# PUBLIC HEALTH REPORTS

VOL. 43 JANUARY 6, 1928 NO. 1

## PREVALENCE OF POLIOMYELITIS IN THE UNITED STATES

Reports from the health officers of 43 States for the four weeks ended December 24, 1927, show decreases in the number of cases of poliomyelitis as follows:

| | Cases |
|---|---|
| Week ended December 3, 1927 | 195 |
| Week ended December 10, 1927 | 163 |
| Week ended December 17, 1927 | 118 |
| Week ended December 24, 1927 | 85 |

Twenty-four of the cases reported for the week ended December 24 were in the Pacific Coast States. Massachusetts reported 11 cases for that week, Michigan and New York each reported 5 cases, Texas reported 6, and Pennsylvania 4 cases. No other State reported more than three cases of poliomyelitis for the week.

A comparison of the reports for the week ended December 24, 1927, with those for the corresponding weeks of the years 1925 and 1926 shows that poliomyelitis is more prevalent than it usually is in December. The following table is based on reports from 42 States:

| | Cases |
|---|---|
| Week ended December 26, 1925 | 12 |
| Week ended December 25, 1926 | 12 |
| Week ended December 24, 1927 | 85 |

## ALASTRIM AND SMALLPOX—POTENCY OF SMALLPOX VACCINE

### HYGIENIC LABORATORY BULLETIN NO. 149

Hygienic Laboratory Bulletin No. 149, containing two papers which will be of interest to health officers, will soon be issued. It will be on sale by the Superintendent of Documents, Government Printing Office, at 35 cents per copy.

*The immunological relationship of alastrim and mild smallpox.* By James P. Leake and John N. Force. Hygienic Laboratory Bulletin 149.

This paper presents the results of some experiments which tend to show the identity of eruptive disease prevalent in tropical America with the mild smallpox of the United States and Canada. This disease travels under a variety of names, such as varioloid varicella,

alastrim, Kaffir milk pox, Sanaga pox, the Australian disease, Cuban itch, Philippine itch, and so on.

In order to test the relationship of alastrim with mild smallpox, a considerable number of experiments were performed upon monkeys and rabbits. As a result of these immunological tests the authors conclude that the fact that a definite cross-immunity exists between alastrim and mild smallpox, and between alastrim and vaccine virus, is additional evidence of the identity of the two diseases.

*A method for estimating the potency of smallpox vaccine.* By John N. Force and James P. Leake. Hygienic Laboratory Bulletin No. 149.

It has been held that the potency of smallpox vaccine is self-evident in use and that vaccine of low potency, by the natural process of selection, would be forced off the market. Unfortunately, this has not proved to be the case. Many vaccinations are performed without adequate observation of the results and physicians have had to be content to accept a considerable percentage of failures in vaccination, notwithstanding various methods of vaccination.

In this paper the authors devote attention to the vaccine itself rather than to the manner of administering it, and describe a method of estimating its potency. As a result of their experiments they lay down the criterion that a smallpox vaccine of high potency, when diluted 1 to 1,000, should produce a confluent eruption on from 90 to 100 per cent of the vaccinated area on the back of a rabbit and when diluted 1 to 3,000 the decrease in confluence should not be over 20 per cent. They state that a vaccine satisfying this criterion should produce in all previously unvaccinated persons a circular vesicle measuring at least 7 mm. in diameter on the seventh day when applied undiluted to a circle of the exposed derma measuring 2 mm. in diameter.

---

## THE EIGHTH PAN AMERICAN SANITARY CONFERENCE

### Official Report of Resolutions Adopted

(*Acta Final*)

The Eighth Pan American Sanitary Conference initiated its work in the city of Lima on October 12, 1927, at a formal session presided over by the Hon. Pedro José Rada y Gamio, Minister of Foreign Relations of the Republic of Peru, who made the opening address. The delegates of the Republics represented in the conference made appropriate responses, and the temporary chairman of the conference, Dr. Carlos Enrique Paz Soldán, delivered the closing speech of the session.

The first general session of the conference was held on October 13, 1927, Dr. Carlos Enrique Paz Soldán, temporary chairman, presiding.

In conformity with the rules and regulations, the delegates proceeded to elect the permanent president of the conference, and, on motion of the delegates of Uruguay and of the United States of America, Doctors González and Cumming, respectively, Dr. Carlos Enrique Paz Soldán, who had been designated temporary president by the former conference, held in Habana, was unanimously elected. In like manner Dr. Baltazar Caravedo was elected secretary general of the conference.

In compliance with the provisions of the second paragraph of the second article of the rules and regulations, the selection by lot to determine the numerical order of the delegations was effected and resulted as follows:

1. Colombia.
2. Honduras.
3. Panama.
4. Paraguay.
5. United States of America.
6. Guatemala.
7. Bolivia.
8. Dominican Republic.
9. Costa Rica.
10. Venezuela.
11. Haiti.
12. Uruguay.
13. Ecuador.
14. Argentina.
15. Cuba.
16. Brazil.

Drs. Bolivar J. Lloyd, Bento Oswaldo Cruz, and Alfredo Sordelli were elected secretaries of the conference.

The conference resolved to appoint the following committees, apportioning the topics of the program among them in the manner indicated below:

The first committee, entitled "Executive committee and committee on credentials."

The second committee, entitled "Committee on the Pan American Sanitary Code," was assigned topics 1, 17, 25, 26, and 27.

The third committee, entitled "Committee on sanitary organization of the Pan American States," was assigned topics 2, 3, 4, 5, 6, 8, 16, 21, and 29.

The fourth committee, entitled "Committee on epidemiology, sanitation, and prophylaxis," was assigned topics 7, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 22, 23, and 24.

After a report made by the secretary general, Dr. Baltazar Caravedo, the conference definitely approved the credentials of the following-named delegates:

Argentina: Drs. Laurentino Olascoaga, Nicolás Lozano, and Alfredo Sordelli.

Bolivia: Drs. Adolfo Flores and Adolfo Durán.

Brazil: Drs. João Pedro de Albuquerque and Bento Ozwaldo Cruz.

Colombia: Dr. Julio Aparicio.

Costa Rica: Dr. Solón Núñez F.

Cuba: Drs. Fernando Renseli and Mario G. Lebredo.

Ecuador: Dr. Luis M. Cueva.

The United States of America: Drs. Hugh S. Cumming, Bolivar J. Lloyd, and John D. Long.

Guatemala: Mr. Pablo Emilio Cuedes.

Haiti: Mr. Victor Kieffer Marchand.

Honduras: Dr. José Jorge Callejas.

Panama: Dr. José Guillermo Lewis.

Paraguay: Dr. Isidro Ramírez.

Peru: Drs. Carlos Enrique Paz Soldán, Sebastian Lorente, Baltazar Caravedo, Daniel E. Laverería, and Julio C. Castiaburú.

Dominican Republic: Drs. Ramón Báez Soler and Alejandro Bussalleu.

Uruguay: Dr. Justo F. González.

The United States of Venezuela: Dr. Emilio Ochcoa.

The conference unanimously resolved to designate as honorary presidents the Chief Executives of the nations represented.

There were accepted in subsequent sessions, Dr. Julio C. Castiaburú as delegate for Nicaragua (that country ranking 17 in numerical order), Dr. Guillermo Angulo Puente Arnao as delegate of Haiti, and Mr. Jaime G. Bennett as delegate of Costa Rica.

The Eighth Pan American Sanitary Conference discussed and adopted the following motions, resolutions, and conventions, namely:

1. The American delegation, assembled in Lima on the occasion of the convening of the Eighth Pan American Sanitary Conference, express their thanks and appreciation to the President of the Republic of Peru, the Honorable Augusto B. Leguía, for the splendid manifestations of hospitality which he has shown them and for the extraordinary progress which has been made in the establishment, materially, of the basic principles of hygiene and sanitation in the Republic of Peru during his administration.

2. The American delegation, assembled in Lima on the occasion of the convening of the Eighth Pan American Sanitary Conference, extend a vote of thanks to the president of the conference, Prof. Carlos Enrique Paz Soldán, for the laudable manner in which he has directed the debates and the work of the conference, and to the organizing committee for the splendid organization effected, and request that this vote be transmitted to the Chancellery of Peru.

3. The Eighth Pan American Sanitary Conference approves the following:

**Memorandum Concerning the Interpretation of the Pan American Sanitary Code**

By dangerous or contagious disease, referred to in the latter part of article 4 of the Code, is understood all diseases of an epidemic character.

Let it be understood that the obligation to notify "adjacent countries" means all of the American Republics.

With reference to article 9, it shall be understood that the sanitary measures referred to are to be applied to vessels from the infected area.

In the interpretation of articles 11 and 30, it is understood that article 11 refers to the scientific definition of an infected area and article 30 to the standard prescribed by the Pan American Sanitary Code, which the sanitary authorities should follow.

Where article 29 reads "autochthonous cases" this should be understood to mean one or more cases.

That in the interpretation of article 35, it is understood that a "clean ship" is one coming from a clean port of class A or B, which, during its voyage, has not had aboard any case of bubonic plague (including rodent plague), cholera, yellow fever, smallpox, typhus fever, or any other disease of an epidemic character, and which vessel has strictly complied with the requirements contained in this Code.

Concerning article 41, inset 5, and article 44, inset 3, which refer to human or rodent plague and to smallpox, respectively, it is understood that there is no objection to the application of the measures which the local sanitary authorities may decide upon in each case in view of the special circumstances.

That in cases of doubtful interpretation of the articles of this Code which refer to the application of sanitary measures to vessels, consideration shall be given to the actual conditions found on the vessel in preference to conditions at the ports where the vessel has called.

4. The Eighth Pan American Sanitary Conference reminds all the signatory powers of their obligation to adopt the model bill of health to which article 16 of the Code refers.

5. The Eighth Pan American Sanitary Conference suggests to the signatory or adhering nations the expediency of naming in all ports of entry an official body whose duty it shall be to determine the diagnosis in doubtful cases of contagious disease.

6. The Eighth Pan American Sanitary Conference recommends to the Pan American Sanitary Bureau that it undertake to interest naval architects, and commercial organizations engaged in building or operating vessels, in the rat-proofing of vessels, this to be done in the interest of the organization concerned.

7. The Eighth Pan American Sanitary Conference recommends to the Governments of the American countries the construction of rat-proof wharves—that is to say, wharves of steel and cement—and also that the freight in warehouses be carefully elevated 1 foot above the floor and placed in separate sections in order to leave free spaces for easily guarding against rodents.

8. The Eighth Pan American Sanitary Conference, considering that mortality statistics constitute the fundamental basis of our knowledge of the sanitary conditions of the peoples of America, especially recommends that the Pan American Sanitary Bureau endeavor to put in operation as soon as possible the plan suggested by the Pan American Scientific Congress, assembled in Lima in 1924, namely, that it take appropriate action to the end that all the countries of America which have not already done so adopt the classification of the causes of death now in use in the United States of North America (convention of Paris of 1920), with its methods and procedure, in the compilation of statistics, in order to be able to determine in a systematic manner the comparable mortality rates of the different countries.

9. The Eighth Pan American Sanitary Conference, considering that the placing of sanitary inspectors on vessels, both on the Atlantic and the Pacific coasts, has proved of benefit in facilitating the application of prophylactic measures in the case of vessels calling at infected ports, recommends to the Governments of the American Republics that such inspectors be so placed by any country desiring to do so, and in conformity with its laws and regulations governing the case.

10. The Eighth Pan American Sanitary Conference very respectfully requests of the signatory Governments the faithful observance of articles 3, 4, and 5 of the Pan American Sanitary Code, which constitute the basis of international defense against epidemic diseases of a grave character.

11. The Eighth Pan American Sanitary Conference declares that habit-forming drugs constitute a grave danger to the future of the countries of the American Continent because of their easy dissemination and their pernicious effects on the race, and recommends to the governments of the different States the organization of social defense against habit-forming drugs, establishing repressive, fiscal, therapeutic, and prophylactic measures on the following bases:

(*a*) Reduction of the cultivation, manufacture, and sale of narcotics, limiting their use to therapeutic necessities and in accordance with the regulations of the sanitary authorities of each country, which shall fix the penalties incurred by infractors;

(*b*) Reporting of addicts and obligatory treatment in special establishments under restraint, supported by the State and in charge of medical specialists; and

(*c*) Prophylaxis should also be carried on by education and antinarcotic propaganda.

12. The Eighth Pan American Sanitary Conference reiterates its adherence to that principle of reform of governmental procedure which will prepare the State for the adoption of a definite public policy in matters of hygiene, and declares that only by the establishment of a department dedicated exclusively to medico-social problems

is it possible to make effective to the fullest extent a national or international policy of hygiene and sanitation; consequently, it is recommended that those Governments which have not yet done so should create a department or ministry of health.

13. The Eighth Pan American Sanitary Conference again reaffirms that, for the eradication of bubonic plague, it is necessary to study the complex local problems that its endemo-epidemic character offers in order to determine with precision the factors which contribute to its genesis;

That while these investigations are being made, the campaign against plague should tend to a realization of measures of security against rodents, particularly the rat-proofing of vessels, of dwellings, and, in general, all temporary or permanent habitations of man.

The conference recognizes that the destruction of rats can and ought to be continued without cessation, in the hope of reducing their number and subjecting these rodents to biologic control;

That to protect man against the spread of bubonic plague, such biologic control may be usefully employed; and

That this work ought to be done by a central supervising agency.

14. The Eighth Pan American Sanitary Conference, with the object of determining the development and extent of intestinal parasitism on this Continent, recommends to the sanitary institutions of the countries of the Pan American Union that they send reports of such works as are officially recognized as important to the Pan American Sanitary Bureau, which will undertake to outline the geographic distribution of the various intestinal parasites of America.

15. The Eighth Pan American Sanitary Conference recommends to the American Governments that they cooperate by means of laws, decrees, or resolutions in campaigns throughout the entire Continent against venereal diseases, and most respectfully urges said Governments to endeavor by these means to lessen prostitution.

That there be established free official clinics for venereal disease, provided with a complete stock of medical supplies, where the public may find treatment within its reach, in order that by this measure the spread of venereal disease may be restricted.

16. The Eighth Pan American Sanitary Conference, bearing in mind the participation of the Governments of the American Republics in the International Sanitary Conference held in Paris in June, 1926, to revise the International Sanitary Convention of 1912, is of the opinion that the Pan American Sanitary Bureau should assume and fulfill the duties and obligations of a regional agency for the collection of reports of communicable disease and for the transmission of these reports to the Governments affiliated with the Pan American Union and to the Office International de Hygiène Publique of Paris.

17. The Eighth Pan American Sanitary Conference, in view of the progress attained in the combating of tuberculosis in the different countries and of the experimental methods of immunity now employed, recommends to the Governments that, through the intermediary of their sanitary institutions, they periodically send to the Pan American Sanitary Bureau all data relating to vaccination against tuberculosis, it being the duty of said bureau to summarize the results reported at the next meeting of this conference.

18. The Eighth Pan American Sanitary Conference suggests to the American Governments that they consider the question of prenuptial examination as an adjunct to the prophylaxis of venereal diseases.

19. The Eighth Pan American Sanitary Conference declares that the health and welfare of the laboring class is intimately related to the public health and to the economic development of a country, and that the losses sustained in industry as a result of associated disease cause serious harm to the nation, diminish the actual output of labor, and, above all, are a detriment to the future growth and development of the population, undermining its health, for which reason the conference recommends to the different countries of America the necessity of establishing special agencies within departments of health which shall have charge of everything relating to sanitation in industry in order to place laborers in the best possible environment consistent with their mental and physical capabilities.

20. The Eighth Pan American Sanitary Conference declares that alastrim, so long as its nature is not definitely determined, shall be considered, in so far as international sanitary measures are concerned, the same as smallpox.

21. The Eighth Pan American Sanitary Conference recommends to the American countries that they establish a mutual interchange of all rules, regulations, laws, and sanitary orders, and of all authoritative reports that may be of interest to other countries, sending copies of them to other Republics and, likewise, to the Pan American Sanitary Bureau.

22. The Eighth Pan American Sanitary Conference, in view of the evident desire which exists of holding meetings from time to time of the officers and members of the Pan American Sanitary Bureau, as occasion may require, resolves:

(*a*) That meetings of these officers and members be held in Washington, on call of the director and at intervals of 1 year to 18 months, as circumstances may require; and be it further

*Resolved,* That hereafter the actual and necessary expenses and the traveling expenses of the members of the Pan American Sanitary Bureau may be paid out of the funds of the Pan American Sanitary Bureau, including a per diem during the period of the conference, an expense which shall not exceed $10 per day, United States currency.

(*b*) When, in the discretion of the director, a member or representative of the Sanitary Bureau is required to perform any official duty away from his place of residence, the director is authorized to pay out of the funds of the bureau the necessary traveling and other expenses of said representative member, including a per diem, as provided for in paragraph (*a*) which precedes, during the time in which he is not engaged in travel.

It is understood that salaries shall be paid by the government of the member or representative.

23. The Eighth Pan American Sanitary Conference resolves that, in view of the evident necessity for more direct contact and more perfect interchange of information between the sanitary authorities of the American Republics, there should be established, and there is hereby established, the position of traveling representative, and the incumbent shall be a member ex officio of the Pan American Sanitary Bureau and shall be appointed by the director from among the members of the public health services of the various Republics for such periods of time as the director may deem necessary for the service of the bureau.

24. The Eighth Pan American Sanitary Conference recommends for the study and consideration by the ninth conference the subject of hospital organization as administered in America, and suggests to the Pan American Sanitary Bureau the expediency of preparing a systematic compilation of data obtained from sanitary authorities concerning the status of hospital administration on the American Continent.

25. The Eighth Pan American Sanitary Conference, because of the importance of the subject and in view of the favorable results which have followed the application of modern measures, especially Pasteurization, for the safeguarding of milk, and considering the reduction in infant mortality and also the reduction in mortality in general which have followed the utilization of such measures, recommends to the various Governments that the matter of the safeguarding of milk and the scientific measures for rendering it safe be considered as of paramount importance. In order to secure, in the shortest time possible, the reduction in the number of cases of the various diseases that may be conveyed by milk, it is recommended that the Ninth Pan American Sanitary Conference undertake the drafting of a model law for the safeguarding of this important food.

26. The Eighth Pan American Sanitary Conference, having taken cognizance of the proposed rules and regulations concerning the safeguarding of milk which the special committee appointed by the Peruvian Government has prepared, takes pleasure in declaring that, from a scientific point of view, they fulfill the requirements of safety.

27. The Eighth Pan American Sanitary Conference reiterates its recommendation that in departments of health there be constituted a personnel trained in the work of health and sanitation and selected on the basis of the most perfect fitness, and that there be provided the stimulus of legitimate and gradual promotion in said career, and at the same time recommends the establishment of institutes of hygiene and social medicine for the accomplishment of this object.

28. The Eighth Pan American Sanitary Conference insists on calling the attention of the American Governments to the expediency of continuing the campaign against alcoholism in the manner best adapted to the requirements of each country.

29. The Eighth Pan American Sanitary Conference suggests that for future conferences the Pan American Sanitary Bureau solicit from the Governments of the signatory countries a list of subjects of special interest—a list which should be received by the Pan American Sanitary Bureau at least 18 months before the meeting of the next conference. The said bureau shall examine and classify the subjects proposed, formulating a program of the most important topics, judging from the number of countries that may have submitted them. This program shall be sent to the Governments for their consideration at least one year before the meeting of the ninth conference. On holding the ninth conference, each delegate shall read a résumé of not more than two pages of ordinary paper on the topics of the program which may interest him, without prejudice to his submitting complete observations on the same questions, which observations shall be delivered to the office of the chairman of the conference.

30. The Eighth Pan American Sanitary Conference, having in mind that certain countries of America are giving marked attention to conditions concomitant with their courses in public instruction, including such subjects as (1) the hygienic conditions found in school buildings, (2) teaching methods, (3) sanitary inspection, recommends to all Governments that, considering the social and economic importance of school hygiene in general, they send to the Pan American Sanitary Bureau one year prior to the meeting of the Ninth Pan American Sanitary Conference such reports and instructions as they deem expedient regarding the adoption of measures of reform or of procedure relating to the hygiene of schools, to the end that this subject may be made one of the topics for study by the ninth conference.

**Additional Protocol Approved by the Conference (Ad Referendum)**

The ratification of the Sanitary Code shall be deposited in the office of the Secretary of State of the Republic of Cuba, and the Cuban Government shall communicate these ratifications to the other signatory States, which communication shall constitute exchange of ratifications. The convention shall become effective in

each of the signatory States on the date of ratification thereof by said State, and shall remain in force without limitation of time, each one of the signatory or adherent States reserving the right to withdraw from the convention by giving in due form a year's notice in advance to the Government of the Republic of Cuba.

The conference, in the session of October 19, 1927, proceeded to designate the seat of the Ninth Pan American Sanitary Conference, having unanimously chosen the city of Buenos Aires, Argentina, as the meeting place of the conference.

The conference proceeded to elect the officers and members of the Pan American Sanitary Bureau of Washington, the following being unanimously elected:

Honorary director, Dr. Carlos Enrique Paz Soldán.
Director, Dr. Hugh S. Cumming.
Vice director, Dr. Mario G. Lebredo.
Secretary, Dr. Sebastián Lorente.
Members, Dr. Solón Núñez F., Dr. Ramón Báez Soler, Dr. Justo F. González, Dr. João Pedro de Albuquerque.

The closing session of the conference was held on the evening of October 20, 1927, Dr. Carlos Enrique Paz Soldán, presiding. At this meeting Drs. Fernando Rensoli and Luis M. Cueva, delegates for Cuba and Ecuador, respectively, and the chairman of the Peruvian delegation, Dr. Sebastián Lorente, made addresses, their remarks being included in the proceedings of the conference.

Done and signed in the city of Lima on the 20th day of the month of October, 1927, and a certified copy delivered to each of the delegations for transmission to their respective countries, a copy to be sent through diplomatic channels to the Department of Foreign Relations of Peru and to the Pan American Sanitary Bureau in Washington.

(Signed) CARLOS ENRIQUE PAZ SOLDÁN,
*Chairman of the Conference.*

(Signed) BALTAZAR CARAVEDO,
*Secretary General of the Conference.*

---

## THE FOOD OF CULICINE LARVÆ

### FOOD ORGANISMS IN PURE CULTURE

By M. A. BARBER, *Special Expert, United States Public Health Service*

In a previous article (1) I described some experiments on the food of anopheline larvæ where food organisms in pure culture were supplied to larvæ hatched from sterilized eggs. It was demonstrated by these experiments that *Anopheles* may be reared to maturity on bacteria alone, infusoria alone, or algæ alone, provided living food

organisms were supplied them. In the present work I have attempted to repeat with culicine larvæ the same sort of experiments.

The method of sterilizing the eggs of culicines was essentially the same as that employed for *Anopheles* except that eggs united in boats were dissected apart before applying the germicide. Eggs were placed on a sterile cloth spread in a tin spoon perforated by many small holes. Eighty per cent ethyl alcohol was dripped over the eggs for three to five minutes. The eggs were then dried on the cloth to insure their floating when transferred to a liquid medium. The dried eggs were then placed in test tubes containing sterile nutrient broth or sloped agar, a few to each test tube. Larvæ hatched from the eggs were left in the medium for a time, and those which had apparently remained sterile were pipetted to flasks or other larger receptacles containing sterile media suitable for the larvæ and for the living food organisms to be tested.

I obtained culicine eggs by confining gravid females in cages over water or from pools and other waters where egg boats were laid under natural conditions. In some cases receptacles containing rain water were set out and examined daily in order to obtain eggs the day after they were laid.

The eggs withstood the process of sterilization well, as was indicated by the large percentage hatching out after treatment. In one series where eggs of *Culex quinquefasciatus* were treated for five minutes with 80 per cent alcohol and subsequently dried, every one of 124 hatched when transferred to broth or agar. Even eggs that were so far developed that larvæ hatched out within an hour or two after sterilization were apparently unhurt by the alcohol.

A part of the test tubes to which parcels of treated eggs were transferred showed contamination promptly, the proportion of contaminated tubes varying in the different batches. Generally, eggs laid in egg boats gave a larger proportion of contaminated cultures than those laid separately.

In many tubes, however, no contamination appeared although cultures were kept for weeks on a considerable variety of media adapted for bacterial growth. Eggs or young larvæ were tested in glucose and serum broth, on and under the surface of various agars, in anaerobic as well as in aerobic cultures, and at temperatures varied to suit different kinds of contaminants. So far as ordinary bacterial tests can show, sterilization was complete.

Eggs hatched in both acid and alkaline media. Those of *C. quinquefasciatus* hatched in a medium of pH 6.4 and one of 9.4; of *Aëdes aegypti*, in pH 6.2 and 8.6, *C. quinquefasciatus* hatched in a medium containing 0.7 per cent salt as well as in ordinary media.

Oxygen appeared to be essential to the hatching of the eggs of the culicine species tested. Eggs embedded in agar or placed in broth

recently boiled under vaseline failed to hatch. Moisture was, of course, essential; but eggs in some tests hatched on the surface of a comparatively dry agar, where they remained dormant until wetted.

Atkin and Bacot (2) have reported experiments where the presence of living bacteria, yeast or molds proved an important, though not necessary, stimulus to the hatching of the eggs of *Aëdes ægypti*. In my experiments there was no indication that bacteria promoted hatching in either *C. quinquefasciatus* or *A. ægypti*. Eggs hatched out in water or in clear sterile media as promptly as in contaminated cultures. In a few cases bacteria seemed to encourage the hatching of eggs of *A. sollicitans*, but they were surely not a necessary stimulus. It is true that in my experiments eggs before sterilization usually lay for various periods of time in nonsterile water, in the case of "ripe" egg boats for several days; in other cases they remained only a few hours in clear water, where it seems unlikely that they could have been affected by bacterial growth acting on them before sterilization.

On the other hand, the presence of bacteria in heavily contaminated cultures or of a thick growth of infusoria, bacteria, or yeasts sown in the cultures did not inhibit hatching. Eggs of *C. quinquefasciatus* hatched and the larvæ lived some days almost embedded in a bacterial growth at the bottom of an agar tube.

In a large proportion of the cultures, eggs of *C. quinquefasciatus* and of *A. ægypti* hatched within two or three days after they were laid. In only one or two cases, however, did the eggs of *Aëdes sollicitans* hatch in the media in which they were sown. In one series of 28 tubes, hatching occurred in only one, a control in which the eggs were not sterilized and in which the larvæ appeared in about 10 days. Two weeks after the eggs were sown, bacteria were transferred from this control to seven other tubes of the same batch in which eggs remained unhatched and sterile. In all these tubes hatching was observed on the following day, but it occurred also in three tubes which had not been inoculated with bacteria. Possibly all cultures had been affected by a rise in temperature which occurred at that time.

In another series, eggs of *A. sollicitans* were sterilized and placed on moist sterile earth or sand in test tubes. One month later they were wetted with a medium containing 0.7 per cent NaCl. Five out of nine hatched. Eggs placed in test tubes without earth or sand failed to hatch when wetted with the same medium. It would appear that a resting period of some days favored the hatching of the eggs of this species, but a long resting period was not essential. The presence of bacteria was not a necessary stimulus. Eggs hatched in 0.7 per cent NaCl and in sterilized pool water to which no salt had been added.

Eggs of *Aëdes thibaulti* and of a *Psorophora* (probably *horridus*) failed to hatch although freshly laid and presumably viable. They were placed on a great variety of media, some with bacteria and some sterile, and, in the case of *A. thibaulti*, some with living algæ. The cultures were kept under observation for several weeks.

As in the case of *Anopheles* larvæ, the presence of living food organisms seemed to be necessary to any considerable growth. Larvæ survived a long time in sterile broth; those of *A. quinquefasciatus* for 13 days and of *A. ægypti* for at least 12 days. In neither case did any considerable growth appear. Growth in contaminated cultures was almost invariably better than in sterile ones. Where cultures of bacteria or infusoria were inoculated with the eggs, larvæ showed better growth than in sterile controls in the same medium. The addition of dead microorganisms or of dead organic matter to cultures did not materially promote growth of larvæ. Eggs of *C. quinquefasciatus* hatched in a medium consisting of 0.7 per cent NaCl solution plus human blood cells, but the larvæ did not grow although red blood cells were seen in their intestines.

Culicines reached maturity in media contaminated with bacteria or inoculated with various living microorganisms, and many emergences occurred in test tubes of the ordinary size. They throve better than did *Anopheles* in small containers containing a rich medium. But, like *Anopheles*, they found more favorable conditions in such containers as 250 or 500 cubic centimeter Erlenmeyer flasks, pint Mason jars, or large test tubes supplied with a larger amount of a medium less concentrated but sufficiently rich to grow the microorganisms. A very favorable medium consisted of algæ which had been allowed to rot several days at high room temperature, then mixed with water and autoclaved. To this was added a small percentage of nutrient broth, often introduced with the larvæ and with the living microorganisms. The flasks were plugged with cotton and the Mason jars provided with a special cover to exclude bacteria.

The microorganisms used as food for the larvæ were isolated by the single-cell method, or, in the case of some of the bacteria, by plating out. The alga *Scenedesmus*, and the infusorian *Colpidium*, employed in the pure cultures, were the same strains as those used in the experiments with *Anopheles* (1). After the emergence of the adult culicines the cultures were tested for purity by microscopic examination and by transfer of considerable amounts to nutrient media favorable for the growth of contaminants.

A brief description follows of the experiments in which mosquitoes bred on pure cultures of microorganisms emerged living and capable of flight. I must make the same reservation in regard to the purity of the cultures that I made in the case of the *Anopheles*. It is always possible that some contaminant may have been present but failed to

grow on the test media or may have died out during the development of the larvæ. But it is highly probable that the effective microorganism was the one originally inoculated and alone found living at the close of the experiment.

1. *Yeast.*—Fleischmann's yeast was isolated in pure culture and inoculated at the same time with the eggs of *C. quinquefasciatus* into a medium consisting of a meat-extract-peptone-glucose broth diluted with 2 parts of water. About 10 cubic centimeters of the medium was contained in a test tube of ordinary size and kept at high room temperature. Twenty-two days after the hatching of the eggs one small adult emerged. Only yeast appeared in the medium examined microscopically after emergence and in a test culture on agar. In another culture a large amount of pure culture of living yeast was added to sterile water. In this the yeast cells died or became dormant. Growth of larvæ was inconsiderable in this medium. Apparently actively growing yeast cells were more favorable to growth than dead or dormant ones.

2. *Bacteria.*—A small bacillus was used which had been isolated from a contaminated culture in which *Culex territans* had emerged. The medium, consisting of rotten algæ and water, was autoclaved in larger containers; two cultures in 500 cubic centimeter Erlenmeyer flasks and two in pint Mason jars. The reaction of the media in the four cultures was, pH 7.2, 8.6, 8.8, and 9.0. A few cubic centimeters of serum broth or of water of condensation from serum agar were added with the larvæ. Adults of *C. quinquefasciatus* emerged in all four cultures after 11 to 12 days at high room temperature. The mosquitoes were apparently normal; two females from one lot took blood when given the opportunity. Cultures were tested only microscopically after emergence, so that there is a possibility that some species of bacteria other than the one inoculated was present. Here one can be sure only of the fact that the mosquitoes were reared on bacteria alone.

3. *Infusoria.*—In connection with my work on *Anopheles* (1), I grew *Aëdes ægypti* to maturity on *Colpidium* alone. In the present series I obtained nearly full-grown larvæ of this species in a pure culture of *Colpidium;* but in no case did I obtain mature insects on uncontaminated cultures of infusoria. In one culture, consisting of green grass autoclaved with water and enriched by two cubic centimeters of serum broth, I obtained a large healthy adult of *A. ægypti* where the only contaminant proved to be a mold, probably a late invader and of little or no effect on the growth of the larvæ. *Colpidium* alone did not seem to be as good a pabulum for larvæ as when mixed with various bacteria. Larvæ of *C. quinquefasciatus* grew on *Colpidium* alone, and it is probable that this species as well as other culicines could have been brought to maturity on pure cultures had a sufficient number of trials been made.

4. *Algae.*—A nonmotile, unicellular, grass-green alga, *Scenedesmus*, was employed in all experiments. It grew luxuriantly on nearly all media. *C. quinquefasciatus* developed to maturity in a pure culture of this alga in a medium consisting of rain water plus about 5 per cent of serum broth. Of 12 larvæ originally placed in this culture, only one, a small male, reached maturity. Although algæ were abundant and a favorable temperature was employed, emergence did not take place until 20 days after the hatching of the eggs. *A. ægypti*, fed on a pure culture of this alga, was also brought to maturity in a medium consisting of rain water plus serum broth. The single larva originally placed in the container, a large test tube, bred out in 16 days. In another culture a larva, bred in the same medium, emerged in 15 days. Algæ alone, even where an abundant growth was present, did not seem to be as good a pabulum for culicines as the colorless microorganisms.

Many adult culicines were obtained in various mixed and contaminated cultures. Large specimens of *A. quinquefasciatus* developed in six days from the date of hatching on a mixture of infusoria and bacteria. In a culture of algæ contaminated with bacteria five out of six larvæ of *C. quinquefasciatus* originally placed in the culture reached maturity. The brackish water breeder, *A. sollicitans*, produced healthy adults in media containing 0.7 per cent NaCl and in those containing no more salt than that present in rotten-algæ cultures with or without the addition of earth. They were grown on algæ (one culture) and *Colpidium* (two cultures), in all cases contaminated with bacteria.

Of the pure cultures tested, bacteria seemed to furnish the best pabulum, but a mixture of bacteria and infusoria, *Colpidium* or *Paramecium*, seemed to furnish the best medium of all. This mixture, as well as the mixture of bacteria and algae, seemed to fulfill the main requirement—a continuous supply of actively growing microorganisms—better than any single food organism.

The proportion of adults obtained from a given number of larvæ was greater among culicines than among *Anopheles*, and greater in *A. ægypti* than in *C. quinquefasciatus*. Counting only cultures in which at least one adult emerged, I obtained 23 adult *C. quinquefasciatus* from 48 larvæ, and 8 adult *A. ægypti* from 9 larvæ originally sown. Considerable variability was observed in the rate of development of larvæ of the same age and grown in the same medium.

Earth, sterilized with the media, was added to a number of cultures, but did not seem materially to promote the growth of larvæ, nor did it prevent the development to maturity of larvæ of *A. ægypti*, a species in nature rarely found breeding next to earth.

The success of cultures did not appear to depend on a close adjustment of the hydrogen-ion concentration. In a culture consisting of

rotten-algæ broth inoculated with bacteria, the hydrogen-ion concentration, originally pH 6.4, rose to 7.2 during the development of *C. quinquefasciatus* to maturity; in another it fell from pH 9.4 to 8.4. In a pure culture of algæ in rainwater plus serum broth, the pH at the time of the emergence of *C. quinquefasciatus* was 5.2. The alga was not in an active state of photosynthesis at the time the pH was determined. In other series in which *A. ægypti* were brought to maturity, the final pH varied from 6.6 to 8.2 in different cultures.

Nearly all cultures were kept at high room temperature, a temperature more favorable to culicines grown in these cultures than to Anopheles.

SUMMARY

Eggs of *Culex quinquefasciatus* and of *Aëdes ægypti* hatched readily in sterile nutrient media. Healthy adults of one or both of these species were obtained in pure cultures of yeast, of infusoria, of algæ, and of bacteria, and in various combinations of these microorganisms. In addition, adults of the *Culex territans* were obtained in cultures of mixed bacteria, and of *Aëdes sollicitans* in infusoria plus bacteria and in algæ plus bacteria. A combination of bacteria with infusoria or with algæ seemed to afford the best conditions for growth. No considerable growth of larvæ was obtained in sterile nutrient media or in cultures provided only with dead organic material.

REFERENCES

(1) Barber, M. A. The Food of Anopheline Larvæ—Food Organisms in Pure Culture. Public Health Reports, June, 1927, vol. 42, No. 22, pp. 1494–1510.

(2) Atkin, E. E., and Bacot, A.; Stegomyia fasciata. Parasitology, 1917, vol. 9, pp. 482–536.

## PRINCIPAL CAUSES OF DEATH: 1926

The Department of Commerce announces that 1,285,927 deaths occurred in 1926 within the death registration area of continental United States, representing a death rate of 12.2 per 1,000 population, a slight increase over the rate for 1925.

This area in 1926 comprised 41 States, the District of Columbia, and 25 cities in nonregistration States, with a total estimated population on July 1, 1926, of 105,170,000, or 89.8 per cent of the estimated population of the United States.

The principal increases in death rates in 1926 were from diseases of the heart, from 186 to 199 per 100,000 population, influenza, from 30 to 41, pneumonia (all forms), from 94 to 103, measles from 2 to 8, and whooping cough, from 7 to 9.

Decreases in rates in 1926 were from diarrhea and enteritis, under 2 years, from 32 to 27 per 100,000 population, and typhoid and paratyphoid fever, from 8 to 7.

77453°—28——2

The following table shows for the death registration area in continental United States in 1925 and 1926 the number of deaths and the death rates per 100,000 population from leading causes:

| Cause of death | Deaths in the registration area in continental United States | | | |
|---|---|---|---|---|
| | Number | | Rate per 100,000 estimated population | |
| | 1926 | 1925 | 1926 | 1925 |
| All causes [1] | 1,285,927 | 1,219,019 | 1,222.7 | 1,182.3 |
| Typhoid and paratyphoid fever | 6,826 | 8,287 | 6.5 | 8.0 |
| Malaria | 2,006 | 2,132 | 1.9 | 2.1 |
| Smallpox | 377 | 709 | 0.4 | 0.7 |
| Measles | 8,607 | 2,404 | 8.2 | 2.3 |
| Scarlet fever | 2,662 | 2,762 | 2.5 | 2.7 |
| Whooping cough | 9,317 | 6,948 | 8.9 | 6.7 |
| Diphtheria | 7,836 | 8,058 | 7.5 | 7.8 |
| Influenza | 42,809 | 30,538 | 40.7 | 29.6 |
| Dysentery | 2,921 | 3,257 | 2.8 | 3.2 |
| Erysipelas | 2,680 | 2,455 | 2.5 | 2.4 |
| Lethargic encephalitis | 1,499 | 1,630 | 1.4 | 1.6 |
| Meningococcus meningitis | 1,413 | 1,095 | 1.3 | 1.1 |
| Tuberculosis (all forms) | 91,668 | 89,268 | 87.1 | 86.6 |
| Of the respiratory system | 80,375 | 78,103 | 76.4 | 75.7 |
| Of the meninges, central nervous system | 3,788 | 3,746 | 3.6 | 3.6 |
| Other forms | 7,405 | 7,419 | 7.0 | 7.3 |
| Syphilis [2] | 16,466 | 16,332 | 15.7 | 15.8 |
| Cancer and other malignant tumors | 99,833 | 95,504 | 94.9 | 92.6 |
| Rheumatism | 4,219 | 4,093 | 4.0 | 4.0 |
| Pellagra | 3,854 | 3,344 | 3.7 | 3.2 |
| Diabetes mellitus | 18,881 | 17,385 | 18.0 | 16.9 |
| Meningitis (nonepidemic) | 3,219 | 3,415 | 3.1 | 3.3 |
| Cerebral hemorrhage and softening | 90,832 | 87,064 | 86.4 | 84.4 |
| Paralysis without specified cause | 5,732 | 5,920 | 5.5 | 5.7 |
| Diseases of the heart | 209,370 | 191,226 | 199.1 | 185.5 |
| Diseases of the arteries, atheroma, aneurysm, etc | 23,698 | 23,090 | 22.5 | 22.4 |
| Bronchitis | 6,961 | 6,670 | 6.6 | 6.5 |
| Pneumonia (all forms) | 107,797 | 96,432 | 102.5 | 93.5 |
| Respiratory diseases other than bronchitis and pneumonia (all forms) | 9,202 | 8,875 | 8.7 | 8.6 |
| Diarrhea and enteritis (total) | 35,296 | 40,512 | 33.6 | 39.3 |
| Diarrhea and enteritis (under 2 years) | 28,374 | 32,450 | 27.0 | 31.5 |
| Diarrhea and enteritis (2 years and over) | 6,922 | 8,062 | 6.6 | 7.8 |
| Appendicitis and typhilitis | 15,751 | 15,618 | 15.0 | 15.1 |
| Hernia, intestinal obstruction | 11,734 | 11,168 | 11.2 | 10.8 |
| Cirrhosis of the liver | 7,591 | 7,549 | 7.2 | 7.3 |
| Nephritis | 103,332 | 99,320 | 98.3 | 96.3 |
| Puerperal septicemia | 5,518 | 5,697 | 5.2 | 5.5 |
| Puerperal causes other than puerperal septicemia | 9,540 | 9,618 | 9.1 | 9.3 |
| Congenital malformations and diseases of early infancy | 75,239 | 76,158 | 71.5 | 73.9 |
| Suicide | 13,410 | 12,495 | 12.8 | 12.1 |
| Homicide | 9,210 | 8,893 | 8.8 | 8.6 |
| Accidental and unspecified external causes (total) | 82,715 | 80,774 | 78.6 | 78.3 |
| Burns (conflagration excepted) | 6,487 | 6,375 | 6.2 | 6.2 |
| Accidental drowning | 6,661 | 6,456 | 6.3 | 6.3 |
| Accidental shooting | 2,593 | 2,570 | 2.5 | 2.5 |
| Accidental falls | 14,681 | 13,864 | 14.0 | 13.4 |
| Mine accidents | 2,825 | 2,643 | 2.7 | 2.6 |
| Machinery accidents | 2,224 | 2,339 | 2.1 | 2.3 |
| Railroad accidents | 7,026 | 6,778 | 6.7 | 6.6 |
| Collision with automobile | 1,556 | 1,266 | 1.5 | 1.2 |
| Other railroad accidents | 5,470 | 5,512 | 5.2 | 5.3 |
| Street-car accidents | 1,621 | 1,630 | 1.5 | 1.6 |
| Collision with automobile | 464 | 498 | .4 | .5 |
| Other street-car accidents | 1,157 | 1,132 | 1.1 | 1.1 |
| Automobile accidents (excluding collision with railroad and street cars) | 18,871 | 17,571 | 17.9 | 17.0 |
| Injuries by vehicles other than railroad cars, street cars, and automobiles [3] | 1,507 | 1,718 | 1.4 | 1.7 |
| Excessive heat (burns excepted) | 646 | 1,355 | .6 | 1.3 |
| Other external causes | 17,573 | 17,475 | 16.7 | 16.9 |
| All other defined causes | 117,278 | 114,419 | 111.5 | 111.0 |
| Unknown or ill-defined causes | 18,708 | 17,905 | 17.8 | 17.4 |

[1] Exclusive of stillbirths.
[2] Includes tabes dorsalis (locomotor ataxia) and general paralysis of the insane.
[3] Includes airplane, balloon, and motor-cycle accidents.

## POLIOMYELITIS CASES REPORTED BY STATES, NOVEMBER 27 TO DECEMBER 24, 1927, AND CORRESPONDING WEEKS OF 1925 AND 1926

The following table is a continuation of the table appearing in the Public Health Reports December 9, 1927, page 3031. It gives the cases of poliomyelitis as reported by telegraph by State health officers for the four weeks ended December 24, 1927. Reports for the week ended December 31, 1927, will be found on page 27 of this issue of the PUBLIC HEALTH REPORTS.

*Cases of poliomyelitis reported by State health officers November 27–December 24, 1927, compared with reports for the corresponding weeks of 1925 and 1926*

| State | Week ended— | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec. 3, 1927 | Dec. 4, 1926 | Dec. 5, 1925 | Dec. 10, 1927 | Dec. 11, 1926 | Dec. 12, 1925 | Dec. 17, 1927 | Dec. 18, 1926 | Dec. 19, 1925 | Dec. 24, 1927 | Dec. 25, 1926 | Dec. 26, 1925 |
| Alabama | 0 | 2 | 0 | 1 | 0 | 1 | 4 | 0 | 1 | 1 | 3 | 0 |
| Arizona | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| Arkansas | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| California | 10 | 2 | 2 | 27 | 6 | 4 | 22 | 3 | 3 | 7 | 0 | 2 |
| Colorado | 0 | 1 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Connecticut | 1 | 0 | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 |
| Delaware | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| District of Columbia | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | ------ | 0 | 0 |
| Florida | 2 | 0 | 0 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Georgia | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho | 1 | 0 | ------ | 1 | 0 | ------ | 1 | 1 | ------ | 0 | 0 | ------ |
| Illinois | 3 | 4 | 3 | 7 | 2 | 2 | 2 | 0 | 5 | 3 | 0 | 0 |
| Indiana | 2 | 0 | 1 | 4 | 0 | 1 | 3 | 1 | 0 | 1 | 0 | 0 |
| Iowa | 0 | 2 | 0 | 2 | 0 | 1 | 8 | 0 | 1 | 3 | 0 | 2 |
| Kansas | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 3 |
| Kentucky | ------ | ------ | ------ | 3 | ------ | ------ | 4 | ------ | ------ | 0 | ------ | ------ |
| Louisiana | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| Maine | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| Maryland | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| Massachusetts | 24 | 3 | 7 | 24 | 2 | 4 | 11 | 4 | 0 | 11 | 1 | 0 |
| Michigan | 3 | 0 | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 5 | 0 | 0 |
| Minnesota | 4 | 0 | 0 | 2 | 1 | 3 | 0 | 0 | 0 | 1 | 1 | 1 |
| Mississippi | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Missouri | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| Montana | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Nebraska | 1 | 0 | 0 | 5 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 0 |
| New Jersey | 2 | 5 | 3 | 1 | 2 | 1 | 2 | 0 | 2 | 1 | 0 | 0 |
| New Mexico | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| New York | 19 | 8 | 5 | 6 | 5 | 6 | 6 | 5 | 4 | 5 | 2 | 1 |
| North Carolina | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| North Dakota | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | ------ | 0 | 0 |
| Ohio | 22 | ------ | ------ | 11 | ------ | ------ | 6 | ------ | ------ | 3 | ------ | ------ |
| Oklahoma | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| Oregon | 26 | 0 | 0 | 13 | 1 | 1 | 10 | 0 | 0 | 10 | 0 | 0 |
| Pennsylvania | 13 | 2 | 1 | 8 | 1 | ------ | 6 | 1 | 1 | 4 | 2 | 1 |
| Rhode Island | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| South Carolina | 3 | 0 | 1 | 1 | 1 | ------ | 3 | 1 | 0 | 3 | 0 | 0 |
| South Dakota | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Tennessee | 3 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Texas | 10 | 2 | 0 | 7 | 1 | 0 | 5 | 0 | 0 | 6 | 0 | 0 |
| Utah | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vermont | 0 | 0 | 2 | ------ | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Washington | 17 | 0 | 1 | 5 | 0 | 1 | 10 | 0 | 0 | 7 | 0 | 0 |
| West Virginia | 4 | 0 | 0 | 8 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Wisconsin | 3 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 3 | 0 | 0 | 1 |
| Wyoming | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 195 | 34 | 37 | 167 | 31 | 40 | 123 | 20 | 25 | 85 | 12 | 12 |

# PUBLIC HEALTH ENGINEERING ABSTRACTS

**The Ventilation and Heating of Factories.** H. M. Vernon and T. Bedford assisted by C. G. Warner. (*J. Indust. Hyg. 1927*, v. 9, 51–60.) From *Bulletin of Hygiene*, vol. 2, No. 7, July, 1927, pp. 539–540. (Abstract by P. S. Lelean.)

"The authors summarize usefully, for American publication, the results of their research for the British Industrial Fatigue Research Board (see Bulletin of Hygiene, v. 2, p. 180).

"1. Natural ventilation of large workrooms nearly always, especially in summer, needs to be aided by mechanical extraction of air; natural extraction amounts to only 10 per cent of that by fan, and may fall to zero or even be reversed. Heating by overhead steam pipes is condemned and application of heat beneath the floor is recommended.

"2. Mechanical ventilation, especially by the plenum (propulsion) system, is rapidly being generally adopted owing to its control facilities. Warmed air is forced into rooms through inlets of 5½ per cent floor area, the inlets being multiple, small, and low, so that the feet are warmed and the head kept relatively coo by the delivered warm air rising to escape by window exits at or above head levell of the workers.

"3. Practicable ideals may be thus tabulated:

| | Summer (70° F.) | Winter (40° F.) |
|---|---|---|
| Cooling power of air (dry-katathermometer) | 6 | 7 |
| Air velocity (in feet per minute) | 100 | 30 |
| Air changes per hour | 6 | 2 |

"Excess of temperature of air at head level over that at foot level less than 2° F.

"4. There is quoted the finding of the New York State Commission which investigated the conditions affecting the health of school children in America—'The avoidance of overheating is the primary essential,' and this dictum, which can not be too well known, is supported by observations showing that an increase of 7° over the optimum working temperature of 60° F. is associated with a 32 per cent increase in time lost by sickness among the workers."

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

*Air pollution.*—(1) Hydrogen sulphide is being removed from coke-oven gases without odors; (2) at a reduction plant the drier gases are treated in a scrubber, all gases passing up through thin layers of excelsior while being sprayed with water; the gases are then dosed with liquid chlorine at the rate of 14 to 18 pounds per day; (3) an investigation was made into the effectiveness of treating all exhaust gases from a rendering plant after washing, 50 to 75 pounds of liquid chlorine per day being used; (4) carbon monoxide poisonings in a steel plant are under investigation.

**New Water Filtration Plant at Wenatchee, Wash.** Fred J. Sharkey and S. DeMoss. *Western Construction News*, vol. 2, No. 19, October 10, 1927, pp. 56–58. (Abstract by E. A. Reinke.)

A new 4 m. g. d. rapid sand gravity filter plant has recently been constructed as the first unit of a plan which provides for a normal capacity of 12 m. g. d. The intake in the Columbia River is constructed of reinforced concrete, 39 feet 6 inches long, 16 feet wide at the base, and 36 feet high. As the Columbia remains high only a few weeks in the year the gate control is housed in a compartment at the top and water allowed to flow over. The intake has inlets at several levels and serves as a sand trap. The sedimentation basin is 70 by 130 by 14 feet deep, divided into two equal compartments with a mixing chamber in each compartment equipped with motor-driven agitator. An interesting feature of this basin is that the roof slab was constructed to allow its use for a tennis court. The

filter and head house is built over the clear well, the first floor housing switchboard, meters, and high lift pumps; the second, offices, laboratory, dry feed machine room, and shops; the third providing chemical storage with a wash water tank 7½ feet deep above. Four 1 m. g. d. filter units are provided. Alum is used for coagulation. The cost totaled $221,500.

**Recreational Use of Watersheds.** C. G. Gillespie. *Western Construction News*, vol. 2, No. 19, October 10, 1927, pp. 59–60. (Abstract by E. A. Reinke.)

After reviewing recent events in New Jersey where resort owners and others succeeded in having a bill passed by the legislature legalizing swimming in all waters of New Jersey, the author presents an argument for promoting the reasonable attitude among waterworks men and recreational users of watersheds. He states that the self-interest of the recreationists will demand decent and reasonably clean conditions on watersheds and concludes with the following paragraph: "This widespread recreation development is a new problem upon water departments and upon public officials. It will be a mistake to let down the bars, however, as long as there are numbers who would become careless. On the other hand it is my opinion that the greatest good to all concerned will come from a gradual raising of the standards among the recreationists themselves. To such a program waterworks men can with profit undoubtedly lend their support."

**New Orleans' New Filter Plant.** Anon. *Public Works*, vol. 58, No. 10, October, 1927, pp. 398–399. (Abstract by W. J. Downer.)

Plant still under construction; one filter unit placed in operation about first of this year. New installation includes eighteen 4,000,000-gallon filters, equalization reservoir underneath filters, 2 grit, 2 lime mixing, and 4 coagulating basins, pumps and other necessary equipment. All structures rest on piles. Grit basins to be twice as long but same width as previous ones.

Baffles in coagulation basin are arranged to provide about twice the area on incoming side as on outgoing because past experience shows fully 90 per cent of suspended matter precipitates in first part of basin.

Most radical change in filters is new type of underdrain system. Advantages claimed are: It places construction entirely above bottom of filter, takes up small headroom, gives uniform distribution of wash water, costs considerably less than former type ($1,500 to $2,000 less per 4,000,000-gallon unit) and is expected to be less difficult to maintain. Bank sand of approximately 0.35 mm. effective size and 1.65 uniformity coefficient used.

**The Relation of Endemic Goiter to the Iodine-Content of Soil and Drinking Water.** R. McCarrison, C. Newcomb, B. Viswanath and R. V. Norris. *Indian Journal of Medical Research*, vol. 15, No. 1, July, 1927, pp. 207-246. (Abstract by L. M. Fisher.)

This study relates only to the classical type of endemic goiter described by the older writers as occurring in the Alps and other mountainous regions in association with cretinism, deaf-mutism and idiocy and which were studied by the authors in Himalayan India.

The distinctive epidemiological characters are: It has its home in high mountain ranges; prevails with different degrees of intensity in different parts of the same region and at different times; it has made its appearance in new places and disappeared from others; is especially prevalent in agricultural or pastoral districts, but is also rife in many towns; is commoner among the poor than the rich and especially among the agricultural laborers; has a seasonal endemicity, being higher in the spring; epidemics may occur among newcomers, such as school children and troops; there is a family predisposition; in regions of low endemicity it is commoner among females than males while in regions of high endemicity this disproportion disappears.

The freedom of localities in ex-Himalayan India is related to conditions other than the iodine content of their soils.

Drinking water containing 300 parts of iodine per 100,000,000,000 parts of water has not prevented endemic goiter in the presence of a high degree of bacteriological impurity in the water. Bacteriological impurity of a water supply combined with unhygienic conditions of life of the people is stated to be the essential cause of the disease. A deficiency of iodine favors its development.

Iodine-containing salt or substitutes therefore appear to prevent this type of endemic goiter, but under certain circumstances fails to do so.

Several methods of determining the iodine content of soils and water are given; also a bibliography.

**Effluent Aerators Control Mechanical Filters.** Malcolm Pirnie. *Engineering News-Record*, vol. 99, No. 10, September 8, 1927, pp. 376–380. (Abstract by C. G. Gillespie.)

The article describes the secondary aeration of filtered water ahead of the clear water basin at Providence, R. I., West Palm Beach, Fla., Poughkeepsie, N. Y., and Rahway, N. J. The available head between filters and clear well, variable according to the cleanliness of the filters, is utilized for aeration to reduce carbonic dioxide, taste, and odor. Amount of reduction of $CO_2$ as reported is 32 per cent, 41 per cent, 39 per cent, and 62 per cent in the several plants.

A controller adjusts the nozzle openings to maintain the filtered output. At Poughkeepsie the aeration is between the mechanical scrubbing filters and final slow sand filters. At Rahway the water is chlorinated ahead of the clear water reservoir and after contact with chlorine for several hours is aerated between the clear water reservoir and a high lift pump suction, taking advantage of the fact that the water level in the former basin is usually 10 feet above that in the latter. The aeration expels excess chlorine, and the water is now free of tastes and odors besides being less corrosive. Greater aeration efficiency would result from washing at a lower loss of head than customary. It remains to be seen how far it is reasonable to go to secure the secondary aeration and the additional $CO_2$ and odor removal.

**Malaria in the Philippines.** Walter V. D. Tiedeman. *Journal of Preventive Medicine*, vol. 1, No. 3, 1927, pp. 205–254. Translation of an abstract by Martini in *Zentralbl. fur die Gesamte Hygiene*, vol. 15, August 25, 1927, p. 654.

In the Provinces of Laguna and Pampanga, endemic malaria occurs in moderation and is generally more prevalent in the vicinity of the rivers, in the foothills, and along the borders of uncultivated lands. There are seasonal variations in the occurrence of malaria, attributable to the dry seasons during which river-breeding types such as *Anopheles ludlowii* and *minimus* predominate. To what extent the apparent relapses of cases are classed as new infections can not be stated; the possibility often exists. On the other hand, the treatment is frequently insufficient. The death rate is not excessive. The deaths credited to malaria are too great, since frequently other causes of death are reported as due to malaria. Nevertheless malaria is of serious consequence. *Anopheles barbirostris, fuliginosus, sinenis, kochi, ludlowii, maculatus, philippinensis, tessellatus, subpictus*, were found, but no tree-hole breeders. On farm lands, irrigation and drainage ditches were the only breeding places. Most species propagate without interruption. Only *ludlowii* and *minimus* show seasonal fluctuation as river breeders. The rice-field types such as *A. sinensis* are mostly harmless. The people are readily accessible to the Anopheles because of the type of their houses, and carriers are widely distributed. Quinine prophylaxis is only possible under military discipline. However, much can be accomplished for the thickly settled regions with Paris green and intelligent use of the irrigation ditches and at relatively low cost. For the thinner populated areas, where the malaria rate is lowest, these methods of control are too expensive.

**The Control of Malaria in Malaya.** Regular London Correspondent, *Journal American Medical Assn.*, vol. 89, No. 7, August 13, 1927, p. 534. (Abstract by C. H. Kibbey.)

The Malayan campaign against malarial fever was almost the first begun, and has been the most persistent, the widest, and the most successful of malaria-control campaigns in British areas—perhaps in the world. Selangor, a town of 3,576 inhabitants, is contained in an area of 290 acres, of which 22 acres were swamp and 85 jungle or dense growth. The annual fever death rate stood at 300 per thousand inhabitants, as against the English death rate of 11 or 12. The swamp was drained and the work of mosquito control was begun. This work from 1901 to 1905 cost about $20,000, and during the same period $30,000 was spent on malaria control at the neighboring town of Port Swettenham. The work of malaria prevention in Malaya has progressed until to-day it has become a part of the life of the whole community. The result is that the death rate of Singapore has fallen since 1911 by nearly a half. The whole population of Malaya has learned the value of the campaign against malaria and has become united in supporting that campaign. Laws have been passed imposing on every one the duty of taking preventive measures in the home. It has become a crime to neglect such precautions as the emptying of vessels containing water and the drainage of puddles or other breeding places of mosquitoes.

**Measures of Outstanding Importance in the Prevention and Control of Malaria.** M. A. Stuart. *U. S. Naval Bulletin*, vol. 25, No. 4, October, 1927, pp. 996–1010. (Abstract by H. E. Hargis.)

The occasion for the writing of this paper was the quartering in Olongapo of 450 marines, nearly all of whom had malaria in about six weeks. The methods of prevention and control are listed as: (1) Elimination of breeding places by filling in and drainage; (2) destruction of larvae through oiling, larvicides, and the use of *Gambusia affinis;* (3) destruction of adult mosquitoes by fumigation and capture; (4) protection of persons from mosquitoes by screening and bed nets; (5) segregation of nonimmunes from unprotected native villages; (6) medicinal prophylaxis by the routine use of quinine. Authorities are quoted on the application of these measures and each measure is taken up in detail.

**The Possibilities of Paris Green as An Anopheles Larvicide.** B. S. Chalam. *Indian Journal of Medical Research*, vol. 14, No. 4, April, 1927, pp. 867–873. (Abstract by L. M. Fisher.)

Paris green—aceto-arsenite of copper—is also known in Europe as Schweinfurt green. In the experiments carried out by American workers no attempts were made to remove vegetation.

Before applying the Paris green, larvae averaged 14.1 per dip. Afterwards they averaged 0.5 larvae per dip and the surviving larvae were very small. Fifteen grains to 10 square yards of water surface are deemed sufficient unless in very dense vegetation. The material was applied with unskilled labor either by hand or using a hand bellows.

**The Resistance of Anopheles Eggs to Desiccation.** B. S. Chalam. *Indian Journal of Medical Research*, vol. 14, No. 4, April, 1927, pp. 863–866. (Abstract by L. M. Fisher.)

Eggs of *A. subpictus* and *A. stephensi* were found to be viable after desiccation up to a period of 12 days. They hatched normally and some grew to maturity,

(Abstractor's note: This study was apparently suggested by Mayne's paper, "Notes on the influence of temperature and humidity on oviposition and early life of Anopheles," Public Health Reports, vol. 41, part 1, 1926, p. 986. Mayne found that the eggs of *A. quadrimaculatus* were viable after periods of desiccation up to 16 days, and *A. crucians* after periods of desiccation up to 21 days.)

# DEATHS DURING WEEK ENDED DECEMBER 24, 1927

*Summary of information received by telegraph from industrial insurance companies for the week ended December 24, 1927, and corresponding week of 1926. (From the Weekly Health Index, December 29, 1927, issued by the Bureau of the Census, Department of Commerce)*

| | Week ended Dec. 24, 1927 | Corresponding week, 1926 |
|---|---|---|
| Policies in force | 69, 620, 546 | 66, 348, 549 |
| Number of death claims | 12, 481 | 11, 629 |
| Death claims per 1,000 policies in force, annual rate | 9. 3 | 9. 1 |

*Deaths from all causes in certain large cities of the United States during the week ended December 24, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, December 29, 1927, issued by the Bureau of the Census, Department of Commerce)*

| City | Week ended Dec. 24, 1927 | | Annual death rate per 1,000 corresponding week 1926 | Deaths under 1 year | | Infant mortality rate, week ended Dec. 24, 1927 [2] |
|---|---|---|---|---|---|---|
| | Total deaths | Death rate [1] | | Week ended Dec. 24, 1927 | Corresponding week 1926 | |
| Total (69 cities) | 7,412 | 12. 9 | [3] 12. 7 | 755 | [3] 730 | [4] 60 |
| Albany [5] | 44 | 19. 2 | 14. 9 | 3 | 1 | 63 |
| Atlanta [6] | 92 | 19. 3 | 16. 2 | 9 | 10 | |
| White | 56 | 16. 7 | 13. 1 | 4 | 6 | |
| Colored | 36 | 25. 4 | 23. 6 | 5 | 4 | |
| Baltimore [5 6] | 227 | 14. 5 | 15. 0 | 30 | 19 | 95 |
| White | 175 | 13. 1 | 13. 7 | 26 | 11 | 103 |
| Colored | 52 | 22. 5 | 22. 3 | 4 | 8 | 63 |
| Birmingham [6] | 66 | 15. 8 | 13. 9 | 11 | 3 | |
| White | 28 | 11. 0 | 9. 4 | 3 | 1 | |
| Colored | 38 | 23. 4 | 20. 8 | 8 | 2 | |
| Boston | 203 | 13. 3 | 17. 1 | 20 | 28 | 56 |
| Bridgeport | 38 | | | 2 | 1 | 34 |
| Buffalo | 137 | 13. 0 | 11. 4 | 15 | 14 | 63 |
| Cambridge | 34 | 14. 3 | 11. 1 | 2 | 3 | 36 |
| Camden | 32 | 12. 5 | 16. 3 | 4 | 7 | 68 |
| Canton | 17 | 7. 8 | 6. 6 | 1 | 2 | 24 |
| Chicago [5] | 735 | 12. 4 | 11. 1 | 71 | 77 | 62 |
| Cincinnati | 151 | 19. 1 | 14. 0 | 14 | 3 | 85 |
| Cleveland | 198 | 10. 6 | 10. 4 | 19 | 19 | 51 |
| Columbus | 84 | 15. 0 | 14. 8 | 5 | 5 | 46 |
| Dallas [6] | 55 | 13. 6 | 10. 5 | 6 | 4 | |
| White | 46 | 13. 0 | 10. 1 | 5 | 3 | |
| Colored | 9 | 17. 1 | 13. 7 | 1 | 1 | |
| Dayton | 40 | 11. 5 | 15. 1 | 2 | 6 | 33 |
| Denver | 97 | 17. 5 | 13. 0 | 9 | 8 | |
| Des Moines | 33 | 11. 6 | 15. 7 | 2 | 4 | 35 |
| Detroit | 269 | 10. 5 | 11. 8 | 45 | 50 | 89 |
| Duluth | 22 | 10. 0 | 7. 9 | 2 | 2 | 43 |
| El Paso | 30 | 13. 8 | 10. 0 | 3 | 8 | |
| Erie | 23 | | | 2 | 4 | 43 |
| Fall River [5] | 19 | 7. 5 | 14. 7 | 3 | 1 | 51 |
| Flint | 29 | 10. 6 | 6. 5 | 7 | 4 | 110 |
| Fort Worth [6] | 34 | 10. 8 | 11. 5 | 2 | 4 | |
| White | 25 | 9. 1 | 11. 2 | 1 | 3 | |
| Colored | 9 | 23. 9 | 13. 5 | 1 | 1 | |
| Grand Rapids | 25 | 8. 1 | 10. 7 | 3 | 6 | 44 |
| Houston [6] | 87 | | | 10 | 4 | |
| White | 59 | | | 8 | 3 | |
| Colored | 28 | | | 2 | 1 | |
| Indianapolis [6] | 109 | 15. 2 | 13. 4 | 5 | 6 | 38 |
| White | 90 | 14. 2 | 13. 1 | 5 | 4 | 43 |
| Colored | 19 | 22. 1 | 15. 6 | 0 | 2 | 0 |
| Kansas City, Kans. [6] | 42 | 18. 6 | 12. 9 | 4 | 2 | 84 |
| White | 31 | 16. 8 | 13. 0 | 4 | 1 | 99 |
| Colored | 11 | 27. 1 | 12. 7 | 0 | 1 | 0 |

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Data for 68 cities.
[4] Data for 61 cities.
[5] Deaths for week ended Friday, Dec. 23, 1927.
[6] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 30; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

*Deaths from all causes in certain large cities of the United States during the week ended December 24, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926*—Continued.

| City | Week ended Dec. 24, 1927 | | Annual death rate per 1,000 corresponding week 1926 | Deaths under 1 year | | Infant mortality rate, week ended Dec. 24, 1927 |
|---|---|---|---|---|---|---|
| | Total deaths | Death rate | | Week ended Dec. 24, 1927 | Corresponding week 1926 | |
| Kansas City, Mo | 101 | 13.7 | 13.1 | 10 | 8 | |
| Knoxville [6] | 26 | 13.3 | | 7 | | |
| White | 23 | 13.3 | | 7 | | |
| Colored | 3 | 12.8 | | 0 | | |
| Los Angeles | 216 | | | 24 | 21 | 68 |
| Louisville [6] | 81 | 13.2 | 12.6 | 1 | 5 | 8 |
| White | 66 | 12.7 | 11.9 | 0 | 4 | 0 |
| Colored | 15 | 16.0 | 16.5 | 1 | 1 | 69 |
| Lowell | 23 | 10.9 | 11.3 | 2 | 3 | 42 |
| Lynn | 27 | 13.4 | 10.0 | 2 | 1 | 55 |
| Memphis [6] | 80 | 23.3 | 18.6 | 7 | 6 | |
| White | 32 | 14.4 | 13.3 | 2 | 3 | |
| Colored | 48 | 39.5 | 28.1 | 5 | 3 | |
| Milwaukee | 116 | 11.3 | 10.6 | 14 | 11 | 64 |
| Minneapolis | 73 | 8.5 | 11.1 | 8 | 6 | 45 |
| Nashville [6] | 48 | 18.2 | 16.4 | 7 | 5 | |
| White | 23 | 12.1 | 11.7 | 3 | 3 | |
| Colored | 25 | 53.5 | 28.1 | 4 | 2 | |
| New Bedford | 37 | 16.1 | 12.2 | 2 | 2 | 38 |
| New Haven | 43 | 12.1 | 13.2 | 5 | 0 | 70 |
| New Orleans [6] | 168 | 20.6 | 20.0 | 20 | 18 | |
| White | 93 | 15.4 | 14.6 | 11 | 8 | |
| Colored | 75 | 35.5 | 35.4 | 9 | 10 | |
| New York | 1,341 | 11.7 | 12.8 | 135 | 138 | 56 |
| Bronx borough | 177 | 10.0 | 9.2 | 14 | 12 | 45 |
| Brooklyn Borough | 467 | 10.7 | 10.9 | 52 | 46 | 54 |
| Manhattan Borough | 548 | 15.7 | 17.9 | 56 | 68 | 67 |
| Queens Borough | 114 | 7.3 | 8.9 | 7 | 10 | 30 |
| Richmond Borough | 35 | 12.4 | 17.6 | 6 | 2 | 113 |
| Newark, N. J | 104 | 11.6 | 10.8 | 4 | 11 | 20 |
| Oakland | 55 | 10.7 | 11.4 | 5 | 8 | 59 |
| Oklahoma City | 23 | | | 3 | 3 | |
| Omaha | 45 | 10.7 | 11.6 | 4 | 5 | 45 |
| Paterson | 38 | 13.8 | 11.0 | 1 | 4 | 18 |
| Philadelphia | 491 | 12.6 | 14.1 | 66 | 56 | 89 |
| Pittsburgh | 179 | 14.0 | 12.1 | 21 | 19 | 73 |
| Portland, Oreg | 59 | | | 0 | 3 | 0 |
| Providence | 74 | 13.8 | 11.6 | 5 | 6 | 43 |
| Richmond [6] | 60 | 16.3 | 16.8 | 4 | 6 | 52 |
| White | 28 | 10.7 | 15.2 | 2 | 3 | 40 |
| Colored | 32 | 30.0 | 20.7 | 2 | 3 | 73 |
| Rochester | 96 | 15.4 | 11.1 | 12 | 7 | 102 |
| St. Louis | 209 | 13.0 | 13.6 | 27 | 22 | |
| St. Paul | 57 | 11.9 | 9.2 | 4 | 2 | 37 |
| Salt Lake City [5] | 34 | 13.1 | 12.9 | 3 | 5 | 48 |
| San Antonio | 58 | 14.3 | 14.0 | 11 | 6 | |
| San Diego | 51 | 23.1 | 21.7 | 3 | 2 | 66 |
| San Francisco | 187 | 16.9 | 14.2 | 8 | 6 | 50 |
| Schenectady | 21 | 11.7 | 10.1 | 4 | 3 | 120 |
| Seattle | 75 | 10.4 | 10.4 | 1 | 4 | 11 |
| Somerville | 11 | 5.6 | 15.1 | 1 | 2 | 29 |
| Spokane | 29 | 13.9 | 13.4 | 0 | 7 | 0 |
| Springfield, Mass | 32 | 11.3 | 13.3 | 7 | 6 | 111 |
| Syracuse | 62 | 16.4 | 12.7 | 5 | 4 | 65 |
| Tacoma | 27 | 13.1 | 11.8 | 2 | 4 | 47 |
| Toledo | 81 | 13.8 | 13.1 | 5 | 8 | 48 |
| Trenton | 42 | 16.0 | 10.5 | 7 | 3 | 124 |
| Utica | 29 | 14.6 | 16.3 | 2 | 3 | 47 |
| Washington, D. C. [6] | 129 | 12.5 | 11.5 | 9 | 9 | 53 |
| White | 78 | 10.1 | 11.6 | 4 | 7 | 34 |
| Colored | 51 | 19.5 | 10.9 | 5 | 2 | 91 |
| Waterbury | 28 | | | 1 | 1 | 23 |
| Wilmington, Del | 31 | 12.8 | 9.2 | 0 | 1 | 0 |
| Worcester | 50 | 13.3 | 12.4 | 2 | 4 | 24 |
| Yonkers | 31 | 13.6 | 9.9 | 7 | 3 | 161 |
| Youngstown | 36 | 11.1 | 9.8 | 8 | 5 | 106 |

[5] Deaths for week ended Friday, Dec. 23, 1927.

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

# PREVALENCE OF DISEASE

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

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

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

**Reports for Weeks Ended January 1, 1927, and December 31, 1927.**

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended January 1, 1927, and December 31, 1927*

| Division and State | Diphtheria | | Influenza | | Measles | | Meningococcus meningitis | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1. 1927 | Week ended Dec. 31, 1927 |
| New England States: | | | | | | | | |
| Maine | 5 | 9 | 13 | 2 | 112 | 25 | 0 | 0 |
| New Hampshire | ---- | 1 | ---- | 32 | ---- | 1 | ---- | 0 |
| Vermont | 1 | ---- | ---- | ---- | 51 | ---- | 0 | 0 |
| Massachusetts | 121 | 135 | 17 | 11 | 122 | 648 | 0 | 1 |
| Rhode Island | 13 | 11 | 12 | 6 | 1 | 3 | 0 | 0 |
| Connecticut | 34 | 40 | 13 | 12 | 28 | 55 | 1 | 0 |
| Middle Atlantic States: | | | | | | | | |
| New York | 274 | 349 | [1] 60 | [1] 14 | 948 | 636 | 5 | 3 |
| New Jersey | 144 | 180 | 32 | 19 | 49 | 115 | 1 | 0 |
| Pennsylvania | 187 | 377 | ---- | ---- | 523 | 1,048 | 0 | 3 |
| East North Central States: | | | | | | | | |
| Ohio | ---- | 115 | ---- | 8 | ---- | 104 | ---- | 2 |
| Indiana | 86 | 35 | 66 | 27 | 117 | 28 | 1 | 0 |
| Illinois | 110 | 176 | 32 | 30 | 823 | 26 | 6 | 2 |
| Michigan | 116 | 150 | ---- | 2 | 107 | 407 | 0 | 5 |
| Wisconsin | 53 | 63 | 30 | 46 | 579 | 39 | 8 | 6 |
| West North Central States: | | | | | | | | |
| Minnesota | 38 | 29 | ---- | 1 | 96 | ---- | 0 | 0 |
| Iowa [2] | 20 | 15 | ---- | ---- | 91 | 4 | 0 | 1 |
| Missouri | 60 | [4] 42 | 22 | [4] 1 | 70 | [4] 21 | 0 | [4] 2 |
| North Dakota | 2 | ---- | ---- | ---- | 98 | ---- | 0 | ---- |
| South Dakota | 8 | 2 | ---- | 4 | 86 | 10 | 0 | 0 |
| Nebraska | 15 | 18 | 6 | ---- | 35 | 11 | 1 | 1 |
| Kansas | 25 | 31 | 18 | 2 | 76 | 9 | 2 | 1 |
| South Atlantic States: | | | | | | | | |
| Delaware | ---- | 4 | ---- | ---- | 1 | 6 | 0 | 0 |
| Maryland [2] | 44 | 46 | 36 | 20 | 24 | 109 | 1 | 0 |
| District of Columbia | 20 | ---- | ---- | ---- | 1 | ---- | 0 | ---- |
| Virginia | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| West Virginia | 25 | 17 | 47 | 19 | 61 | 60 | 0 | 0 |
| North Carolina | 53 | ---- | ---- | ---- | 88 | ---- | 1 | ---- |
| South Carolina | 32 | 28 | 696 | 829 | 30 | 769 | 0 | 0 |
| Georgia | 41 | 13 | 81 | 137 | 37 | 69 | 0 | 0 |
| Florida | 43 | 21 | 24 | 15 | 10 | 8 | 0 | 0 |

[1] New York City only. [2] Week ended Friday. [4] Exclusive of Kansas City.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended January 1, 1927, and December 31, 1927*—Continued

| Division and State | Diphtheria | | Influenza | | Measles | | Meningococcus meningitis | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 |
| East South Central States: | | | | | | | | |
| Kentucky | | 33 | | 24 | | 47 | | 0 |
| Tennessee | 23 | 17 | 45 | 88 | 16 | 194 | 1 | 3 |
| Alabama | 45 | 62 | 55 | 163 | 27 | 158 | 4 | 1 |
| Mississippi | 17 | 16 | | | | | 1 | |
| West South Central States: | | | | | | | | |
| Arkansas | 12 | 12 | 83 | 136 | 1 | 27 | 0 | 0 |
| Louisiana | 22 | [5] 5 | 9 | [5] 7 | 38 | [5] 35 | 0 | [5] 0 |
| Oklahoma [3] | 33 | 75 | 184 | 102 | 46 | 29 | 0 | 1 |
| Texas | 61 | | 49 | | 4 | | 1 | |
| Mountain States: | | | | | | | | |
| Montana | 3 | 8 | | | 137 | | 2 | 2 |
| Idaho | 1 | 6 | 1 | | 54 | | 1 | 0 |
| Wyoming | 2 | | | | 75 | 9 | 0 | 5 |
| Colorado | 7 | 6 | 5 | 1 | 20 | 4 | 1 | 1 |
| New Mexico | 3 | 4 | | | 11 | 19 | 1 | 0 |
| Arizona | 1 | 41 | | 1 | 6 | 18 | 0 | 5 |
| Utah [2] | 8 | 4 | 2 | 6 | 367 | | 0 | 2 |
| Nevada | | | | | | | | |
| Pacific States: | | | | | | | | |
| Washington | 24 | 13 | | | 164 | 146 | 0 | 8 |
| Oregon | 13 | 7 | 42 | 30 | 30 | 21 | 0 | 1 |
| California | 123 | 111 | 36 | 25 | 753 | 31 | 2 | 1 |

| Division and State | Poliomyelitis | | Scarlet fever | | Smallpox | | Typhoid fever | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 |
| New England States: | | | | | | | | |
| Maine | 0 | 2 | 17 | 39 | 0 | 0 | 1 | 4 |
| New Hampshire | | 0 | | 13 | | 0 | | 0 |
| Vermont | 0 | 0 | 2 | 8 | 0 | 0 | 0 | 0 |
| Massachusetts | 1 | 9 | 405 | 266 | 0 | 1 | 19 | 3 |
| Rhode Island | 0 | 0 | 14 | 33 | 0 | 0 | 0 | 1 |
| Connecticut | 1 | 0 | 82 | 75 | 0 | 1 | 5 | 0 |
| Middle Atlantic States: | | | | | | | | |
| New York | 5 | 4 | 565 | 526 | 14 | 14 | 27 | 25 |
| New Jersey | 0 | 0 | 240 | 187 | 0 | 7 | 4 | 2 |
| Pennsylvania | 0 | 2 | 524 | 548 | 0 | 0 | 31 | 20 |
| East North Central States: | | | | | | | | |
| Ohio | | | | 225 | | 9 | | 28 |
| Indiana | 0 | 1 | 213 | 62 | 131 | 52 | 2 | 2 |
| Illinois | 0 | 3 | 286 | 313 | 31 | 39 | 26 | 18 |
| Michigan | 0 | 1 | 321 | 383 | 26 | 41 | 8 | 14 |
| Wisconsin | 0 | 1 | 118 | 155 | 17 | 27 | 4 | 2 |
| West North Central States: | | | | | | | | |
| Minnesota | 1 | 1 | 224 | 109 | 2 | 2 | 3 | 4 |
| Iowa [2] | 0 | 0 | 93 | 58 | 22 | 56 | 0 | 0 |
| Missouri | 0 | [4] 0 | 102 | [4] 47 | 5 | [4] 31 | 3 | [4] 3 |
| North Dakota | 0 | | 29 | | 0 | | 0 | |
| South Dakota | 0 | 0 | 68 | 22 | 10 | 8 | 1 | 2 |
| Nebraska | 0 | 1 | 46 | 63 | 28 | 6 | 4 | 0 |
| Kansas | 1 | 1 | 97 | 117 | 37 | 45 | 3 | 4 |
| South Atlantic States: | | | | | | | | |
| Delaware | 0 | 0 | 34 | 2 | 0 | 0 | 1 | 1 |
| Maryland [2] | 0 | 0 | 69 | 27 | 0 | 0 | 16 | 6 |
| District of Columbia | 0 | | 23 | | 0 | | 5 | |
| Virginia | | | | | | | | |
| West Virginia | 0 | 1 | 46 | 71 | 6 | 23 | 7 | 18 |
| North Carolina | 0 | | 46 | | 76 | | 3 | |
| South Carolina | 1 | 1 | 27 | 14 | 9 | 3 | 13 | 9 |
| Georgia | 1 | 0 | 19 | 16 | 52 | 0 | 7 | 10 |
| Florida | 2 | 0 | 14 | 10 | 30 | 0 | 16 | 8 |

[2] Week ended Friday.
[3] Exclusive of Tulsa.
[4] Exclusive of Kansas City.
[5] Exclusive of New Orleans.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended January 1, 1927, and December 31, 1927*—Continued

| Division and State | Poliomyelitis | | Scarlet fever | | Smallpox | | Typhoid fever | |
|---|---|---|---|---|---|---|---|---|
| | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 | Week ended Jan. 1, 1927 | Week ended Dec. 31, 1927 |
| East South Central States: | | | | | | | | |
| Kentucky | ---- | 0 | ---- | 107 | ---- | 83 | ---- | 32 |
| Tennessee | 0 | 1 | 40 | 23 | 0 | 14 | 16 | 6 |
| Alabama | 0 | 0 | 15 | 35 | 12 | 5 | 21 | 10 |
| Mississippi | 1 | 1 | 19 | 15 | 11 | 1 | 1 | 6 |
| West South Central States: | | | | | | | | |
| Arkansas | 0 | 1 | 10 | 9 | 0 | 3 | 7 | 4 |
| Louisiana | 1 | [5]0 | 16 | [5]5 | 4 | [5]4 | 12 | [5]2 |
| Oklahoma [3] | 2 | 1 | 36 | 53 | 18 | 56 | 15 | 18 |
| Texas | 0 | ---- | 53 | ---- | 60 | ---- | 28 | ---- |
| Mountain States: | | | | | | | | |
| Montana | 0 | 0 | 51 | 27 | 10 | 8 | ---- | 1 |
| Idaho | 0 | 0 | 32 | 7 | 1 | 2 | 1 | 0 |
| Wyoming | 0 | 0 | 39 | 27 | 0 | 1 | 0 | 6 |
| Colorado | 0 | 0 | 65 | 32 | 39 | 12 | 1 | 0 |
| New Mexico | 0 | 1 | 28 | 14 | 0 | 0 | 5 | 3 |
| Arizona | 0 | 1 | ---- | 11 | 0 | 2 | 0 | 10 |
| Utah [2] | 0 | 0 | 1 | 6 | 4 | 53 | 0 | 0 |
| Nevada | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Pacific States: | | | | | | | | |
| Washington | 0 | 4 | 66 | 26 | 45 | 36 | 3 | 2 |
| Oregon | 0 | 10 | 58 | 23 | 29 | 46 | 2 | 5 |
| California | 0 | 8 | 173 | 137 | 6 | 11 | 7 | 7 |

[2] Week ended Friday. [3] Exclusive of Tulsa. [5] Exclusive of New Orleans.

## Reports for Week Ended December 24, 1927

DIPTHERIA

| | Cases |
|---|---|
| District of Columbia | 12 |

INFLUENZA

| | Cases |
|---|---|
| District of Columbia | 1 |

MEASLES

| | Cases |
|---|---|
| District of Columbia | 2 |
| New Hampshire | 6 |

SCARLET FEVER

| | Cases |
|---|---|
| District of Columbia | 27 |
| New Hampshire | 2 |

## Reports for Week Ended December 17, 1927

DISTRICT OF COLUMBIA

| | Cases |
|---|---|
| Diphtheria | 13 |
| Measles | 1 |
| Scarlet fever | 36 |
| Typhoid fever | 2 |

NEW HAMPSHIRE

| | Cases |
|---|---|
| Diphtheria | 2 |
| Measles | 7 |
| Scarlet fever | 7 |

NORTH DAKOTA

| | Cases |
|---|---|
| Diphtheria | 3 |
| Measles | 4 |
| Meningococcus miningitis | 2 |
| Poliomyelitis | 1 |
| Scarlet fever | 27 |
| Smallpox | 2 |

## SUMMARY OF MONTHLY REPORTS FROM STATES

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

| State | Meningococcus meningitis | Diphtheria | Influenza | Malaria | Measles | Pellagra | Poliomyelitis | Scarlet fever | Smallpox | Typhoid fever |
|---|---|---|---|---|---|---|---|---|---|---|
| *October, 1927* | | | | | | | | | | |
| Hawaii Territory | 1 | 24 | 7 | ------- | 14 | ------- | 1 | ------- | 0 | 19 |
| *November, 1927* | | | | | | | | | | |
| Idaho | 6 | 15 | ------- | ------- | 12 | ------- | 23 | 105 | 36 | 2 |
| Illinois | 28 | 787 | 65 | 6 | 120 | 6 | 52 | 999 | 120 | 122 |
| Louisiana | 4 | 252 | 46 | 146 | 85 | 47 | 2 | 80 | 30 | 60 |
| Maine | 0 | 14 | 15 | ------- | 190 | 1 | 21 | 189 | 0 | 18 |
| Michigan | 0 | 493 | 6 | 1 | 530 | ------- | 37 | 814 | 71 | 62 |
| Mississippi | 2 | 351 | 2,841 | 5,622 | 1,593 | 638 | 8 | 184 | 17 | 68 |
| Missouri | 8 | 372 | 47 | 197 | 65 | 1 | 36 | 390 | 308 | 86 |
| Oklahoma [1] | 2 | 392 | 171 | 268 | 124 | 16 | 12 | 147 | 94 | 146 |
| Oregon | 3 | 80 | 57 | ------- | 69 | ------- | 110 | 87 | 135 | 32 |
| South Carolina | 0 | 599 | 1,946 | 1,718 | 758 | 187 | 10 | 155 | 37 | 128 |
| Washington | 15 | 179 | 19 | ------- | 633 | ------- | 76 | 210 | 104 | 25 |
| Wisconsin | 25 | 149 | 107 | ------- | 322 | ------- | 24 | 480 | 99 | 15 |

[1] Exclusive of Oklahoma City and Tulsa.

*October, 1927*

| Hawaii Territory: | Cases |
|---|---|
| Chicken pox | 6 |
| Conjunctivitis (follicular) | 28 |
| Dysentery (amoebic) | 2 |
| Leprosy | 1 |
| Tetanus | 4 |
| Trachoma | 3 |
| Whooping cough | 3 |

*November, 1927*

| | Cases |
|---|---|
| Anthrax: | |
| Oregon | 1 |
| Chicken pox: | |
| Idaho | 104 |
| Illinois | 1,402 |
| Louisiana | 56 |
| Maine | 154 |
| Michigan | 659 |
| Mississippi | 615 |
| Missouri | 263 |
| Oklahoma [1] | 157 |
| Oregon | 133 |
| South Carolina | 118 |
| Washington | 435 |
| Wisconsin | 898 |
| Conjunctivitis: | |
| Idaho | 50 |
| Dengue: | |
| Mississippi | 12 |
| South Carolina | 22 |
| Dysentery: | |
| Illinois | 20 |
| Louisiana | 5 |
| Mississippi (amoebic) | 39 |
| Mississippi (bacillary) | 459 |
| Oklahoma [1] | 9 |
| Washington | 1 |
| German measles: | |
| Illinois | 25 |
| Maine | 6 |
| Washington | 45 |
| Wisconsin | 10 |

[1] Exclusive of Oklahoma City and Tulsa.

| Hookworm disease: | Cases |
|---|---|
| Louisiana | 6 |
| Mississippi | 236 |
| South Carolina | 117 |
| Impetigo contagiosa: | |
| Oregon | 8 |
| Washington | 12 |
| Lead poisoning: | |
| Illinois | 15 |
| Lethargic encephalitis: | |
| Illinois | 9 |
| Louisiana | 1 |
| Michigan | 2 |
| Missouri | 1 |
| Oregon | 1 |
| Washington | 5 |
| Wisconsin | 3 |
| Leprosy: | |
| Michigan | 1 |
| Washington | 1 |
| Mumps: | |
| Idaho | 97 |
| Illinois | 523 |
| Louisiana | 22 |
| Maine | 70 |
| Michigan | 548 |
| Mississippi | 448 |
| Missouri | 158 |
| Oklahoma [1] | 15 |
| Oregon | 30 |
| Washington | 274 |
| Wisconsin | 237 |
| Ophthalmia neonatorum: | |
| Illinois | 36 |
| Louisiana | 1 |
| Mississippi | 11 |
| Missouri | 2 |
| South Carolina | 19 |
| Paratyphoid fever: | |
| Illinois | 2 |
| Maine | 1 |
| South Carolina | 11 |
| Washington | 2 |

| | Cases |
|---|---|
| Puerperal fever: | |
| Illinois | 5 |
| Mississippi | 34 |
| Washington | 2 |
| Rabies in animals: | |
| Mississippi | 6 |
| Missouri | 2 |
| Oregon | 2 |
| South Carolina | 18 |
| Rabies in man: | |
| Illinois | 2 |
| Ringworm: | |
| Washington | 3 |
| Scabies: | |
| Oregon | 23 |
| Washington | 10 |
| Septic sore throat: | |
| Illinois | 4 |
| Louisiana | 1 |
| Maine | 1 |
| Michigan | 12 |
| Missouri | 2 |
| Oklahoma [1] | 14 |
| Oregon | 6 |
| Tetanus: | |
| Illinois | 3 |
| Louisiana | 2 |
| Missouri | 2 |
| Washington | 1 |
| Trachoma: | |
| Illinois | 12 |
| Louisiana | 1 |
| Mississippi | 13 |
| Missouri | 7 |
| Oklahoma [1] | 16 |
| Tularemia: | |
| Illinois | 1 |
| Louisiana | 1 |
| Vincents angina: | |
| Idaho | 1 |
| Illinois | 1 |
| Maine | 9 |
| Oklahoma [1] | 1 |
| Washington | 6 |
| Whooping cough: | |
| Idaho | 9 |
| Illinois | 731 |
| Louisiana | 38 |
| Maine | 48 |
| Michigan | 408 |
| Mississippi | 1,030 |
| Missouri | 159 |
| Oklahoma [1] | 23 |
| Oregon | 17 |
| South Carolina | 301 |
| Washington | 38 |
| Wisconsin | 254 |

[1] Exclusive of Oklahoma City and Tulsa.

## GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 99 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,600,000. The estimated population of the 93 cities reporting deaths is more than 29,950,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

*Weeks ended December 17, 1927, and December 18, 1926*

| | 1927 | 1926 | Estimated expectancy |
|---|---|---|---|
| *Cases reported* | | | |
| Diphtheria: | | | |
| 43 States | 2,277 | 2,056 | |
| 99 cities | 1,212 | 1,091 | 1,210 |
| Measles: | | | |
| 41 States | 4,817 | 6,006 | |
| 99 cities | 1,437 | 1,129 | |
| Poliomyelitis: | | | |
| 43 States | 114 | 20 | |
| Scarlet fever: | | | |
| 43 States | 3,616 | 4,185 | |
| 99 cities | 1,245 | 1,614 | 1,131 |
| Smallpox: | | | |
| 43 States | 799 | 682 | |
| 99 cities | 112 | 92 | 62 |
| Typhoid fever: | | | |
| 43 States | 339 | 372 | |
| 99 cities | 45 | 68 | 59 |
| *Deaths reported* | | | |
| Influenza and pneumonia: | | | |
| 93 cities | 763 | 858 | |
| Smallpox: | | | |
| 93 cities | 0 | 1 | |
| Charleston, W. Va | 0 | 1 | |

## *City reports for week ended December 17, 1927*

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

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

| Division, State, and city | Population July 1, 1925, estimated | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---|---|---|---|---|---|---|---|---|---|
| | | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| **NEW ENGLAND** | | | | | | | | | |
| Maine: | | | | | | | | | |
| Portland | 75,333 | 9 | 2 | 2 | 0 | 0 | 0 | 2 | 1 |
| New Hampshire: | | | | | | | | | |
| Concord | 22,546 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 |
| Vermont: | | | | | | | | | |
| Barre | 10,008 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Burlington | 24,089 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Massachusetts: | | | | | | | | | |
| Boston | 779,620 | 77 | 56 | 18 | 3 | 2 | 219 | 2 | 21 |
| Fall River | 128,993 | 4 | 5 | 1 | 0 | 0 | 2 | 0 | 2 |
| Springfield | 142,065 | 7 | 5 | 6 | 1 | 0 | 0 | 9 | 1 |
| Worcester | 190,757 | 13 | 4 | 7 | 1 | 0 | 1 | 14 | 3 |
| Rhode Island: | | | | | | | | | |
| Pawtucket | 69,760 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | 1 |
| Providence | 267,918 | 7 | 10 | 18 | 1 | 0 | 3 | 4 | 1 |
| Connecticut: | | | | | | | | | |
| Bridgeport | (1) | 3 | 9 | 11 | 1 | 3 | 0 | 0 | 6 |
| Hartford | 160,197 | 5 | 8 | 11 | 0 | 0 | 0 | 0 | 0 |
| New Haven | 178,927 | 8 | 4 | 6 | 0 | 0 | 32 | 10 | 7 |
| **MIDDLE ATLANTIC** | | | | | | | | | |
| New York: | | | | | | | | | |
| Buffalo | 538,016 | 58 | 25 | 31 | 2 | 2 | 84 | 38 | 11 |
| New York | 5,873,356 | 146 | 190 | 269 | 12 | 6 | 64 | 20 | 139 |
| Rochester | 316,786 | 5 | 11 | 15 | 0 | 0 | 6 | 3 | 2 |
| Syracuse | 182,003 | 25 | 7 | 0 | 0 | 0 | 33 | 9 | 5 |
| New Jersey: | | | | | | | | | |
| Camden | 128,642 | 9 | 6 | 5 | 0 | 0 | 1 | 0 | 2 |
| Newark | 452,513 | 26 | 14 | 27 | 1 | 0 | 20 | 8 | 9 |
| Trenton | 132,020 | 0 | 7 | 3 | 0 | 2 | 8 | 1 | 1 |
| Pennsylvania: | | | | | | | | | |
| Philadelphia | 1,979,364 | 124 | 84 | 52 | ---- | 6 | 9 | 62 | 46 |
| Pittsburgh | 631,563 | 40 | 23 | 49 | ---- | 3 | 192 | 48 | 20 |
| Reading | 112,707 | 10 | 4 | 6 | ---- | 0 | 0 | 5 | 3 |
| **EAST NORTH CENTRAL** | | | | | | | | | |
| Ohio: | | | | | | | | | |
| Cincinnati | 409,333 | 13 | 17 | 28 | 0 | 2 | 40 | 2 | 12 |
| Cleveland | 936,485 | 59 | 47 | 97 | 2 | 0 | 23 | 98 | 11 |
| Columbus | 279,836 | 3 | 9 | 5 | 2 | 2 | 2 | 2 | 9 |
| Toledo | 287,380 | 73 | 15 | 15 | 2 | 2 | 60 | 27 | 6 |
| Indiana: | | | | | | | | | |
| Fort Wayne | 97,846 | 0 | 6 | 8 | 0 | 0 | 0 | 0 | 2 |
| Indianapolis | 358,819 | 15 | 13 | 7 | 0 | 1 | 1 | 22 | 8 |
| South Bend | 80,091 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| Terre Haute | 71,071 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 1 |
| Illinois: | | | | | | | | | |
| Chicago | 2,995,239 | 112 | 113 | 135 | 11 | 6 | 10 | 38 | 64 |
| Springfield | 63,923 | 1 | 3 | 2 | 1 | 1 | 0 | 10 | 1 |
| Michigan: | | | | | | | | | |
| Detroit | 1,245,824 | 63 | 77 | 62 | 6 | 3 | 74 | 26 | 18 |
| Flint | 130,316 | 8 | 11 | 3 | 0 | 0 | 1 | 54 | 3 |
| Grand Rapids | 153,698 | 5 | 5 | 0 | 0 | 1 | 19 | 3 | 2 |

(1) No estimate made.

*City reports for week ended December 17, 1927*—Continued

| Division, State, and city | Population July 1, 1925, estimated | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---|---|---|---|---|---|---|---|---|---|
| | | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| **EAST NORTH CENTRAL—continued** | | | | | | | | | |
| Wisconsin: | | | | | | | | | |
| Kenosha | 50,891 | 22 | 1 | 1 | 0 | 0 | 2 | 6 | 1 |
| Madison | 46,385 | 9 | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| Milwaukee | 509,192 | 70 | 29 | 19 | 2 | 1 | 4 | 14 | 8 |
| Racine | 67,707 | 12 | 4 | 0 | 0 | 0 | 0 | 2 | 2 |
| Superior | 39,671 | 7 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| **WEST NORTH CENTRAL** | | | | | | | | | |
| Minnesota: | | | | | | | | | |
| Duluth | 110,502 | 3 | 2 | 0 | 0 | 0 | 0 | 1 | 2 |
| Minneapolis | 425,435 | 84 | 25 | 11 | 0 | 1 | 0 | 8 | 13 |
| St. Paul | 246,001 | 21 | 19 | 3 | 0 | 0 | 2 | 38 | 9 |
| Iowa: | | | | | | | | | |
| Davenport | 52,469 | 2 | 1 | 0 | 0 | ---- | 0 | 0 | ---- |
| Des Moines | 141,441 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 2 |
| Sioux City | 76,411 | 4 | 3 | 0 | 0 | ---- | 2 | 4 | ---- |
| Waterloo | 36,771 | 15 | 1 | 0 | 0 | ---- | 1 | 0 | ---- |
| Missouri: | | | | | | | | | |
| Kansas City | 367,481 | 35 | 13 | 5 | 0 | 1 | 2 | 94 | 6 |
| St. Joseph | 78,342 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| St. Louis | 821,543 | 9 | 51 | 35 | 0 | 0 | 14 | 10 | ---- |
| North Dakota: | | | | | | | | | |
| Fargo | 26,403 | 26 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Grand Forks | 14,811 | 5 | 0 | 0 | 0 | ---- | 0 | 0 | ---- |
| South Dakota: | | | | | | | | | |
| Aberdeen | 15,036 | 2 | 0 | 0 | 0 | ---- | 0 | 0 | ---- |
| Sioux Falls | 30,127 | 0 | 1 | 0 | 0 | ---- | 1 | 0 | ---- |
| Nebraska: | | | | | | | | | |
| Lincoln | 60,941 | 17 | 1 | 2 | 0 | 0 | 0 | 18 | 0 |
| Omaha | 211,768 | 17 | 5 | 4 | 0 | 0 | 0 | 0 | 5 |
| Kansas: | | | | | | | | | |
| Topeka | 55,411 | 14 | 2 | 4 | 1 | 1 | 2 | 0 | 2 |
| Wichita | 88,367 | 10 | 7 | 3 | 0 | 0 | 0 | 0 | 4 |
| **SOUTH ATLANTIC** | | | | | | | | | |
| Delaware: | | | | | | | | | |
| Wilmington | 122,049 | 3 | 2 | 3 | 0 | 0 | 0 | 0 | 2 |
| Maryland: | | | | | | | | | |
| Baltimore | 796,296 | 131 | 38 | 18 | 14 | 0 | 56 | 10 | 31 |
| Cumberland | 33,741 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Frederick | 12,035 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| District of Columbia: | | | | | | | | | |
| Washington | 497,906 | 23 | 21 | 13 | 0 | 0 | 1 | 0 | 10 |
| Virginia: | | | | | | | | | |
| Lynchburg | 30,395 | 2 | 2 | 11 | 0 | 0 | 0 | 0 | 2 |
| Norfolk | (1) | 30 | 4 | 2 | 0 | 0 | 9 | 6 | 5 |
| Richmond | 186,403 | 1 | 11 | 4 | 0 | 1 | 34 | 0 | 3 |
| Roanoke | 58,208 | 1 | 3 | 1 | 0 | 0 | 2 | 2 | 1 |
| West Virginia: | | | | | | | | | |
| Charleston | 49,019 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wheeling | 56,208 | 13 | 2 | 3 | 0 | 0 | 1 | 0 | 0 |
| North Carolina: | | | | | | | | | |
| Raleigh | 30,371 | 13 | 2 | 2 | 0 | 0 | 0 | 0 | 2 |
| Wilmington | 37,061 | 5 | 1 | 1 | 0 | 0 | 152 | 0 | 3 |
| Winston-Salem | 69,031 | 4 | 2 | 1 | 0 | 1 | 3 | 19 | 5 |
| South Carolina: | | | | | | | | | |
| Charleston | 73,125 | 2 | 2 | 0 | 17 | 0 | 0 | 0 | 6 |
| Columbia | 41,225 | 7 | 1 | 4 | 0 | 0 | 25 | 17 | 2 |
| Greenville | 27,311 | 2 | 0 | 0 | 0 | 0 | 28 | 5 | 1 |
| Georgia: | | | | | | | | | |
| Atlanta | (1) | 1 | 5 | 5 | 31 | 4 | 0 | 4 | 8 |
| Brunswick | 16,809 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Savannah | 93,134 | 0 | 2 | 4 | 5 | 2 | 22 | 1 | 5 |
| Florida: | | | | | | | | | |
| Miami | 69,754 | 3 | ---- | 2 | 3 | 0 | 0 | 0 | 0 |
| St. Petersburg | 26,847 | ---- | 1 | ---- | ---- | 0 | ---- | ---- | 0 |
| Tampa | 94,743 | 9 | 2 | 5 | 3 | 0 | 2 | 2 | 1 |

[1] No estimate made.

*City reports for week ended December 17, 1927*—Continued

| Division, State, and city | Population July 1, 1925, estimated | Chicken pox, cases reported | Diphtheria | | Influenza | | Measles, cases reported | Mumps, cases reported | Pneumonia, deaths reported |
|---|---|---|---|---|---|---|---|---|---|
| | | | Cases, estimated expectancy | Cases reported | Cases reported | Deaths reported | | | |
| **EAST SOUTH CENTRAL** | | | | | | | | | |
| Kentucky: | | | | | | | | | |
| Covington | 58,309 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 3 |
| Lexington | 46,895 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Louisville | 305,935 | ---- | 9 | ---- | ---- | ---- | ---- | ---- | ---- |
| Tennessee: | | | | | | | | | |
| Memphis | 174,533 | 4 | 7 | 11 | 0 | 3 | 95 | 4 | 7 |
| Nashville | 136,220 | 5 | 4 | 2 | 0 | 3 | 3 | 14 | 5 |
| Alabama: | | | | | | | | | |
| Birmingham | 205,670 | 9 | 6 | 5 | 16 | 5 | 2 | 1 | 7 |
| Mobile | 65,955 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| Montgomery | 46,481 | 1 | 1 | 3 | 1 | 0 | 0 | 2 | 0 |
| **WEST SOUTH CENTRAL** | | | | | | | | | |
| Arkansas: | | | | | | | | | |
| Fort Smith | 31,643 | 0 | 2 | 1 | 0 | ---- | 0 | 0 | ---- |
| Little Rock | 74,216 | 0 | 1 | 0 | 0 | 0 | 21 | 0 | 0 |
| Louisiana: | | | | | | | | | |
| New Orleans | 414,493 | 1 | 11 | 8 | 11 | 10 | 0 | 0 | 18 |
| Shreveport | 57,857 | 4 | 2 | 1 | 0 | 0 | 25 | 1 | 4 |
| Oklahoma: | | | | | | | | | |
| Oklahoma City | (1) | 1 | 3 | 11 | 0 | 0 | 0 | 1 | 4 |
| Tulsa | 124,478 | 7 | 5 | 7 | 0 | 0 | 0 | 2 | 0 |
| Texas: | | | | | | | | | |
| Dallas | 194,450 | 3 | 14 | 22 | 0 | 1 | 1 | 0 | 1 |
| Galveston | 48,375 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 3 |
| Houston | 164,954 | 0 | 5 | 10 | 0 | 1 | 0 | 1 | 8 |
| San Antonio | 198,069 | 0 | 4 | 8 | 0 | 1 | 13 | 0 | 11 |
| **MOUNTAIN** | | | | | | | | | |
| Montana: | | | | | | | | | |
| Billings | 17,971 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Great Falls | 29,883 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 3 |
| Helena | 12,037 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Missoula | 12,668 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho: | | | | | | | | | |
| Boise | 23,042 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Colorado: | | | | | | | | | |
| Denver | 280,911 | 29 | 13 | 10 | ---- | 0 | 2 | 19 | 6 |
| Pueblo | 43,787 | 28 | 4 | 1 | 0 | 1 | 0 | 0 | 1 |
| New Mexico: | | | | | | | | | |
| Albuquerque | 21,000 | 0 | 1 | 1 | 0 | 0 | 6 | 0 | 0 |
| Utah: | | | | | | | | | |
| Salt Lake City | 130,948 | 22 | 4 | 7 | 0 | 0 | 0 | 0 | 3 |
| Nevada: | | | | | | | | | |
| Reno | 12,665 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PACIFIC** | | | | | | | | | |
| Washington: | | | | | | | | | |
| Seattle | (1) | 14 | 7 | 0 | 0 | ---- | 71 | 15 | ---- |
| Spokane | 108,897 | 22 | 4 | 1 | 0 | ---- | 0 | 0 | ---- |
| Tacoma | 104,455 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 2 |
| Oregon: | | | | | | | | | |
| Portland | 282,383 | 21 | 11 | 6 | 5 | 0 | 7 | 9 | 7 |
| California: | | | | | | | | | |
| Los Angeles | (1) | 18 | 41 | 44 | 15 | 3 | 7 | 17 | 28 |
| Sacramento | 72,260 | 2 | 3 | 2 | 0 | 0 | 3 | 1 | 2 |
| San Francisco | 557,530 | 63 | 19 | 17 | 0 | 2 | 9 | 20 | 6 |

[1] No estimate made.

*City reports for week ended December 17, 1927*—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths, all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| **NEW ENGLAND** | | | | | | | | | | | |
| Maine: | | | | | | | | | | | |
| Portland | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 23 |
| New Hampshire: | | | | | | | | | | | |
| Concord | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Vermont: | | | | | | | | | | | |
| Barre | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Burlington | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Massachusetts: | | | | | | | | | | | |
| Boston | 53 | 81 | 0 | 0 | 0 | 17 | 1 | 0 | 0 | 68 | 217 |
| Fall River | 2 | 6 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 32 |
| Springfield | 7 | 8 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 30 |
| Worcester | 12 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 48 |
| Rhode Island: | | | | | | | | | | | |
| Pawtucket | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Providence | 7 | 25 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 46 |
| Connecticut: | | | | | | | | | | | |
| Bridgeport | 9 | 6 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 38 |
| Hartford | 7 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 37 |
| New Haven | 8 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 19 | 37 |
| **MIDDLE ATLANTIC** | | | | | | | | | | | |
| New York: | | | | | | | | | | | |
| Buffalo | 23 | 23 | 0 | 0 | 0 | 7 | 1 | 0 | 0 | 25 | 140 |
| New York | 173 | 208 | 1 | 0 | 0 | 86 | 13 | 14 | 0 | 184 | 1,352 |
| Rochester | 11 | 6 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 4 | 62 |
| Syracuse | 12 | 13 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 48 |
| New Jersey: | | | | | | | | | | | |
| Camden | 5 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 34 |
| Newark | 19 | 18 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 55 | 93 |
| Trenton | 3 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 42 |
| Pennsylvania: | | | | | | | | | | | |
| Philadelphia | 72 | 87 | 1 | 0 | 0 | 25 | 4 | 0 | 1 | 43 | 492 |
| Pittsburgh | 33 | 33 | 0 | 0 | 0 | 9 | 1 | 1 | 0 | 6 | 191 |
| Reading | 2 | 9 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 31 |
| **EAST NORTH CENTRAL** | | | | | | | | | | | |
| Ohio: | | | | | | | | | | | |
| Cincinnati | 14 | 16 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 4 | 150 |
| Cleveland | 34 | 47 | 0 | 1 | 0 | 7 | 1 | 2 | 0 | 32 | 189 |
| Columbus | 11 | 28 | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 3 | 64 |
| Toledo | 13 | 16 | 0 | 0 | 0 | 9 | 1 | 1 | 0 | 17 | 76 |
| Indiana: | | | | | | | | | | | |
| Fort Wayne | 3 | 3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 36 |
| Indianapolis | 11 | 7 | 5 | 9 | 0 | 4 | 0 | 0 | 0 | 4 | 86 |
| South Bend | 4 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 9 |
| Terre Haute | 3 | 2 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 28 |
| Illinois: | | | | | | | | | | | |
| Chicago | 113 | 110 | 2 | 8 | 0 | 39 | 4 | 0 | 2 | 94 | 679 |
| Springfield | 2 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 21 |
| Michigan: | | | | | | | | | | | |
| Detroit | 88 | 61 | 2 | 1 | 0 | 22 | 2 | 2 | 0 | 57 | 249 |
| Flint | 8 | 24 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 27 |
| Grand Rapids | 10 | 7 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 29 |
| Wisconsin: | | | | | | | | | | | |
| Kenosha | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 6 |
| Madison | 3 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 6 |
| Milwaukee | 20 | 37 | 2 | 1 | 0 | 8 | 0 | 0 | 1 | 13 | 136 |
| Racine | 5 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 11 |
| Superior | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| **WEST NORTH CENTRAL** | | | | | | | | | | | |
| Minnesota: | | | | | | | | | | | |
| Duluth | 9 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 16 |
| Minneapolis | 50 | 26 | 6 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 123 |
| St. Paul | 25 | 7 | 3 | 3 | 0 | 3 | 1 | 1 | 1 | 0 | 58 |
| Iowa: | | | | | | | | | | | |
| Davenport | 1 | 2 | 1 | 1 | ---- | ---- | 0 | 0 | ---- | 2 | ---- |
| Des Moines | 6 | 21 | 0 | 13 | 0 | 3 | 0 | 0 | 0 | 0 | 35 |
| Sioux City | 2 | 5 | 1 | 1 | ---- | ---- | 0 | 0 | ---- | 2 | ---- |
| Waterloo | 3 | 1 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 0 | ---- |

*City reports for week ended December 17, 1927*—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths, all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| **WEST NORTH CENTRAL—contd.** | | | | | | | | | | | |
| Missouri: | | | | | | | | | | | |
| Kansas City | 12 | 11 | 1 | 4 | 0 | 4 | 0 | 1 | 0 | 4 | 94 |
| St. Joseph | 2 | 3 | 0 | 28 | 0 | 1 | 0 | 0 | 0 | 0 | 29 |
| St. Louis | 37 | 27 | 0 | 0 | 0 | 7 | 2 | 1 | 0 | 10 | 218 |
| North Dakota: | | | | | | | | | | | |
| Fargo | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Grand Forks | 0 | 0 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 0 | ---- |
| South Dakota: | | | | | | | | | | | |
| Aberdeen | 1 | 2 | 1 | 0 | ---- | ---- | 0 | 0 | ---- | 0 | ---- |
| Sioux Falls | 1 | 3 | 0 | 0 | ---- | ---- | 0 | 0 | ---- | 0 | 9 |
| Nebraska: | | | | | | | | | | | |
| Lincoln | 2 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 8 |
| Omaha | 7 | 4 | 3 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 70 |
| Kansas: | | | | | | | | | | | |
| Topeka | 2 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 14 |
| Wichita | 4 | 12 | 1 | 20 | 0 | 1 | 0 | 0 | 0 | 0 | 35 |
| **SOUTH ATLANTIC** | | | | | | | | | | | |
| Delaware: | | | | | | | | | | | |
| Wilmington | 4 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 5 | 27 |
| Maryland: | | | | | | | | | | | |
| Baltimore | 26 | 13 | 0 | 0 | 0 | 14 | 3 | 1 | 0 | 25 | 207 |
| Cumberland | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| Frederick | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| District of Columbia: | | | | | | | | | | | |
| Washington | 19 | 36 | 0 | 0 | 0 | 8 | 2 | 2 | 0 | 10 | 114 |
| Virginia: | | | | | | | | | | | |
| Lynchburg | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |
| Norfolk | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | ---- |
| Richmond | 6 | 8 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 54 |
| Roanoke | 2 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 10 |
| West Virginia: | | | | | | | | | | | |
| Charleston | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Wheeling | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 14 |
| North Carolina: | | | | | | | | | | | |
| Raleigh | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Wilmington | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 11 |
| Winston-Salem | 1 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 19 |
| South Carolina: | | | | | | | | | | | |
| Charleston | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 32 |
| Columbia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Greenville | 0 | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 6 |
| Georgia: | | | | | | | | | | | |
| Atlanta | 4 | 3 | 2 | 0 | 0 | 4 | 1 | 1 | 1 | 0 | 86 |
| Brunswick | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Savannah | 0 | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 35 |
| Florida: | | | | | | | | | | | |
| Miami | ---- | 4 | ---- | 0 | 0 | 3 | ---- | 0 | 0 | 0 | 25 |
| St. Petersburg | 0 | ---- | 0 | ---- | 0 | 2 | 0 | ---- | 0 | ---- | 22 |
| Tampa | 1 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 28 |
| **EAST SOUTH CENTRAL** | | | | | | | | | | | |
| Kentucky: | | | | | | | | | | | |
| Covington | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Lexington | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 15 |
| Louisville | 5 | ---- | 1 | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- |
| Tennessee: | | | | | | | | | | | |
| Memphis | 5 | 9 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 65 |
| Nashville | 3 | 3 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 0 | 54 |
| Alabama: | | | | | | | | | | | |
| Birmingham | 4 | 4 | 0 | 0 | 0 | 5 | 1 | 3 | 0 | 0 | 66 |
| Mobile | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| Montgomery | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |

*City reports for week ended December 17, 1927*—Continued

| Division, State, and city | Scarlet fever | | Smallpox | | | Tuberculosis, deaths reported | Typhoid fever | | | Whooping cough, cases reported | Deaths, all causes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cases, estimated expectancy | Cases reported | Cases, estimated expectancy | Cases reported | Deaths reported | | Cases, estimated expectancy | Cases reported | Deaths reported | | |
| WEST SOUTH CENTRAL | | | | | | | | | | | |
| Arkansas: | | | | | | | | | | | |
| Fort Smith | 1 | 2 | 0 | 0 | ---- | ---- | 0 | 1 | ---- | 2 | ---- |
| Little Rock | 2 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | ---- |
| Louisiana: | | | | | | | | | | | |
| New Orleans | 7 | 8 | 1 | 0 | 0 | 11 | 2 | 2 | 2 | 2 | 179 |
| Shreveport | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 27 |
| Oklahoma: | | | | | | | | | | | |
| Oklahoma City | 3 | 5 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| Tulsa | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | ---- |
| Texas: | | | | | | | | | | | |
| Dallas | 3 | 14 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 50 |
| Galveston | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 21 |
| Houston | 2 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 45 |
| San Antonio | 1 | 4 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 61 |
| MOUNTAIN | | | | | | | | | | | |
| Montana: | | | | | | | | | | | |
| Billings | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 8 |
| Great Falls | 2 | 4 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 8 |
| Helena | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 7 |
| Missoula | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Idaho: | | | | | | | | | | | |
| Boise | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 |
| Colorado: | | | | | | | | | | | |
| Denver | 12 | 15 | 1 | 0 | 0 | 14 | 1 | 1 | 0 | 2 | 101 |
| Pueblo | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| New Mexico: | | | | | | | | | | | |
| Albuquerque | 1 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 8 |
| Utah: | | | | | | | | | | | |
| Salt Lake City | 2 | 6 | 1 | 6 | 0 | 5 | 1 | 0 | 0 | 2 | 42 |
| Nevada: | | | | | | | | | | | |
| Reno | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| PACIFIC | | | | | | | | | | | |
| Washington: | | | | | | | | | | | |
| Seattle | 8 | 7 | 2 | 0 | ---- | ---- | 1 | 3 | ---- | 2 | ---- |
| Spokane | 6 | 11 | 5 | 10 | ---- | ---- | 0 | 0 | ---- | 0 | ---- |
| Tacoma | 4 | 8 | 5 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 34 |
| Oregon: | | | | | | | | | | | |
| Portland | 7 | 7 | 6 | 13 | 0 | 0 | 0 | 0 | 1 | 1 | ---- |
| California: | | | | | | | | | | | |
| Los Angeles | 26 | 11 | 4 | 1 | 0 | 29 | 2 | 1 | 0 | 17 | 258 |
| Sacramento | 2 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 27 |
| San Francisco | 12 | 20 | 1 | 1 | 0 | 7 | 1 | 0 | 0 | 0 | 140 |

| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 |
| Rhode Island: | | | | | | | | | |
| Providence | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| MIDDLE ATLANTIC | | | | | | | | | |
| New York: | | | | | | | | | |
| New York | 2 | 0 | 4 | 2 | 0 | 0 | 1 | 2 | 2 |
| Pennsylvania: | | | | | | | | | |
| Philadelphia | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pittsburgh | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

*City reports for week ended December 17, 1927*—Continued.

| Division, State, and city | Meningococcus meningitis | | Lethargic encephalitis | | Pellagra | | Poliomyelitis (infantile paralysis) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths | Cases, estimated expectancy | Cases | Deaths |
| EAST NORTH CENTRAL | | | | | | | | | |
| Ohio: | | | | | | | | | |
| Cleveland | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Indiana: | | | | | | | | | |
| Indianapolis | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Illinois: | | | | | | | | | |
| Chicago | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Michigan: | | | | | | | | | |
| Detroit | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Wisconsin: | | | | | | | | | |
| Milwaukee | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WEST NORTH CENTRAL | | | | | | | | | |
| Minnesota: | | | | | | | | | |
| Minneapolis | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| St. Paul | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Iowa: | | | | | | | | | |
| Des Moines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Missouri: | | | | | | | | | |
| Kansas City | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| St. Louis [1] | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas: | | | | | | | | | |
| Topeka | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| SOUTH ATLANTIC | | | | | | | | | |
| Maryland: | | | | | | | | | |
| Baltimore | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| South Carolina: | | | | | | | | | |
| Charleston [2] | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| Georgia: | | | | | | | | | |
| Savannah [1] | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| EAST SOUTH CENTRAL | | | | | | | | | |
| Alabama: | | | | | | | | | |
| Birmingham | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 |
| WEST SOUTH CENTRAL | | | | | | | | | |
| Louisiana: | | | | | | | | | |
| New Orleans | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Shreveport | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| Texas: | | | | | | | | | |
| Dallas | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| MOUNTAIN | | | | | | | | | |
| Colorado: | | | | | | | | | |
| Denver | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| PACIFIC | | | | | | | | | |
| Washington: | | | | | | | | | |
| Seattle | 0 | ------- | 0 | ------- | 0 | ------- | 0 | 2 | ------- |
| Spokane | 1 | ------- | 0 | ------- | 0 | ------- | 0 | 1 | ------- |
| Oregon: | | | | | | | | | |
| Portland | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| California: | | | | | | | | | |
| Los Angeles | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Sacramento | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| San Francisco | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

[1] Typhus fever: St. Louis, Mo., 2 cases; Savannah, Ga., 1 case.
[2] Dengue: Charleston, S. C., 1 case.

*Summary of weekly reports from cities, November 13 to December 17, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926* [1]

DIPHTHERIA CASE RATES

| | Week ended— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Nov. 20, 1926 | Nov. 19, 1927 | Nov. 27, 1926 | Nov. 26, 1927 | Dec. 4, 1926 | Dec. 3, 1927 | Dec. 11, 1926 | Dec. 10, 1927 | Dec. 18, 1926 | Dec. 17, 1927 |
| 101 cities | 230 | 228 | 212 | [2] 204 | 224 | [3] 233 | 201 | [4] 205 | 188 | [5] 206 |
| New England | 139 | 163 | 132 | 169 | 172 | 267 | 163 | 216 | 160 | 200 |
| Middle Atlantic | 159 | 234 | 155 | 213 | 177 | 252 | 161 | 228 | 167 | 226 |
| East North Central | 292 | 251 | 258 | 220 | 266 | 220 | 223 | 228 | 213 | 248 |
| West North Central | 214 | 153 | 192 | 179 | 210 | 179 | 194 | [6] 130 | 129 | 129 |
| South Atlantic | 276 | 217 | 281 | [2] 197 | 240 | [3] 230 | 237 | 190 | 216 | [7] 141 |
| East South Central | 367 | 239 | 217 | 122 | 300 | 168 | 284 | 71 | 145 | [8] 162 |
| West South Central | 326 | 348 | 301 | 306 | 318 | 273 | 266 | 218 | 258 | 218 |
| Mountain | 146 | 207 | 201 | 171 | 228 | 144 | 246 | 144 | 164 | 162 |
| Pacific | 324 | 223 | 303 | 162 | 268 | 259 | 238 | [9] 162 | 252 | 168 |

MEASLES CASE RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 101 cities | 135 | 125 | 134 | [2] 137 | 177 | [3] 190 | 197 | [4] 221 | 193 | [5] 251 |
| New England | 47 | 390 | 57 | 499 | 101 | 539 | 165 | 539 | 229 | 604 |
| Middle Atlantic | 28 | 93 | 30 | 129 | 37 | 180 | 23 | 199 | 24 | 206 |
| East North Central | 120 | 54 | 135 | 60 | 151 | 122 | 212 | 140 | 256 | 117 |
| West North Central | 198 | 22 | 109 | 24 | 113 | 24 | 129 | [6] 50 | 109 | 46 |
| South Atlantic | 54 | 283 | 22 | [2] 202 | 48 | [3] 326 | 54 | 527 | 89 | [7] 562 |
| East South Central | 31 | 148 | 16 | 163 | 26 | 224 | 78 | 367 | 21 | [8] 737 |
| West South Central | 26 | 71 | 103 | 88 | 142 | 122 | 146 | 134 | 82 | 252 |
| Mountain | 1,950 | 72 | 2,543 | 27 | 2,844 | 27 | 3,217 | 36 | 2,351 | 27 |
| Pacific | 488 | 212 | 338 | 175 | 699 | 228 | 613 | [9] 72 | 603 | 238 |

SCARLET FEVER CASE RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 101 cities | 212 | 177 | 213 | [2] 159 | 242 | [3] 185 | 238 | [4] 183 | 279 | [5] 212 |
| New England | 330 | 248 | 285 | 181 | 325 | 276 | 340 | 320 | 387 | 325 |
| Middle Atlantic | 130 | 152 | 138 | 122 | 157 | 155 | 178 | 156 | 214 | 199 |
| East North Central | 201 | 202 | 196 | 196 | 237 | 192 | 235 | 216 | 241 | 243 |
| West North Central | 407 | 232 | 411 | 204 | 436 | 250 | 432 | [6] 197 | 413 | 204 |
| South Atlantic | 143 | 156 | 156 | [2] 173 | 181 | [3] 176 | 173 | 134 | 199 | [7] 161 |
| East South Central | 228 | 112 | 238 | 87 | 243 | 148 | 150 | 82 | 248 | [8] 147 |
| West South Central | 116 | 105 | 198 | 168 | 210 | 143 | 142 | 117 | 236 | 172 |
| Mountain | 638 | 234 | 784 | 180 | 930 | 360 | 802 | 306 | 1,112 | 243 |
| Pacific | 335 | 154 | 249 | 131 | 265 | 128 | 230 | [9] 138 | 383 | 154 |

SMALLPOX CASE RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 101 cities | 5 | 19 | 5 | [2] 22 | 14 | [3] 17 | 11 | [4] 11 | 16 | [5] 19 |
| New England | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Middle Atlantic | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| East North Central | 3 | 6 | 7 | 1 | 21 | 10 | 7 | 4 | 11 | 17 |
| West North Central | 4 | 161 | 30 | 202 | 48 | 115 | 38 | [6] 76 | 46 | 115 |
| South Atlantic | 4 | 9 | 4 | [2] 2 | 19 | [3] 6 | 19 | 7 | 26 | [7] 5 |
| East South Central | 0 | 5 | 5 | 0 | 0 | 10 | 21 | 5 | 78 | [8] 7 |
| West South Central | 4 | 4 | 4 | 4 | 9 | 8 | 9 | 8 | 43 | 0 |
| Mountain | 0 | 27 | 0 | 54 | 18 | 45 | 18 | 99 | 0 | 117 |
| Pacific | 48 | 29 | 5 | 45 | 35 | 39 | 43 | [9] 7 | 40 | 31 |

[1] The figures given in this table are rates per 100,000 population annual basis and not the number of cases reported. Populations used are estimated as of July 1, 1926 and 1927, respectively.
[2] Frederick, Md., not included.
[3] Norfolk, Va., not included.
[4] Fargo, N. Dak., Seattle and Spokane, Wash., not included.
[5] Greenville, S. C., and Louisville, Ky., not included.
[6] Fargo, N. Dak., not included.
[7] Greenville, S. C., not included.
[8] Louisville, Ky., not included.
[9] Seattle and Spokane, Wash., not included.

*Summary of weekly reports from cities, November 13 to December 17, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926* [1]—Continued

TYPHOID FEVER CASE RATES

| | Week ended— | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Nov. 20, 1926 | Nov. 19, 1927 | Nov. 27, 1926 | Nov. 26, 1927 | Dec. 4, 1926 | Dec. 3, 1927 | Dec. 11, 1926 | Dec. 10, 1927 | Dec. 18, 1926 | Dec. 17, 1927 |
| 101 cities | 16 | 15 | 12 | [2] 10 | 10 | [3] 9 | 13 | [4] 11 | 12 | [5] 8 |
| New England | 7 | 23 | 7 | 14 | 7 | 7 | 2 | 12 | 31 | 0 |
| Middle Atlantic | 21 | 14 | 13 | 10 | 9 | 10 | 18 | 8 | 8 | 8 |
| East North Central | 5 | 7 | 3 | 6 | 6 | 5 | 3 | 9 | 5 | 3 |
| West North Central | 6 | 20 | 8 | 14 | 10 | 12 | 4 | [6] 14 | 10 | 6 |
| South Atlantic | 22 | 25 | 19 | [2] 9 | 17 | [3] 17 | 24 | 9 | 19 | [7] 9 |
| East South Central | 36 | 15 | 31 | 15 | 41 | 15 | 41 | 31 | 21 | [8] 29 |
| West South Central | 13 | 29 | 17 | 13 | 9 | 21 | 13 | 21 | 21 | 17 |
| Mountain | 27 | 18 | 18 | 27 | 9 | 9 | 9 | 9 | 9 | 18 |
| Pacific | 29 | 13 | 21 | 5 | 16 | 5 | 16 | [9] 10 | 24 | 16 |

INFLUENZA DEATH RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 95 cities | 10 | 9 | 10 | [10] 11 | 14 | [3] 12 | 17 | [6] 12 | 14 | [5] 14 |
| New England | 2 | 5 | 9 | 2 | 7 | 5 | 9 | 9 | 7 | 12 |
| Middle Atlantic | 10 | 7 | 7 | 10 | 13 | 11 | 12 | 7 | 13 | 9 |
| East North Central | 10 | 2 | 9 | 5 | 9 | 9 | 14 | 9 | 12 | 11 |
| West North Central | 6 | 10 | 2 | 6 | 4 | 4 | 15 | [6] 6 | 15 | 6 |
| South Atlantic | 8 | 20 | 15 | [2] 13 | 21 | [3] 14 | 34 | 17 | 26 | [7] 15 |
| East South Central | 31 | 20 | 41 | 46 | 41 | 46 | 41 | 56 | 5 | [8] 88 |
| West South Central | 31 | 34 | 31 | 34 | 40 | 43 | 40 | 47 | 40 | 56 |
| Mountain | 9 | 36 | 36 | 18 | 46 | 27 | 36 | 9 | 9 | 9 |
| Pacific | 4 | 3 | 0 | [11] 14 | 11 | 14 | 11 | 3 | 7 | 17 |

PNEUMONIA DEATH RATES

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 95 cities | 123 | 112 | 126 | [10] 97 | 123 | [3] 114 | 129 | [6] 110 | 137 | [5] 118 |
| New England | 104 | 102 | 132 | 60 | 118 | 100 | 134 | 51 | 149 | 102 |
| Middle Atlantic | 136 | 119 | 138 | 98 | 151 | 123 | 140 | 119 | 147 | 117 |
| East North Central | 104 | 96 | 98 | 89 | 89 | 103 | 103 | 97 | 117 | 97 |
| West North Central | 120 | 81 | 74 | 87 | 74 | 71 | 118 | [6] 101 | 120 | 91 |
| South Atlantic | 144 | 160 | 166 | [2] 148 | 106 | [3] 153 | 155 | 138 | 127 | [7] 163 |
| East South Central | 171 | 148 | 103 | 127 | 134 | 199 | 171 | 148 | 129 | [8] 162 |
| West South Central | 154 | 142 | 207 | 112 | 163 | 108 | 150 | 103 | 172 | 194 |
| Mountain | 109 | 99 | 146 | 99 | 210 | 54 | 109 | 216 | 273 | 135 |
| Pacific | 74 | 76 | 124 | [11] 76 | 152 | 103 | 113 | 110 | 124 | 131 |

[2] Frederick, Md., not included.
[3] Norfolk, Va., not included.
[4] Fargo, N. Dak., and Seattle and Spokane, Wash., not included.
[5] Greenville, S. C., and Louisville, Ky., not included.
[6] Fargo, N. Dak., not included.
[7] Greenville, S. C., not included.
[8] Louisville, Ky., not included.
[9] Seattle and Spokane, Wash., not included.
[10] Frederick, Md., and Los Angeles, Calif., not included.
[11] Los Angeles, Calif., not included.

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

| Group of cities | Number of cities reporting cases | Number of cities reporting deaths | Aggregate population of cities reporting cases | | Aggregate population of cities reporting deaths | |
|---|---|---|---|---|---|---|
| | | | 1926 | 1927 | 1926 | 1927 |
| Total | 101 | 95 | 30,443,800 | 30,966,700 | 29,783,700 | 30,295,900 |
| New England | 12 | 12 | 2,211,000 | 2,245,900 | 2,211.000 | 2,245,900 |
| Middle Atlantic | 10 | 10 | 10,457,000 | 10,567,000 | 10,457,000 | 10,567,000 |
| East North Central | 16 | 16 | 7,650,200 | 7,810,600 | 7,650,200 | 7,810,600 |
| West North Central | 12 | 10 | 2,585,500 | 2,626,600 | 2,470,600 | 2,510,000 |
| South Atlantic | 21 | 20 | 2,799,500 | 2,878,100 | 2,757,700 | 2,835,700 |
| East South Central | 7 | 7 | 1,008,300 | 1,023,500 | 1,008,300 | 1,023,500 |
| West South Central | 8 | 7 | 1,213,800 | 1,243,300 | 1,181,500 | 1,210,400 |
| Mountain | 9 | 9 | 572,100 | 580,000 | 572,100 | 580,000 |
| Pacific | 6 | 4 | 1,946,400 | 1,991,700 | 1,475,300 | 1,512,800 |

# FOREIGN AND INSULAR

## THE FAR EAST

*Report for the week ended December 3, 1927.*—The following report for the week ended December 3, 1927, was transmitted by the Eastern Bureau of the Health Section of the Secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva:

Plague, cholera, or smallpox was reported present in the following ports:

PLAGUE

*Egypt.*—Alexandria.
*India.*—Rangoon.
*Dutch East Indies.*—Makassar, Cheribon.

CHOLERA

*India.*—Calcutta, Rangoon.
*Straits Settlements.*—Singapore.
*Dutch East Indies.*—Batavia.
*Siam.*—Bangkok.
*China.*—Canton.

SMALLPOX

*Aden Protectorate.*—Aden.
*Iraq.*—Basra.
*India.*—Bombay, Cochin, Calcutta, Madras, Rangoon.
*Dutch East Indies.*—Surabaya.
*Siam.*—Bangkok.
*Kwantung.*—Dairen.
*Manchuria.*—Mukden, Changchun.
*Japan.*—Osaka.

Returns for the week ended December 3 were not received from Banjermasin, Dutch East Indies, or Vladivostok, Union of Socialist Soviet Republics.

## CANADA

*Communicable diseases—Quebec—Week ended December 17, 1927.*—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended December 17, 1927, as follows:

| Disease | Cases | Disease | Cases |
|---|---|---|---|
| Chicken pox | 64 | Scarlet fever | 97 |
| Diphtheria | 98 | Smallpox | 12 |
| German measles | 4 | Tuberculosis | 24 |
| Influenza | 5 | Typhoid fever | 18 |
| Measles | 129 | Whooping cough | 13 |

## ECUADOR

*Plague—Plague rats—Guayaquil—November, 1927.*—During the month of November, 1927, nine cases of plague with three deaths were reported at Guayaquil, Ecuador.

During the same period, of 23,240 rats trapped, six rats were found plague infected.

## EGYPT

*Further relative to plague—Alexandria—November 25–December 1, 1927.*—On November 25 and 26, 1927, two additional cases of plague, both bubonic, were reported at Alexandria, occurring in the group of Barbary workmen in which the two previously reported cases occurred,[1] November 22 and 23, 1927. On December 1, two cases were reported in a group related to that in which the two previously reported cases occurred. Both of these last-named cases were found dead in their houses. The houses were stated to be situated about 1 kilometer from the port.

## ESTONIA

*Communicable diseases—October, 1927.*—During the month of October, 1927, communicable diseases were reported in the Republic of Estonia as follows:

| Disease | Cases | Disease | Cases |
|---|---|---|---|
| Cerebrospinal meningitis | 1 | Scarlet fever | 237 |
| Diphtheria | 37 | Tuberculosis | 125 |
| Measles | 19 | Typhoid fever | 72 |

Population, 1,107,059.

## IRISH FREE STATE (IRELAND)

*Typhus fever—County Cork—December 4–10, 1927.*—During the week ended December 10, 1927, three cases of typhus fever were reported in the urban district of Cork County Borough.

## JAPAN

*Dysentery—Tokyo, city and prefecture—October 2–29, 1927.*—During the period October 2 to 29, 1927, 190 cases of dysentery with 123 deaths were reported in the city of Tokyo, Japan, and 246 cases with 116 deaths in the prefecture of Tokyo, outside of the city.

## LATVIA

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

| Disease | Cases | Disease | Cases |
|---|---|---|---|
| Diphtheria | 29 | Puerperal fever | 4 |
| Dysentery | 2 | Scarlet fever | 158 |
| Erysipelas | 11 | Smallpox | 2 |
| Influenza | 37 | Tetanus | 1 |
| Leprosy | 1 | Trachoma | 12 |
| Measles | 58 | Typhoid fever | 101 |
| Mumps | 3 | Whooping cough | 34 |
| Poliomyelitis | 2 | | |

Population, estimated: 1,950,000.

[1] Public Health Reports, Dec. 30, 1927, p. 3218.

## PERU

*Mortality from communicable diseases—All causes—Arequipa—October, 1927.*—During the month of October, 1927, mortality from contagious diseases, and deaths from all causes were reported at Arequipa, Peru, as follows:

| Disease | Deaths | Disease | Deaths |
|---|---|---|---|
| Gastroenteritis | 12 | Tuberculosis | 18 |
| Influenza | 9 | Typhoid fever | 1 |
| Measles | 4 | Typhus fever | 2 |
| Scarlet fever | 1 | Whooping cough | 11 |

Population, estimated: 43,000. Mortality, all causes, 102.

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

From medical officers of the Public Health Service, American consuls, 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

[Cindicates cases; D, deaths; P, present]

| Place | | Week ended— | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | September, 1927 | | | | October, 1927 | | | | | November, 1927 | | | | December, 1927 | |
| | | 3 | 10 | 17 | 24 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 | 26 | 3 | 10 |
| China | C | 32 | | | | | | | | | | | | | | |
| Amoy | C | 18 | 21 | 19 | 14 | 10 | 4 | 2 | | | | | | | | |
| | D | 1 | 2 | | | | | | | | | | | | | |
| Canton | C | 10 | 17 | 7 | 2 | 6 | | 2 | 6 | 5 | 1 | 6 | | | | |
| | D | 6 | 10 | 7 | 2 | 6 | | 2 | 6 | 5 | 1 | 5 | | | | |
| Foochow | C | P | | P | P | P | P | P | P | | | | | | | |
| Hong Kong | C | 1 | P | P | P | P | P | P | | | | | | | | |
| | D | 1 | | | | | | | | | | | | | | |
| Shanghai | C | 1 | 3 | 2 | | 1 | 2 | | | | | | | | | |
| | D | 25 | 22 | 21 | 6 | 4 | | 2 | 1 | | | | | | | |
| Swatow | C | P | P | | P | | P | P | P | P | P | | | | | |
| Tientsin | C | 4 | 3 | 5 | 3 | 2 | | | | | | | | | | |
| India | C | 11,180 | 8,391 | 6,630 | 5,189 | 4,907 | 4,055 | 6,142 | 5,056 | 5,303 | | | | | | |
| | D | 5,559 | 4,278 | 3,532 | 2,526 | 2,549 | 2,104 | 3,027 | 2,691 | 2,867 | | | | | | |
| Bombay | C | 1 | 1 | 1 | | | | | | | | 2 | | | | |
| | D | 1 | 1 | | | | | | | | | 2 | | | | |
| Calcutta | C | 18 | 19 | 20 | 19 | 21 | 13 | 34 | 33 | 28 | 35 | 65 | | | | |
| | D | 10 | 13 | 5 | 11 | 15 | 11 | 19 | 19 | 22 | 25 | 42 | 49 | 106 | 77 | 55 |
| Madras | C | 29 | 8 | 15 | 7 | 4 | 9 | | 1 | | | 3 | 4 | | | |
| | D | 24 | 11 | 6 | 7 | 3 | 3 | 1 | 1 | | | 3 | 4 | | | |
| Rangoon | C | | | | 2 | 3 | 1 | | 2 | | 1 | | | | | |
| | D | | | | 2 | 3 | 1 | | 1 | 1 | | | | | | |
| India, French Settlements in | C | 6 | 4 | 1 | | | | | | | | | | | | |
| | D | 3 | 4 | 1 | | | | | | | | | | | | |
| Karikal | C | 1 | | | | | | | | | | | | | | |
| | D | 1 | | | | | | | | | | | | | | |
| Pondicherry | C | 4 | 4 | 1 | 6 | | | | | | | | | | | |
| | D | 2 | 2 | 1 | 8 | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Indo-China: | | | | | | | | | | | | | | | | | |
| Cochin-China— | | | | | | | | | | | | | | | | | |
| Saigon | C | | | | | | 1 | | | | | | | | | | |
| Iraq: [1] | | | | | | | | | | | | | | | | | |
| Amarah | C | | | | | | | | 35 | 4 | 8 | 3 | | | | | |
| | D | | | | | | | | 23 | 6 | 8 | 3 | | | | | |
| Baghdad | C | | | | | | | | 1 | | 10 | 13 | | | | | |
| | D | | | | | | | | 1 | | 5 | 2 | | | | | |
| Basra | C | | 21 | | | | | | 1 | | | | | | | | |
| Diwaniyah | C | | | | | | | | 28 | 4 | 3 | 1 | | | | | |
| | D | | | | | | | | 17 | 2 | | | | | | | |
| Hillah | C | | | | | | | | 12 | 7 | 3 | 5 | | | | | |
| | D | | | | | | | | 7 | 6 | 2 | 1 | | | | | |
| Kerbala | C | | | | | | | | 3 | 1 | 4 | 2 | | | | | |
| | D | | | | | | | | 3 | 1 | 5 | 2 | | | | | |
| Kut | C | | | | | | | | 11 | 9 | 1 | 5 | | | | | |
| | D | | | | | | | | 8 | 4 | 1 | 3 | | | | | |
| Muntafique | C | | | | | | | | 4 | | | 4 | | | | | |
| | D | | | | | | | | 1 | | | 2 | | | | | |
| Ramadi | C | | | | | | | | | 19 | 18 | 27 | | | | | |
| | D | | | | | | | | | 10 | 23 | 14 | | | | | |
| Java: | | | | | | | | | | | | | | | | | |
| Batavia | C | | | | | | | | | | 1 | | 25 | | | | |
| | D | | | | | | | | | | 1 | | 15 | | | | |
| Siam | C | 4 | 5 | 21 | | 6 | 4 | 8 | 8 | 14 | 23 | | | | | | |
| | D | 3 | 3 | 11 | | 4 | 2 | 5 | 7 | 10 | 15 | | | | | | |
| Bangkok | C | 1 | 1 | 1 | | | 2 | 3 | 1 | | 1 | | 3 | | 1 | 1 | |
| | D | | | 1 | | | | 3 | 1 | | 1 | | 1 | | 1 | | |
| On vessel S. S. Tabaristan; at Basra | C | | | | | | 1 | | | | | | | | | | |

| Place | | September, 1927 | | | October, 1927 | | November, 1927 | |
|---|---|---|---|---|---|---|---|---|
| | | 1-10 | 11-20 | 21-30 | 11-20 | 21-31 | 1-10 | 11-20 |
| Indo-China (French) | C | 452 | 206 | 241 | 345 | | | |
| Annam | C | 388 | 146 | 106 | 140 | 27 | 13 | 75 |
| Cambodia | C | 8 | 25 | 42 | 97 | 5 | 56 | 1 |

| Place | | September, 1927 | | | October, 1927 | | November, 1927 | |
|---|---|---|---|---|---|---|---|---|
| | | 1-10 | 11-20 | 21-30 | 11-20 | 21-31 | 1-10 | 11-20 |
| Indo-China (French)—Con. | | | | | | | | |
| Cochin-China | C | 17 | 35 | 92 | 79 | 12 | 21 | 27 |
| Laos | C | 16 | | | 29 | 6 | 10 | |
| Tonkin | C | 23 | | 1 | | | | |

[1] From July 24 to October 8, 1927, 831 cases and 617 deaths from cholera were reported in Iraq. Of these 131 cases and 103 deaths occurred in Amarah; 416 cases and 337 deaths in Basra; 53 cases and 30 deaths in Diwaniyah; 7 cases and 5 deaths in Hillah; 31 cases and 18 deaths in Kerbala; 8 cases and 6 deaths in Kut; and 185 cases and 118 deaths in Muntafique.

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

### PLAGUE

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

| Place | | Week ended— | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | September, 1927 | | | | October, 1927 | | | | | November, 1927 | | | | December, 1927 | |
| | | 3 | 10 | 17 | 24 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 | 26 | 3 | 17 |
| Algeria: | | | | | | | | | | | | | | | | |
| Oran | C | | 1 | | | | | | | | 1 | | 1 | | | |
| | D | | 1 | | | | | | | | | | | | | |
| Argentina: | | | | | | | | | | | | | | | | |
| Bahia Blanca | C | | | | | | | | | | | | | 1 | | |
| Cordoba | C | | | | | | | | | | | | | 10 | | |
| Firmat | C | | | | | | | | | | | | | | | 1 |
| Rosario | C | | | | | | | | | | | | | 1 | | 1 |
| Quilino | C | | | | | | | | | | | | | 1 | | |
| Unacha | C | | | | | | | | | | | | | | | 1 |
| Azores: | | | | | | | | | | | | | | | | |
| St. Michaels Island | C | | 1 | | 1 | 1 | | | 2 | 1 | | | | | | |
| | D | | 1 | | | 1 | | | | | | | | | | |
| British East Africa: | | | | | | | | | | | | | | | | |
| Tanganyiki | D | | | | 10 | 10 | | | | | | | | | | |
| Canary Islands: | | | | | | | | | | | | | | | | |
| Las Palmas | C | | | | | | 4 | 4 | 1 | | | 1 | | | | |
| Ceylon: | | | | | | | | | | | | | | | | |
| Colombo | C | 1 | | 1 | 1 | 2 | 3 | | | | | 3 | | | | |
| | D | 1 | | 1 | 1 | | | | | | | | | | | |
| China: | | | | | | | | | | | | | | | | |
| Manchuria— | | | | | | | | | | | | | | | | |
| Tungliao | C | | | | | | | P | | | | | | | | |
| Mongolia | D | | | | | | | 200 | | | | | | | | |
| Egypt: | | | | | | | | | | | | | | | | |
| Alexandria | C | 1 | | | | | | | | | | | | 5 | 2 | |
| | D | | | | | | | | | | | | | 5 | 2 | |
| Suez | C | | 1 | | | | | | | | | | | | | |
| Greece: | | | | | | | | | | | | | | | | |
| Mitylene | C | | | | 5 | | | | | | | | | | | |
| Patras | C | 2 | | | | 1 | | | | | 1 | | | | | |
| | D | | | | | 1 | | | | | 1 | | | | | |
| India | C | 403 | 1,087 | 612 | 608 | 655 | 715 | 920 | 956 | 812 | | | | | | |
| | D | 216 | 569 | 324 | 319 | 381 | 359 | 508 | 544 | 495 | | | | | | |
| Bombay | C | 3 | 1 | 1 | 2 | | 2 | | 2 | | | | | | | |
| | D | 2 | 1 | 1 | 1 | | 2 | | 1 | | | | | | | |
| Calcutta | C | 18 | | | | | | | | | | | | | | |
| | D | 10 | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Madras | C | 144 | 111 | 87 | 123 | 88 | 156 | 167 | 172 | | | | | | | | |
| | D | 76 | 62 | 43 | 49 | 60 | 72 | 72 | 84 | | | | | | | | |
| Rangoon | C | 2 | | 4 | | 3 | 4 | 1 | 3 | 5 | 2 | | | | | | |
| | D | 2 | | 4 | | 3 | 4 | 1 | 3 | 5 | 2 | | | | | | |
| Indo-China: | | | | | | | | | | | | | | | | | |
| Saigon | C | | 1 | 1 | | | | | | | | | | | | | |
| Java: | | | | | | | | | | | | | | | | | |
| Batavia | C | 18 | 14 | 17 | 21 | 24 | 33 | 42 | 31 | 41 | 29 | | | | | | |
| | D | 18 | 14 | 17 | 21 | 24 | 33 | 41 | 31 | 41 | 29 | | | | | | |
| East Java and Madura | C | 5 | 4 | 2 | 7 | 3 | 3 | 7 | 4 | | | | | | | | |
| | D | 5 | 4 | 2 | 7 | 3 | 3 | 7 | 4 | | | | | | | | |
| Senegal | C | | | | 129 | | | | | | | | | | | | |
| | D | | | | 75 | | | | | | | | | | | | |
| Baol | C | 32 | | 27 | 13 | 39 | | 56 | | | | | P | | | | |
| | D | 11 | | 15 | 7 | 26 | | 14 | | | | | | | | | |
| Cayor | C | 87 | 103 | 175 | 104 | 101 | 45 | 20 | 10 | 32 | 28 | 8 | P | | | | |
| | D | 27 | 58 | 90 | 58 | 57 | 16 | 10 | 5 | 20 | 4 | 4 | | | | | |
| Dakar | C | 9 | 5 | 5 | 1 | 1 | | | | | | | | | | | |
| | D | 4 | 4 | 3 | 1 | | | | | | | | | | | | |
| Louga | C | | | | 5 | | 8 | | | | | | | | | | |
| | D | | | | 4 | | | | | | | | | | | | |
| Rufisque | C | 4 | 9 | 2 | 1 | | | | | | | | | | | | |
| | D | 3 | 7 | 1 | 1 | | | | | | | | | | | | |
| Thies | C | 2 | | 2 | 5 | | | | | 1 | | | | | | | |
| | D | 2 | | 1 | 4 | | | | | | | | | | | | |
| Siam | C | | | | | | 1 | 11 | 1 | | | | | | | | |
| | D | | | | | | 1 | 8 | | | 1 | | | | | | |
| Bangkok | C | | | | | | 1 | | 1 | | 1 | | | | | | |
| | D | 1 | | | | | | | | | 1 | | | | | | |
| Turkey: | | | | | | | | | | | | | | | | | |
| Constantinople | C | | | | 1 | 1 | | | | | | | | | | | |
| | D | | | | | 1 | | | | | | | | | | | |
| Union of South Africa: | | | | | | | | | | | | | | | | | |
| Cape Province— | | | | | | | | | | | | | | | | | |
| Richmond District | C | | | | | | | | | 2 | | | | | | | |
| | D | | | | | | | | | 2 | | | | | | | |

| Place | | July | August | September | October | November |
|---|---|---|---|---|---|---|
| Ecuador: | | | | | | |
| Guayaquil | C | 5 | 7 | 3 | 4 | 9 |
| | D | | | | | 3 |
| Madagascar: | | | | | | |
| Ambositra | C | 6 | 1 | | | |
| | D | 6 | 1 | | | |
| Antisirabe | C | | 34 | 5 | | |
| | D | | 34 | 4 | | |
| Itasy | C | 14 | 11 | 21 | | |
| | D | 14 | 7 | 20 | | |

| Place | | July | August | September | October | November |
|---|---|---|---|---|---|---|
| Madagascar—Continued. | | | | | | |
| Moramanga | C | 5 | 4 | 3 | | |
| | D | 5 | 4 | 3 | | |
| Tananarive | C | 21 | 48 | 142 | | |
| | D | 19 | 43 | 127 | | |
| Peru | C | 8 | 11 | | | |
| | D | 7 | 6 | | | |
| Callao | D | 3 | | | | |

Algiers, Algeria, 2 cases, Oct. 11-20. Indo-China (French), 8 cases, Sept. 1-11; 5 cases, Sept. 11-20. Beirut, Syria, 1 case, Sept. 1-10.

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

### SMALLPOX

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

| Place | | Week ended— | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | September, 1927 | | | | October, 1927 | | | | | November, 1927 | | | | December, 1927 | | |
| | | 3 | 10 | 17 | 24 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 | 26 | 3 | 10 | 17 |
| Algeria: | | | | | | | | | | | | | | | | | |
| Oran | C | | | | | | | | | | 10 | 4 | 6 | 9 | | | |
| Arabia: | | | | | | | | | | | | | | | | | |
| Aden | C | | | | | | | | | | | | 1 | | | | |
| Brazil: | | | | | | | | | | | | | | | | | |
| Rio de Janeiro | C | | | 3 | | | | | | 1 | | | | | | | |
| | D | | | 6 | | | | | | 1 | | | | | | | |
| British East Africa: | | | | | | | | | | | | | | | | | |
| Tanganyiki | D | | | 8 | | | | | | | | | | | | | |
| British South Africa | C | | 18 | | | | | 44 | | | 10 | | | | | | |
| Northern Rhodesia | D | | | | | | | 1 | | | 23 | | | | | | |
| Canada | C | 18 | 34 | 25 | | 32 | 32 | 40 | 63 | 85 | 66 | 77 | 102 | 88 | 116 | 105 | |
| Alberta | C | 3 | 1 | 5 | 8 | 5 | 4 | 5 | 9 | 6 | 2 | 1 | 1 | 7 | 3 | 3 | |
| Edmonton | C | | | | | | | | | 1 | | | | 6 | | 1 | |
| British Columbia: | | | | | | | | | | | | | | | | | |
| Vancouver | C | 2 | | | | | | | | | | | | | | | |
| Manitoba | C | 2 | | 7 | | | 2 | | 5 | 3 | 14 | | 2 | 1 | 3 | 1 | |
| Winnipeg | C | | | 4 | | | 1 | | 1 | | | | 2 | | | | 1 |
| New Brunswick | C | | | 2 | | | | | | | | | | | | | |
| Nova Scotia | C | | | 1 | | | | 1 | | | | | | | | | |
| Halifax | C | | | | | | | 1 | | | | | | | | | |
| Ontario | C | | | 12 | 10 | 6 | 26 | 26 | 38 | 64 | 38 | 77 | 85 | 71 | 90 | 82 | |
| Hamilton | C | | | | | | | | | | | | | | 2 | | |
| Kingston | C | | | | | | | | | | | | 1 | | | | |
| Ottawa | C | 9 | 13 | 12 | 6 | 3 | 15 | 23 | 26 | 47 | 17 | 51 | 19 | 10 | 19 | | 34 |
| Toronto | C | | 1 | | 1 | | 3 | 1 | 6 | 2 | 16 | 3 | 13 | | 25 | 16 | |
| Windsor | C | | | | | | | 9 | | | | | | | | | |
| Quebec | C | | | | | | | | 8 | 7 | 3 | 12 | 3 | 8 | 5 | | |
| Montreal | C | | | | | | | | | | | 1 | | | | | |
| Reviere du Loup | C | | | | | | | | | | | | 3 | | | | |
| Saskatchewan | C | 13 | 33 | | 22 | 12 | | 8 | 11 | 5 | 12 | 2 | 14 | 9 | 15 | 19 | |
| Moose Jaw | C | | 9 | | 7 | | | | 3 | | | | | | | | |
| Regina | C | | | | | | 5 | | | | | 1 | | | | | |
| China: | | | | | | | | | | | | | | | | | |
| Chefoo | C | | | | 1 | | | P | | P | | | | | | | |
| | D | | | | 1 | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Foochow | C | | P | | | | | P | P | | P | | | | | | |
| Hong Kong | C | 2 | | | | | | | | | | | | | | | |
| | D | 1 | | 1 | | | | | | | | | | | | | |
| Manchuria— | | | | | | | | | | | | | | | | | |
| Fushun | C | | | 1 | | | | | | | | | | | | | |
| Mukden | C | | | | | 1 | | | 1 | 1 | | | | | | | |
| Pensihu | C | | | | | 1 | | | | | | | | | | | |
| Tientsin | C | | | | | 12 | | | 1 | 8 | | | | | | | |
| Egypt | C | 3 | | | | | | | | | | | | | | | |
| | D | 1 | | | | 1 | | | | | | | | | | | |
| Great Britain: | | | | | | | | | | | | | | | | | |
| England and Wales | C | 111 | 146 | 126 | 125 | 122 | 149 | 124 | 200 | 199 | 219 | 258 | 226 | 233 | 366 | | |
| Bradford | C | | | | | | | | | 1 | 5 | 3 | 2 | | | | |
| Bristol | C | | | | | | | | 6 | 1 | | | 3 | | 4 | | |
| Cardiff | C | | | | | | | | | 1 | | | | | | | |
| Leeds | C | 3 | | | | 3 | 1 | | 6 | 1 | 1 | 1 | 2 | | 3 | | |
| Manchester | C | | | | | | 1 | 2 | | | 1 | 1 | | | 5 | | |
| Newcastle-on-Tyne | C | | | | | 1 | | 5 | | 2 | | | 1 | 28 | 18 | | |
| Sheffield | C | | | | 1 | | 3 | | 4 | 4 | | | | | | | |
| India | C | 1,456 | 1,109 | 1,111 | 722 | 923 | 593 | 777 | 860 | 779 | | | | | | | |
| | D | 397 | 266 | 284 | 173 | 179 | 159 | 171 | 206 | 190 | | | | | | | |
| Bombay | C | 7 | 3 | 1 | 1 | 4 | 2 | | 4 | 2 | | 2 | | | | | |
| | D | 5 | 2 | 1 | | | | | 2 | 2 | | 1 | | | | | |
| Calcutta | C | 4 | 6 | 10 | 2 | | 4 | 1 | | | | | | | | | |
| | D | 2 | 5 | 5 | 2 | | 3 | 1 | 1 | | | | | | | | |
| Madras | C | 2 | | 3 | 2 | 3 | 1 | 2 | 2 | 3 | | 2 | 2 | 152 | | | |
| | D | | | 1 | 1 | | | | | 1 | | 1 | | 64 | | | |
| Rangoon | C | 2 | | 1 | 6 | 2 | 8 | | 7 | 4 | | | | | | | |
| | D | 1 | | | 1 | 1 | 1 | | 1 | 1 | | | | | | | |
| Indo-China: | | | | | | | | | | | | | | | | | |
| Saigon | C | | 1 | | | | | | | | | | | | | | |
| Iraq: | | | | | | | | | | | | | | | | | |
| Baghdad | C | | 1 | | | 5 | | | 2 | | | 5 | | | | | |
| | D | | 1 | | | 3 | | | 1 | | | 4 | | | | | |
| Basra | C | | | 4 | | | | 2 | | | | | | | | | |
| | D | | | 4 | | | | 2 | | | | | | | | | |
| Jamaica, outside Kingston (alastrim) | C | 2 | 2 | 2 | 3 | 1 | 4 | 4 | | 7 | | | | 1 | | | |
| Kingston (alastrim) | C | 2 | | 1 | | | 2 | | | | | | | | | | |
| Java: | | | | | | | | | | | | | | | | | |
| Batavia | C | | | | | 3 | | 1 | | | 25 | | | | | | |
| | D | | | | | | | | | | 15 | | | | | | |
| East Java and Madura | C | | 14 | 3 | 5 | 1 | | 7 | | | | | | | | | |
| | D | | | | | | | 1 | | | | | | | | | |
| Mexico: | | | | | | | | | | | | | | | | | |
| Guadalajara | D | | | | | | | | | | | | | 1 | | | |
| Torreon | D | | | | | 2 | | | | | | | | | | | |
| Portugal: | | | | | | | | | | | | | | | | | |
| Lisbon | C | 1 | | 1 | 1 | 1 | 4 | 1 | 2 | 1 | 2 | | | | | | |
| Oporto | C | | 1 | | | | | | | | | | | | | | |
| Siam | C | 24 | 3 | | | | 3 | 3 | | | | | | | | | |
| | D | 14 | 1 | | | | | | | | | | | | | | |

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

### SMALLPOX—Continued

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

| Place | Week ended— | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September, 1927 | | | | October, 1927 | | | | | November, 1927 | | | | December, 1927 | | |
| | 3 | 10 | 17 | 24 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 | 26 | 3 | 10 | 17 |
| Spain: | | | | | | | | | | | | | | | | |
| Malaga D | | | | | | | | | | | | 1 | | | | |
| Valencia C | | | | | 1 | | | | | | | | | | | |
| Union of South Africa: | | | | | | | | | | | | | | | | |
| Cape Province C | | | | | | P | | | | | | | | | | |
| Venezuela: | | | | | | | | | | | | | | | | |
| Maracaibo D | | | 2 | | | 1 | | | | | | | | | | |

| Place | September, 1927 | | | October, 1927 | | |
|---|---|---|---|---|---|---|
| | 1-10 | 11-20 | 21-30 | 1-10 | 11-20 | 21-31 |
| Algeria C | 110 | 162 | 110 | 182 | 386 | |
| Oran C | 4 | | 12 | 6 | | 5 |
| India, French Settlements in: | | | | | | |
| Karikal C | | | | 1 | | |
| D | | | | 1 | | |

| Places | September, 1927. | | | October, 1927 | | |
|---|---|---|---|---|---|---|
| | 1-10 | 11-20 | 21-30 | 1-10 | 11-20 | 21-31 |
| India, French Settlements in—Con. | | | | | | |
| Pondicherry C | 11 | 8 | 2 | 16 | | |
| D | 11 | 8 | 2 | 16 | | |
| Indo-China C | 6 | 6 | 9 | | 4 | |
| Syria: Damascus C | | 1 | 4 | 14 | 8 | |

| Place | July | August | September | October | November |
|---|---|---|---|---|---|
| Angola C | 42 | 2 | 5 | | |
| Brazil: Porto Alegre C | 5 | 3 | 3 | | |
| Chosen C | 19 | 2 | | | |
| D | 6 | | | | |
| Ecuador: Guayaquil C | | 2 | 2 | 1 | 1 |
| France C | 23 | 6 | 8 | | |

| Place | July | August | September | October | November |
|---|---|---|---|---|---|
| Gold Coast C | 1 | 1 | | | |
| Latvia C | | | | 2 | |
| Mexico D | 93 | | | | |
| Morocco C | | 76 | 51 | | |
| Nigeria C | 492 | 91 | | | |
| D | 91 | 20 | | | |

## TYPHUS FEVER

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

| Place | | Week ended— | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | September, 1927 | | | | October, 1927 | | | | | November, 1927 | | | | December, 1927 | |
| | | 3 | 10 | 17 | 24 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 | 26 | 3 | 10 |
| Algeria: | | | | | | | | | | | | | | | | |
| Algiers | C | | | | | | | | | | | | | 1 | | |
| Bulgaria: | | | | | | | | | | | | | | | | |
| Sofia | C | | | | | 8 | 4 | 3 | 2 | 3 | 1 | 2 | | | | |
| | D | | | | | | | | | | 1 | | | | | |
| Chile: | | | | | | | | | | | | | | | | |
| Antofagasta | C | | | | | | | | | | | | | | | |
| | D | | | | | 1 | | | | | | | | | | |
| Valparaiso | C | 1 | | | | | | | | | | | | | | |
| | D | 1 | | | | | | | | | | | 1 | | | |
| China: | | | | | | | | | | | | | | | | |
| Tientsin | C | | | | 2 | | | | | | | | | | | |
| Egypt | C | | | | | 3 | 3 | 5 | 1 | | 4 | | | | | |
| | D | | | | | 2 | 1 | 1 | 1 | | | | | | | |
| Port Said | C | | | | | 1 | | | | | | | | | 1 | |
| Ireland: | | | | | | | | | | | | | | | | |
| Cork County | C | | | | | | | | | | | | | | | 3 |
| Donegal County— | | | | | | | | | | | | | | | | |
| Letterkenny | C | | | | | | | | 4 | | | | | | | |
| Mexico: | | | | | | | | | | | | | | | | |
| Mexico City (including municipalities in Federal District) | C | 9 | 4 | 1 | 5 | 7 | | 3 | 8 | 9 | 6 | 12 | 11 | 7 | | |
| | D | | | | | | | | | | 2 | | | | | |
| Palestine | C | 3 | | 5 | | | 3 | | | | | | 2 | 3 | 1 | |
| Haifa | C | | | | | | 2 | | | | | | 1 | 1 | | |
| Herzliah | C | | | | | | | | | | | | | 1 | | |
| Jaffa | C | | | | | 1 | | | | | | | | 1 | | |
| Nazareth | C | | | | | | | | | | | | 1 | | | |
| Safad | C | | | | | | | | | | | | | 1 | | |
| Tel-Aviv | C | | | | | | 1 | | | | | | | 1 | 1 | |
| Poland | C | 12 | 5 | 12 | 6 | 10 | 9 | | | 35 | | | | | | |
| | D | | | 2 | | 3 | 1 | | | 6 | | | | | | |
| Portugal: | | | | | | | | | | | | | | | | |
| Oporto | C | | | | | | | | | 1 | | | | | | |
| Rumania | C | 2 | 2 | 9 | 3 | 5 | | | | | | | | | | |
| | D | | | | | 1 | | | | | | | | | | |
| Syria: | | | | | | | | | | | | | | | | |
| Aleppo | C | | | 2 | | | | | | | | | | | | |

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

### TYPHUS FEVER—Continued

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

| Place | Week ended— | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | September, 1927 | | | | October, 1927 | | | | | November, 1927 | | | | December, 1927 | | |
| | 3 | 10 | 17 | 24 | 1 | 8 | 15 | 22 | 29 | 5 | 12 | 19 | 26 | 3 | 10 | |
| Tunisia C | | | 1 | | | | 2 | 1 | | | | | | | | |
| Union of South Africa: | | | | | | | | | | | | | | | | |
| Cape Province C | P | | | | P | P | P | P | | | | | | | | |
| Natal C | | | | | | | | P | | | | | | | | |
| Orange Free State C | | | | | P | | | | | | | | | | | |
| Transvaal— | | | | | | | | | | | | | | | | |
| Johannesburg C | | | | | | | 5 | | | | | | | | | |

| Place | | September, 1927 | | | October, 1927 | | Place | | September, 1927 | | | October, 1927 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1-10 | 11-20 | 21-30 | 1-10 | 11-20 | | | 1-10 | 11-20 | 21-30 | 1-10 | 11-20 |
| Algeria | C | 5 | 3 | 2 | 7 | 4 | Bulgaria | C | 5 | 1 | 1 | | |
| | D | | | | | 1 | | D | | 1 | 1 | | |
| Algiers | C | 1 | 5 | | 1 | 1 | Morocco | C | 3 | 2 | 2 | 6 | 4 |

| Place | | July | August | September | October | Place | | July | August | September | October |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chosen | C | 72 | 17 | | | Latvia | C | 6 | | | |
| | D | 8 | | | | Mexico | C | | | | |
| Chemulpo | C | 1 | 2 | | | | D | 12 | | | |
| Gensan | C | 2 | | | | Peru: | | | | | |
| Seoul | C | 2 | 3 | | 2 | Arequipa | D | | 2 | 1 | 2 |
| | D | 1 | | | 1 | Lima | D | 8 | | | |
| Czechoslovakia | C | 6 | | | | Yugoslavia | C | 11 | 9 | | 1 |
| Japan | C | 1 | | | | | D | 4 | 1 | | |

## YELLOW FEVER

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

| Place | | Week ended— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | September, 1927 | | | | October, 1927 | | | | November, 1927 | | |
| | | 3 | 10 | 17 | 24 | 1 | 15 | 22 | 29 | 5 | 12 | 19 |
| Liberia: Monrovia | C | | 1 | | | | | | | | | |
| Nigeria | C | | | 2 | | | | | | | | |
| | D | | | 2 | | | | | | | | |
| Senegal | C | | | | | 5 | | 5 | 9 | 16 | 6 | 7 |
| | D | | | | | 5 | | 4 | 8 | 10 | 4 | 6 |
| Dakar | C | | | P | | | | | 3 | 6 | | 5 |
| | D | | | | | | | | 2 | 4 | | 4 |
| Geoul | C | | | | | 1 | | | | | | |
| | D | | | | | 1 | | | | | | |
| Goree, Island of | C | 2 | | | | | | | | | | |
| | D | 2 | | | | | | | | | | |
| Kebemer | C | | | | | | 1 | 1 | | | | |
| | D | | | | | | 1 | 1 | | | | |
| Khombole | C | | | | | 1 | | | | | | 1 |
| | D | | | | | 1 | | | | | | 1 |
| Kelle | C | | | | | | 2 | | 1 | | | |
| | D | | | | | | 1 | | 1 | | | |
| Keur Samba Kane | C | | | | | | | | 1 | 1 | | |
| | D | | | | | | | | | 1 | | |
| Keur Madiop | C | | | | | | | | 1 | | | |
| | D | | | | | | | | 1 | | | |
| Louga | C | | | | | 1 | | | 2 | 1 | 1 | |
| | D | | | | | 1 | | | 2 | 1 | 1 | |

| Place | | Week ended— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | September, 1927 | | | | October, 1927 | | | | November, 1927 | | |
| | | 3 | 10 | 17 | 24 | 1 | 15 | 22 | 29 | 5 | 12 | 19 |
| Senegal—Continued | | | | | | | | | | | | |
| Mekhe | C | | | | | | | 1 | 1 | 2 | 2 | |
| | D | | | | | | | | 1 | 1 | 1 | |
| M'Dande | C | | | | | | | 1 | | 2 | 1 | |
| | D | | | | | | | 1 | | 1 | | |
| Pout | C | | | | 1 | | | | | | | |
| | D | | | | 1 | | | | | | | |
| Rufisque | C | | | | | | 1 | | | | | |
| | D | | | | | | 1 | | | | | |
| St. Louis | C | | | | | 1 | | | | | | |
| | D | | | | | 1 | | | | | | |
| Sebikotane | C | | | | | | | 1 | | 2 | 1 | |
| | D | | | | | | | 1 | | | 1 | |
| Thies | C | | | 1 | 2 | 1 | | 1 | 1 | 2 | 1 | 1 |
| | D | | | 1 | 2 | 1 | | 1 | 1 | 2 | 1 | 1 |
| Tiaroye | C | 1 | | | | | | | | | | |
| | D | 1 | | | | | | | | | | |
| Tivaouane | C | | 1 | | | | | | | | | |
| On vessel, S. S. Desirado, at Leixoes, Portugal | C | | | 1 | | | | | | | | |
| | D | | | 1 | | | | | | | | |

| Place | | July | August | September | October |
|---|---|---|---|---|---|
| Gold coast | C | 15 | 2 | 6 | 1 |
| | D | 4 | 2 | 4 | 1 |