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A STUDY OF THE POLLUTION AND NATURAL PURIFICATION OF THE ILLINOIS RIVER

In pursuance of its policy in research investigations of stream pollution and natural purification phenomena, the United States Public Health Service, in cooperation with the Sanitary District of Chicago, instituted a study of the Illinois River, the field work of which was carried out during the years 1921–22. Surveys were made to ascertain the sources and amounts of polluting materials discharged into the stream, hydrographic features of the river and its main tributaries were ascertained, and laboratory observations were made over a period of about a year to determine the chemical, bacteriological, and biological condition of the river water throughout the stream length. The report on these features of the study has just been issued as Public Health Bulletin No. 171.

The natural drainage area of the Illinois River, comprising a total of 28,344 square miles, has been increased by the construction of the Chicago Drainage Canal, through which the combined sewage of Chicago, with dilution water diverted from Lake Michigan, is discharged into the headwaters of the river. Of a total population on the watershed of nearly 3,400,000, over 80 per cent, or approximately 2,800,000, thus contribute sewage through the canal. Industrial waste pollution amounting, in terms of population equivalents, to about 67 per cent of the total of the watershed, originates from the same source. The volume of flow of the Chicago Drainage Canal, averaging 8,650 second-feet during the period of the field studies, amounted to over 30 per cent of the mean discharge of the river at a point 23 miles above its mouth. The proportionately large and relatively constant volume of water discharged into the headwaters of the river has the effect of stabilizing its velocity of flow to a marked extent.

For observing progressive changes in the chemical and bacterial content of the river water throughout the stream length, sampling stations were located at intervals not exceeding 25 miles apart, samples being collected and examined from each station three or six times each week. The samples were examined at four laboratories located, respectively, at Joliet, Peoria, Beardstown, and Kampsville.

The observations, including those of turbidity, alkalinity, dissolved oxygen, oxygen demand, and bacteriological tests (including plate counts at 20° C. and 37° C. and *B. coli* index), were made on all individual samples collected. Sanitary chemical analyses, including oxygen consumed and nitrogen in its various forms, were made of composited samples preserved with sulphuric acid. From selected points, samples of river water and of bottom sediment were collected and examined regularly for plankton content.

From the sanitary chemical analyses it is estimated that 7 to 8 per cent of the water flowing into the Illinois River through the Chicago Drainage Canal is sewage, 93 to 92 per cent being dilution water. The total nitrogen content of the river water appears to remain fairly constant throughout the year. No nitrates appear to be produced above Peoria, especially in the summer. In general, the progressive changes observed in the nitrogenous constituents of the water were not sufficiently great to be significant. The oxygen relationships, which provide a more sensitive index of conditions related to nuisance causation, will be discussed in a later report.

The numbers of bacteria in Illinois River water and their progressive changes, which provide an extremely sensitive index of the sanitary condition of the water and of its rate of natural purification, were studied in considerable detail, both from the viewpoint stated and from that of comparing the rates of bacterial change observed in this stream with those previously observed in the Ohio River, under various seasonal and other physical conditions.

These observations, continued throughout an entire year, have supplied sufficient information to permit evaluating the excessive bacterial pollution of the river by the wastes of Chicago. The density of bacteria is reduced very rapidly in the upper reaches of the river and, progressing downstream, at slower rates until at Peoria the average numbers growing on agar seldom exceed 4,000 per c. c. in summer and 2,000 per c. c. in winter. Pollution contributed by the Peoria district again imposes a considerable bacterial load on the stream, likewise tending to diminish at subsequent downstream points, until, at the mouth, the bacterial content of the Illinois compares quite favorably with that of the Mississippi River at the junction.

The rates at which the bacteria decrease are dependent on seasonal temperatures, being much more rapid in summer than in winter. When necessary corrections are made for pollution added by tributaries and intermediate cities, these rates are quite well defined by the observational data and may be represented, in general, by smooth curves fitted to the observations and plotted with respect to the time of flow elapsing between successive sampling points. Such curves, though having the same general characteristics as those

found to fit similar observations made on the Ohio River, are yet distinctive in that the initial rates of decrease are more precipitous as a rule. However, when the differences in initial bacterial concentrations are taken into consideration and the curves adjusted for this condition, they are more nearly comparable.

Public Health Bulletin No. 171, containing the detailed report, may be purchased from the SUPERINTENDENT OF DOCUMENTS, Government Printing Office, Washington, D. C., at 50 cents per copy.

SMALLPOX VACCINATION BY THE PRESSURE METHOD AT LEHIGH UNIVERSITY [1]

As the result of a smallpox scare at Lehigh University in February, 1924, a rule was adopted requiring every student who matriculated at the university to be vaccinated by the Students' Health Service, unless he had been successfully vaccinated within the past three years. * * *

In the fall of 1924 vaccination was offered but not required and the technique which we called "jennerian" was developed. This technique is practically that which was recommended by the United States Public Health Service and the Medical Department of the United States Army. * * *

In September, 1925, the university vaccination requirement became effective, and it was necessary to vaccinate more than 1,000 students. The jennerian technique had seemed satisfactory and this was followed in the majority of cases. * * *

The results obtained during the scholastic year 1924-25 were discussed with the officials of the United States Public Health Service. Here we encountered the natural criticism of the use of any dressing following vaccination. It was mainly to overcome this objection that we tried out, in a limited number of cases, the "pressure" method suggested by Dr. J. P. Leake, surgeon, United States Public Health Service. Doctor Leake's directions are as follows:

THE PRESSURE TECHNIQUE

A simple method is a shallow, tangential pricking of the cleansed but not irritated skin with a needle, through a drop of smallpox vaccine, covering an area not greater than one-eighth inch (3 mm.) in diameter. This gives little chance of accidental infection, and the eruption is typical. The needle, which should be new, sharp, and sterile, is not thrust into the skin, but is held quite parallel with or tangential to it, with the forefinger and middle finger of the right hand above the needle and the thumb below, the needle pointing to the

[1] Excerpts from a paper on "The Pressure Vaccination Technic," by Stanley Thomas, M. S., Associate Professor of Bacteriology, Lehigh University, and R. C. Bull, M. D., Director, Students' Health Service, Lehigh University, Bethlehem, Pa., published in the Journal of the American Medical Association, Vol. 88, No. 24, June 11, 1927, pp. 1879-1881.

operator's left. The needle should be crosswise of the arm, so that the thumb of the operator is not impeded by hitting the skin. The side of the needle point is then pressed into the drop about thirty times within five seconds, the needle being lifted clear of the skin each time. This rapid to and fro motion of lifting the needle and pressing it against the skin should be quite perpendicular to the skin and needle and not in the direction of the needle. In this way the elasticity of the skin will pull a fraction of an inch of the epidermis over the point of the needle at each pressure so that the vaccine is carried into the deeper layer of epithelial cells where multiplication takes place most easily. If the skin has not been unduly rubbed in cleansing, and if the motion is entirely perpendicular to the needle, no signs of bleeding will occur and all evidence of the punctures will fade out in less than six hours. Immediately after the punctures have been made, the remaining virus is wiped off the skin with sterile gauze and the sleeve is pulled down, the whole operation of puncturing and wiping taking less than 10 seconds. With strong vaccine a single pressure not infrequently gives a "take." Only six pricks or punctures were formerly advocated. Comparative tests showed this to be inferior to the scratch method in the percentage of successful "takes." By the use of 30 pricks, this difficulty has been overcome and the percentage of "takes" is as high as with any other safe method.

The disadvantages of this method, which it shares with some other methods, are, first, that without demonstration and practice the technique of applying the proper pressure may not easily be acquired, and, second, that without due care an area larger than one-eighth inch (3 mm.) in diameter may be covered by the insertion. In regard to the first point, the difficulty is usually that the needle is not pressed in the right direction or that the pressure is not firm enough. Provided the needle is held quite tangential to the curve of the arm, and the direction of motion is quite perpendicular to the needle, it is difficult to make the rapid pressure too firmly. In regard to the second point, motion from the wrist with the arm held rigid is usually more accurate than whole-arm motion.

The advantages of the method are its mildness and painlessness, the fact that it is more rapid than any other effective and safe method, the fact that no control site is necessary, since the evidence of trauma due to the operation has disappeared before the first observation for an early reaction is made, and the fact that the virus is wiped off immediately, so that the uselessness of a dressing is obvious to the person vaccinated.

The foregoing method is known by us as the pressure technique, and the fact that they were vaccinated by this method was noted on the men's vaccination record cards. As we had gotten very satisfactory results by our "jennerian" technique we were loathe to depart from it and therefore used the new technique in the vaccination of every tenth man only.

It became apparent immediately that the "pressure" technique had the practical advantage of saving considerable time. In the "jennerian" method the care necessary to avoid drawing blood, to make the degree of trauma the same in all three incisions, to rub in the virus, and to apply the dressing, took nearly 45 seconds for each man. By the "pressure" technique a man was vaccinated and on his way in less than one-fourth of this time. Moreover, the obvious ease of the method from the point of view of both the operator and the person being vaccinated was apparent to those

vaccinated, and it was not unusual to have men standing in line ask to be vaccinated by what they called the "new method."

It was not until we tabulated the results of nearly a thousand vaccinations that we could draw a comparison of the efficacy of the "jennerian" and "pressure" methods. Table 1 shows the comparative results obtained by these two different methods of vaccination.

TABLE 1.—*Comparative results of "jennerian" and "pressure" methods of vaccination*

	"Jennerian"		"Pressure"		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Immune reactions	576	65.6	71	66.4	647	65.7
Vaccinoid reactions	200	22.8	24	22.4	224	22.7
Vaccinias	102	11.6	12	11.2	114	11.6
Total	878	100.0	107	100.0	985	100.0

CONCLUSIONS

1. Of the methods employed by us for vaccination against smallpox, the pressure technique has been shown to be as efficacious as any other in inducing vaccinias in susceptible persons.

2. The pressure technique has the advantage of saving time in vaccinating a large number of persons in a short time.

3. The pressure technique overcomes the objection to the use of a dressing following vaccination and makes the dressing or shield obviously unnecessary.

4. The pressure method is more desirable from the point of view of the vaccinated person.

From these results it is our intention to adopt the pressure technique as the sole method of compulsory vaccination at Lehigh University. At the opening of college next September it will be necessary to vaccinate about 500 students. The time allowed in the schedules for the work is two hours. With sufficient clerks to make the records, two operators will easily accomplish this, using the pressure technique.

(EDITORIAL NOTE.—The pressure technique was demonstrated by Doctor Leake, as part of the scientific exhibit of the United States Public Health Service, at the meetings of the American Medical Association, in Washington, D. C., May 16–20, 1927.)

REGISTRATION OF STILLBIRTHS IN GREAT BRITAIN

The British Ministry of Health has recently issued a circular addressed to the local authorities calling attention to the births and deaths registration act of 1926, which went into effect July 1, 1927, especially to that part of the act which pertains to the registration of stillbirths.

The act requires that, when a stillbirth is registered, the relatives giving information must either (1) deliver to the registrar of births and deaths a written certificate that the child was not born alive, signed by a registered medical practitioner or certified midwife who was in attendance at the birth or who examined the body of the infant; or (2) must make a declaration in the prescribed form to the effect that no registered medical practitioner or certified midwife was present or examined the body or that his or her certificate can not be obtained, and that the infant was not born alive.

When such certificate is not obtainable and the case is called to the attention of the local health authorities, the medical officer of health is instructed to investigate and inform the registrar. In view of the fact that it is undesirable to register stillbirths on the relatives' declarations only, the local authorities are requested to notify midwives of the importance of giving the relatives the prescribed certificate in every case in which they attend, if no such certificate was procured from a registered medical practitioner.

A stillborn infant may not be buried in a burial ground until a certificate of registration of the stillbirth has been obtained from the registrar.

For the purposes of the act, stillbirth is defined as follows:

"Stillborn" and "stillbirth" shall apply to any child which has issued forth from its mother after the twenty-eighth week of pregnancy and which did not at any time after being completely expelled from its mother breathe or show any other signs of life.

INDUSTRIAL MEDICINE CLINIC AT McGILL UNIVERSITY

At the opening of the next academic year at McGill University there will be established a new clinic in industrial medicine at the Montreal General Hospital under the direction of the faculty of medicine of McGill University. This clinic will serve as a training school for physicians in industry, take charge of industrial accidents and diseases, and will educate men to direct health services as well as to supervise the care of men in factories, department stores, and industries in general.

PUBLIC HEALTH ENGINEERING ABSTRACTS

Garbage Collection. W. H. Taylor, Norfolk, Va. Seventh National Conference, International Association of Street Sanitation Officials, January 10–11, 1927, pp. 22–35. (Abstract by J. L. Robertson.)

This article deals with the routing of collection equipment after a study of collections had been made.

For collections the city is divided into two sections, and in each section collections are regulated and supervised by foremen. Wagons or trailers, hauled by horses or mules, are used in the business sections, because of narrow streets; in other sections, collections are made by trucks and trailers. A system of "spotting" trailers is used, and tractors are used to carry empties to designated points and pick-up loaded trailers. In some sections the collections of waste paper are made by specially built wagons.

New 800-ton Incinerator for Los Angeles, Calif. Anon. *Western Construction News*, vol. 2, No. 7, April 10, 1927, pp. 51–52. (Abstract by E. A. Reinke.)

An 800-ton Nye odorless garbage incinerator is under construction in Los Angeles. It will be used for unsalable rubbish. Garbage is now being sold for hog feed for 60 cents per ton, f. o. b. cars. Domestic noncombustible refuse is also sold for recovery of tin and pressing scrap steel for sale to steel works. Various other materials such as bottles are sold, and all dead animals are sold to fertilizer works. The new plant will handle all unsold material.

The 800-ton capacity is based on 24 hours' operation. The total cost is $370,000. Guaranteed capacity is 65 per cent by weight of garbage consisting of market refuse, and 35 per cent by weight of rubbish. Furnaces or retorts are of the beehive type, with two connected to a common flue and stack. Air for combustion is taken from a preheated duct paralleling the flue.

The New Refuse Disposal Plant in Buffalo, N. Y. Joseph H. Nichols. *The American City*, vol. 36, No. 3, March, 1927, pp. 303–306. (Abstract by Charles R. Cox.)

A 500-ton Heenan incinerator plant was placed in use recently in Buffalo. The building is constructed to allow the wagons and trucks to pass through the plant without turning. Two 3½-ton electric traveling cranes, equipped with 2-cubic-yard clamshell buckets, transfer the refuse from the receiving bin to the charging hoppers. The five Heenan furnaces are fitted with grates having a dumping section. The ashes are dumped into the ash pits, from which they are removed to the ash tunnel by an attendant. The dust nuisance in the stoking room is thereby eliminated. Dead animals may be introduced into the combustion chamber through a door provided for the purpose. Forced draft of preheated air insures the maintenance of combustion temperatures of 1,800° F.

International Health Yearbook, 1925. Report of the League of Nations Health Organization. Malaria. (Abstract by A. L. Dopmeyer.)

Bulgaria.—There were 13 malarial districts in 1925, 14 per cent of the population of which were noted to have malaria. Ninety-one thousand nine hundred and ninety-seven blood tests were made, 30 per cent of which gave positive results. Population of the districts was 661,756. The death rate from malaria in the districts was 4 per 10,000. *Anopheles maculipennis* was observed in 95 per cent of the cases. Twelve thousand liters of petroleum were used on stagnant waters. Next year petroleum will be replaced by Paris green. Eighteen hundred square meters of wire netting were used for protecting dwellings. Attempts to destroy mosquitoes in winter were made with poor results, due to lack of experience and propaganda. The morbidity among persons having taken quinine as a preventive measure was 8.5 per cent as compared with 28 per cent among other persons.

Italy.—A table shows the number of deaths and the death rate per million from 1887 to 1923. The maximum death rate is 710 per 1,000,000 population, for 1887, and the minimum 57, for 1914. The figure for 1923 is 87, but there is apparently an increase over this in 1924, the figure not being given.

The distribution of quinine is now being handled by the Provinces instead of the communes. The control of the trade in quinine and in various pharmaceutical remedies against malaria has been made more stringent. The suggestion that secondary alkaloids of cinchona bark be used in the treatment and prophylaxis of malaria is under consideration. A survey of all *Anopheles* foci in the Provinces of Sicily and Sardinia is being undertaken.

Netherlands.—The destruction of larvae by paraffining the ditches has been carried out on a large scale at Alkmaar and Amsterdam. The Scientific Commission is of the opinion that this process is not to be recommended for low-lying country. The commission states that its work was hindered by the sale of quinine pills and tablets by druggists, grocers, etc.

Poland.—An investigation was made by the State Institute of Hygiene in certain places which were considered to be very malarious, in order to collect data concerning the incidence of malaria. The investigation comprised the determination of the spleen rates and the detection of carriers of the malaria parasite. Out of 11,200 children examined, 9.47 per cent had enlarged spleen. Of 1,342 blood specimens, 11.62 per cent were infected with plasmodium vivax.

Rumania.—During 1925 there were 164,262 cases of malaria recorded. Experiments to determine the efficacy of the alkaloids of quinine have been carried out, as have also experiments with stovarsol. Increase was noted in the practice of systematically administering preventive doses of quinine to the frontier guards and gendarmes of the malarial districts, particularly on the frontiers exposed to inundations.

Union of Socialist Soviet Republics.—The Russian Federal Republic has 124 antimalaria stations and the Ukraine 29. The Union purchased 75,000 kilograms of quinine, and the health organizations have published large quantities of popular literature on the subject of malaria.

United States of North America.—The only development relating to the prophylaxis of malaria in 1925 is the increased use of quinine as a curative rather than a prophylactic measure. The most important development for combating malaria is the perfection of methods for the use of Paris green as a larvicide. An improvement in oil-spraying apparatus was made by the use of an air tank attached to the oil tank. An air pressure of 250 pounds can be developed.

The important activities of the individual States are: (1) The organization of county health units in the South and the development of interest by the county health officer in the malaria problem; (2) the improvement in the collection of malaria statistics.

A New Means of Combating Anopheles in Italy: An Account of the Acclimatization and Progress of Gambusia. Dr. Maximus Sella. Extrait du Compte Rendu du premier Congrès International du paludisme. Rome, 1926. 16 pages. (Abstract by S. F. Hildebrand.)

The author gives a review of the value of indigenous fishes as eradicators of mosquito larvæ and concludes: "For my part I am perfectly convinced that there do not exist any fishes of our own country (or probably in southern Europe) which can be employed efficaciously in the antimalaria fight." Then reference is made to the arrival of "some hundreds" of *Gambusia*, in 1921, at Madrid, Spain, which had been shipped from the United States (U. S. Fisheries Station, Edenton). The fish were placed in a pond near Madrid, and a year later this pond and the communicating streams were "crowded" with *Gambusia*. Two or three hundred were then transferred to Italy, arriving in Rome in 1922. These

fish were divided into four lots. They multiplied rapidly, and the following April the effects became evident, for "the Lago di Porto, which had been swarming with mosquito larvae in previous years, now only rarely presented a specimen."

Gambusia multiplied and invaded canals and other waters. It is reported that they have been liberally distributed over many parts of Italy, and they have been introduced from Italy directly, or indirectly, into Germany, Russia, and Yugoslavia. The opinion is expressed that *Gambusia* multiply more rapidly in Italy than in the place of their origin—the United States.

The author says: "After four and three years, respectively, from the time of importation of *Gambusia* in Spain and in Italy, we have to thank the United States for the precious gift which they have made us, the value of which we no longer doubt." The conclusions are that complete mosquito control is obtainable, if there is complete control of vegetation. Vertical vegetation leaves to *Gambusia* the possibility of complete destruction. Horizontal vegetation often prevents complete control. The relative degree of control in the presence of such vegetation, however, depends on the number of fish present. In some extensive zones not a drop of petroleum has been used, yet the mosquitoes have been reduced to a minimum this year (1925), something never before obtained."

A reduction in malaria incidence also is reported. The author concludes: "The results of this initial period warrant, therefore, the affirmation that, in *Gambusia*, Italy acquired a new means for the reduction of the larvae of the *Anopheles*."

The Tsetse Fly-belt Area in the Nuba Mountains, Province of the Sudan. R. G. Archibald. *Annals of Tropical Medicine and Parasitology*, vol. 21, No. 1, March 25, 1927, pp. 39–43. (Abstract by A. H. Wieters.)

The article briefly describes a tsetse-fly belt area in the Koalit Hills of the Nuba Mountains Province, which is the most northern tsetse-fly belt in the Sudan.

The infested area is very small, and to the south are vast areas free from flies. The fly is not generally distributed in the hills. They appear to be independent of water and apparently depend upon the domestic stock for their main food supply.

No cases of human trypanosomiasis have been recorded from this district, although there is some trypanosome infection among the stock of the hills.

Study of Effects of Disinfection of Sewage with Chlorine. Roy J. Morton. Unpublished thesis, University of Harvard, June, 1926. 71 pages, typewritten manuscript. (Abstract by J. K. Hoskins.)

The literature on chlorine disinfection of sewage is reviewed in this paper and certain topics are reinforced with experimental data, the results of which are discussed in some detail.

The nature of the process of chlorine disinfection is first briefly described, after which the following subjects are taken up in order: (1) Disappearance of free chlorine in water and sewage; (2) methods of determining amounts of excess chlorine in sewage; (3) effect of chlorine in reducing the bacterial content of sewage; (4) effect of chlorination upon stability and nuisance from odor and flies; and (5) effect of chlorination upon the biochemical oxygen demand of sewage.

The rate of disappearance of chlorine varies in different sewages and waters. A measure of the amount of excess chlorine present in a chlorinated effluent after a stated period of contact would therefore seem to be advisable, because the efficiency of disinfection is dependent upon the amount of residual chlorine. Methods for determination of excess chlorine are discussed, but no entirely satisfactory procedure is available.

The amount of chlorine necessary for disinfection depends on many factors, such as season of year, nature of sewage, whether crude, clarified, fresh, or septic, etc. Generally the dose varies from about 3 to 18 p. p. m. For disinfection, a residual of 0.5 p. p. m. of chlorine after 30 to 60 minutes' contact is required to effect a reduction of 90–99 per cent in the bacterial content. After the residual chlorine has disappeared or the effluent has been diluted, the bacterial content increases rapidly for from 24 to 72 hours and to a higher maximum than obtained in the untreated sewage. *B. coli* does not share in this increase to the same extent as the plate counts.

Considerable study was devoted to the effect of chlorination on the oxygen demand of sewage. In general, the results indicated that chlorination tended to reduce somewhat the 10-day oxygen demand.

Observations of Sewage Disposal Plants in England. S. W. Freese. Proceedings of the Ninth Texas Water Works Short School, Texas Section, Southwest Water Works Association, pp. 349–352. (Abstract by Chester Cohen.)

The plain sedimentation sprinkling filter method of sewage treatment plant appears to be the most standard type in England. The removal of the sludge with "fiddler scrapers" permits the disposal of the sludge onto the land or into separate sludge digestors. Where sprinkling filters are used, the distribution is accomplished usually through traveling distributing pipes on square beds or rotating pipes on round beds. Since 1915 the activated sludge type for sewage purification has almost completely replaced all other types for new projects or additions to old plants. The different processes of activated sludge and bio-aeration or mechanical activation are explained, and examples of each are given, together with the operating and design problems that influence the design in different cases.

The Sewage Treatment Works, Wichita Falls, Tex. Julian Montgomery. Proceedings of the Ninth Texas Water Works Short School, Texas Section, Southwest Water Works Association, pp. 294–297. (Abstract by Chester Cohen.)

The sewage-treatment works now being constructed at Wichita Falls consist of a river siphon, a pump station, screen and grit chamber, four Imhoff tanks, sludge drying beds, dosing tanks, trickling filters, and a final settling tank equipped with Dorr clarifier. The installation is designed to handle about 3,000,000 gallons of domestic sewage per day, which allows for liberal future increase in the present average flow of 1,750,000 gallons per day. Three automatically controlled Wood trash pumps of one, two, and three million gallons per day capacity, respectively, are used. A 23-foot screen chamber, with movable bar screen spaced with one inch openings, is provided. The Imhoff tanks are designed to give a normal retention period of two hours, and the sludge digestion chamber is designed to allow 2 cubic feet of sludge capacity per person. An arrangement of perforated cast iron pipe for agitation of the sludge is provided in the digestion compartment, and a surface sprinkling arrangement to remove scum, grease, and trash from the settling chamber is part of the system. A gas vent area of 21.6 per cent of the total area has been provided, and the ratio between square feet of gas vent area and the cubic feet in the sludge digestion chamber is 0.013. Sludge drying bed area equals one square foot per three persons. The cycle on the sprinkling filter for average flow is expected to be four minutes and nine seconds, and the resting period nine minutes. Sprinkling filter beds will be 8 feet deep, and the dosing rate will be 2 m. g. per acre per day, or 4,000 contributing population per acre foot. The final settling tank provides a retention period of one hour, and settled sludge removed by the Dorr clarifier will be returned to the pump sump to be mixed with incoming sewage.

Chlorination reduces foaming in Imhoff tanks. Chester Cohen. *Engineering News-Record*, vol. 98, No. 14, April 7, 1927, pp. 563-564. (Abstract by H. V. Pedersen.)

This article describes the results of a number of chlorine experiments made in connection with the sewage-treatment plant at Lufkin, Tex. The Imhoff tanks at Lufkin had been foaming in an uncontrollable manner, and the hydrogen sulphide gases evolved had brought many complaints from nearby residents. In an effort to bring the action of the tanks under control, the State Department of Health of Texas, in cooperation with the Chlorine Institute of New York City, experimented with chlorine. Liquid chlorine at the rate of 20 p. p. m. was first applied to the influent of the tanks, with the result that foaming was reduced very rapidly. The chlorine dosage was then reduced to 6 p. p. m., with equally as good results. Finally it was decided that foaming could be prevented with a chlorine dosage of 3 p. p. m. applied during the period from 8 a. m. to 5 p. m. daily.

In an effort to reduce the cost, lime was applied to the sludge and scum in the vents. This experiment failed. An attempt was also made to apply liquid chlorine direct to the tank through the gas vents, but this experiment also failed. Prechlorination of the raw influent seems to be the chief factor of success.

The experiments proved that foaming in Imhoff tanks can be prevented by prechlorination without affecting the final results of the plant. Odors from hydrogen sulphide gas around both tank and filter can also be greatly reduced to nominal cost by prechlorination.

Milk for Health and Wealth. R. G. Upton. Pamphlet. (A discussion of the proper methods of milk p oduction as required by the milk ordinance of the City of Nacogdoches, Tex.) 25 pages. (Abstract by Arthur P. Miller.)

This pamphlet is a running series of questions and answers having as a basis the United States Public Health Service standard milk ordinance. It is well prepared and unquestionably will hold the attention when used in an educational program.

Report of the United States Public Health Service on the Montreal Typhoid Fever Situation. Mimeographed report.[1] 16 pages and 2 charts. (Abstract by Arthur P. Miller.)

As the result of a comprehensive 11-day survey of the Montreal typhoid fever situation, the board of officers, comprised of three surgeons and one sanitary engineer, concluded their report with the following: (1) The typhoid fever epidemic in Montreal, Canada, since February 15, 1927, was beyond reasonable doubt caused by infection distributed in the output of milk from the plant of the Montreal Dairy Co. (Ltd.) in that city; (2) though contributory infection may have been introduced into the milk at one or more of the four stations or within the plant in Montreal, the preponderance of evidence is that the bulk of the infection was introduced into the milk at the farm sources and was enabled to multiply before the milk reached the city plant; (3) though it was barely possible for a very small proportion of whatever infection was in the milk to pass through the Pasteurization machine without being heated long enough and at a high enough temperature to be destroyed, the preponderance of evidence is that a very considerable proportion of the infected milk was passed through and distributed from the plant without being subject to Pasteurization treatment; (4) a large proportion of the milk which at the beginning of the epidemic was distributed through the plant of the Montreal Dairy Co. (Ltd.), and which is now presumably being distributed through other plants or channels to consumers in Montreal and elsewhere, is not now being officially controlled in such manner

[1] Also published in Public Health Reports, vol. 42, No. 29, July 22, 1927.

as to preclude its possible menace to the public health; (5) Montreal is not yet a comparatively safe city for visitors, who are likely to be susceptible to typhoid fever infection; (6) milk and milk products derived from sources within the general vicinity of Montreal do not appear to be produced or processed under satisfactory sanitary conditions nor under official health supervision approaching adequacy.

Two recommendations were made as the final result of the investigation. They were as follows: (1) That State and local health officials and other persons concerned be advised that Montreal is not now, from a typhoid fever standpoint, a comparatively safe city for tourists from the United States to visit and is not likely to be such for months to come, unless local health service in the city of Montreal and the vicinity thereof is promptly made much more nearly adequate than it now is; (2) that such steps as may be necessary be taken to encourage or bring about under proper official supervision radical improvement in sanitary conditions under which milk and milk products are produced, handled, or processed in the city of Montreal or any other place in the Province of Quebec within a radius of 100 miles of the city of Montreal for export to the United States; and that such milk or milk products after reaching points to which shipped in this country and before being distributed to consumers be Pasteurized or otherwise processed under official supervision so as to be rendered free from typhoid, tuberculosis, or any other infection likely to endanger human health.

AMERICAN PUBLIC HEALTH ASSOCIATION MEETS AT CINCINNATI, OCTOBER 17–21

The fifty-sixth annual meeting of the American Public Health Association will be held at Cincinnati, Ohio, October 17–21, 1927. The Ohio Society of Sanitarians and the Ohio Health Commissioners will hold their annual meetings in conjunction with the association meeting.

Each of the nine sections of the association—laboratory, health officers, vital statistics, public health engineering, industrial hygiene, food and drugs, child hygiene, public health education, and public health nursing—will hold individual section meetings. In some instances two or more sections will combine for joint meetings. The topic for discussion at the forum session is, "Has prohibition promoted the public health?" C.-E. A. Winslow, Dr. P. H., Yale University, presiding. One session will be given to the discussion of mental hygiene from the standpoint of the home, the school, and the industrial field. An analysis will be made, by a special committee, of the health programs in operation in normal schools and colleges, and will be supplemented by constructive suggestions.

The program for the health officers' section is especially strong this year. This section has tentatively planned five sessions, with a possible sixth session. Three of these sessions will be joint meetings with the public health nursing section, public health education section, and food and drugs section.

The laboratory section is planning four sessions, one of them a joint session with the food and drugs section.

The vital statistics section is planning to devote its first session to a consideration of the reports of various committees; the second session will be devoted to a discussion of the situation in nonregistration States; and the third session is to be devoted to miscellaneous vital statistics papers.

The public health engineering and industrial hygiene sections are arranging for three sessions each.

The food and drugs section has submitted a program for five sessions, two of which are to be joint sessions, as noted above.

The program for the child hygiene section is unique in its development. In each of its three sessions one subject will be presented by a speaker who is making an exhaustive study of the subject assigned to him. The discussion in each session will dwell on this subject.

The public health education and public health nursing sections are planning one session each in addition to the joint sessions in which they will participate.

Five of the sections are planning luncheon and dinner meetings and there will be a special luncheon conference on venereal disease control.

Six special sessions have been planned for this year on the following topics: Prohibition, health program institutions of higher learning, venereal disease control, mental hygiene, and preventive medicine and epidemiology.

The general sessions will be limited to two this year.

Definite times for the various meetings have not yet been assigned. The schedule, however, has tentatively been arranged as follows:

Monday, October 17

Morning—Registration and certain related meetings.
Afternoon—2–4.30—Scientific sessions.
Evening—Opening general session.

Tuesday, October 18

Morning—9.30–12.30—Scientific sessions.
1–3.00—Luncheons and demonstrations.
Afternoon—3–5.30—Scientific sessions.
Evening—Dinner of Ohio Society of Sanitarians.

Wednesday, October 19

Morning—9.30–12.30—Scientific sessions.
1.30–3—Luncheons and demonstrations.
Afternoon—3–5.30—Scientific sessions.
Evening—Second general session.

Thursday, October 20

Morning—9.30–12.30—Scientific sessions.
1–3—Luncheons and demonstrations.
Afternoon—3–5.30—Scientific sessions.
Evening—Entertainment provided by local committee.

Friday, October 21

Morning—9.30–12.30—Scientific sessions.
1.30—Luncheons and committee meetings.

Railroads will grant the usual reduced rates to members and fellows of the association going to Cincinnati for the meeting. Application for reduced fare certificates and for information should be made to Homer N. Calver, executive secretary, American Public Health Association, 370 Seventh Avenue, New York City.

PUBLIC HEALTH SERVICE PUBLICATIONS

A List of Publications Issued During the Period April, 1926–June, 1927

Below is printed a list of publications of the United States Public Health Service issued during the period April, 1926–June, 1927.

The most important articles that appear each week in the Public Health Reports are reprinted in pamphlet form, making possible a wider and more economical distribution of articles that are of especial value and interest to public health workers and the general public.

All of the publications listed below, except those marked with an asterisk (*), are available for free distribution and, as long as the supply lasts, may be obtained by addressing the Surgeon General, United States Public Health Service, Washington, D. C. Those publications marked with an asterisk are not available for free distribution, but may be purchased from the SUPERINTENDENT OF DOCUMENTS, Government Printing Office, Washington, D. C., *at the prices noted.* (No remittances should be sent to the Public Health Service.)

Reprints from the Public Health Reports

1070. Community responsibility of hospitals. By E. H. Lewinski-Corwin. April 2, 1926. 8 pages.
1071. The public health nurse. By J. G. Townsend. April 9, 1926. 12 pages.
1072. Public Health Service publications. A list of publications issued during the period November, 1925–March, 1926. April 9, 1926. 4 pages.
1073. The relative incidence of typhoid fever in cities, towns, and country districts of a southern State. By Chas. N. Leach, and Kenneth F. Maxcy. April 16, 1926. 6 pages.
1074. Whole-time county health officers, 1926. April 16, 1926. 5 pages.
1075. Some publications suitable for general distribution. April 16, 1926. 12 pages.

1076. A comparison of full-time and part-time county health units in Kansas. By Earle G. Brown. April 23, 1926. 4 pages.
1077. The influence of vitamin deficiencies on susceptibility to certain poisons. By Maurice I. Smith, W. T. McClosky, and E. G. Hendrick. April 23, 1926. 14 pages.
1078. The intensive treatment for hay fever. By William Scheppegrell. April 30, 1926. 4 pages.
1079. Extent of rural health service in the United States 1922–1926. By L. L. Lumsden. May 7, 1926. 12 pages.
1080. The leprosy problem in the United States. By O. E. Denney. May 14, 1926. 8 pages.
1081. Endemic goiter and intelligence. By Robert Olesen and Mabel R. Fernald. May 21, 1926. 16 pages.
1082. Notes on the influence of temperature and humidity on oviposition and early life of Anopheles. By Bruce Mayne. May 21, 1926. 5 pages.
1083. A note on an experimental pellagralike condition in the Albino rat. By Joseph Goldberger and R. D. Lillie. May 28, 1926. 5 pages.
1084. A distinctive test for cysteine. By M. X. Sullivan. May 28, 1926. 28 pages.
1085. Studies on the etiology of epidemic encephalitis. I. The streptococcus. By Alice C. Evans and Walter Freeman. June 4, 1926. 24 pages.
1086. Results of Dick tests made on different groups. By R. E. Dyer, W. P. Caton, and B. T. Sockrider. June 11, 1926. 8 pages.
1087. Clinical observations on endemic typhus (Brill's disease) in southern United States. By Kenneth F. Maxcy. June 18, 1926. 8 pages.
1088. Destroying engorged Anopheles as a malaria-control measure. By J. A. Le Prince. June 18, 1926. 6 pages.
1089. Aggultination, cross agglutination, and agglutinin absorption in tularaemia. By Edward Francis and Alice C. Evans. June 25, 1926. 23 pages.
1090. Six additional cases of laboratory infection of tularaemia in man. By R. R. Parker and R. R. Spencer. July 2, 1926. 14 pages.
1091. A case of tularaemia in a laboratory worker. By Louis V. Dieter. July 2, 1926. 4 pages.
1092. Hereditary transmission of tularaemia infection by the wood tick, *Dermacentor andersoni* Stiles. By R. R. Parker and R. R. Spencer. July 9, 1926. 5 pages.
1093. The susceptibility of the coyote (*Canis lestes*) to tularaemia. By R. R. Parker and Edward Francis. July 9, 1926. 4 pages.
1094. The so-called action of acid sodium phosphate in delaying the onset of fatigue. By Frederick B. Flinn. July 16, 1926. 14 pages.
1095. A state-wide smallpox survey in Tennessee. By W. J. Breeding and E. A. Lane. July 23, 1926. 5 pages.
1096. Benzol poisoning as an industrial hazard. Review of studies conducted in cooperation with the subcommittee on benzol of the committee on industrial poisoning of the National Safety Council. By Leonard Greenburg. July 2, 9, 23, 1926. 63 pages.
1097. Report of the Committee on Uniform Standard Milk Ordinance. Conference of State and Territorial Health Officers, 1926. July 30, 1926. 10 pages.
1098. A national program for the unification of milk control. By Leslie C. Frank. July 30, 1926. 34 pages.
1099. United States Public Health Service standard milk ordinance, modified as adopted by the Conference of State and Territorial Health Officers at Washington, D. C., May, 1926. July 30, 1926. 13 pages.

1100. Food poisoning from a streptococcus in cheese. By B. A. Linden, W. R. Turner, and Charles Thom. August 6, 1926. 6 pages.
1101. Report of a survey to determine the malaria prevalence in the Okefenokee Swamp. By Bruce Mayne. August 6, 1926. 8 pages.
1102. Incidence of endemic thyroid enlargement in Connecticut. By Robert Olesen and Neil E. Taylor. August 13, 1926. 13 pages.
1103. City health officers, 1926. Directory of those in cities of 10,000 or more population. August 13, 1926. 12 pages.
1104. The influenza epidemic of 1926. A preliminary note on certain epidemiological indications. August 20, 1926. 16 pages.
1105. Rocky Mountain spotted fever. Certain characteristics of blood virus. By R. R. Spencer and R. R. Parker. August 27, 1926. 6 pages.
1106. State and insular health authorities, 1926. Directory with data as to appropriations and publications. August 27, 1926. 22 pages.
1107. Biological products. Establishments licensed for the propagation and sale of viruses, serums, toxins, and analogous products. September 3, 1926. 5 pages.
1108. Endemic goiter and physical development. I. Cincinnati school children. By Robert Olesen and Neil E. Taylor. September 3, 1926. 16 pages.
1109. The radioactivity of natural waters. By W. D. Collins. September 10, 1926. 4 pages.
1110. The physiological effects of currents of very high frequency (135,000,000 to 8,300,000 cycles per second). By J. W. Schereschewsky. September 10, 1926. 24 pages.
1111. The notifiable diseases. Prevalence during 1925 in cities of over 100,000. September 17, 1926. 33 pages.
1112. Public health in State constitutions. By James A. Tobey. September 24, 1926. 4 pages.
1113. A study of illness in a general population group. Hagerstown morbidity studies No. I: The method of study and general results. By Edgar Sydenstricker. September 24, 1926. 20 pages.
1114. Experimental studies of water purification. I. Description of experimental water-purification plant. By Frederic J. Moss. II. Preliminary review of results of primary experiments. By H. W. Streeter. October 1, 1926. 26 pages.
1115. Report of an epidemic of glandular fever (infectious mononucleosis). By R. R. Spencer. October 8, 1926. 6 pages.
1116. The reporting of notifiable diseases in a typical small city. Hagerstown morbidity studies No. II. By Edgar Sydenstricker. October 8, 1926. 6 pages.
1117. The notifiable diseases. Prevalence during 1925 in cities of 10,000 to 100,000 population. October 15, 1926. 108 pages.
1118. Cooperative rural health work of the Public Health Service in the fiscal year 1926. By L. L. Lumsden. October 22, 1926. 40 pages.
1119. Endemic goiter and school absenteeism. By Robert Olesen and Neil E. Taylor. October 29, 1926. 10 pages.
1120. What the Government is doing for tuberculous persons. By Lucy Minnigerode. October 29, 1926. 8 pages.
1121. Malaria in the prairie-rice regions of Louisiana and Arkansas. By M. A. Barber, W. H. W. Komp, and T. B. Hayne. November 5, 1926. 22 pages.
1122. Pan American Conference of Directors of Health. November 12, 1926. 8 pages.

1123. National Leper Home (Marine Hospital No. 66). Review of the more important activities during the fiscal year ended June 30, 1926. By O. E. Denney. November 12, 1926. 5 pages.
1124. Organization of the health program of a university. By D. F. Smiley. November 19, 1926. 19 pages.
1125. Distribution of endemic goiter in the United States as shown by thyroid surveys. By Robert Olesen. November 26, 1926. 13 pages.
1126. Report of the committee on sanitary control in the development of groundwater supplies. November 26, 1926. 13 pages.
1127. Health studies of negro children. I. Intelligence studies of negro children in Atlanta, Ga. By Virginia Taylor Graham. December 3, 1926. 25 pages.
1128. The work of the United States Public Health Service. December 10, 1926. 28 pages.
1129. The control of communicable diseases. Report of the American Public Health Association committee on standard regulations appointed in October, 1916, revised by the committee in October, 1926. December 17, 1926. 35 pages.
1130. An epidemiological study of endemic typhus (Brill's disease) in the southeastern United States. With special reference to its mode of transmission. By Kenneth F. Maxcy. December 24, 1926. 29 pages.
1131. Synthesis and indicator properties of some new sulfonphthaleins. By Barnett Cohen. December 31, 1926. 28 pages.
1132. The notifiable diseases. Prevalence in States, 1925. January 7, 1927. 60 pages.
1133. Epidemiological study of minor respiratory diseases. Progress report II: Based on records for families of medical officers of the Army, Navy, and Public Health Service and of members of several university faculties. By J. G. Townsend and Edgar Sydenstricker. January 14, 1927. 22 pages.
1134. The extent of medical and hospital service in a typical small city. By Edgar Sydenstricker. January 14, 1927. 11 pages.
1135. Studies on the etiology of epidemic encephalitis. II. Virulent bacteria cultivated from so-called herpetic and encephalitic viruses. By Alice C. Evans. January 21, 1927. 6 pages.
1136. Sterilizing efficiency of arsphenamine, neoarsphenamine, and sulpharsphenamine in experimental syphilis. By Carl Voegtlin and H. A. Dyer. January 21, 1927. 11 pages.
1137. Questions and answers on smallpox and vaccination. By J. P. Leake. January 28, 1927. 19 pages.
1138. Some special features of the work of the Public Health Service. February 4 and February 11, 1927. 77 pages.
1139. Toxic effects of ethylene dibromide. By B. G. H. Thomas and W. P. Yant. February 11, 1927. 5 pages.
1140. Paris green applied by airplane in the control of Anopheles production. By L. L. Williams, jr., and S. S. Cook. February 18, 1927. 5 pages.
1141. Preparation and use of investigation forms. By V. L. Ellicott and Ellen Murphy Englert. February 18, 1927. 5 pages.
1142. A 10-year record of absences from work on account of sickness and accidents. Experience of employees of the Edison Electric Illuminating Co. of Boston, 1915 to 1924, inclusive. By Dean K. Brundage. February 25, 1927. 22 pages.

1143. Further studies on the relationship of endemic goiter to certain potential foci of infection. II. In Connecticut. By Robert Olesen and Neil E. Taylor. March 4, 1927. 15 pages.
1144. Standard milk ordinance results in 14 Alabama towns. By Leslie C. Frank, S. W. Welch, and C. A. Abele. March 11, 1927. 11 pages.
1145. The orthotolidine reagent for free chlorine in water. By Emery J. Theriault. March 11, 1927. 5 pages.
1146. The problem of fetal and neonatal death. By Blanche Sterling. March 18, 1927. 35 pages.
1147. Examination of food handlers. By M. James Fine. March 25, 1927. 5 pages.
1148. Endemic thyroid enlargement in Massachusetts. By Robert Olesen and Neil E. Taylor. March 25, 1927. 14 pages.
1149. Ship fumigation determined by observed rodent infestation. By C. V. Akin and G. C. Sherrard. April 1, 1927. 8 pages.
1150. Review of literature on the physiological effects of abnormal temperatures and humidities. By R. R. Sayers and Sara J. Davenport. April 8, 1927. 63 pages.
1151. Intradermal smallpox vaccination. A method for increasing the administrative value of the immediate reaction of immunity. By John N. Force. April 15, 1927. 14 pages.
1152. Arsphenamine-sodium thiosulphate treatment of experimental syphilis. By Carl Voegtlin and Helen A. Dyer. April 15, 1927. 8 pages.
1153. Preliminary report of screening studies in Leflore County, Miss. By C. P. Coogle. April 22, 1927. 12 pages.
1154. Definitions of Pasteurization and their enforcement. By Leslie C. Frank, Frederic J. Moss, and Peter E. LeFevre. April 29, 1927. 11 pages.
1155. Extent of rural health service in the United States 1923–1927. By L. L. Lumsden. April 29, 1927. 12 pages.
1156. A résumé, with comments, of the available literature relating to posture. By Louis Schwartz. May 6, 1927. 30 pages.
1157. A study of the pellagra-preventive action of the tomato, carrot, and rutabaga turnip. By Joseph Goldberger and G. A. Wheeler. May 13, 1927. 8 pages.
1158. Iodization of public water supplies for prevention of endemic goiter. By Robert Olesen. May 20, 1927. 13 pages.
1159. Malaria among Mexican cotton pickers imported into Mississippi. By M. A. Barber and C. P. Coogle. May 20, 1927. 4 pages.
1160. The public health organization of Denmark. By Thomas Parran, Jr. May 27, 1927. 38 pages.
1161. The food of anopheline larvae—Food organisms in pure culture. By M. A. Barber. June 3, 1927. 8 pages.
1162. Drinking water coolers on common carriers. By Arthur P. Miller. June 10, 1927. 8 pages.
1163. The age curve of illness—Hagerstown morbidity studies No. IV. By Edgar Sydenstricker. June 10, 1927. 12 pages.
1164. Whole-time county health officers, 1927. June 10, 1927. 6 pages.
1165. Recent developments in sewage chlorination. By L. H. Enslow. June 17, 1927. 18 pages.
1166. The spleen rate as a measure of malaria prevalence in the United States. By C. P. Coogle. June 24, 1927. 6 pages.
1167. A comparison of the incidence of illness and death—Hagerstown morbidity studies No. V. By Edgar Sydenstricker. June 24, 1927. 13 pages.

Supplements to the Public Health Reports

54. Studies on oxidation reduction. IX. A potentiometric and spectrophotometric study of meriquinones of the p-phenylene diamine and the benzidine series. By W. Mansfield Clark, Barnett Cohen, and H. D. Gibbs. 1926. 61 pages.
55. Studies on oxidation reduction. X. Reduction potentials in cell suspensions. By R. K. Cannan, Barnett Cohen, and W. Mansfield Clark. 1926. 34 pages.
56. Court decisions relating to public health. Digest of decisions abstracted and published currently in Public Health reports during the period 1919–1925. Prepared by William Fowler. 1926. 66 pages.
57. Tuberculin: A report of a conference on its standardization. 1926. 51 pages.
58. Sewage disposal for suburban and country homes. The septic tank and sanitary sewers. 1926. 41 pages.
59. Public health laws and regulations adopted during 1925. Compiled by Jason Waterman and William Fowler. 1927. 513 pages.
60. Smallpox vaccination laws, regulations, and court decisions. Prepared by William Fowler. 1927. 74 pages.
61. Studies on oxidation reduction. XI. Potentiometric and spectrophotometric studies of Bindschedler's green and toluylene blue. By Max Phillips, W. Mansfield Clark, and Barnett Cohen. 1927. 36 pages.
62. Further studies on the importance of milk and milk products as a factor in the causation of outbreaks of disease in the United States. By Charles Armstrong and Thomas Parran, Jr. 1927. 81 pages.
63. The notifiable diseases. Prevalence during 1926 in cities of over 100,000. 1927. 35 pages.
64. The notifiable diseases. Prevalence during 1926 in cities of 10,000 to 100,000 population. 1927. 87 pages.

Public Health Bulletins

157. Health hazards of brass foundries. I. Field investigations of the health hazards of the brass-foundry industry. II. Laboratory studies relating to the pathology of brass foundrymen's ague. By John Arthur Turner and L. R. Thompson. August, 1925. 75 pages.
159. Studies in natural illumination in schoolrooms. A report on the observations of daylight illumination of selected classrooms of different orientation during the period of an entire school year. By Taliaferro Clark and Arthur F. Beal. January, 1926. 57 pages.
160. Transactions of the Sixth Annual Conference of State Sanitary Engineers, held at Louisville, Ky., April 25 and 27, 1925. January, 1926. 142 pages.
162. A health study of ten thousand male industrial workers. Statistical analysis of surveys in ten industries. By Rollo H. Britten and L. R. Thompson. June, 1926. 170 pages.
163. The use of tetraethyl lead gasoline in its relation to public health. Prepared by direction of the Surgeon General. June, 1926. 123 pages.
164. Municipal health department practice for the year 1923. Based upon surveys of the 100 largest cities in the United States. Made by the United States Public Health Service in cooperation with the committee on administrative practice, American Public Health Association. July, 1926. 782 pages.

165. Economic status and health. A review and study of the relevant morbidity and mortality data. By Selwyn D. Collins. September, 1926. 74 pages.
166. Report on municipal sanitary engineering practice in Great Britain. By H. W. Streeter. February, 1927. 56 pages.
167. Transactions of the Twenty-fourth Annual Conference of State and Territorial Health Officers with the United States Public Health Service, held at Washington, D. C., May 24 and 25, 1926. February, 1927. 124 pages.
168. Studies upon leprosy. XLII. The plasma proteins in leprosy. By M. H. Neill and Margaret M. Dewar. XLIV. Observations on the amount of lipase in the blood serum of lepers. By M. H. Neill and Margaret M. Dewar. XLV. The synthesis of iododihydrochaulmoogric acid and its ethyl ester. By Arthur L. Dean, Richard Wrenshall, and G. Fujimoto. XLVI. The preparation of 4-chaulmoogrylaminophenylarsonic acid. By Margaret M. Dewar. XLVII. The preparation of chaulmoogryl alcohol. By Margaret M. Dewar. XLVIII. Radium treatment of the nasal lesions of leprosy. By R. P. Sandidge and M. H. Neill. Appendix: Protocol of lipase tests. April, 1927. 74 pages.
169. Transactions of the Seventh Annual Conference of State Sanitary Engineers, held at Buffalo, N. Y., June 5 and 7, 1926. February, 1927. 93 pages.

Hygienic Laboratory Bulletins

144. Digest of Comments on the Pharmacopœia of the United States of America and on the National Formulary for the calendar year ended December 31, 1922. By A. G. DuMez. April, 1926. 272 pages.
*145. The nomenclature for man, the chimpanzee, the orang-utan, and the Barbary ape. By Ch. Wardell Stiles and Mabelle B. Orleman. March, 1927. 66 pages. 20 cents.
*146. Compendium of the parasites of mosquitoes (*Culicidæ*). By Alma Jane Speer. March, 1927. 36 pages. 10 cents.
147. Experimental bacterial and chemical pollution of wells via ground water, and the factors involved. By C. W. Stiles, H. R. Crohurst, and Gordon E. Thomson. Report on the geology and ground water hydrology of the experimental area of the United States Public Health Service at Fort Caswell, N. C. By Norah Dowell Stearns. June, 1927. 168 pages.
148. Key catalogue of the crustacea and arachnoids of importance in public health. By C. W. Stiles and Albert Hassall. April, 1927. 289 pages.

Annual Report

Annual report of the Surgeon General of the United States Public Health Service for the fiscal year 1926. 330 pages. Cloth.

Miscellaneous Publications

11. Official list of commissioned and other officers of the United States Public Health Service; also list of United States marine hospitals, quarantine, immigration, and relief stations and quarantine vessels. July 1, 1926. 71 pages. Paper.

Unnumbered Publications

Report of the committee on cross connections. Conference of State sanitary engineers. Excerpt from Public Health Bulletin No. 169—Transactions of the Seventh Annual Conference of State Sanitary Engineers, 1926. 8 pages.

Report of the joint committee on swimming pools and bathing places. Conference of State sanitary engineers. Excerpt from Public Health Bulletin No. 169—Transactions of the Seventh Annual Conference of State Sanitary Engineers, 1926. 20 pages.

The United States Public Health Service. What does it do for me? Issued for distribution at the National Sesquicentennial Exposition, Philadelphia, 1926. 8 pages.

*National negro health week program. This pamphlet is published annually, usually about the middle of March, for community leaders in an effort to suggest ways and means by which interested individuals and organizations may be organized for a concerted and effective attack upon the community's disease problems. 1927. 16 pages. (Out of print.)

*National negro health week poster. 1927. In colors. (Out of print.)

Venereal Disease Publications

BULLETINS

Venereal Disease Bulletin No. 83. Pamphlet. You and your boy. 4 pages.

Venereal Disease Bulletin No. 84. Catalogue of educational material. 20 pages.

Venereal Disease Bulletin No. 85. Pamphlet. Where away? 16 pages.

Venereal Disease Bulletin No. 86. Sex education—A symposium for educators. 58 pages.

REPRINTS FROM PUBLIC HEALTH REPORTS RELATING TO VENEREAL DISEASE

857. The curative action of sulpharsphenamine in experimental syphilis. By Carl Voegtlin, C. Armstrong, and Helen Dyer. August 10, 1923. 4 pages.

1051. Reinoculation as a criterion of cure of experimental syphilis, with reference to arsphenamine, neoarsphenamine, and sulpharsphenamine. By Carl Voegtlin and Helen A. Dyer. November 13, 1925. 9 pages.

1136. Sterilizing efficiency of arsphenamine, neoarsphenamine, and sulpharsphenamine in experimental syphilis. By Carl Voegtlin and Helen A. Dyer. January 21, 1927. 11 pages.

1152. Arsphenamine-sodium thiosulphate treatment of experimental syphilis. By Carl Voegtlin and Helen A. Dyer. April 15, 1927. 8 pages.

DEATHS DURING WEEK ENDED AUGUST 13, 1927

Summary of information received by telegraph from industrial insurance companies for week ended August 13, 1927, and corresponding week of 1926. (From the Weekly Health Index, August 17, 1927, issued by the Bureau of the Census, Department of Commerce)

	Week ended Aug. 13, 1927	Corresponding week 1926
Policies in force	68, 176, 376	65, 073, 227
Number of death claims	10, 588	10, 561
Death claims per 1,000 policies in force, annual rate	8. 1	8. 5

Deaths from all causes in certain large cities of the United States during the week ended August 13, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, August 17, 1927, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Aug. 13, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Aug. 13, 1927 [2]
	Total deaths	Death rate [1]		Week ended Aug. 13, 1927	Corresponding week 1926	
Total (67 cities)	5,933	10.5	[3] 10.6	662	[3] 782	[4] 51
Akron	30			3	3	32
Albany [5]	26	11.3	7.9	4	4	83
Atlanta	42			6	10	
White	23			2	4	
Colored	19	(6)		4	6	
Baltimore [5]	172	11.0	12.0	29	41	90
White	119		11.0	20	26	77
Colored	53	(6)	18.0	9	15	140
Birmingham	58	14.1	18.5	8	10	
White	23		13.9	2	6	
Colored	35	(6)	25.8	6	4	
Boston	171	11.2	12.0	21	36	59
Bridgeport	25			2	7	37
Buffalo	120	11.4	10.7	7	13	29
Cambridge	23	9.7	9.0	2	3	36
Camden	22	8.6	13.1	2	7	34
Canton	17	7.8	9.0	0	5	0
Chicago [5]	628	10.6	8.5	70	61	61
Cincinnati	124	15.7	17.4	14	19	87
Cleveland	155	8.2	9.4	17	25	45
Columbus	68	12.2	12.4	4	4	37
Dallas	46	11.5	14.1	8	11	
White	39		11.0	7	8	
Colored	7	(6)	34.8	1	3	
Dayton	30	8.7	9.7	5	0	82
Denver	73	13.1	12.8	12	6	
Des Moines	22	7.7	6.8	1	2	17
Detroit	232	9.1	10.5	45	38	71
Duluth	21	9.5	9.7	6	0	129
El Paso	28	12.8	11.0	5	6	
Erie	18			4	4	78
Fall River [5]	18	7.1	8.4	3	6	53
Flint	20	7.3	6.1	6	3	98
Fort Worth	35	11.1	7.9	6	2	
White	30		6.7	5	2	
Colored	5	(6)	16.5	1	0	
Grand Rapids	21	6.9	10.7	3	3	44
Houston	80			8	5	
White	57			7	3	
Colored	23	(6)		1	2	
Indianapolis	86	12.0	13.2	7	19	55
White	73		12.6	5	17	45
Colored	13	(6)	17.8	2	2	122
Jersey City	64	10.4	8.5	6	8	45
Kansas City, Kans	25	11.1	12.5	5	4	97
White	19		11.3	4	3	89
Colored	6	(6)	17.8	1	1	152
Kansas City, Mo	83	11.3	13.8	7	12	
Knoxville	30	15.3		3		
White	24			3		
Colored	6	(6)		0		
Los Angeles	222			23	17	66
Louisville	77	12.5	10.6	6	13	51
White	62		9.9	6	10	58
Colored	15	(6)	14.4	0	3	0
Lowell	25	11.8	9.5	8	4	154
Lynn	12	6.0	4.0	2	0	53
Memphis	50	14.6	23.0	2	10	
White	23		18.8	2	6	
Colored	27	(6)	30.6	0	4	
Milwaukee	99	9.7	8.1	12	10	56
Minneapolis	86	10.1	9.0	9	8	51
Nashville [5]	31	11.7	18.6	1	13	
White	17		14.9	1	11	
Colored	14	(6)	28.1	0	2	
New Bedford	32	14.0	10.5	5	2	87
New Haven	13	3.7	8.9	1	1	14

See footnotes at bottom of table.

Deaths from all causes in certain large cities of the United States during the week ended August 13, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926—Continued

City	Week ended Aug. 13, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Aug. 13, 1927 [2]
	Total deaths	Death rate [1]		Week ended Aug. 13, 1927	Corresponding week 1926	
New Orleans	145	17.8	17.8	20	19	
White	90		14.1	13	9	
Colored	55	(6)	28.2	7	10	
New York	1,126	9.8	9.7	104	138	43
Bronx Borough	118	6.6	8.1	7	9	22
Brooklyn Borough	414	9.5	8.5	52	57	54
Manhattan Borough	453	13.0	12.8	37	52	43
Queens Borough	105	6.8	7.6	7	19	30
Richmond Borough	36	12.8	10.6	1	1	19
Newark, N. J	111	12.4	9.3	13	9	64
Oakland	38	7.4	11.0	7	3	82
Oklahoma City	35			8	2	
Omaha	57	13.6	9.7	7	3	78
Paterson	37	13.4	10.9	2	4	35
Philadelphia	350	9.0	9.9	39	53	52
Pittsburgh	128	10.4	10.6	27	16	94
Portland, Oreg	51			4	2	42
Providence	46	8.5	[5]9.5	2	9	17
Richmond	50	13.6	15.2	9	10	119
White	31		12.5	6	8	121
Colored	19	(6)	21.8	3	2	114
Rochester	57	9.2	10.2	7	9	59
St. Louis	198	12.3	13.7	19	22	
St. Paul	40	8.3	9.3	2	0	18
Salt Lake City [4]	18	6.9	9.8	3	6	46
San Antonio	57	14.1	10.2	11	8	
San Diego	35	15.9	18.0	1	4	21
San Francisco	134	12.1	9.9	5	6	31
Schenectady	11	6.2	5.0	0	1	0
Seattle	63			1	3	10
Somerville	11	5.6	11.5	0	3	0
Spokane	20	9.6	12.4	1	1	25
Springfield, Mass	30	10.6	6.8	4	2	62
Syracuse	41	10.9	12.1	6	5	77
Tacoma	10	4.9	11.8	0	3	0
Toledo	58	9.9	10.4	2	4	19
Trenton	27	10.3	12.1	1	0	17
Washington, D. C	124	12.0	13.7	10	13	58
White	66		10.2	7	7	59
Colored	58	(6)	24.2	3	6	55
Waterbury	13			1	2	24
Wilmington, Del	29	12.0	10.1	3	3	74
Worcester	46	12.3	13.2	1	5	12
Yonkers	21	9.2	7.2	1	4	23
Youngstown	35	10.3	12.0	3	10	42

[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 66 cities.
[4] Data for 62 cities.
[5] Deaths for week ended Friday, Aug. 12, 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 Week Ended August 20, 1927

DIPHTHERIA	Cases
Alabama	32
Arizona	1
Arkansas	2
California	55
Colorado	12
Connecticut	15
Florida	9
Georgia	23
Idaho	3
Illinois	74
Indiana	13
Iowa [1]	10
Kansas	9
Louisiana	20
Maine	5
Maryland [1]	23
Massachusetts	61
Michigan	60
Minnesota	20
Mississippi	16
Missouri	24
Montana	5
Nebraska	5
New Jersey	59
New Mexico	2
New York [2]	41
North Carolina	59
Oklahoma [3]	7
Oregon	7
Pennsylvania	75
Rhode Island	8
South Carolina	25
South Dakota	2
Tennessee	12
Texas	24
Utah [1]	3
Washington	20
West Virginia	14
Wisconsin	16

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

INFLUENZA	Cases
Alabama	17
Arkansas	8
California	3
Connecticut	1
Florida	1
Georgia	21
Illinois	5
Indiana	6
Kansas	1
Louisiana	13
Maryland [1]	5
Massachusetts	1
Michigan	1
Minnesota	2
Missouri	1
Oklahoma [3]	6
Oregon	6
South Carolina	100
Tennessee	4
Texas	6
West Virginia	2
Wisconsin	10

MEASLES	
Alabama	16
Arizona	2
California	43
Colorado	1
Connecticut	6
Delaware	1
Florida	2
Georgia	13
Illinois	23
Indiana	5
Iowa [1]	6
Kansas	18
Louisiana	1
Maine	8
Maryland [1]	15

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

MEASLES—continued	Cases
Massachusetts	46
Michigan	23
Minnesota	5
Missouri	6
Nebraska	1
New Jersey	4
New Mexico	26
New York [2]	55
North Carolina	183
Oklahoma [3]	34
Oregon	7
Pennsylvania	37
Rhode Island	1
South Carolina	40
South Dakota	2
Tennessee	13
Texas	13
Utah [1]	1
Vermont	9
Washington	20
West Virginia	12
Wisconsin	88
Wyoming	3

MENINGOCOCCUS MENINGITIS	
Alabama	1
California	4
Colorado	1
Illinois	9
Iowa [1]	1
Kansas	1
Maryland [1]	1
Massachusetts	2
Michigan	1
Minnesota	3
Missouri	2
Montana	1
New York [2]	2
Oklahoma [3]	1
Oregon	5
Utah [1]	1
Washington	1
West Virginia	1
Wisconsin	4

POLIOMYELITIS	
Alabama	2
Arizona	4
Arkansas	1
California	44
Colorado	1
Connecticut	17
Georgia	1
Illinois	16
Indiana	2
Iowa [1]	3
Kansas	10
Louisiana	2
Maine	1
Maryland [1]	1
Massachusetts	38
Michigan	9

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

POLIOMYELITIS—continued	Cases
Minnesota	1
Mississippi	1
Missouri	2
Nebraska	1
New Jersey	22
New Mexico	8
New York [2]	20
Ohio [4]	65
Oklahoma [3]	7
Oregon	12
Pennsylvania	7
Rhode Island	1
South Carolina	1
South Dakota	1
Tennessee	1
Texas	15
Utah [1]	1
Washington	1
West Virginia	8
Wisconsin	7

SCARLET FEVER	
Alabama	22
Arizona	4
Arkansas	4
California	48
Colorado	8
Connecticut	13
Florida	1
Georgia	8
Idaho	3
Illinois	75
Indiana	26
Iowa [1]	7
Kansas	12
Louisiana	8
Maine	19
Maryland [1]	11
Massachusetts	88
Michigan	54
Minnesota	40
Mississippi	9
Missouri	19
Montana	103
Nebraska	1
New Jersey	34
New Mexico	7
New York [2]	43
North Carolina	25
Oklahoma [3]	3
Oregon	3
Pennsylvania	70
Rhode Island	1
South Carolina	11
South Dakota	3
Tennessee	9
Texas	13
Utah [1]	6
Vermont	2
Washington	10
West Virginia	26
Wisconsin	45

[1] Week ended Friday.
[2] Exclusive of New York City.
[3] Exclusive of Oklahoma City and Tulsa.
[4] Week ended Aug. 23.

SMALLPOX	Cases
Alabama	3
Arkansas	6
California	5
Florida	2
Idaho	1
Illinois	12
Indiana	23
Iowa [1]	14
Kansas	3
Louisiana	2
Michigan	11
Mississippi	1
Missouri	5
New York [2]	8
North Carolina	10
Oklahoma [3]	5
Oregon	6
South Carolina	21
South Dakota	7
Tennessee	5
Texas	1
Utah [1]	2
Washington	13
West Virginia	4
Wisconsin	5

TYPHOID FEVER	
Alabama	88
Arizona	8
California	16
Colorado	8
Connecticut	5
Delaware	6
Florida	13
Georgia	83
Illinois	49
Indiana	16
Iowa [1]	5
Kansas	27
Louisiana	37
Maine	5
Maryland [1]	56
Massachusetts	13
Michigan	19
Minnesota	3
Mississippi	28
Missouri	32
Montana	2
Nebraska	4
New Jersey	15
New Mexico	12
New York [2]	11
North Carolina	55
Oklahoma [3]	97
Oregon	4
Pennsylvania	40
Rhode Island	2
South Carolina	77
South Dakota	2
Tennessee	92
Texas	24
Utah [1]	1
Vermont	1
Washington	9
West Virginia	42
Wisconsin	13

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

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

Reports for Week Ended August 13, 1927

DIPHTHERIA	Cases
District of Columbia	13

MEASLES	
North Dakota	2

POLIOMYELITIS	
District of Columbia	2

SCARLET FEVER	
District of Columbia	3
North Dakota	20

SMALLPOX	Cases
District of Columbia	1
North Dakota	3

TYPHOID FEVER	
District of Columbia	2
North Dakota	1

POLIOMYELITIS IN OHIO

The State Department of Public Health of Ohio reports cases of poliomyelitis in the State from July 10 to August 16, 1927, inclusive, as follows:

Cincinnati and vicinity	16	Drake County	1
Cleveland Heights	3	Hamilton County	1
Coshocton	1	Jefferson County	2
Dayton	1	Lucas County	1
Dennison	3	Marion County	1
East Cleveland	1	Monroe County	2
Marion	1	Portage County	1
Martins Ferry and vicinity	31	Richland County	1
Struthers	2	Scioto County	2
Uhrichsville	5	Trumbull County	1
Brown County	3	Tuscarawas County	4
Coshocton County	1	Wayne County	1

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
May, 1927										
Arkansas	0	11	189	223	308	94	1	21	7	74
June, 1927										
Arkansas	1	17	62	587	264	187	9	15	23	131
Pennsylvania	7	645	----	----	1,865	2	2	1,276	2	78
July, 1927										
Arkansas	0	8	30	629	124	355	5	9	11	111
Iowa	2	62	----	----	74	----	1	73	87	14
Massachusetts	4	264	11	1	1,023	2	23	643	0	34
Michigan	----	251	5	----	398	----	7	435	94	50
New Jersey	3	304	4	1	82	----	12	268	0	45
Tennessee	2	54	57	465	85	241	7	77	55	950

May, 1927

Arkansas:

	Cases
Chicken pox	66
Hookworm disease	3
Mumps	118
Ophthalmia neonatorum	7
Trachoma	4
Whooping cough	222

June, 1927

	Cases
Chicken pox:	
Arkansas	132
Pennsylvania	1,306
German measles:	
Pennsylvania	273
Hookworm disease:	
Arkansas	3
Impetigo contagiosa:	
Pennsylvania	18
Leprosy:	
Pennsylvania	1
Lethargic encephalitis:	
Pennsylvania	5
Mumps:	
Arkansas	112
Pennsylvania	1,321
Ophthalmia neonatorum:	
Arkansas	7
Pennsylvania	13
Paratyphoid fever:	
Arkansas	3
Puerperal fever:	
Pennsylvania	9
Rabies in man:	
Pennsylvania	1
Scabies:	
Pennsylvania	18
Tetanus:	
Pennsylvania	9
Trachoma:	
Arkansas	1
Pennsylvania	1
Whooping cough:	
Arkansas	222
Pennsylvania	652

July, 1927

	Cases
Anthrax:	
Massachusetts	1
Chicken pox:	
Arkansas	52
Iowa	39
Massachusetts	423
Michigan	380
New Jersey	404
Tennessee	28
Dysentery:	
Massachusetts	1
New Jersey	2
Tennessee	149
German measles:	
Massachusetts	50
New Jersey	20
Hookworm disease:	
Arkansas	2
Impetigo contagiosa:	
Iowa	1
Lead poisoning:	
Massachusetts	5
New Jersey	6
Lethargic encephalitis:	
Massachusetts	6
Michigan	4
Mumps:	
Arkansas	74
Iowa	19
Massachusetts	338
Michigan	187
Tennessee	22
Ophthalmia neonatorum:	
Arkansas	2
Massachusetts	110
New Jersey	3
Paratyphoid fever:	
Arkansas	1
New Jersey	4
Tennessee	14
Rabies in man:	
Tennessee	6

July, 1927—Continued

Septic sore throat:	Cases
Massachusetts	9
Michigan	3
Tennessee	3
Tetanus:	
Iowa	2
Massachusetts	3
Trachoma:	
Arkansas	5
New Jersey	1

July, 1927—Continued

Whooping cough:	Cases
Arkansas	137
Iowa	96
Massachusetts	360
Michigan	675
New Jersey	593
Tennessee	246

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 93 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 30,550,000. The estimated population of the 87 cities reporting deaths is more than 29,850,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended August 6, 1927, and August 7, 1926

	1927	1926	Estimated expectancy
Cases reported			
Diphtheria:			
43 States	934	846	----
93 cities	463	455	507
Measles:			
42 States	1,319	1,971	----
93 cities	275	399	----
Poliomyelitis:			
44 States	199	69	----
Scarlet fever:			
43 States	1,008	921	----
93 cities	303	355	261
Smallpox:			
43 States	203	291	----
93 cities	34	44	41
Typhoid fever:			
43 States	1,043	1,247	----
93 cities	145	158	186
Deaths reported			
Influenza and pneumonia:			
87 cities	282	324	----

City reports for week ended August 6, 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 non-epidemic 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	0	1	0	0	0	0	0	0
New Hampshire:									
Concord	22,546	0	1	0	0	0	0	0	0
Manchester	83,097	0	0	0	0	0	0	0	0
Nashua	29,723	0	0	0	0	0	1	0	0
Vermont:									
Barre	10,008	0	0	0	0	0	0	0	0
Massachusetts:									
Boston	779,620	12	31	13	0	0	33	11	9
Fall River	128,993	0	2	2	1	0	1	0	0
Springfield	142,065	0	1	4	0	0	2	2	2
Worcester	190,757	2	3	1	0	0	0	1	1
Rhode Island:									
Pawtucket	69,760	0	1	1	0	0	0	0	0
Providence	267,918	0	3	3	0	0	0	0	1
Connecticut:									
Bridgeport	(1)	0	4	3	0	0	0	0	0
Hartford	160,197	0	3	0	0	0	0	2	1
New Haven	178,927	2	1	0	0	0	2	0	0
MIDDLE ATLANTIC									
New York:									
Buffalo	538,016	7	11	7	-------	0	9	9	5
New York	5,873,356	23	112	110	2	1	17	26	57
Rochester	316,786	2	4	1	-------	0	1	3	2
Syracuse	182,003	7	3	0	-------	0	21	0	3
New Jersey:									
Camden	123,642	0	2	4	0	0	0	0	0
Newark	452,513	8	6	10	1	0	2	15	6
Trenton	132,020	0	1	1	0	0	1	0	1
Pennsylvania:									
Philadelphia	1,979,364	12	35	38	-------	1	13	24	14
Pittsburgh	631,563	3	12	13	0	0	20	6	5
Reading	112,707	0	2	3	0	0	4	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	409,333	2	4	3	0	0	1	2	3
Cleveland	936,485	12	17	20	0	0	3	17	4
Columbus	279,536	0	2	2	0	0	0	3	3
Toledo	287,380	0	4	1	0	1	4	1	2
Indiana:									
Fort Wayne	97,846	0	1	3	0	0	0	0	0
Indianapolis	358,819	1	3	3	0	0	0	2	4
South Bend	80,091	0	0	2	0	0	0	0	0
Terre Haute	71,071	0	0	1	0	0	1	0	0
Illinois:									
Chicago	2,995,239	19	49	58	3	0	9	21	31
Springfield	63,923	8	1	0	0	0	1	0	0
Michigan:									
Detroit	1,245,824	13	30	15	1	0	4	11	15
Flint	130,316	1	3	1	0	0	1	3	2
Grand Rapids	153,698	1	2	0	0	0	3	1	0

[1] No estimate made.

City reports for week ended August 6, 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	0	0	2	0	0	0	0	0
Madison	46,385	0	0	0	0	0	0	0	1
Milwaukee	509,192	5	9	9	0	0	20	3	4
Racine	67,707	1	0	0	0	0	0	1	0
Superior	39,671	0	0	1	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	110,502	0	0	0	0	0	0	0	2
Minneapolis	425,435	16	11	7	0	0	1	0	6
St. Paul	246,001	2	10	2	0	1	3	0	3
Iowa:									
Davenport	52 469	0	0	1	0	-------	0	0	-------
Des Moines	141,441	0	2	0	0	-------	0	0	-------
Sioux City	76,411	1	0	0	0	-------	1	1	-------
Waterloo	36,771	0	1	0	0	-------	0	0	-------
Missouri:									
Kansas City	367,481	0	2	1	0	0	2	1	8
St. Joseph	78,342	0	1	0	0	0	0	0	1
St. Louis	821,543	2	19	10	0	0	7	13	-------
North Dakota:									
Fargo	26,403	0	0	0	0	0	0	0	0
Grand Forks	14,811	0	0	0	0	-------	0	0	-------
South Dakota:									
Aberdeen	15,036	0	0	0	0	-------	0	0	-------
Sioux Falls	30,127	0	0	0	0	-------	1	0	-------
Nebraska:									
Lincoln	60,941	4	1	1	0	0	2	3	0
Omaha	211,768	0	4	1	0	0	0	2	1
Kansas:									
Topeka	55,411	-------	0	-------	-------	-------	-------	-------	-------
Wichita	88,367	0	1	0	0	0	0	0	0
SOUTH ATLANTIC									
Delaware:									
Wilmington	122,049	1	1	0	0	0	0	0	0
Maryland:									
Baltimore	796,296	5	11	13	2	2	4	0	10
Cumberland	33,741	0	0	0	0	0	0	0	1
Frederick	12,035	0	0	0	0	0	0	0	0
District of Columbia:									
Washington	497,906	3	4	10	0	0	0	0	4
Virginia:									
Lynchburg	30,395	1	0	1	0	0	0	0	1
Norfolk	(1)	1	0	0	0	0	0	0	0
Richmond	186,403	0	3	2	0	1	0	2	4
Roanoke	58,208	0	1	2	0	0	0	0	0
West Virginia:									
Charleston	49,019	0	0	0	0	0	3	0	0
Wheeling	56,208	0	1	1	0	0	0	0	0
North Carolina:									
Raleigh	30,371	5	1	1	0	0	3	0	1
Wilmington	37,061	-------	0	-------	-------	-------	-------	-------	-------
Winston-Salem	69,031	0	1	1	0	0	2	0	0
South Carolina:									
Charleston	73,125	0	0	0	1	0	0	0	2
Columbia	41,225	1	0	1	0	-------	5	0	-------
Greenville	27,311	0	0	0	0	0	0	0	0
Georgia:									
Atlanta	(1)	1	2	3	10	0	0	3	5
Brunswick	16,809	0	0	0	0	0	0	0	1
Savannah	93,134	0	0	1	2	0	2	0	0
Florida:									
Miami	69,754	0	-------	1	0	0	0	0	
St. Petersburg	26,847	0	0	0	0	0	0	0	2
Tampa	94,743	2	0	0	0	0	0	1	0

[1] No estimate made.

City reports for week ended August 6, 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	1	0	0	0	0	0	0
Louisville	305,935	0	2	1	1	0	0	0	5
Tennessee:									
Memphis	174,533	0	2	0	0	0	0	0	2
Nashville	136,220	0	0	1	0	0	1	1	1
Alabama:									
Birmingham	205,670	0	2	3	1	0	1	3	1
Mobile	65,955	0	0	1	0	1	0	0	1
Montgomery	46,481	0	0	0	0	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	31,643	0	0	0	0	-------	0	0	-------
Little Rock	74,216	1	0	1	0	0	9	0	1
Louisiana:									
New Orleans	414,493	0	4	6	1	1	1	0	4
Shreveport	57,857	0	0	0	0	0	1	1	3
Oklahoma:									
Oklahoma City	(1)	0	1	2	1	-------	0	0	4
Texas:									
Dallas	194,450	0	2	3	0	0	1	0	3
Galveston	48,375	0	0	1	0	0	0	0	1
Houston	164,954	0	2	3	0	0	1	1	3
San Antonio	198,069	0	1	8	0	0	0	0	1
MOUNTAIN									
Montana:									
Billings	17,971	1	0	0	0	0	0	0	0
Great Falls	29,883	0	0	0	0	0	2	0	0
Helena	12,037	1	0	0	0	0	1	0	0
Missoula	12,668	0	0	0	0	0	0	0	0
Idaho:									
Boise	23,042	0	1	0	0	0	0	0	0
Colorado:									
Denver	280,911	2	9	6	-------	1	2	2	2
Pueblo	43,787	0	1	3	0	0	0	0	0
New Mexico:									
Albuquerque	21,000	0	1	0	0	0	0	0	0
Utah:									
Salt Lake City	130,948	6	2	6	0	0	0	1	4
Nevada:									
Reno	12,665	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle	(1)	1	4	0	0	-------	32	2	-------
Spokane	108,897	4	1	1	0	-------	0	0	-------
Tacoma	104,455	1	2	2	0	0	4	0	1
California:									
Los Angeles	(1)	12	26	22	0	0	9	6	12
Sacramento	72,260	1	2	1	0	0	1	0	1
San Francisco	557,530	4	11	3	0	1	9	8	4

[1] No estimate made.

City reports for week ended August 6, 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	1	0	0	0	0	1	1	1	0	3	17
New Hampshire:											
Concord	1	0	0	0	0	0	0	0	0	0	4
Manchester	0	0	0	0	0	0	0	0	0	0	10
Nashua	0	0	0	0	0	0	0	0	0	0	6
Vermont:											
Barre	0	0	0	0	0	2	0	0	0	0	4
Massachusetts:											
Boston	16	10	0	0	0	8	3	0	0	19	169
Fall River	0	1	0	0	0	3	1	0	0	4	24
Springfield	1	1	0	0	0	2	0	0	0	0	26
Worcester	2	2	0	0	0	3	0	0	0	3	33
Rhode Island:											
Pawtucket	0	0	0	0	0	0	0	0	0	0	8
Providence	2	8	0	0	0	2	1	2	0	3	47
Connecticut:											
Bridgeport	2	0	0	0	0	0	0	0	0	0	20
Hartford	1	0	0	0	0	1	1	0	0	11	10
New Haven	1		0	0	0	1	2	0	0	13	24
MIDDLE ATLANTIC											
New York:											
Buffalo	5	8	0	0	0	13	1	0	0	21	121
New York	31	40	1	0	0	[1] 90	33	10	2	116	1,114
Rochester	3	2	0	0	0	1	1	4	0	6	56
Syracuse	3	0	0	0	0	3	0	0	0	3	43
New Jersey:											
Camden	0	1	0	0	0	0	1	2	0	1	16
Newark	4	2	0	0	0	14	1	1	0	51	117
Trenton	0	0	0	0	0	3	1	0	0	7	31
Pennsylvania:											
Philadelphia	18	17	0	1	0	32	11	8	0	34	354
Pittsburgh	9	2	1	0	0	12	2	2	1	13	133
Reading	0	0	0	0	0	0	1	0	0	10	17
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	3	5	0	1	0	8	3	0	0	2	111
Cleveland	10	8	1	0	0	11	4	2	0	31	144
Columbus	2	8	0	0	0	3	1	1	0	27	62
Toledo	3	3	1	0	0	7	2	0	1	13	49
Indiana:											
Fort Wayne	1	0	0	1	0	1	1	0	0	1	15
Indianapolis	2	2	1	4	0	4	2	3	0	5	69
South Bend	1	1	1	0	0	0	0	0	0	0	8
Terre Haute	0	0	0	0	0	0	0	0	0	0	9
Illinois:											
Chicago	27	35	0	6	0	46	5	6	0	161	575
Springfield	1	2	0	0	0	0	0	0	0	0	10
Michigan:											
Detroit	23	24	3	0	0	25	5	1	0	90	223
Flint	3	6	1	1	0	1	0	0	0	1	19
Grand Rapids	2	4	0	0	0	0	0	0	0	0	23
Wisconsin:											
Kenosha	0	2	1	0	0	1	0	0	0	0	5
Madison	1	2	0	0	0	0	0	3		8	8
Milwaukee	6	11	1	0	0	9	1	1	0	30	102
Racine	1	0	1	0	0	0	0	0	0	4	9
Superior	2	4	1	0	0	0	0	0	0	0	5
WEST NORTH CENTRAL											
Minnesota:											
Duluth	4	1	1	0	0	0	0	0	0	0	25
Minneapolis	12	12	2	0	0	1	1	0	0	0	64
St. Paul	6	4	2	0	0	7	1	3	0	13	45

[1] Pulmonary tuberculosis only.

City reports for week ended August 6, 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—con.											
Iowa:											
Davenport	0	0	0	0	-------	-------	0	0	-------	0	-------
Des Moines	2	1	0	2	-------	-------	0	0	-------	2	-------
Sioux City	1	0	1	0	-------	-------	0	0	-------	7	-------
Waterloo	0	0	0	0	-------	-------	0	0	-------	0	-------
Missouri:											
Kansas City	2	0	1	0	0	5	2	3	0	10	43
St. Joseph	0	1	0	0	0	3	0	0	0	0	31
St. Louis	6	2	1	0	0	5	7	6	1	26	160
North Dakota:											
Fargo	0	4	0	0	0	0	0	0	0	0	6
Grand Forks	0	0	0	0	-------	-------	0	0	-------	0	-------
South Dakota:											
Aberdeen	0	0	0	0	-------	-------	0	0	-------	1	-------
Sioux Falls	0	1	0	0	-------	-------	0	0	-------	0	-------
Nebraska:											
Lincoln	0	1	0	1	0	0	0	0	0	0	6
Omaha	1	3	1	0	0	1	1	0	0	1	47
Kansas:											
Topeka	1	-------	0	-------	-------	-------	1	-------	-------	-------	-------
Wichita	1	2	1	0	0	0	2	0	0	1	16
SOUTH ATLANTIC											
Delaware:											
Wilmington	0	0	0	0	0	3	0	0	0	0	17
Maryland:											
Baltimore	5	5	0	0	0	16	9	4	0	34	194
Cumberland	0	0	0	0	0	0	0	0	0	0	10
Frederick	0	0	0	0	0	0	0	0	0	0	4
District of Columbia:											
Washington	3	1	0	1	0	10	5	5	0	15	99
Virginia:											
Lynchburg	0	0	0	0	0	0	1	2	0	0	9
Norfolk	0	0	0	0	0	1	2	1	0	4	-------
Richmond	2	1	0	1	0	0	2	2	0	3	36
Roanoke	1	2	1	2	0	0	1	0	0	1	13
West Virginia:											
Charleston	0	1	1	0	0	1	2	0	1	1	17
Wheeling	1	1	0	0	0	1	0	1	0	0	17
North Carolina:											
Raleigh	0	0	0	0	0	0	1	0	0	3	10
Wilmington	0	-------	0	-------	-------	-------	1	-------	-------	-------	-------
Winston-Salem	0	1	0	0	0	0	1	6	0	9	13
South Carolina:											
Charleston	0	0	0	0	0	2	2	3	0	1	22
Columbia	0	0	0	0	-------	-------	1	2	-------	3	9
Greenville	0	0	0	0	0	0	1	0	0	2	3
Georgia:											
Atlanta	1	3	1	1	0	3	3	5	2	8	82
Brunswick	0	0	0	0	0	0	0	1	0	0	4
Savannah	0	0	0	0	0	4	1	0	0	0	29
Florida:											
Miami	-------	0	-------	0	0	1	-------	0	0	0	28
St. Petersburg	0	0	0	0	0	0	0	0	0	0	10
Tampa	0	0	0	0	0	3	0	0	0	0	26
EAST SOUTH CENTRAL											
Kentucky:											
Covington	0	0	0	0	0	0	1	0	0	0	19
Louisville	1	2	0	0	0	0	6	2	1	2	71
Tennessee:											
Memphis	1	2	0	0	0	7	8	10	0	6	79
Nashville	0	1	1	0	0	3	7	5	0	3	46
Alabama:											
Birmingham	2	3	1	1	0	1	6	16	0	6	57
Mobile	0	0	0	0	0	1	1	0	0	0	22
Montgomery	0	2	0	0	0	0	2	3	0	0	-------

City reports for week ended August 6, 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	0	0	0	----	----	1	0	----	0	----
Little Rock	0	0	0	0	0	7	3	1	1	0	----
Louisiana:											
New Orleans	1	3	0	2	0	4	4	6	2	3	109
Shreveport	0	0	0	0	0	1	1	2	1	0	21
Oklahoma:											
Oklahoma City	0	1	1	5	0	2	3	5	0	0	28
Texas:											
Dallas	2	0	1	2	0	1	4	0	0	0	48
Galveston	0	1	0	0	0	2	1	1	0	0	13
Houston	1	2	0	0	0	2	1	2	1	0	53
San Antonio	0	0	0	0	0	7	2	0	0	1	41
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	3	3
Great Falls	0	0	0	1	0	0	1	0	0	0	8
Helena	0	0	0	0	0	0	0	1	0	0	4
Missoula	0	0	0	0	0	1	0	0	0	0	4
Idaho:											
Boise	0	0	0	0	0	0	0	0	0	0	6
Colorado:											
Denver	3	5	2	0	0	7	2	1	1	13	60
Pueblo	0	7	0	0	0	1	0	1	1	0	6
New Mexico:											
Albuquerque	0	0	0	0	0	1	0	0	0	1	5
Utah:											
Salt Lake City	1	2	0	1	0	3	2	2	0	26	37
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	3
PACIFIC											
Washington:											
Seattle	3	3	2	1	----	----	1	2	----	8	----
Spokane	2	0	2	6	----	----	0	0	----	5	----
Tacoma	2	1	1	1	0	0	0	0	0	11	17
California:											
Los Angeles	7	14	4	0	0	20	4	2	0	14	231
Sacramento	1	1	0	0	0	0	1	1	0	0	24
San Francisco	4	4	1	0	0	9	2	0	0	8	103

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									
New Hampshire:									
Manchester	0	0	0	1	0	0	0	0	0
Massachusetts:									
Boston	0	0	0	0	0	0	1	4	2
Rhode Island:									
Providence	0	1	0	0	0	0	0	0	0
Connecticut:									
Bridgeport	0	0	0	0	0	0	0	1	0
Hartford	0	0	1	0	0	0	0	0	0

City reports for week ended August 6, 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
MIDDLE ATLANTIC									
New York:									
Buffalo	0	0	0	0	0	0	1	2	0
New York	3	1	0	4	0	0	5	19	4
New Jersey:									
Newark	0	0	0	0	0	0	0	1	0
Pennsylvania:									
Philadelphia	0	0	1	2	1	1	0	1	1
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	0	1	0	0	0	0	0	4	0
Toledo	0	0	0	0	0	0	0	1	0
Indiana:									
Indianapolis	0	0	0	0	0	0	0	1	0
Illinois:									
Chicago	5	3	1	0	0	0	2	5	2
Michigan:									
Detroit	0	0	2	1	1	1	0	1	2
Flint	0	0	0	0	0	0	0	1	0
Wisconsin: [1]									
Madison	0	0	0	0	0	0	0	0	1
Milwaukee	4	5	0	0	0	0	0	1	0
Superior	0	0	0	0	0	0	0	1	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis	2	0	0	0	0	0	0	0	0
Missouri:									
Kansas City	1	2	0	0	0	0	1	1	0
SOUTH ATLANTIC									
District of Columbia:									
Washington	0	0	1	0	1	1	0	0	0
Virginia:									
Richmond	0	0	0	0	0	0	0	0	1
North Carolina:									
Raleigh	0	0	0	0	0	1	0	0	0
South Carolina:									
Charleston	0	0	0	0	3	2	0	0	0
Georgia:									
Atlanta	1	1	0	0	4	1	0	0	0
Savannah [2]	0	0	0	0	2	1	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis	0	0	0	0	2	1	0	0	0
Nashville	1	1	0	0	3	2	0	0	0
Alabama:									
Birmingham	0	2	0	0	1	0	0	0	0
Mobile [2]	0	0	0	0	2	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	0	----	0	----	0	----	0	1	----
Little Rock	0	0	0	0	0	3	0	0	0
Louisiana:									
New Orleans	0	0	0	0	1	1	0	2	
Oklahoma:									
Oklahoma City	0	0	0	2	0	0	0	0	0
Texas:									
Dallas	0	0	0	0	0	2	0	1	0
Houston	0	0	0	0	0	0	0	1	0

[1] Rabies in man: Racine, Wis., 1 case.
[2] Typhus fever: Savannah, Ga., 3 cases; Tampa, Fla., 4 cases; and Mobile, Ala., 1 case.

City reports for week ended August 6, 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
MOUNTAIN									
Colorado:									
Denver	1	1	0	0	0	0	0	0	0
New Mexico:									
Albuquerque	0	0	0	0	0	0	0	1	0
Utah:									
Salt Lake City	0	1	0	0	0	0	0	1	0
PACIFIC									
California:									
Los Angeles	1	0	0	0	1	1	0	5	1
Sacramento	0	0	1	1	0	0	0	3	4

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended August 6, 1927, compared with those for a like period ended August 7, 1926. The population figures used in computing the rates are approximate estimates as of July 1, 1926 and 1927, respectively, authoritative figures for many of the cities not being available. The 101 cities reporting cases had estimated aggregate populations of approximately 30,445,000 in 1926 and 30,966,000 in 1927. The 95 cities reporting deaths had nearly 29,785,000 estimated population in 1926 and nearly 30,296,000 in 1927. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, July 3 to August 6, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	July 10, 1926	July 9, 1927	July 17, 1926	July 16, 1927	July 24, 1926	July 23, 1927	July 31, 1926	July 30, 1927	Aug. 7, 1926	Aug. 6, 1927
101 cities	102	121	94	114	90	[2] 93	80	[3] 94	78	[4] 79
New England	57	91	78	132	33	63	40	91	40	[5] 69
Middle Atlantic	120	197	101	165	109	106	103	104	88	92
East North Central	106	102	110	93	98	108	83	102	104	80
West North Central	93	38	107	54	95	54	85	56	52	[6] 43
South Atlantic	65	85	32	83	34	[7] 87	20	[8] 90	43	[9] 67
East South Central	5	41	21	36	10	25	21	[10] 32	10	[10] 32
West South Central	43	50	26	71	39	[11] 129	39	[11] 73	39	92
Mountain	118	108	109	81	64	99	91	117	118	[12] 138
Pacific	179	86	158	113	174	65	118	[13] 121	102	76

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1926 and 1927, respectively.
[2] Norfolk, Va., and Fort Smith, Ark., not included.
[3] Greenville, S. C., Brunswick, Ga., Covington, Ky., Fort Smith, Ark., Seattle, Wash., and Spokane, Wash., not included.
[4] Barre, Vt., New Haven, Conn., Topeka, Kans., Wilmington, N. C., Greenville, S. C., Brunswick, Ga., Covington, Ky., and Reno, Nev., not included.
[5] Barre, Vt., and New Haven, Conn., not included.
[6] Topeka, Kans., not included.
[7] Norfolk, Va., not included.
[8] Greenville, S. C., and Brunswick, Ga., not included.
[9] Wilmington, N. C., Greenville, S. C., and Brunswick, Ga., not included.
[10] Covington, Ky., not included.
[11] Fort Smith, Ark., not included.
[12] Reno, Nev., not included.
[13] Seattle, Wash., and Spokane, Wash., not included.

Summary of weekly reports from cities, July 3 to August 6, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued

MEASLES CASE RATES

	Week ended—									
	July 10, 1926	July 9, 1927	July 17, 1926	July 16, 1927	July 24, 1926	July 23, 1927	July 31, 1926	July 30, 1927	Aug. 7, 1926	Aug. 6, 1927
101 cities	311	190	226	155	164	[2] 109	108	[3] 58	70	[4] 47
New England	245	299	179	241	108	197	83	169	83	[5] 92
Middle Atlantic	211	154	129	122	108	92	63	45	42	43
East North Central	481	182	412	110	279	90	191	47	113	29
West North Central	417	93	192	105	184	48	93	40	58	[6] 28
South Atlantic	291	277	201	221	127	[7] 141	114	[8] 70	47	[9] 35
East South Central	284	76	171	61	124	25	93	[10] 49	41	[10] 11
West South Central	47	113	17	105	13	[11] 56	9	[11] 52	9	55
Mountain	264	135	191	171	173	99	128	63	137	[12] 46
Pacific	335	539	327	448	212	280	121	[13] 65	121	144

SCARLET FEVER CASE RATES

101 cities	127	99	94	84	82	[2] 64	73	[3] 63	61	[4] 52
New England	158	174	99	130	85	100	118	107	104	[5] 56
Middle Atlantic	129	123	73	91	75	50	52	39	38	36
East North Central	145	91	119	89	89	75	84	87	79	75
West North Central	206	91	186	71	127	79	143	79	101	[6] 59
South Atlantic	63	54	45	56	35	[7] 41	34	[8] 41	39	[9] 28
East South Central	52	46	52	31	93	31	62	[10] 43	31	[10] 54
West South Central	34	42	52	39	82	[11] 47	39	[11] 26	13	25
Mountain	55	117	91	225	64	99	36	153	64	[12] 129
Pacific	121	60	94	50	91	92	86	[13] 65	83	60

SMALLPOX CASE RATES

101 cities	7	16	7	9	6	[2] 10	5	[3] 5	8	[4] 6
New England	0	0	0	0	0	0	0	0	0	[5] 0
Middle Atlantic	0	0	1	0	0	0	0	0	1	0
East North Central	7	15	6	17	8	13	6	9	9	9
West North Central	28	34	26	14	14	12	4	6	14	[6] 0
South Atlantic	9	24	6	9	6	[7] 12	2	[8] 4	11	[9] 9
East South Central	0	51	5	25	10	36	21	[10] 11	16	[10] 5
West South Central	4	0	13	8	13	[11] 9	4	[11] 13	13	17
Mountain	9	45	9	36	27	117	9	27	9	[12] 18
Pacific	24	73	21	13	8	21	32	[13] 10	24	21

[2] Norfolk, Va., and Fort Smith, Ark., not included.
[3] Greenville, S. C., Brunswick, Ga., Covington, Ky., Fort Smith, Ark., Seattle, Wash., and Spokane, Wash., not included.
[4] Barre, Vt., New Haven, Conn., Topeka, Kans., Wilmington, N. C., Greenville, S. C., Brunswick, Ga., Covington, Ky., and Reno, Nev., not included.
[5] Barre, Vt., and New Haven, Conn., not included.
[6] Topeka, Kans., not included.
[7] Norfolk, Va., not included.
[8] Greenville, S. C., and Brunswick, Ga., not included.
[9] Wilmington, N. C., Greenville, S. C., and Brunswick, Ga., not included.
[10] Covington, Ky., not included.
[11] Fort Smith, Ark., not included.
[12] Reno, Nev., not included.
[13] Seattle, Wash., and Spokane, Wash., not included.

Summary of weekly reports from cities, July 3 to August 6, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued

TYPHOID FEVER CASE RATES

	Week ended—									
	July 10, 1926	July 9, 1927	July 17, 1926	July 16, 1927	July 24, 1926	July 23, 1927	July 31, 1926	July 30, 1927	Aug. 7, 1926	Aug. 6, 1927
101 cities	13	17	22	22	18	[2] 19	30	[3] 21	28	[4] 25
New England	9	14	12	19	9	16	14	9	12	[5] 8
Middle Atlantic	7	8	11	11	9	8	23	13	19	13
East North Central	5	5	6	8	6	9	10	11	12	9
West North Central	16	10	14	16	12	14	22	16	18	[6] 24
South Atlantic	43	34	58	43	47	[7] 50	54	[8] 37	65	[9] 58
East South Central	52	163	165	153	134	122	243	[10] 124	181	[10] 195
West South Central	30	21	56	75	30	[11] 47	47	[11] 47	43	50
Mountain	0	18	0	27	46	27	36	72	27	[12] 46
Pacific	13	10	21	8	8	16	11	[13] 24	29	13

INFLUENZA DEATH RATES

95 cities	4	[14] 3	4	3	3	[7] 3	2	[15] 3	2	[4] 2
New England	7	1	0	5	2	0	0	2	0	[5] 0
Middle Atlantic	1	4	4	2	2	4	1	4	2	1
East North Central	7	3	4	1	4	2	1	1	1	0
West North Central	0	0	0	2	2	2	0	0	0	[6] 2
South Atlantic	0	2	6	6	4	[7] 2	2	[8] 2	4	[9] 6
East South Central	16	15	21	5	5	15	5	[10] 11	0	[10] 5
West South Central	4	[14] 0	9	9	9	0	22	9	4	4
Mountain	0	0	9	18	9	9	0	0	9	[12] 9
Pacific	4	3	4	7	4	3	4	3	11	3

PNEUMONIA DEATH RATES

95 cities	67	[14] 58	60	57	54	[7] 56	48	[15] 49	54	[4] 47
New England	54	60	57	56	33	56	33	49	54	[5] 36
Middle Atlantic	73	64	74	61	64	59	41	56	56	46
East North Central	65	49	46	45	47	55	47	42	42	44
West North Central	53	54	36	31	40	21	57	17	51	[6] 45
South Atlantic	72	59	55	63	57	[7] 75	51	[8] 43	68	[9] 53
East South Central	119	82	109	66	98	46	62	[10] 49	52	[10] 54
West South Central	53	[14] 86	79	69	53	65	71	86	97	69
Mountain	36	99	36	197	64	45	55	36	64	[12] 55
Pacific	53	55	46	97	35	72	71	79	57	62

[2] Norfolk, Va., and Fort Smith, Ark., not included.
[3] Greenville, S. C., Brunswick, Ga., Covington, Ky., Fort Smith, Ark., Seattle, Wash., and Spokane, Wash., not included.
[4] Barre, Vt., New Haven, Conn., Topeka, Kans., Wilmington, N. C., Greenville, S. C., Brunswick, Ga., Covington, Ky., and Reno, Nev., not included.
[5] Barre, Vt., and New Haven, Conn., not included.
[6] Topeka, Kans., not included.
[7] Norfolk, Va., not included.
[8] Greenville, S. C., and Brunswick, Ga., not included.
[9] Wilmington, N. C., Greenville, S. C., and Brunswick, Ga., not included.
[10] Covington, Ky., not included.
[12] Reno, Nev., not included.
[13] Seattle, Wash., and Spokane, Wash., not included.
[14] San Antonio, Tex., not included.
[15] Greenville, S. C., Brunswick, Ga., and Covington, Ky., 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 week ended July 23, 1927.—The following report for the week ended July 23, 1927, was transmitted by the Eastern Bureau of the health section of the Secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva:

Maritime towns	Plague		Cholera		Smallpox		Maritime towns	Plague		Cholera		Smallpox	
	Cases	Deaths	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	Cases	Deaths
Egypt: Port Said	1	0	0	0	0	0	Dutch East Indies:						
Arabia: Aden	0	0	0	0	1	0	Surabaya	0	0	0	0	2	0
Iraq: Basra [1]	0	0	5	5	0	0	Banjermasin	0	0	0	0	11	0
British India:							French Indo-China:						
Bombay	----	2	----	10	17	10	Saigon and Cholon	0	0	1	0	1	0
Madras	----	0	----	35	6	0	Tourane	0	0	1	2	0	0
Calcutta	----	0	----	11	11	8	Haiphong	0	0	9	7	0	0
Bassein	----	7	----	1	0	0	Hong Kong	0	0	0	0	1	1
Rangoon	----	5	----	0	4	2	Manchuria: Mukden	0	0	0	0	1	0
Vizagapatam	----	0	----	0	1	1	Kwantung: Dairen	0	0	0	0	1	0
Siam: Bangkok	0	0	4	0	1	0	Japan: Nagasaki	0	0	0	0	2	0

[1] Cholera is also reported at Mohammerah.

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

ASIA

Arabia.—Jeddah, Perim.

Persia.—Bender-Abbas, Bushire, Lingah.

Ceylon.—Colombo.

British India.—Karachi, Chittagong, Cochin, Tuticorin, Negapatam, Moulmein.

Portuguese India.—Nova Goa.

Federated Malay States.—Port Swettenham.

Straits Settlements.—Singapore, Penang.

Dutch East Indies.—Batavia, Banjermasin, Pontianak, Semarang, Menado, Cheribon, Makassar, Balikpapan, Padang, Belawan-Deli, Tarakan, Sabang.

Sarawak.—Kuching.

British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.

Portuguese Timor.—Dilly.

Philippine Islands.—Manila, Iloilo, Jolo, Cebu, Zamboanga.

China.—Amoy, Shanghai, Tientsin, Tsingtao.

Macao.

Formosa.—Keelung, Takao.

Chosen.—Chemulpo, Fusan.

ASIA—continued

Manchuria.—Yingkow, Antung, Harbin, Changchun.

Kwantung.—Port Arthur.

Japan.—Yokohama, Niigata, Shimonoseki, Moji, Tsuruga, Kobe, Osaka, Hakodate.

AUSTRALASIA AND OCEANIA

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

New Guinea.—Port Moresby.

New Britain Mandated Territory.—Rabaul and Kokopo.

New Zealand.—Auckland, Wellington, Christchurch, Invercargill, Dunedin.

Samoa.—Apia.

New Caledonia.—Noumea.

Fiji.—Suva.

Hawaii.—Honolulu.

Society Islands.—Papeete.

AFRICA

Egypt.—Alexandria, Suez.
Anglo-Egyptian Sudan.—Port Sudan, Suakin.
Eritrea.—Massaua.
French Somaliland.—Djibouti.
British Somaliland.—Berbera.
Italian Somaliland.—Mogadiscio.
Zanzibar.—Zanibar.
Kenya.—Mombasa.
Tanganyika.—Dar-es-Salaam.
Seychelles.—Victoria.

AFRICA—continued

Portuguese East Africa.—Mozambique, Beira, Lourenço-Marques.
Union of South Africa.—East London, Port Elizabeth, Cape Town, Durban.
Reunion.—Saint Denis.
Mauritius.—Port Louis.
Madagascar.—Majunga, Tamatave, Diego-Suarez.

AMERICA

Panama.—Colon, Panama.

Reports had not been received in time for publication from:

Dutch East Indies.—Palembang, Samarinda.
China.—Canton.
Union of Socialist Soviet Republics.—Vladivostok.

Belated information:

Week ended July 16: *Karikal*, 1 fatal cholera case.

Movement of infected ships:

Penang.—The pilgrim ship *Peleus* arrived from Jeddah on July 20 infected with smallpox.

Other epidemiological information:

The Sanitary Maritime and Quarantine Council of Egypt reports that, during the week ended Wednesday, July 27, 5,240 pilgrims arrived at El Tor from Yambos. No infectious disease occurred. The representative of the Sanitary Maritime and Quarantine Council reports the occurrence in the Hedjaz of 7 smallpox cases and 4 deaths during the week ended July 15.

BRAZIL

Yellow fever—Recrudescence in Bahia, Brazil—1926.—Information received relative to yellow fever in Bahia, Brazil, in the year 1926, indicates that the cases which occurred in the city of Bahia were due to infection imported from the interior. Epidemic conditions were stated to have been averted by maintaining a low mosquito index.

Water supply.—During the year under report, the water supply was stated to have failed in many parts of the city of Bahia.

CANADA

Communicable diseases—Week ended July 30, 1927.—The Canadian Ministry of Health reports cases of certain communicable diseases from seven Provinces of Canada for the week ended July 30, 1927, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever			2		2			4
Influenza				2	1			3
Lethargic encephalitis				1	1			2
Smallpox				14	2	9	7	32
Typhoid fever		2	46	10	3	4		65

Communicable diseases—Ontario—July, 1927. (Comparative).—During the month of July, 1927, communicable diseases were reported in the Province of Ontario as follows:

Disease	1927		1926	
	Cases	Deaths	Cases	Deaths
Cerebrospinal meningitis	2	2	6	3
Chicken pox	550		503	
Diphtheria	194	18	183	14
Dysentery		2		
Erysipelas	2			
Gonorrhea	130		131	
German measles	126		150	
Influenza	2	4		10
Lethargic encephalitis	3	2	5	4
Measles	915		1,955	
Mumps	112		37	
Pellagra		1		
Pneumonia		104		137
Poliomyelitis (infantile paralysis)	3	1		
Scarlet fever	240	3	289	3
Septic sore throat	1			
Smallpox	97		41	
Syphilis	89	3	118	
Tuberculosis	135	76	177	72
Typhoid fever	84	2	57	3
Whooping cough	310	6	325	

Communicable diseases—Quebec—Week ended August 13, 1927.—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended August 13, 1927, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	1	Measles	25
Chicken pox	2	Scarlet fever	33
Diphtheria	39	Tuberculosis	73
German measles	5	Typhoid fever	25
Influenza	1	Whooping cough	35

Typhoid fever—Montreal—January 2–August 6, 1927.—The following table gives the cases of typhoid fever and deaths from this disease reported at Montreal, Quebec, Canada, since January 1, 1927:

Week ended—	Cases	Deaths	Week ended—	Cases	Deaths
Jan. 8, 1927	3	1	Apr. 30, 1927	105	23
Jan. 15, 1927	4	3	May 7, 1927	106	19
Jan. 22, 1927	1	2	May 14, 1927	367	16
Jan. 29, 1927	3	1	May 21, 1927	770	26
Feb. 5, 1927	1	0	May 28, 1927	353	38
Feb. 12, 1927	0	0	June 4, 1927	239	37
Feb. 19, 1927	1	2	June 11, 1927	128	36
Feb. 26, 1927	1	1	June 18, 1927	86	
Mar. 5, 1927	9	1	June 25, 1927	75	23
Mar. 12, 1927	203	4	July 2, 1927	66	21
Mar. 19, 1927	383	14	July 9, 1927	52	10
Mar. 26, 1927	568	22	July 16, 1927	39	4
Apr. 2, 1927	649	48	July 23, 1927	22	9
Apr. 9. 1927	386	40	July 30, 1927	23	10
Apr. 16, 1927	175	38	Aug. 6, 1927	16	5
Apr. 23, 1927	125	43	Aug. 13, 1927	20	5

CHILE

Typhoid fever—Typhus fever—April 16–May 31, 1927.—During the period April 16 to May 31, 1927, 75 cases of typhoid fever with

3 deaths were reported in the Republic of Chile. During the same period 10 cases of typhus fever with 1 death were reported. The occurrence was distributed as follows:

Typhoid fever: Santiago (population, 553,498)—cases, 11. Valparaiso (population, 182,422)—cases, 14; deaths, 2. Talca (population, 36,079)—cases, 2. Antofagasta (population, 51,531)—2 cases. Curico (population, 15,879), 2 cases; and at Portreillos, with 12,000 population, 8 cases. In three cities of 15,000 population, 9 cases with 1 death were reported, and in 10 cities of less than 10,000, 27 cases with 2 deaths.

Typhus fever.—During the same period 10 cases of typhus fever with 1 death were reported, occurring as follows, according to locality: Antofagasta, 1; La Calera, 1; Puerto Montt, 1; Valparaiso, 2; Santiago, 5 cases with 1 death.

CUBA

Communicable diseases—Habana—July, 1927.—During the month of July, 1927, communicable diseases were reported in Habana, Cuba, as follows:

Disease	New cases	Deaths	Remaining under treatment July 31, 1927
Chicken pox	2		24
Diphtheria	3		3
Filariasis			1
Leprosy	2		15
Malaria [1]	91	2	55
Measles	21		46
Paratyphoid fever	1		1
Scarlet fever	4		2
Typhoid fever [1]	72	12	218

[1] Many of these cases from the interior.

DOMINICAN REPUBLIC

Vital statistics, 1926.—The following table shows the population of the important communes which contain the principal cities of the Dominican Republic, as well as the total deaths in the year 1926, and the births.

Communes	Population	Deaths	Births
Santo Domingo	49,177	809	1,080
Barahona	12,908	134	276
La Vega	68,606	300	2,342
Moca	50,057	424	1,621
Santiago	84,380	647	3,551
Puerto Plata	33,141	236	1,465
Azua	20,979	119	285
San Pedro de Macoris	33,139	424	894
La Romana	10,093	243	530
Monte Christi	9,049	47	161

During the year 1926 the following diseases are noted as important causes of the deaths, the total of which in that year throughout the Republic was 8,387:

Disease	Deaths	Disease	Deaths
Typhoid fever	226	Bronchitis	229
Malaria	742	Broncho-pneumonia	162
Influenza	143	Pneumonia	466
Dysentery	231	Diseases of the stomach	387
Tetanus	484	Diarrhea	158
Tuberculosis	585	Diseases of the liver	142
Syphilis	76	Intestinal diseases	317
Heart disease	304	Dropsy	479

Water supply.—There is only one city in the Dominican Republic which has a municipal water supply provided by an aqueduct. That is the city of Barahona. An American corporation which operates a large sugar estate at Barahona has constructed an aqueduct which brings water from the near-by hills for the estate and also supplies the city of Barahona. In the city of Santo Domingo, the capital of the Republic, and in the other cities of the Republic, the water supply is dependent upon rain water which is collected in cisterns, usually on the roofs of houses or in old wells which are utilized during the dry season. A contract was let in October, 1926, and work is now being performed on the construction of an aqueduct and sewerage system for the city of Santo Domingo, the capital of the Republic. It is believed that this will not be in operation for at least two years. The habit which obtains among the native population of drinking rain water and also utilizing water from wells is productive of many intestinal disorders, particularly dysentery, which is very prevalent in the summer season. Foreigners residing in the cities of the Republic do not drink the rain water from the cisterns unless it is boiled.

There are no sewerage systems in any of the cities of the Dominican Republic.

DENMARK

Vital statistics—1916–1926.—The statistical department of the Danish Government has published data regarding vital statistics in Denmark for the year 1926.

The table below shows the marriage, birth, and death rates, as well as the excess birth rate, for each 1,000 of the population, for the year 1926, for the preceding five years, and the average for the period 1916–1920:

Rates per 1,000

	Marriages	Births	Deaths	Birth excess
1916–1920 (average)	7.3	24.0	13.1	10.9
1921	8.1	24.0	11.0	13.0
1922	7.9	22.2	11.9	10.3
1923	8.0	22.3	11.3	11.0
1924	7.8	21.8	11.2	10.6
1925	7.5	21.0	10.8	10.2
1926	7.5	20.5	11.0	9.5

EGYPT

Communicable diseases—Week ended June 24, 1927.—During the week ended June 24, 1927, communicable diseases were reported in Egypt as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Influenza	45		Typhoid fever	61	
Smallpox	3	1	Typhus fever	17	1

ITALY

Mortality—1926—Department of Tuscany.—Information received shows the occurrence of 40,753 deaths from all causes (including 2,644 stillbirths) in the Department of Tuscany, Italy, during the year 1926, as compared with 40,504 deaths in the year 1925.

Morbidity.—Cases of infectious diseases were reported from January 1 to April 17, 1927, as follows: Chicken pox, 437; diphtheria and croup, 519; epidemic cerebrospinal meningitis, 12; lethargic encephalitis, 5; measles, 488; poliomyelitis, acute anterior, 6; scarlet fever, 131; smallpox, 5; typhoid fever, 227. Tuberculosis was stated to have been general, with 177 deaths in the city of Leghorn alone from August 1, 1925, to July 30, 1926 (population, 125,000).

JAMAICA

Smallpox (alastrim)—June 26–July 30, 1927.—During the five weeks from June 26 to July 30, 1927, 15 cases of smallpox (reported as alastrim) were notified in the island of Jamaica, occurring at localities other than Kingston.

Other communicable diseases.—During the same period other communicable diseases were reported as follows:

Disease	Cases		Disease	Cases	
	Kingston	Other localities		Kingston	Other localities
Chicken pox	4	9	Puerperal fever	1	1
Dysentery	12	9	Smallpox		15
Leprosy	1	1	Tuberculosis	32	43
Poliomyelitis		1	Typhoid fever	24	92

PERSIAN GULF

Cholera—At ports of the Shat-el-Arab.—Information received under date of August 2, 1927, shows cholera present in the port of Abadan, an important oil port of the Shat-el-Arab, 159 cases being reported to July 31, 1927. Cholera was reported present also at Basra and Mohammerah.

TASMANIA

Vital statistics—1924–1926.—The birth and death rates in Tasmania for the year 1926 are the lowest ever recorded. The following items are taken from a summary issued by the Government statistician of Tasmania.

Births.—There were 4,988 births registered in 1926, against 5,218 in 1925. The birth rate for 1926 was 23.5, compared with 24.5 in 1925 and 25.1 in 1924.

The following table gives a comparison between town and country birth rates:

	1926	1925	1924	1911–1920
Urban districts	21.0	22.4	22.9	[1] 26.9
Rural districts	25.2	25.9	26.6	[1] 29.7
Tasmania	23.51	24.45	25.07	28.12

[1] A rough estimate.

Deaths.—Deaths registered in 1926 numbered 1,912, as against 1,996 in 1925. The death rate in 1926 was 9.0 (the lowest on record), compared with 9.4 in 1925 and 9.9 in 1924. Figures generally were lower than in 1925, the Midland division being the only district to show a marked increase.

Infant mortality.—There were 232 infant deaths in 1926, compared with 287 in 1925 and 296 in 1924. The infant death rate for 1926 (46.5 infant deaths per 1,000 births) is the lowest on record. The rate has been below normal since 1921, when it was high on account of an epidemic of summer diarrhea.

Causes of death (general).—As usual, heart disease accounted for the greatest number of deaths. There were 282 deaths from this cause, compared with a decennial average of 245. Cancer 185, and diabetes 31, were 14 and 7 above their respective averages. Influenza accounted for 41 deaths, exactly the same number as the decennial average; but if the influenza epidemic of 1919 is excluded, deaths from this disease were about 20 above the average. In 1925 there were only 8 deaths from this cause.

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

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

Reports Received During Week Ended August 26, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Canton	May 1–July 9	9	3	
Shanghai	Reported Aug. 19			Present.
Swatow	July 3–9	12		Believed to be incomplete.
India	June 12–18			Cases, 10,665; deaths, 6,389.
Indo-China (French)	June 18–30	5		
Iraq:				
Basra	Reported Aug. 2			Present.
Persia	do	159		On Persian Gulf.
Philippine Islands:				
Province—				
Bulacan	July 8	1	1	
Siam	June 19–25	21	11	
Bangkok	do	4	1	

PLAGUE

Ceylon:				
Colombo	June 19–July 2	4	3	Plague rodents, 2.
Ecuador:				
Guayaquil	June 1–30			Rats taken, 25,059; found infected, 28.
Egypt:				
Port Said	July 21	1		
India	June 12–18			Cases, 141; deaths, 95.
Madras	do	33	17	
Rangoon	June 26–July 2	5	4	
Greece:				
Patras	Reported Aug. 5	1		
Madagascar	June 1–15			Cases, 16; deaths, 14.
Ambositra	do	3	3	
Moramanga	do	2	2	Bubonic.
Tananarive	do	11	9	Including Tananarive town: Cases, 2; deaths, 2.
Senegal:				
Baol	July 18–24	3	2	
Cayor District	do	76	43	
Dakar	do	18	10	
Rufisque	do	21	19	
Thies	do	2		
Siam	June 19–25	1		

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

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

Reports Received During Week Ended August 26, 1927—Continued

SMALLPOX

Place	Date	Cases	Deaths	Remarks
Algeria:				
Oran	July 11-31	6		
Brazil:				
Rio de Janeiro	July 17-29	2	3	
Canada	July 24-30	32		
Alberta	do	7		
Calgary	July 31-Aug. 6	3		
Manitoba	July 24-30	2		
Ontario	do	14		
Ottawa	July 31-Aug. 13	9		
Saskatchewan	July 24-30	9		
Regina	July 31-Aug. 6	1		
China:				
Antung	July 4-10	1		
Hong Kong	July 3-9	1	1	
Tientsin	do	2		
Ecuador:				
Guayaquil	June 1-30	2		
Egypt:				
Cairo	Feb. 19-25	3	1	
Great Britain:				
England and Wales	July 17-30			Cases, 380.
Leeds	do	2		
Newcastle on Tyne	July 24-30	1		
Sheffield	July 10-23	5		
Greece:				
Saloniki	July 12-18		1	
India	June 12-18			Cases, 4,692; deaths, 1,249.
Rangoon	June 25-July 2	7	3	
Jamaica	June 26-July 30	15		Reported as alastrim.
Japan:				
Nagasaki	July 18-24		1	
Mexico:				
San Luis Potosi	July 24-Aug. 6		3	
Portugal:				
Lisbon	July 17-23	2		
Siam	June 19-25	19	3	
Bangkok	do	2		

TYPHUS FEVER

Algeria:				
Algiers	July 11-20	1		
Oran	do	1		
Do	July 21-31	1		
Chile	Apr. 16-May 31	10	1	
Antofagasta	do	1		
La Calera	do	1		
Puerto Montt	do	1		
Santiago	do	5	1	
Valparaiso	do	2		
Chosen:				
Chemulpo	June 1-30	11	1	
Gensan	do	1		
Seoul	do	21	2	
Egypt	June 18-24	17	1	
Cairo	Feb. 19-25	2	1	
Mexico:				
Mexico City	July 17-30	8		Including municipalities in Federal district.
San Luis Potosi	July 31-Aug. 6		1	
Poland	June 5-11	47	5	
Union of South Africa:				
Kentani District	June 26-July 2			Outbreaks.
Umzimkulu District	do			Do.

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

Reports Received from June 25 to August 19, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Amoy	May 22–28	1	1	
Kulangsu	June 21	1		
Shanghai	June 19–25	2		
Swatow	May 15–July 2	24	12	
India	Apr. 17–June 11			Cases, 48,780; deaths, 28,544.
Bombay	May 8–June 14	2	1	
Calcutta	May 8–June 18	396	247	
Karachi	May 29–June 4	1	1	
Madras	June 19–25	5	3	
Rangoon	May 8–June 25	15	11	
India, French Settlements in	Mar. 30–May 28	5	3	
Indo-China (French)	Apr. 1–June 20			Cases, 8,998.
Annam	do	1,147		
Cambodge	do	197		
Cochin-China	do	1,049		
Saigon	June 4–17	4	3	
Tonkin	Apr. 1–June 30	6,605		
Philippine Islands:				
Bulacan Province	June 7	1		At Mambog, Malalos.
Leyte Province—				
Barugo	June 29	1	1	
Carigara	June 23	1	1	Final diagnosis not received.
Palo	May 18	1		
Siam	May 1–June 18			Cases, 138; deaths, 74.
Bangkok	do	32	11	
On vessel:				
Steamship Adrastus	Reported Aug. 6	1	1	At Yokohama, Japan.

PLAGUE

Argentina	Jan. 1–June 30			Cases, 71; deaths, 44.
Buenos Aires	Apr. 10–May 7	4	3	
Cordoba	Jan. 11–Mar. 23	50	29	
Corrientes	June 1	1	1	
Entre Rios	Mar. 29–Aug. 1	3	1	
Santa Fe	Apr. 28–May 16	4	3	
Territory—				
Chaco—				
Barranqueras	May 29	2	2	
Formosa	June 25	3	2	
Pampa	Reported July 6	2		
City—				
Rosario	May 7	1	1	
Sante Fe	May 16	4	2	
Azores:				
Ribeira Grande	June 12–18			9 miles from port.
St. Michaels Island	May 15–June 3	2		
British East Africa:				
Kenya	Apr. 24–June 11	18	14	
Nairobi	May 22–28	6		
Tanganyika	Mar. 29–May 28		37	
Uganda	Jan. 1–Feb. 28	138	121	
Do	Mar. 27–June 11	266	207	
Canary Islands:				
Laguna District—				
Tejina	June 17	1		
Ceylon:				
Colombo	May 1–June 11	13	8	Plague rats, 4.
Egypt	May 21–July 8			Cases, 7; deaths, 2.
Alexandria	June 4–10	1		
Biba	do	1		At Nana.
Beni-Souef	June 4–July 13	5	2	
Dakhalia	June 24–July 9	6	1	
Port Said	June 24–July 13	3	1	
Tanta District	June 4–10	1		
Greece	May 1–31	1	1	
Athens	June 1–30	1		Including Piraeus.
Patras	May 30–June 11	4		
Hawaii Territory:				
Hamakua	July 15			1 plague rodent.

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

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

Reports Received from June 25 to August 19, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
India	Apr. 17-June 11			Cases, 21,204; deaths, 7. 922.
Bombay	May 8-June 25	71	63	
Madras	May 1-June 11	86	33	
Rangoon	May 8-June 25	22	20	
Indo-China (French)	Apr. 1-June 20	21		
Kwang-Chow-Wan	May 21-June 10	57		
Iraq:				
Baghdad	Apr. 8-May 28	12	1	
Java:				
Batavia	May 1-June 25	120	121	Province.
East Java and Madura	May 22-June 18	23	23	
Pasoeroean Residency	May 9			Outbreak reported at Ngadiwono.
Surabaya	Apr. 17-May 7	24	24	
Madagascar				Mar. 16-Apr. 30, 1927: Cases, 256; deaths, 135.
Province—				
Ambositra	Mar. 16-May 31	70	64	
Antisrabe	Mar. 16-May 15	8	8	
Miarinarivo (Itasy)	Mar. 16-May 31	45	45	
Moramanga	do	18	17	
Tananarive	do	185	161	
Tananarive Town	do	20	18	
Peru	Apr. 1-May 31			Cases, 22; deaths, 8.
Departments—				
Ica	Apr. 1-30	1		
Lambayeque	do	1		
Libertad	Apr. 1-May 31	7	4	
Lima	do	13	4	
Lima City	Apr. 1-30	5	1	
Senegal	May 23-July 17			Cases, 212; deaths, 121.
Baol	June 2-July 17	24	12	
Cayor Frontier	July 4-10	7	5	
Dakar	June 20-July 17	34	22	
Facel	July 6	17	8	
Guindel	June 20-26	11	2	
M'Bour	July 6-10	28	23	
Medina	June 13-19	2	2	
Pout	July 4-10	1		
Rufisque	May 23-July 17	104	70	
Thies District	do	24	9	
Tivaouane	June 2-July 17	50	32	
Siam	Apr. 1-June 11			Cases, 9; deaths, 7.
Bangkok	May 8-June 11	2	1	
Tunisia	Apr. 21-May 31	131		
Turkey:				
Constantinople	May 13-19	1		
Union of South Africa:				
Cape Province—				
Maraisburg District	May 1-14	2	2	Native.
On vessel:				
S. S. Avoroff	June 24-30	1		On Greek war ship at port of Athens.
Steamship Ransholm	Aug. 5	3		At Gefle, Sweden, from Rufisque, Senegal.

SMALLPOX

Algeria	Apr. 21-June 10			Cases, 333.
Algiers	May 11-June 30	8	4	
Oran	May 21-July 10	32		
Brazil:				
Rio de Janeiro	May 22-June 25	5	5	
British East Africa:				
Kenya	Apr. 24-May 14	7	14	
Tanganyika	Mar. 29-May 7		22	
Zanzibar	Apr. 1-30	7	2	
British South Africa:				
Northern Rhodesia	Apr. 30-June 24	58		Native.
Canada	June 5-July 23			Cases, 258.
Alberta	June 12-July 23			Cases, 69.
Calgary	June 12-25	5		
British Columbia—				
Vancouver	May 23-29	2		

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

Reports Received from June 25 to August 19, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Canada—Continued.				
Manitoba	June 5–July 16			Cases, 14.
Winnipeg	June 12–Aug. 6	13		
Ontario	June 5–July 23			Cases, 137.
Ottawa	June 12–July 30	64		
Toronto	June 19–July 23	9		
Quebec	do	13		
Saskatchewan	June 12–July 23			Cases, 32.
Regina	July 17–30	2		
Ceylon	May 1–7			Cases, 3; deaths, 1.
China:				
Amoy	May 8–28	1		
Chefoo	May 8–14			Present.
Foochow	May 8–June 11			Do.
Hong Kong	May 8–July 2	16	15	
Manchuria—				
Anshan	May 22–28	1		
Changchun	May 15–July 9	7		
Dairen	May 2–June 12	7	5	
Fushun	May 15–June 5	9		
Harbin	June 13–26	2		
Kai-Yuan	July 3–9	2		
Mukden	May 22–July 9	5		
Pensihu	July 3–9	1		
Supingkai	May 8–July 9	3		
Tientsin	May 8–28	11		
Chosen	Feb. 1–Apr. 30			Cases, 354; deaths, 84.
Chinnampo	Apr. 1–May 31	2		
Fusan	Apr. 1–30	1		
Gensan	May 1–31	1		
Seishin	Apr. 1–30	1		
Curacao	May 29–June 4	1		Alastrim.
Egypt	May 7–June 17			Cases, 17; deaths, 3.
Alexandria	May 21–June 17	4	1	
Cairo	Jan. 22–Feb. 11	4		
France	Apr. 1–May 31			Cases, 128.
Paris	May 21–June 30	11	2	
Gold Coast	Mar. 1–Apr. 30	22	4	
Great Britain:				
England and Wales	May 22–July 16			Cases, 1,810.
Bradford	May 29–June 11	2		
Cardiff	June 19–July 2	4		
Liverpool	do	1		
London	May 15–June 18	2		
Newcastle on Tyne	June 12–July 2	2		
Sheffield	June 12–July 9	18		
Scotland—				
Dundee	May 29–July 2	5		
Guatemala:				
Guatemala City	June 1–30		9	
Guinea (French)	June 4–10	9		
India	Apr. 17–June 11			Cases, 44,336; deaths, 11,199.
Bombay	May 28–June 25	136	92	
Calcutta	May 8–June 18	270	206	
Karachi	May 15–June 25	8	5	
Madras	May 22–July 2	14	5	
Rangoon	May 8–June 18	125	38	
India, French Settlements in	Mar. 20–May 21	145	88	
Indo-China (French)	Mar. 21–June 10			Cases, 236.
Saigon	May 14–20	1	1	
Iraq:				
Baghdad	Apr. 10–16	2		
Basra	do	1		
Italy	Apr. 10–May 21	13		
Jamaica	May 29–June 25	9		Reported as alastrim.
Japan	Apr. 3–May 7			Cases, 19.
Nagasaki City	June 20–July 10	21	5	
Taiwan Island	May 21–31	1		
Java:				
Batavia	May 22–28	1		
East Java and Madura	Apr. 24–30	1		
Latvia	Apr. 1–30	1		

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

Reports Received from June 25 to August 19, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Mexico:				
Durango	June 1-30		1	
La Oroya	Apr. 1-June 30			Present.
San Luis Potosi	May 29-July 16		7	
Tampico	June 1-10	1	1	
Morocco	Apr. 1-May 31	94		
Netherlands India:				
Borneo—				
Holoe Soengei	Apr. 21			Epidemic in two localities.
Pasir Residency	Apr. 30-May 6			Epidemic outbreak.
Samarinda Residency	May 21-27			Do.
Nigeria	Mar. 1-Apr. 30	1,560	351	
Persia:				
Teheran	Feb. 21-Apr. 20		5	
Poland	Apr. 19-May 28	7		
Portugal:				
Lisbon	May 29-July 9	12	1	
Senegal:				
Medina	July 4-10	7		
Siam	May 1-June 18			Cases, 41; deaths, 11.
Bangkok	May 15-June 18	5	3	
Spain:				
Valencia	May 29-June 4	2		
Straits Settlements	June 12-18			Cases, 3.
Singapore	Apr. 1-May 28	4	2	
Sumatra:				
Medan	June 5-11	2		
Switzerland:				
Berne	June 26-July 2	1		
Tunisia	Apr. 1-June 10			Cases, 10.
Tunis	June 1-10	1		
Union of South Africa:				
Cape Province—				
Elliott District	May 11-June 10			Outbreaks.
Kalanga District	do			Do.
Transvaal—				
Barberton District	May 1-7			Do.

TYPHUS FEVER

Algeria	Apr. 21-June 10			Cases, 263; deaths, 29.
Algiers	May 11-June 30	24		
Oran	May 21-June 30	30		
Bulgaria	Mar. 1-May 10			Cases, 151; deaths, 14.
Sofia	June 4-10	1		
Chile:				
Concepcion	May 29-June 4		1	
Ligua	Mar. 16-31	2		
Talcahuano	July 10-16		1	
Valparaiso	do	2		
China:				
Manchuria—				
Mukden	May 29-June 4	1		
Chosen	Feb. 1-Apr. 30			Cases, 330; deaths, 30.
Chemulpo	May 1-31	4		
Gensan	do	1		
Seoul	Apr. 1-May 31	9		
Czechoslovakia				Apr. 1-30, 1927: Cases, 21.
Egypt	May 28-June 17			Cases, 79; deaths, 16.
Alexandria	May 21-July 15	10	3	
Cairo	Jan. 15-21	1		
Estonia	Apr. 1-30			Case, 1.
Greece:				
Athens	June 1-30		9	
Iraq:				
Baghdad	Apr. 24-30	1		
Irish Free State:				
Cork County	July 3-9	1		In urban district.
Latvia	Apr. 1-May 31	17		
Lithuania	Feb. 1-Apr. 30	121	17	
Mexico	Feb. 1-28			Deaths, 26.
Mexico City	May 29-July 16	15		Including municipalities in Federal District.

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

Reports Received from June 25 to August 19, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
Morocco	Apr. 1-June 10	528		
Palestine	May 24-June 6			Cases, 3.
Haifa	do	2		
Mahnaim	May 17-23	1		In Safad district.
Safad	May 17-June 20	3		
Peru:				
Arequipa	Apr. 1-30		1	
Poland	Apr. 10-June 4	822	80	
Portugal:				
Lisbon	May 29-June 4	1		
Rumania	Apr. 3-May 14	687	47	
Tunisia	Apr. 22-June 10			Cases, 137.
Tunis	July 5-11			
Turkey:				
Constantinople	May 13-19		2	
Union of South Africa	Apr. 1-30			Cases, 55; deaths, 8, native. In Europeans, cases, 2.
Cape Province	Apr. 1-June 18	42	5	
Albany District	June 5-11			Outbreaks.
East London	May 22-28	1		Do.
Glen Grey District	May 1-7			
Qumbu District	do			Do.
Natal	Apr. 1-June 18	7	3	
Impendhle District	June 5-11			Do.
Orange Free State	Apr. 1-May 28	5		
Transvaal	Apr. 1-30	1		
Yugoslavia	May 1-31			Cases, 4.

YELLOW FEVER

Dahomey (West Africa):				
Porto Novo	July 1	1	1	In Syrian woman.
Gold Coast	Apr. 1-30	8	5	
Liberia:				
Monrovia	May 29-July 8	4	5	
Senegal	May 27			Cases, 3.
Dakar	July 9	1		
M'Bour	May 27-June 19	5	5	
Ouakam	June 2-8	1	1	
Thies	July 10	1	1	In European.
Tivaouane	May 27-June 8	5	5	