmington	0	3	0	0	0	0	0	0	0	16	19
Winston-Salem	2	3	1	0	0	3	0	0	0	16	12
South Carolina:											
Charleston	0	0	0	0	0	0	1	0	0	0	22
Columbia	0	1	0	0	0	1	0	0	0	0	24
Greenville	-------	1	0	0	-------	-------	-------	0	-------	2	-------
Georgia:											
Atlanta	6	0	1	0	0	8	1	0	0	0	97
Brunswick	0	0	0	0	0	0	0	0	0	0	1
Savannah	1	0	1	0	0	4	0	0	0	6	33
Florida:											
Miami	2	1	0	0	0	0	0	0	0	0	29
Tampa	1	0	0	0	0	0	1	0	0	2	26

City reports for week ended February 6, 1932—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 SOUTH CENTRAL											
Kentucky:											
Covington	4		0				0				
Lexington		3		0	0	2		0	0	3	12
Tennessee:											
Memphis	10	13	2	0	0	7	0	0	0	16	87
Nashville	2	1	0	0	0	2	0	0	0	7	42
Alabama:											
Birmingham	2	6	1	0	0	3	0	2	0	2	61
Mobile	1	2	1	0	0	0	0	3	2	0	32
Montgomery	1	1	0	0			0	0		0	
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	0	0	0	0	0	0	0	0	0	
Little Rock	1	1	0	0	0	2	1	0	0	7	8
Louisiana:											
New Orleans	8	10	1	0	0	14	2	2	1	0	141
Shreveport	1	1	1	1	0	2	0	0	2	4	45
Oklahoma:											
Muskogee		6		13				0		3	
Tulsa	2	6		1			0	0		1	
Texas:											
Dallas	6	9	2	1	0	1	0	1	0	0	66
Fort Worth	3	10	1	0	0	5	0	1	0	0	40
Galveston	1	0	0	0	0	1	0	2	0	0	17
Houston	4	9	6	2	0	3	0	2	1	0	58
San Antonio	1	2	0	0	0	5	0	0	0	0	71
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	0	6
Great Falls	4	0	0	0	0	0	0	0	0	0	9
Helena	0	0	0	0	0	0	0	0	0	0	4
Missoula	1	2	0	0	0	0	0	0	0	0	4
Idaho:											
Boise	1	2	0	0	0	0	0	0	0	0	7
Colorado:											
Denver	15	16	0	0	0	2	0	0	0	17	73
Pueblo	1	2	0	0	0	0	0	0	0	0	8
New Mexico:											
Albuquerque	0	0	0	0	0	5	0	0	0	0	17
Utah:											
Salt Lake City	3	7	1	0	0	0	0	0	0	0	18
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	6
PACIFIC											
Washington:											
Seattle	13	6	2	0			1	0		13	
Spokane	7	5	6	0			0	0		2	
Tacoma	4	2	3	0	0	1	0	0	0	0	30
Oregon:											
Portland	6	0	11	2	0	3	1	0	0	4	77
Salem	0	0		0				0		0	
California:											
Los Angeles	44	39	4	1	0	26	2	1	0	12	339
Sacramento	2	0	1	0	0	4	0	1	0	0	33
San Francisco	25	9	1	1	0	9	1	0	0	4	178

City reports for week ended February 6, 1932—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston	0	1	0	0	0	0	0	1	0
Springfield	0	0	1	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York	6	4	0	3	0	0	1	1	2
Rochester	1	0	0	0	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	1	1	0	0	0	0	0	0	0
Cleveland	0	0	0	0	0	2	0	0	0
Indiana:									
Indianapolis	3	2	0	0	0	0	0	0	0
South Bend	1	1	0	0	0	0	0	0	0
Illinois:									
Chicago	5	5	0	0	0	0	0	0	0
Peoria	1	1	0	0	0	0	-------	0	0
Michigan:									
Detroit	2	1	0	0	0	0	0	0	0
Wisconsin:									
Racine	0	0	1	0	0	0	0	0	0
WEST NORTH CENTRAL									
Missouri:									
Kansas City	0	1	0	0	0	0	1	0	0
St. Louis	2	1	0	0	0	0	0	1	0
Nebraska:									
Omaha			0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore	0	0	0	1	0	0	1	0	0
District of Columbia:									
Washington	0	0	0	0	1	1	0	0	0
South Carolina:									
Charleston [1]	0	0	0	0	2	1	0	0	0
Columbia	0	1	0	0	0	1	0	0	0
Georgia:[1]									
Atlanta	0	0	0	0	2	1	0	1	0
Brunswick	0	0	0	0	0	1	0	0	0
EAST SOUTH CENTRAL [1]									
Alabama:[1]									
Birmingham	0	0	0	0	1	1	0	0	0
Mobile	0	0	0	0	1	1	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock	0	1	0	0	0	1	0	0	0
Louisiana:									
New Orleans	0	0	0	0	1	1	0	0	0
Texas:									
Fort Worth	0	0	0	0	0	2	0	0	0
MOUNTAIN									
Utah:									
Salt Lake City	2	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	1	-------	0	-------	0	-------	0	0	-------
California:									
Los Angeles	0	1	0	0	0	0	0	2	0
San Francisco	0	0	0	0	0	0	0	0	1

[1] Typhus fever, 8 cases; 1 case in Charleston, S. C., 5 cases in Savannah, Ga., 1 case in Memphis, Tenn., and 1 case in Montgomery, Ala.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended February 6, 1932, compared with those for a like period ended February 7, 1931. The population figures used in computing the rates are estimated mid-year populations for 1931 and 1932, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 34,000,000. The 91 cities reporting deaths have more than 32,400,000 estimated population.

Summary of weekly reports from cities, January 9 to February 6, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Jan. 9, 1932	Jan. 10, 1931	Jan. 16, 1932	Jan. 17, 1931	Jan. 23, 1932	Jan. 24, 1931	Jan. 30, 1932	Jan. 31, 1931	Feb. 6, 1932	Feb. 7, 1931
98 cities	83	81	[2] 88	74	97	[2] 79	84	[2] 88	[4] 79	[2] 78
New England	79	79	86	91	50	106	96	106	48	84
Middle Atlantic	50	63	82	56	82	67	69	68	[2] 73	53
East North Central	76	96	[2] 68	95	97	93	68	110	79	96
West North Central	131	96	106	82	102	84	99	109	81	99
South Atlantic	114	85	94	69	108	[2] 65	120	[2] 73	84	[2] 75
East South Central	162	117	81	70	87	76	116	70	[6] 94	53
West South Central	204	142	195	108	260	81	204	183	152	156
Mountain	121	35	43	52	86	35	43	70	60	78
Pacific	65	61	97	47	99	88	63	45	72	69

MEASLES CASE RATES

98 cities	300	351	[2] 278	324	346	[2] 405	334	[2] 418	[4] 448	[2] 473
New England	1,706	490	1,905	310	2,064	522	1,922	438	2,322	502
Middle Atlantic	146	178	116	158	154	251	149	306	[5] 228	353
East North Central	142	62	[2] 182	87	215	80	210	142	321	151
West North Central	157	2,156	78	1,829	150	1,984	114	1,521	172	1,489
South Atlantic	53	435	71	500	110	[2] 806	71	[2] 1,034	196	[2] 1,296
East South Central	17	869	6	1,004	17	705	23	916	[6] 0	1,034
West South Central	43	20	73	7	162	10	115	17	198	3
Mountain	1,172	226	517	374	509	757	509	496	284	1,123
Pacific	784	33	544	55	828	73	938	110	1,138	112

SCARLET FEVER CASE RATES

98 cities	274	277	[2] 315	316	300	[2] 334	336	[2] 337	[4] 349	[2] 320
New England	549	433	582	539	640	575	614	519	705	534
Middle Atlantic	286	242	380	252	361	314	416	328	[5] 447	304
East North Central	298	363	[2] 335	398	312	384	388	377	325	331
West North Central	229	297	220	321	180	323	212	386	284	480
South Atlantic	227	277	239	305	218	[2] 343	214	[2] 313	245	[2] 305
East South Central	225	399	121	470	116	487	127	517	[6] 143	423
West South Central	69	68	99	129	82	142	92	112	106	88
Mountain	336	322	259	331	259	357	207	322	250	261
Pacific	141	73	129	73	128	120	89	143	116	145

SMALLPOX CASE RATES

98 cities	6	13	[2] 4	16	6	[2] 16	5	[2] 17	[4] 2	[2] 23
New England	26	0	2	0	7	0	14	0	2	0
Middle Atlantic	0	0	0	0	0	0	0	0	[5] 0	2
East North Central	1	15	[2] 1	10	3	21	2	25	0	12
West North Central	6	63	17	98	13	77	11	84	9	151
South Atlantic	0	2	0	0	0	[2] 4	0	[2] 0	2	[2] 0
East South Central	23	6	12	18	23	29	6	18	[6] 0	29
West South Central	26	37	16	27	0	34	16	51	13	81
Mountain	9	9	9	78	34	9	9	0	0	44
Pacific	19	18	8	29	27	20	13	18	4	24

See footnotes at end of table.

Summary of weekly reports from cities, January 9 to February 6, 1932—Annual rates per 100,000 population, compared with rates for the corresponding period of 1931—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	Jan. 9, 1932	Jan. 10, 1931	Jan. 16, 1932	Jan. 17, 1931	Jan. 23, 1932	Jan. 24, 1931	Jan. 30, 1932	Jan. 31, 1931	Feb. 6, 1932	Feb. 7, 1931
98 cities	4	4	[2]5	5	7	[3]6	5	[3]5	[4]5	[3]4
New England	2	5	0	0	2	2	2	5	2	2
Middle Atlantic	5	2	4	2	4	3	7	2	[3]4	1
East North Central	2	2	[2]2	2	3	3	1	1	4	2
West North Central	2	0	2	4	4	10	6	13	2	2
South Atlantic	8	10	18	10	29	[3]14	16	[3]8	4	[3]18
East South Central	0	12	29	53	12	12	17	18	[6]31	6
West South Central	13	20	10	14	23	27	3	14	23	24
Mountain	9	17	9	9	0	17	0	0	0	0
Pacific	4	2	0	2	11	6	2	10	4	0

INFLUENZA DEATH RATES

91 cities	18	24	[3]14	36	12	[3]52	13	[3]70	[4]13	[3]61
New England	10	5	19	10	7	12	5	34	10	46
Middle Atlantic	12	29	12	59	8	91	9	102	[3]8	68
East North Central	14	12	[2]5	9	10	18	11	36	12	52
West North Central	9	21	3	18	6	29	3	29	12	35
South Atlantic	35	28	12	42	24	[3]38	14	[3]127	16	[3]129
East South Central	31	45	44	64	44	64	50	76	[6]41	64
West South Central	30	76	30	79	13	83	37	100	30	73
Mountain	103	44	103	35	26	44	52	52	52	52
Pacific	23	22	26	10	14	22	9	14	12	12

PNEUMONIA DEATH RATES

91 cities	144	187	[3]126	219	120	[3]229	109	[3]259	[4]119	[3]231
New England	165	113	103	159	113	178	113	185	144	286
Middle Atlantic	148	233	133	311	126	332	111	369	[5]103	293
East North Central	104	110	[2]82	124	79	126	96	176	96	175
West North Central	131	200	119	212	154	171	113	159	160	136
South Atlantic	196	267	208	237	186	[3]281	114	[3]345	165	[3]325
East South Central	169	267	132	229	107	299	125	229	[6]157	178
West South Central	128	238	148	228	165	245	125	204	172	214
Mountain	293	244	181	270	147	157	138	200	215	209
Pacific	167	134	158	118	123	103	116	115	100	72

[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, 1932, and 1931, respectively.
[2] Fort Wayne, Ind., not included.
[3] Columbia, S. C., not included.
[4] Trenton, N. J., and Covington, Ky., not included.
[5] Trenton, N. J., not included.
[6] Covington, Ky., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended January 30, 1932.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended January 30, 1932, as follows:

Province	Influenza	Lethargic encephalitis	Poliomyelitis	Smallpox	Typhoid fever
Prince Edward Island	3				
Nova Scotia	5				
New Brunswick [1]					
Quebec			4		13
Ontario	5	1	1	5	
Manitoba					3
Saskatchewan				35	
Alberta (no report received).					
British Columbia				8	2
Total	13	1	5	48	18

[1] No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended January 30, 1932.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended January 30, 1932, as follows:

Disease	Cases	Disease	Cases
Chicken pox	105	Poliomyelitis	4
Diphtheria	41	Scarlet fever	87
Erysipelas	8	Tuberculosis	42
German measles	4	Typhoid fever	13
Measles	304	Whooping cough	64

JAMAICA

Communicable diseases—Four weeks ended January 30, 1932.—During the four weeks ended January 30, 1932, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the island of Jamaica outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis		4	Leprosy		3
Chicken pox	5	13	Puerperal fever		5
Diphtheria		5	Tuberculosis	45	71
Dysentery		4	Typhoid fever	12	74
Erysipelas		1			

PANAMA CANAL ZONE

Communicable diseases—December, 1931.—During the month of December, 1931, certain communicable diseases, including imported cases, were reported in the Panama Canal Zone and terminal cities as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chicken pox	33		Measles	26	
Diphtheria	11		Mumps	1	
Dysentery (amebic)	6	1	Pneumonia		31
Dysentery (bacillary)	1	1	Scarlet fever	1	
Leprosy	1		Tuberculosis		33
Malaria	68	5	Whooping cough	13	3

PORTO RICO

San Juan—Communicable diseases—Four weeks ended January 30, 1932.—During the four weeks ended January 30, 1932, cases of certain communicable diseases were reported in San Juan, Porto Rico, as follows:

Disease	Cases	Disease	Cases
Chicken pox	3	Measles	50
Diphtheria	7	Mumps	4
Filariasis	3	Typhoid fever	1
Malaria	44	Whooping cough	3

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

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

CHOLERA

(C indicates cases; D, deaths; P, present)

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Week ended— November, 1931		December, 1931				January, 1932					February, 1932	
						21	28	5	12	19	26	2	9	16	23	30	6	13
Ceylon: Colombo	C	3					1	1	1									
	D	3					1	1	1									
China:																		
Canton	C		2					3										
Hankow	C			8	23	6	5	3					2					
	D			6	1	4	1	1					1					
Shanghai	C	7	125	88	8													
	D		9	13	4													
Swatow	C										1							
India	C	36,514	39,223	26,705	15,722	3,451	3,302	3,677	3,884									
	D	20,276	21,683	13,257	8,801	1,744	1,713	1,936	2,074									
Bombay	C	44	42	4	5	1	3					1						
	D	25	17	3	1	1	4	1				1						
Calcutta	C	110	46	51	74	22	19	11	22	11	19	10	18	25	26	41		
	D	30	15	23	37	10	11	6	15	6	8	5	6	13	14	23		
Chittagong	C			1										1				
Madras	C	6	5															
Negapatam	C		1															
Rangoon	C	1		1	1							1						
	D	1		1	1							1						
India (French):																		
Chandernagor	C	7	2	1	1					2			1					
	D	7	2	1	1					2			1					
Karikal	C	1	2	1												12		
	D	1	2													5		
Pondicherry	C	3	4	1														
	D	2	2															
India (Portuguese)	C	2	34	75	48	2	1			1								
	D	2	18	26	11	2	1			1								

Indo-China (see also table below):																		
Cochin-China—Rachgia	C	P																
Pnompenh	C	1	2	1	4											1	1	
	D	1	2	1												1	1	
Saigon and Cholon	C			1					P	1		1				1		
	D			1														
Iraq:																		
Abulkhasib	C		6															
	D		5															
Amara	C	2	66	4	5	3				2	P							
	D	1	59	1	3	4				2								
Amara Province	C		96	95	35		3											
	D		120	83	24		2											
Basra	C	547	293	157	78													
	D	287	154	84	36													
Basra Province	C	5	53	42	10													
	D	2	30	19	5													
Dinwaniyah	C			1														
Dinwaniyah Province	C			61	28													
	D			44	15													
Iwaniyah	C			23														
	D			15														
Kut Province	C				20													
	D				14													
Muntafiq Province	C		225	209	68	1	1											
	D		145	160	51	3												
Nasiriyah	C		88	33	24	2	6											
	D		75	28	18		7											
Suqelshuyukh	C		2															
	D		2															
Japan: Taiwan—Kelung	C				2													
Persia: [1]																		
Abadan	C			1	3	1												
Ahwaz	C			12	103		9	37	1									
	D			7	98		7	31	1									
Khorramabad	C					18	16	80	45	2	1							
	D					10	10	65	30	9	1							
Mohammerah	C			1														
Philippine Islands: [2]																		
Provinces—																		
Capiz	C		35	79	12		4	16	7	13	4	4	5			13	9	13
	D		16	59	9		4	10	5	10	3	3	3			10	8	12
Cebu	C	3																
	D	3																

[1] On Oct. 23, 1931, cholera was reported at Mohammerah, Abadan, and Ahwaz, Persia. During the period from Oct. 22 to Nov. 7, 1931, 141 cases and 97 deaths were reported.
[2] Figures for cholera in the Philippine Islands are subject to correction.

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

CHOLERA—Continued

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

Place		July 26–Aug. 22, 1931	Aug. 20–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Week ended— November, 1931		December, 1931				January, 1932					February, 1932	
						21	28	5	12	19	26	2	9	16	23	30	6	13
Siam	C	1	1															
	D		1															
Ayudhaya Province	C								1									
	D								1									
Bangkok	C	1	1						1					1				
	D								1					1				
On vessel:																		
S. S. Cathay, at Kobe, Japan, from Shanghai	C	4																
	D	1																
S. S. Kasagi Maru, at Moji, from Shanghai	C		1															
S. S. Ankoo, at Nagasaki, from Shanghai	C		2															
	D		1															

Place		July, 1931	August, 1931	September, 1931	October, 1931			November, 1931			December, 1931			January, 1932	
					1–10	11–20	21–31	1–10	11–20	21–30	1–10	11–20	21–31	1–10	11–20
Indo-China (French) (see also table above):															
Cambodia [1]	C	241	12	14	1	16	2	3		1		2	1	1	9
	D	60	2	7	1	16	1					1	1	1	2
Cochin-China [1]	C	143	39	18	11	2	1	5		1	8	3	3	2	1
	D	42	32	13	10	2	1	4			5	2		1	1

[1] Reports incomplete.

PLAGUE

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

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Week ended— October, 1931		November, 1931				December, 1931				January, 1932				
					24	31	7	14	21	28	5	12	19	26	2	9	16	23	30
Algeria:																			
Algiers	C	2																	
Philippeville	C	2																	
	D	1																	
Argentina: Cordoba Province.[1]																			
Azores:																			
San Miguel Island	C								2	3									
	D									1									
Terceira Island	C								9	7									
	D								4	2									
Belgian Congo	C															1			
British East Africa (see also table below):																			
Tanganyika	C	8	4	13															
	D	2	4	5															
Uganda	C	285	289	276	71		87	60	41	38	31	35	28	13					
	D	281	207	270	69		84	58	39	35	30	34	24	15					
Canary Islands: Palma Island—Los Llanos	C																8		
	D																5	3	
Ceylon: Colombo	C	6	3	4						1						4	1	2	
	D	6	3	3						1						4	1	2	
Plague-infected rats		8									1					1	1		
Chile:																			
Santiago	C				1														
	D				1														
Plague-infected rats							1												
Valparaiso	C		1																
China: [3]																			
Shansi Province [3]	C					P													
Shensi Province	C					P													

[1] 10 cases of bubonic plague were reported in Cordoba Province, Argentina, in January, 1932. They were distant from railroad and 500 kilometers from ports.

[2] On July 27, 1931, 1,250 cases of plague were reported in Chiobe and Changchow, China, since April. On Sept. 19, 1931, 18 deaths were reported in Changchuanpu and new cases in Kaitung and Fengtien.

[3] On Oct. 17, 1931, plague epidemic was reported in western Shansi Province, China, with 2,000 deaths at Hsinghsien.

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

PLAGUE—Continued

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

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Week ended— October, 1931		November, 1931				December, 1931				January, 1932				
					24	31	7	14	21	28	5	12	19	26	2	9	16	23	30
Dutch East Indies:																			
Batavia and West Java	C	58	65	113	28	34	38	39	44	39	40	75	64	54	39				
	D	58	65	113	28	34	38	39	44	39	40	75	64	54	39				
Java and Madura	D	205	233	325	97	133	132	150	152	171	167	212	179	151					
Ecuador (see table below).																			
Egypt:																			
Alexandria	C	9	5	1	1	1	3	1		1	1	1					1	1	
	D	3	2				1	1	1	1	1								
Assiout	C											1	1	1					1
	D											1	1	1					1
Beheira	C		2															1	10
Dakahlia	C	2																1	1
Girga	C								1		1		1						
	D								1		1		1						
Kena	C								2			2			1	1			
	D								1			2			1	1			
Minieh	C						1	3			1	1	1		3	3			1
	D						1	1					1		3	3			1
Port Said	C	2			1			1	2		2			1					
	D								2					1					
Tanta	C	2	2						2										1
	D								2										1
France: Rouen—Devilleles	C					P													
Hawaii Territory:																			
Hawaii—Hamakua—Plague-infected rats		1																	
Maui Island—																			
Haliimaile—Plague-infected rats			1																
Kula District	C	1																	
	D	1																	
Makawao—Plague-infected rats[4]			1																
Paia—Plague-infected rats				1															
Paaulo—Plague-infected rats						1													

India	C	684	1,832	2,550	619	625	600	649	936	1,092	1,123	1,084							
	D	440	772	1,147	304	287	262	317	362	439	478	460							
Bassein	C	2	4	1	1														1
	D	2	4	1	1														
Bombay	C			1	1					1									
	D			1						1									
Plague-infected rats		47	57	42	4		11	7	11	13	16	16	17	7	9	9	8	18	14
Madras Presidency	C	28	376	185		23	49	19	26	31			30	76	63				
	D	24	162	105		16	17	7	14	10			3	26	30				
Moulmein	C		5																
	D		9	2															
Rangoon	C	1	3		5				1					1	1		1	2	2
	D	1	2		1				1					1	1			1	
Plague-infected rats		3	4	4	1						1	1		1	1				
Indo-China (see table below).																			
Iraq:																			
Baghdad	C	1	3			1		1	1	2	1	3	1			1	2	1	1
	D		1						1		1								
Maudhan	C						2	1	1	1									
	D						1		1										
Madagascar (see also table below): Tamatave	C	1	2	1										1					
Morocco	C			18		2					11								
	D			8	2	4													
Peru (see table below).																			
Senegal (see table below).																			
Siam	C	1	4	4	1		4		1	3	1		1				1		
	D		3	3	1		1			1	1		1						
Spain: Hospitalet—Barcelona Province	C	5	2	2	5		1	1											
	D	2	1	1	1														
Syria: Beirut	C	1	2	3			1												
Tunisia: Tunis	C		1	1															
Union of South Africa:																			
Cape Province—Plague-infected rats		1																	
Orange Free State	C		P	P					P										

[4] Two plague-infected rats were reported in Makawao District, Island of Maui, Hawaii Territory, Feb. 8 and 10, 1932.

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

PLAGUE—Continued

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

Place		July, 1931	August, 1931	September, 1931	October, 1931	November, 1931	December, 1931	January, 1932
British East Africa (see also table above): Kenya	C	484	235	14	64	44	28	------
Ecuador:								
Alamor Parish—Los Hoyos	C	------	------	1	3	------	------	------
Amaluza Parish—Gangochapa	C	------	------	------	2	------	------	------
Calvas Canton—Cariamanga	C	------	------	4	1	------	------	------
Overjeria	C	1	------	------	------	------	------	------
Celicia Canton—Choras	C	------	------	------	1	------	------	------
Chimborazo Province—Aldusi	C	------	------	------	------	------	------	3
Guamote	C	------	------	------	------	------	------	8
Loja Canton—Lapaz	C	------	------	20	------	------	------	------
Naimuro	C	------	------	------	2	------	------	------
Paterillo	C	1	------	------	------	------	------	------
Tuburo	C	------	------	------	7	------	------	------
Palas Canton—San Antonio	C	------	------	1	1	------	------	------
Indo-China	C	1	------	4	3	------	9	15
	D	1	------	4	1	------	5	8
Madagascar (see also table above):								
Ambositra Province	C	1	2	1	8	39	------	------
	D	1	1	1	5	37	------	------
Antisirabe Province	C	13	22	19	17	27	------	------
	D	12	22	19	17	27	------	------
Maevatanana Province	C	------	------	------	------	4	------	------
	D	------	------	------	------	4	------	------
Miarinarivo Province	C	8	20	14	18	10	------	------
	D	7	19	12	16	9	------	------
Moramanga Province	C	1	3	12	13	25	------	------
	D	------	3	11	11	25	------	------
Tananarive Province	C	5	45	65	120	186	------	------
	D	5	44	63	117	178	------	------
Peru	C	3	19	2	------	------	------	------
	D	2	14	2	------	------	------	------
Barranca—Chancay	C	------	------	------	------	4	------	------
	D	------	------	------	------	1	------	------
Callao—Plague-infected rats		------	1	------	------	------	------	------
Chepen—Pacasmayo	C	------	------	------	------	1	------	------
	D	------	------	------	------	1	------	------

Place		July, 1931	August, 1931	September, 1931	October, 1931	November, 1931	December, 1931	January, 1932
Peru—Continued.								
Eten—Chiclayo	C	------	------	1	------	------	------	------
	D	------	------	1	------	------	------	------
Huancabamba—Ayacaba	C	------	------	------	7	------	------	------
	D	------	------	------	6	------	------	------
Huaura—Chancay	C	------	------	1	------	------	------	------
	D	------	------	1	------	------	------	------
Plague-infected rats		------	------	------	1	------	------	------
La Samana—Hualgayoc	C	------	------	------	------	4	------	------
Lima—Lima	C	------	------	------	------	1	------	------
	D	------	------	------	------	1	------	------
Lima—Lima (haciendas)	C	------	------	------	------	2	------	------
	D	------	------	------	------	1	------	------
Paijan—Trujillo	C	------	------	------	------	1	------	------
Palulo—Hualgayoc	C	------	------	------	------	10	------	------
	D	------	------	------	------	5	------	------
Patrovilca—Chancay	C	------	------	------	------	1	------	------
	D	------	------	------	------	1	------	------
Quispampa—Huancabamba	C	------	------	------	1	------	------	------
	D	------	------	------	1	------	------	------
San Pedro—Pacasmayo	C	------	------	------	------	1	------	------
Supe—Chancay	C	------	------	------	------	2	------	------
	D	------	------	------	------	1	------	------
Senegal:								
Baol [1]	C	27	101	13	6	2	------	------
	D	13	58	8	2	------	------	------
Dakar [1]	C	95	194	45	4	------	------	------
	D	73	106	31	4	------	------	------
Diourbel [1]	C	------	------	13	------	10	------	------
	D	------	------	5	------	5	------	------
Louga [1]	C	3	2	10	1	19	------	------
	D	1	1	4	2	10	------	------
Rufisque [1]	C	34	2	1	7	12	------	------
	D	------	------	------	1	2	------	------
Thies [1]	C	16	26	12	7	16	1	------
	D	7	16	8	5	7	1	------
Tivaouane [1]	C	3	------	------	------	------	------	------
	D	2	------	------	------	------	------	------

[1] Reports incomplete.

SMALLPOX

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Week ended— November, 1931		December, 1931				January, 1932					Feb. 6, 1932
						21	28	5	12	19	26	2	9	16	23	30	
Algeria:																	
Algiers	C				1					1							
Constantine	C		1														
Brazil:																	
Porto Alegre (alastrim)	C	34	48	46	57	9	8	15	19								
	D	1	4	2	3			1									
Santos	C								1					2			
Rio de Janeiro	C										1						
British East Africa: Tanganyika	C	19	50	1,184	18	2											
	D		5	97	2												
British South Africa:																	
Northern Rhodesia	C	26		1													
Southern Rhodesia	C		3										1				
Canada:																	
Alberta	C	1		12	6		2	1		9		2					
British Columbia [1]	C	5	2		2								2	1	4	8	5
Manitoba	C		1			1	1								5		6
Winnipeg	C		1														
Nova Scotia	C						1										
Ontario	C	5	6	17	15	3	2	5	1	10		2	2	3	2		1
Kingston	C		1														
North Bay	C													1			
Ottawa	C		1	8	12												
Toronto	C						1										
Quebec	C											2	1		1		
Saskatchewan	C	26	33	11	33	12	5	9	8			1	10	21	7		7
Regina	C			2													
Chile:																	
Santiago	C				3												
	D				2												
Tocopilla	C											2					
China:																	
Amoy	C	1	1	2	8	2	5	11	28	60	66	49	43	37	60	54	32
	D	1	1	1	6		4	7	25	22	20	19	18	14	28	20	29
Canton	C		1		2	6	3	2	3	6	3	5	4	3	11	5	
Foochow	C	P	P	P	P		P		P				P				
Hankow	C	3		1	18	5	8	11	5	1	6	34	6				
	D						4		2	1	1	7	3				
Hong Kong	C												1	1		4	
	D													1		1	

[1] 33 cases of smallpox, with 9 deaths, were reported up to Feb. 8, 1932, in Vancouver, British Columbia, Canada.

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

SMALLPOX—Continued

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

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Week ended— November, 1931		December, 1931				January, 1932					Feb. 6, 1932
						21	28	5	12	19	26	2	9	16	23	30	
China—Continued.																	
Manchuria—Dairen	C						1										
Nanking	C	1															
Shanghai—																	
Foreigners only	C			98	21	16	13	20	23	16	40	18	41	43	48	40	
Including natives	D	1	2	13	2	10	6	8	7	8	13	6	14	11	21	17	
Swatow	C											2					
Tientsin	C							1									
Chosen (see table below).																	
Colombia:																	
Cali	C									1							
Santa Marta	D		1														
Egypt: Cairo	C													1			
Eritrea	C		10														
	D		2														
France (see table below).																	
Great Britain:																	
England and Wales	C	97	97	161	220	55	56	57	48	44	32	54	68	68	55		
London	C	26	32	58	129	38	27	35	18	18	14	28	40	24	36		
London and Great Towns	C	69	88	128	179	48	48	53	42	31	22	43	56	60	45		
Honduras:																	
Ceiba	C			14													
Puerto Castilla	C			1	1					1		1	1				
Tegucigalpa	C						8										
Trujillo	C		1	1	1												
India	C	2,927	1,705	1,451	1,152	414	557	561	766								
	D	746	433	224	246	94	118	713	141								
Bombay	C	2	5			1				2			1	3	1	3	
	D	1	1			1				1			1			2	
Calcutta	C	13	5	1	1			1			1	1	5	7	3	7	
	D	9	5	1	1			1			1	1	1	3	1	3	
Cochin	C	3		8	5										1		
Karachi	C	1			1			4	1	2	1			2	2		
	D													2	1		
Madras	C	1	1	13	5		2	2	3	1	2	3	1	1	3	3	
	D			2			1		1		1	1			2	1	

Negapatam	C	2	4	2	1				1									
	D			1	1				1									
Rangoon	C	4	2	3	3	2	2	2	3	4	4	18	13	15	35	58		
	D	2	1	2	1	2	2	1	2	1		2	7	7	8	15		
Tuticorin	C		2	4	5		4	4		2	2		2		19	9		
	D			1	1										2			
Vizagapatam	C	5	6	6									2					
	D	4	6	1														
India (French):																		
Karikal	C	7	7	8	4	1		2	4			4						
	D	6	3	4	3	1		2	4			2						
Pondicherry Province	C	20	26	23	38	9	6	5	6	10	7	1	4			4		
	D	20	24	21	36	9	5	5	6	10	7	1	4			4		
Indo-China (see also table below):																		
Pnompenh	C														1			
Saigon and Cholon	C	2	6	6	7	4	6	7	9	13	8	3	8	23	28	43		
	D	1	3	3	5	2	1	3	6	9	6	2	7	18	22	35		
Iraq:																		
Baghdad	C		1				1	4	6	3	4	4	4	5	2	2		
	D						1	2	2	1	2	2	3	9	2	2		
Basra	C												1		1	1		
	D												2					
Mosul Liwa	C	1		5														
Ivory Coast (see table below).																		
Jamaica	C							1										
Japan: Yokohama	C						1						1					
Mexico (see also table below):																		
Jalisco (State)—Guadalajara	D	2		4	2	1				1				2			1	
Mexico City and surrounding territory	C	10	5	7	5	3	4	2	1	6			2		3			
	D	2	2	4	1													
Monterrey	C				2									1				
San Luis Potosi	D											1	1	2	1	2		
Torreon	C		2	1			1	5	1				2	2		3	1	
	D		1										2	1			1	
Morocco (see table below).																		
Netherlands: Friesland—Opsterland	C				[1] 1													
Nigeria	C			454	69	15												
	D			141	15	1												
Panama: Chiriqui	C							3										
Poland	C		1		2				1	1								
Portugal:																		
Lisbon	C	37	66	48	78	22	23	21	25	35	14	26	33	38	22	31		
Oporto	C	1					1		1	1			1	2			1	
Rumania (see table below).																		
Siam	C		3							8			5					
Straits Settlements	C	1									2							
Sudan (Anglo-Egyptian)	C		32			2							2			3	4	
	D		6														1	
Sweden: Malmo	C															9		
Syria (see table below).																		

[1] Imported case.

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

SMALLPOX—Continued

(C indicates cases; D, deaths; P, present)

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Oct. 18–Nov. 14, 1931	Week ended— November, 1931		December, 1931				January, 1932					6, 1932
						21	28	5	12	19	26	2	9	16	23	30	
Union of South Africa:																	
Cape Province	C				P	P	P	P	P	P	P	P					
Natal	C	P	P														
Orange Free State	C	P	P	P													
Transvaal	C				P	P											
On vessel:																	
Brazilian ship Jaboatao at New Orleans from Brazil	C											1					
S. S. Taif (pilgrim ship) at Suakin from Jeddah	C	1															
S. S. Bellasco at Mobile, from Habana, Cuba, and Hull, England	C												1				

Place		July, 1931	August, 1931	September, 1931	October, 1931			November, 1931			December, 1931			January, 1932	
					1–10	11–20	21–31	1–10	11–20	21–30	1–10	11–20	21–31	1–10	11–20
Indo-China (see also table above)	C	8	72	39	10	11	26	20	2	98	144	41	324	11	107
	D	4	26	12	3	3	10	4		18	17	21	55	11	52
Ivory Coast	C		7					1							
	D		4					1							
Syria: Beirut	C													2	3

Place		July, 1931	August, 1931	September, 1931	October, 1931	November, 1931	December, 1931	January, 1932
Chosen	C	67	19	9	7	2		1
	D	17	7	1	1			
France	C	20		4		6	1	

Place		July, 1931	August, 1931	September, 1931	October, 1931	November, 1931	December, 1931	January, 1932
Mexico (see also table above)	D	1,013	731	565				
Morocco	C	23	23	59	91	152	279	100
Rumania	C		1					

TYPHUS FEVER

Place		July 26-Aug. 22, 1931	Aug. 23-Sept. 19, 1931	Sept. 20-Oct. 17, 1931	Week ended— October, 1931		November, 1931				December, 1931				January, 1932				
					24	31	7	14	21	28	5	12	19	26	2	9	16	23	30
Algeria:																			
Algiers	C			1		1	1						1		3		1		
Bone	C	2																	
Constantine Department	C	1	2	1		11	16	11	1		1	1	1		3	1	2		
Oran	C	1	1					1	1										
Bulgaria	C		1		1			1		2		2	1	14	1				
	D												1	1	1				
Chile:																			
Antofagasta	C					1								1					
Santiago	C				3	19		12	3										
China:																			
Manchuria—Harbin	C		1																
Shanghai	C	1		1															
Chosen (see table below).																			
Colombia: Cali	D		1																
Czechoslovakia (see table below).																			
Egypt:																			
Alexandria	C		2										3		1	1			
Beheira	C						1							7					
Cairo	C		1									1							
Gharbieh	C						1							1					
	D						1												
Provinces	C														11		4		26
	D														2				1
Greece (see table below).																			
Guatemala (see table below).																			
Irish Free State:																			
Donegal County—Stranorlar	C											2							
Limerick County—																			
Croom	C			1															
Glin	C		2	1															
Limerick	C	1										1							
Rathkeale	C			1															
Mayo County—																			
Castlebar	C	1																	
Westport	C	1																	
Waterford County—Lismore	C														1				
Lithuania (see table below).																			

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

TYPHUS FEVER—Continued

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

Place		July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Sept. 20–Oct. 17, 1931	Week ended— October, 1931		November, 1931				December, 1931				January, 1932				
					24	31	7	14	21	28	5	12	19	26	2	9	16	23	30
Mexico:																			
Guadalajara	D	1																	
Mexico City, including municipalities in Federal District	C	18	10	14	7	3	1	5	7	3	5	7	4	3	3	1	5	10	
	D	10	4	8	2	2			1	1	1	1	2	1	1	2	1	4	
San Luis Potosi	D	1												1					
Torreon	C			2		3													
	D			2		5	1												
Morocco	C	8		4		1					11	6	4	1	1	3		2	1
	D											2	1						
Palestine	C	11	4	6	2		1			1			2	1		1	1	1	1
Paraguay: Asuncion	D		1																
Peru.[1]																			
Poland	C	31	11	14	2	6	6	6	16	36	32	22	68	30	46	49	69	61	
	D	2		1		1	2		2	2		6	5	5	3	1	4		
Portugal: Oporto	C		2			3													1
Rumania	C	23	13	18	12	12	6	8	13	13	13	29	25	41	42				
	D	2	1	3	3	3	2	1	1	1	2	2	4	5	1				
Tunisia: Tunis	C		3					3		26				1		1			
	D									2									
Turkey (see table below).																			
Union of South Africa:																			
Cape Province	C	P	P	P	P	P	P	P		P	P	P	P	P	P				
Municipality of East London	C		P																
Natal	C	P	1	P			P			P	P	P	P		P				
Orange Free State	C		P	P	P	P	P						P	P	P				
Transvaal	C	P	P	1	P	P	P	P	P	P	P	P	P	P	P				
Venezuela: Caracas (see table below).																			
Yugoslavia (see table below).																			
On vessel: At Antofagasta, from Iquique and points north	C													1					

Place		June, 1931	July, 1931	August, 1931	September, 1931	October, 1931	November, 1931	December, 1931
Chosen: Seoul	C	6	1	33	12	24	4	------
	D	1	1	5	------	1	1	------
Czechoslovakia	C	2	------	------	------	18	------	10
Greece	C	9	2	13	9	12	4	6
	D	------	------	2	1	------	------	------
Guatemala	C	33	34	3	------	------	------	------
	D	15	5	------	------	------	------	------

Place		June, 1931	July, 1931	August, 1931	September, 1931	October, 1931	November, 1931	December, 1931
Lithuania	C	13	8	2	------	5	9	------
	D	2	------	------	------	1	------	------
Turkey	C	11	9	------	16	11	14	21
Venezuela: Caracas	D	------	------	------	------	------	------	1
Yugoslavia	C	2	3	1	------	------	------	------

[1] Typhus fever has been reported in Peru from May to November, 1931, 153 new cases being reported during the months of October and November. The disease has not spread to the coastal regions.

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

YELLOW FEVER

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

Place		May 31–June 27, 1931	June 28–July 25, 1931	July 26–Aug. 22, 1931	Aug. 23–Sept. 19, 1931	Week ended— Sept. 26, 1931	October, 1931					November, 1931				December, 1931	
							3	10	17	24	31	7	14	21	28	5	12
Brazil:																	
Alagoas State	C			3													
	D			2													
Maceio	D											1					
Utinga	C											3					
	D											2					
Ceara State	C	1		1													
	D			1													
Sobral	C										1						
	D											1					
Pernambuco State	C				2												
	D				2												
Pau d'Alho	C													1			
	D													1			
Recife	C					1											
	D					1											
Sergipe State	C	1															
British Cameroons: Mamfe	C	2															
Colombia: Magdalena Province—Near Cienaga	C		4														
Gold Coast:																	
Akuse	C		2														
	D		1														
Dagomba District	C			4									1				
Kete Krachi	C							1									
Kintampo	C		1														
	D		1														
Oda	C				1												
	D				1												
Salaga	C															1	
	D															1	

Tamale	C		2			2				1					2	1	
	D		2			2											
Wale Wale	C			1													
	D			1													
Ivory Coast:																	
Bobo Dioulasso	C		1														
	D		1														
Grand Bassam	C			4	1												
	D			2	1												
Kong Circle	C		4														
Seguela	C			P													
Tehini	C											1					
Nigeria	C			1							1		1		2		
	D			1									1		2		
Senegal:																	
Podor (Hinterland)	C			1													
	D			1													
St. Louis	C					1											
Thies	C					1											
	D					1											
Sudan (French)	C		4														
Macina—Kayo Circle	C												2				
	D												2				
Togo (French): Atakpame—Anie Circle	C											1					1
	D											1					
Upper Volta:																	
Banfora	C		2			2											
	D		1			1											
Dedougou	C										2						
Diarabakoko	C					2											
	D					1											
Ouagadougou	C				1	1			1								