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PREVALENCE OF POLIOMYELITIS IN THE UNITED STATES

Reports from 43 States for the week ended November 12, 1927, showed a decrease of nearly 12 per cent in the number of cases of poliomyelitis as compared with the reports for the preceding week.

These 43 States reported 317 cases of poliomyelitis for the week ended November 12, 1927, 400 cases for the week ended November 5, and 453 cases for the week ended October 29, 1927.

Comparing the reports for the week ended November 5, 1927, with those for the week ended November 12, Ohio reported a decrease from 54 cases to 26, Massachusetts figures dropped from 56 to 38, and the number of cases in California decreased from 35 for the earlier week to 23 for the later. Pennsylvania, Illinois, Iowa, Idaho, and Oregon showed slight increases, but in all of these States except Idaho the prevalence of poliomyelitis is less than it was a few weeks ago.

Reports for the three years, 1925 to 1927, inclusive, are available from 39 States. They reported 267 cases of poliomyelitis for the week ended November 12, 1927, 52 cases for the corresponding week of 1926, and 72 cases for the week in 1925.

Reports by States for four weeks ended November 12, 1927, are given in the table on page 2909, and reports for the week ended November 19, 1927, will be found on page 2919.

THE UNIVERSITY IN RELATION TO THE PUBLIC HEALTH[1]

By J. W. KERR, Assistant Surgeon General, *United States Public Health Service*

The establishment of higher institutions of learning has been the landmark of civilization in all countries. Our country is no exception. The extent of the maintenance of these institutions has been the measure of progress attained. The material prosperity of our people, which is the marvel of the period, is largely due to the application of scientific knowledge in the development of our natural resources, but among other factors the conservation of health has played an important part.

Within the past quarter of a century the death rate from typhoid fever has been reduced from 35.9 to 6.7 per hundred thousand popu-

[1] Presented before The Association of Governing Boards of State Universities and Allied Institutions, Madison, Wis., November, 1926.

lation. The tuberculosis death rate has been reduced from 201.9 per hundred thousand to 90.6. The morbidity from many other diseases has been greatly reduced, and some diseases have been eliminated. From 1897 to 1920, an average of 11 years has been added to the expectancy of life in the United States, and since 1921 certain industrial firms have been able to reduce by about 25 per cent per person the time lost from work on account of sickness and accidents. These figures represent an incalculable saving in dollars and cents as well as reduction of human misery. They also explain in some measure why the luxuries of the past have become the necessities of the present.

These results have been accomplished by scientific research and the application of the information thus obtained by governmental and private agencies. Hitherto these agencies have worked more or less independently of one another. Moreover, their work has been directed largely to the solution of problems that immediately presented themselves, such as the determination of the causes and methods of transmission and control of the communicable diseases.

But the problems that now offer themselves are becoming increasingly complex, and the need for their solution has been emphasized by the relatively low physical and mental standards demonstrated by medical examinations of the troops included in the drafts for the World War. It is evident, therefore, that more highly organized procedures must be adopted in future for the promotion of health.

On being selected by the Surgeon General to confer with you regarding the relation of the university to the public health, it was realized that the subject would have to be presented on my part from the standpoint of an official who has devoted many years to Federal health activities, but has had little experience in university life aside from his student days. Because of the experience had in Federal health work, however, the conviction has been reached that the university has a very vital relation to future plans for public health advancement, and this conviction has been deepened by the study of health activities as conducted by State and local governments. In general, this relationship may be outlined as follows:

1. Conservation of the health of students.
2. Education regarding individual and community health.
3. The training of health workers.
4. The promotion of coordinated research.

CONSERVATION OF THE HEALTH OF STUDENTS

With the recognition of the necessity not only of preventing communicable diseases among students, but of promoting their general health and fitting them to their tasks, "student health services" have been organized in many universities and colleges. The development of this work has been coincident with allied activities

among other groups of the population, especially industrial workers. They are but a part of the great forward movement that has been in progress in recent years. The activities of these organizations need not here be described. They should include supervision of personal hygiene, sanitation of environment, and selective education in respect to health, especially as relates to individual and community responsibility. By reason of the clientele affected, the success of these activities will depend largely on the personality of the director in charge and his ability to promote coordination, not only of the departments of the university, but of the health authorities within whose jurisdiction his institution is located.

Physical examinations for the detection and correction of physical defects and the sanitation of environment form essential parts of the work. Here accepted principles of health administration may be practiced. But the maintenance of proper advisory relations with students in health matters is of supreme importance. The beginning of university life is an abrupt transition in the life of every student. He must necessarily undergo a process of orientation, and while doing so he should have the advantage of sound advice.

With proper instruction and close personal association, much may be done to interest the students in individual and community health, and some students may be properly influenced to adopt health work as a career. I think it must be the experience of practically every university student that the admiration for and association wi'h some particular teacher have influenced his entire life. In the professional schools, students develop new ideals and sometimes decide upon their particular specialties in consequence of such influence.

Too often, however, professional students, particularly students of medicine, are discouraged by their advisers from adopting public health as a vocation. It may be frankly conceded that the financial rewards are not comparable to those of the medical specialties, but from the standpoint of service, public health stands high in the list.

In my own case, for example, I believe my professors thought that I was throwing away my opportunities by entering the public-health field; but, in experience and satisfaction, my work has been amply rewarded. However, the bearing of political and social conditions on health work as a career 30 years ago was far more adverse than to-day. In the future these conditions may be expected further to improve.

EDUCATION REGARDING INDIVIDUAL AND COMMUNITY HEALTH

In the past the interest in health work has been advanced largely by propaganda. It was most successful among the masses. That method is being rapidly displaced by systematic instruction of persons of school age and governmental administration on behalf of citizens generally.

Instruction regarding individual and community health should be begun in the primary grades and continued throughout the student's school life. Students will thus enter universities with a broader conception of the principles of public health. Suitable textbooks at every stage of the child's school career and suitably qualified teachers are essential to proper health instruction. The importance of proper normal-school training can not be overemphasized.

The present need is the instruction of men and women as to the value of efficient public-health administration in order that it may receive not only adequate financial support, but moral support and recruits to carry it on. Without turning the university into a center for the dissemination of ill-advised uplift schemes, its clientele may be instructed as never before regarding the value of scientific knowledge and its practical application for the protection of health and the promotion of human efficiency. I know of no field in which greater progress has been made during the past 25 years; yet its surface has hardly been touched.

Progress in the future will depend on advancement in science, and that nation will be most benefited whose citizens foster systematic research. This is the particular field of the Federal Government as relates to health. It is also the province of the university as an educational agency to disseminate education regarding the importance of public-health research and to train practical sanitarians and scientific workers to engage in it.

THE TRAINING OF HEALTH WORKERS

The value of health work has not been sufficiently appreciated by the general public to encourage young men and women in sufficient numbers to select this field as a career.

That there is considerable interest in the subject is evidenced, however, by the progress recently made. One of the most significant events of recent years was the conference on "the future of public health in the United States and the education of sanitarians," convened by the Surgeon General of the Public Health Service on March 14, 1922. Representatives of institutions of learning from 18 States attended the conference and devoted several days to earnest consideration of the subject. I know of no convention held in Washington made up of scientists and publicists of greater eminence.

On account of the increasing demand, not only for health officers, but scientific workers, sanitarians in industry, etc., various methods have been considered and some of them have been adopted, viz, short courses of instruction for those who have already engaged in the work, but without having all the required qualifications; systematic courses leading to degrees or certificates of proficiency; and highly specialized training in preparation for research.

Following the conference mentioned, public health institutes were organized in several universities here and there to give short courses in health work. The purpose was to provide practical instruction for the large group who have already entered the public health field without all the required qualifications, some of them devoting only a part of their time to these duties.

While the needs for these special institutes will continue only so long as the supply of systematically trained professional workers is inadequate, State universities, in cooperation with State and local health departments, may well offer short summer courses of instruction for the benefit of any who will take them. As an inducement, these courses have been given here and there in conjunction with other courses in which the student had as great or even greater interest. This applies particularly to practitioners of medicine.

In addition, systematic instruction may well be organized and supported, leading to degress or certificates of proficiency in the several specialites where adequate facilities are available. It would seem that the State university, in particular, should consider, in conjunction with State and local health authorities, the giving of well-rounded courses for the training of practical health administrators. It should be borne in mind, however, that information on many different subjects is the requisite of the properly trained health official. Not all universities may be in a position to furnish this instruction.

Indeed, it is doubtful whether universities with limited facilities or circumscribed fields should offer special instruction leading to the degree of doctor of public health. The fact should be frankly accepted that there should be specialization by universities in these matters. Whatever courses are offered, however, should provide the basic foundation to enable the student who desires to specialize to do so, and there should be available to him full advice as to the institution that will afford the larger facilities he requires. In other words, there is opportunity for universities to cooperate with each other and with health departments in health education. The relationship that has been maintained by the Western Reserve University with the local department of health is an excellent example. There would be great advantage in the development of some such plan whereby students during vacations might receive remunerative employment and at the same time acquire experience in public-health practice. This plan has long been followed in the training of physicians. It would seem to be worthy of serious trial in the case of public-health students.

While much of the work of the United States Public Health Service is highly specialized and seasonal, students have here and there been utilized, some of its ablest officers were formerly student helpers. By this means they were attracted to this field permanently.

It is the peculiar privilege of university authorities to discover and develop genius among students. The greatest single asset of any country is brains. Oftentimes they are developed in spite of almost insurmountable difficulties. Sometimes they are recognized, but through lack of incentive or opportunity, their potential value is lost to the country.

With the awakening of interest in public health and the acceptance of its economic value, large funds have been set aside by their donors for health betterment. I believe that if permanent funds comparable in size with some of the existing foundations were set aside in aid of students who give promise of unusual ability, no greater impetus could be given to the public health movement and to public health research. The selection of candidates might devolve on committees of university professors collaborating with the United States Public Health Service or some other central health agency which would aid the students in securing opportunities with special institutions of learning, scientific laboratories, and public health agencies, public and private.

I am aware that there are many ways by which students may receive aid and that there is danger of blighting ambition by aid unwisely rendered, but the aid here contemplated would be more far-reaching than that rendered for a brief undergraduate period. It might well cover the entire productive period of the research worker, depending on his ability and specialty. Why should there not be special research foundations for this purpose, not on behalf of institutions, but of individuals? In a speech on public health recently presented in the Senate, Senator Ransdell voiced this thought as follows:

> Some practical means should be devised whereby persons having potential qualifications may receive substantial aid in developing these qualifications unremittingly without thought of being hampered by personal financial considerations. It is possible that some such system might be developed through the coordinative efforts of faculties of universities. * * * Philanthropists may well be encouraged to establish endowments for the conduct of research and, above all, for the training and employment of scientists. They may be encouraged also to make donations for the use of the Federal Government in the promotion of scientific effort.

The money compensation in many institutions is so inadequate as to drive science teachers and research students into other fields. This unfortunate condition can only retard progress in pure science, notwithstanding the discovery of some new principle might revolutionize present-day conditions of life.

THE PROMOTION OF COORDINATED RESEARCH

In the past progress in science has depended on individual effort. A spirit of rivalry on the part of individuals and institutions has been one incentive. I believe there should be substituted for it the

spirit of cooperation. Herein the university has a great opportunity, as relates to health. This need is becoming more and more apparent.

During 12 years in the administration of research in the United States Public Health Service it was my experience that particular problems required the combined efforts of scientists having widely different qualifications and approaching from different angles. In our studies of pellagra, for instance, there were needed the earnest efforts of bacteriologists, pathologists, entomologists, epidemiologists, statisticians, chemists, physiologists, veterinarians, dermatologists, psychiatrists, and other specialized workers.

For the proper conduct of research, the fundamental sciences of physics, chemistry, and biology are as frequently to be looked to for recuits as the science of medicine. It has been necessary in governmental work, therefore, to requisition scientific aid from among the scientific departments of Government and private scientific institutions. This practice has grown by leaps and bounds in recent years. As an example may be mentioned the investigations of sanocrysin, a gold preparation in combination with serums advocated for the cure of tuberculosis. Before considering the granting of a license for its sale in interstate traffic, the Surgeon General requested the collaboration of the laboratories of the Bureau of Animal Industry, the Rockefeller Institute, and the Research Laboratory of the City of New York with the Hygienic Laboratory. Definite conclusions were speedily reached and license was not granted. This resulted in great economic saving to those afflicted with tuberculosis.

Another recent cooperative investigation conducted by the Public Health Service related to the problem of the influence on health of the manufacture, distribution, or use of tetraethyl lead gasoline. In this study, collaboration was had with Johns Hopkins, Harvard, Yale, and Vanderbilt Universities, the University of Chicago, the State Department of Health of Minnesota, and the municipal departments of health of Cincinnati and Dayton, Ohio. In consequence of this extensive collaboration, a pressing public health question was satisfactorily settled.

Through the Hygienic Laboratory and the National Tuberculosis Association, a highly important and extensive study of tuberculosis is now being conducted. Taking part in this program of research at the present time are the Hygienic Laboratory, the Bureau of Animal Industry, the National Research Council, 20 universities and special laboratories, and 2 manufacturing chemists. As stated by a colleague in charge of it, "The essence of the plan of this investigation is first to define carefully the various unsolved questions of a composite study of the whole disease; next to apportion each of these problems to the most expert student available and to make his task as easy as possible for him to pursue in his own laboratory; and

finally to arrange a conference of those students carrying on allied researches before a small group of competent judges who, by their criticisms and advice, will point out the next steps to be taken in the investigation."

Examples have been multiplied to indicate a field of cooperation of universities and other institutions interested in health with the Public Health Service. Many other instances of cooperation on the part of universities with the service in the past years might be mentioned. They have related to nutritional diseases, industrial hygiene, and other subjects. At present, the facilities of Johns Hopkins, Harvard, Yale, and Vanderbilt Universities are being utilized by officers in the prosecution of special studies. On the other hand, the facilities of the Hygienic Laboratory have been extended in the recent past to research workers from Leland Stanford and other universities of the United States and from the University of London.

In my opinion, cooperation of this character on the part of universities offers great opportunities for good. While the essential function of every university is the instruction of its students, research also has its place. Each university faculty will determine whether this function as conducted by it has any bearing on public health. If it has, the willingness should be shown to unite with other agencies to the extent of its abilities; and it should lend its support to the Public Health Service as the proper coordinating agency.

Other comprehensive investigations might then be planned by the scientific corps of the laboratory working in collaboration with scientists of States and municipalties and representatives of university faculties. This corps is composed of scientific workers in a number of specialties. It is the expectation that the number will be increased within reasonable limits.

With the organization contemplated and its coordination with universities and other appropriate scientific agencies, it should be practicable to advance public health research in the United States as never before.

These suggestions are based on (*a*) the great value that would accrue from systematic cooperation of official and nonofficial agencies; (*b*) the need of some responsible coordinating agency; (*c*) the economy to the Federal Government in having potentially available official and nonofficial agencies competent to engage in highly specialized research; (*d*) the acceptance of the fact that, while the fundamental function of the university is instruction in the sciences, it may be provided with special facilities with which to aid in studies of complex public-health problems; (*e*) the importance of defining the activities of official and nonofficial agencies in their respective fields consistent with economy and efficiency.

The availability of an endowment with which to establish permanent individual fellowships would enable the universities to train and advance scientific workers, and by this means also there would be provided for participating institutions, assistants highly specialized in the conduct of the work.

This conception of the future of public-health research is the result of administrative experience and recognition of the opportunities in this field for the advancement of knowledge and the improvement of living conditions. The essentials for this realization are the spirit of cooperation, trained scientists, and adequate funds. With the last mentioned, the university should be able to train workers and to cooperate with similar organizations, and in my opinion these are its essential functions in relation to the public health.

FIVE-YEAR INFANT MORTALITY STUDY IN BUFFALO, N. Y.

A summary of the information obtained from a 5-year infant mortality study in Buffalo, N. Y., 1922–1926, is presented by Dr. Frances M. Hollingshead, in the Sanitary Bulletin for August–September, 1927, published by the Buffalo Department of Health.

The infant mortality rate in Buffalo had been reduced from 165 per 1,000 live births in 1910 to 94 in 1921, but in 1922 the rate jumped to 102, and this reaction prompted a request from the city department of health for a study of the records by the Buffalo Foundation, to ascertain any facts which might be of additional value in the department's efforts to reduce infant mortality in the city.

The data on birth and infant death records of the city for the five years have been studied by wards and special districts, by nationality of parents, by cause of death and age at death, by hospitals at which the births occurred, and by physicians in attendance. Doctor Hollingshead gives the following summary of the information obtained in the study, a complete report on which is now being published:

1. Buffalo's infant mortality rates for the five years, exclusive of nonresidents, were: 102, 89, 84, 86, and 82 per 1,000, an average of 89. With nonresidents included the total rates were only slightly changed, 102, 90, 84, 87, and 84 per 1,000, an average also of 89.

2. Buffalo has eight wards in which the infant mortality rates for the five years have averaged over 100 infant deaths per 1,000 live births. The third ward is the section of the city with the highest rate for the five years, a loss of 125 babies per 1,000 births. The tenth ward is next highest, with an average rate of 118 per 1,000. The first ward ranked third highest, with an average of 116 per 1,000. The other average rates in this high group were 106 for both the ninth and twenty-seventh, and 102 for the fourteenth, sixteenth, and twenty-first wards.

3. The five lowest ward rates, all around 65 per 1,000, were found in the twelfth, thirteenth, eighteenth, nineteenth, and twentieth wards. The third

ward, with the highest record, 125 infant deaths per 1,000 births, just doubled the lowest rate, 62 per 1,000 in the twentieth ward.

4. In total figures, 62,261 babies were born alive in Buffalo during the five years, and 5,549 died before reaching 1 year of age. In this number there were 3,209 births and 326 deaths of babies of nonresident mothers.

5. Of the 5,549 infant deaths, 1,334, or 24 per cent, occurred within the first day; 2,327, or 42 per cent, by the end of the first week; 2,952, or 53 per cent, within the first month; and 4,475, or 81 per cent, during the first 6 months of age.

6. During the five years there occurred in Buffalo 6,666 live births and 810 deaths of babies under 1 year of age whose mothers had been born in Poland—a mortality rate of 122 per 1,000 births. For mothers born in Italy, there were 5,252 births and 459 infant deaths, a mortality rate of 87 per 1,000. For mothers born in Buffalo, the births totaled 27,967 and the infant deaths 2,378, a mortality rate of 85 per 1,000. For mothers born in the United States exclusive of Buffalo, the 14,235 births and 1,209 deaths give exactly the same rate as for Buffalo-born mothers, 85 per 1,000.

7. Fifty-six per cent of the deaths of babies of Buffalo-born mothers occurred under 2 weeks of age, whereas only 37 per cent of the babies of mothers born in Poland and 31 per cent of babies of mothers born in Italy occurred at this very early period. This larger percentage of deaths under 2 weeks of age of babies of Buffalo-born mothers was due to the greater loss from premature births, injuries at birth, and other conditions of very early infancy, which was 47 per cent, as compared with 26 per cent and 32 per cent of deaths, respectively, from such causes of babies of mothers born in Italy and in Poland.

8. Diseases of the respiratory system were more fatal to the babies of mothers born in Italy, 36 per cent of all deaths of babies born to this group of mothers dying from such causes, as compared with 18 per cent for babies of Buffalo-born mothers and 16 per cent for babies of mothers born in Poland.

9. The digestive diseases caused a higher proportion of deaths of babies of mothers born in Poland. The percentages of total deaths of babies of each group of mothers for digestive diseases were 38 for mothers born in Poland, 21 for mothers born in Italy, and 15 for Buffalo-born mothers.

10. Twelve per cent of the deaths of babies of Buffalo-born mothers were reported to have been due to malformations, as compared with 6 per cent among babies of mothers born in Poland and 5 per cent for babies of mothers born in Italy.

11. To negro mothers in Buffalo there were born 1,143 babies, with 137 deaths under 1 year of age, a mortality rate of 120 per 1,000 births.

12. Midwives attended 16 per cent of the births occurring in Buffalo during the five years. For each 100 babies attended by midwives there were 2 deaths under 2 weeks of age.

13. A total of 20,342 live births, or 33 per cent of all births during the five years, occurred in hospitals, and 909 of these babies died under 2 weeks of age, a mortality rate of 4.5 per 100. In two hospitals this average rate was more than doubled, 10.9 and 10.6 per 100 deliveries. In the three strictly maternity hospitals the rates were all below the average of 4.5 per 100 deliveries. The mortality rates in the 13 hospitals in Buffalo were found to have been 10.9, 10.6, 5.9, 5.6, 4.8, 4.5, 4.3, two 4.1, 3, 2.9, 2.4, and 1.3.

14. Twenty physicians attended 14,704 of the live births occurring in the five-year period, an average per physician of 700 births. Of these 14,704 babies, 680 died under 2 weeks of age, a mortality rate for the group of 4.6 per 100 live births; 7 of the 20 physicians had mortality rates in their practice exceeding this average. The physician with the highest mortality rate under 2 weeks

of age among babies attended by him at birth lost 8.6 babies in each hundred births. The lowest mortality rate in the group was 1.5 per 100 live births. Below the average loss for the group were 2 physicians with rates of 4.5; 1 each with rates of 4.3, 4.2, and 4; 3 with a rate of 3.5; 1 with a rate of 3.3; 1 each with a rate of 2.3, 2.1, and 2; and 1 with the lowest as stated, 1.5 per 100.

15. A second group of physicians, 33 in number, attended 9,520 live births during the five years, an average of 290 per physician, and lost 408 babies under 2 weeks of age, giving a mortality rate for this group of 4.3 per 100 deliveries; 16 of these 33 physicians had mortality rates above this average of 4.3 per 100. The greatest loss in the practice of any one of these 33 physicians was 10.6 per 100. The lowest rate was 1.6 per 100.

CURRENT WORLD PREVALENCE OF DISEASE

REVIEW OF THE MONTHLY EPIDEMIOLOGICAL REPORT ISSUED OCTOBER 15, 1927, BY THE HEALTH SECTION OF THE LEAGUE OF NATIONS' SECRETARIAT[1]

Cholera.—The cholera epidemic in Iraq, which began in the middle of July at Basra, seems to have been kept under control by the prompt precautions taken by the Iraq health service. Two months after the beginning of the outbreak, the infection had spread less than halfway to Baghdad, according to the October issue of the Epidemiological Report. In the previous epidemic, in 1923, Baghdad was infected within five days of the appearance of cases at Basra. The total number of cases reported in Iraq from July 24, to September 24, 1927, was 712, of which 339 were in the city of Basra. At Abadan, 241 cases were reported, and at Mohammerah 205 cases were reported in the six weeks from July 24 to September 3. In the three weeks following the latter date no cases were reported in either of these towns. The likelihood of further spread of the outbreak is diminishing with the passing of the hot season.

The number of cholera deaths reported in India remained at a high level without much change from the beginning of June to the middle of August (about 6,000 deaths weekly in the provisional returns). The incidence began to decrease in the United Provinces and in Bihar and Orissa from the middle of June, and in the Punjab after the middle of July; the outbreak in Madras Presidency seems to have reached its maximum in July. At the same time there was a marked increase in Bombay Presidency and in Hyderabad. After the end of August a decrease in the cholera incidence may be expected throughout India.

[1] From the Office of Statistical Investigation, United States Public Health Service.

TABLE 1.—*Cholera deaths Preported in the Provinces of India from May 22 to August 13, 1926 and 1927*

Province	1926			1927		
	May 23-June 19	June 20-July 17	July 18-Aug. 14	May 22-June 18	June 19-July 16	July 17-Aug. 13
Punjab and Delhi	6	24	11	715	2,246	1,261
Punjab States	0	7	5	99	484	218
United Provinces	494	548	552	6,043	3,286	2,029
Bihar and Orissa	1,673	1,088	2,415	8,155	6,710	5,131
Bengal	541	397	589	1,108	945	1,329
Assam	710	154	22	430	312	267
Central India Agency	31	35	27	182	548	657
Central Provinces	267	282	850	1,894	1,705	1,514
Madras Presidency	340	929	859	1,912	3,860	4,327
Hyderabad	0	0	0	137	433	1,750
Bombay Presidency	9	1	8	2,522	2,818	4,105
States in Bombay Presidency	0	0	0	301	419	416
Burma	494	544	367	238	151	303
Other Indian States	2	6	13	3	271	35
Total	4,567	3,915	5,728	23,739	24,188	23,342

The incidence of cholera in French Indo-China declined throughout the summer months; the peak of the incidence in Tonkin, where the disease was most prevalent, was passed early in June. In Annam, the maximum incidence was not reached until August, but the number of new cases declined rapidly in September. The total incidence in French Indo-China during the first 20 days of September amounted to 658 cases; during the month of August, 2,155 cases were reported.

In Siam, the weekly number of cholera cases was about 20 from the beginning of May to the end of August. A few cases occurred in the Malay States after the middle of June, and 107 cases had been reported up to the end of August.

Various maritime towns in China became infected with cholera in August, notably Canton, Amoy, Shanghai, Foochow, and Ningpo. In September there was an outbreak at Wuhu on the Yangtze above Nanking; and, at Tientsin, in the week ended September 24, 17 cases of cholera reported.

Plague.—In most countries the incidence of plague was at low ebb in July and August. The Report states:

The most important exceptions were Senegal and Uganda, where the seasonal maximum frequently occurs in these months. In Senegal, where 129 cases were reported in June, the number of cases increased to 494 in July and to 622 in August. Dakar became infected early, and 128 cases were reported up to the end of August in the town and its district. The incidence for the year is considerably higher than in the two preceding years. The reported case mortality for July and August was 64 per cent in the whole colony. In Uganda, 958 plague cases and 780 deaths were reported during the eight weeks ended August 13, which will probably comprise the period of maximum incidence of the year. The number of cases reported during these weeks is much in excess of that notified during the corresponding period of any year since 1921, when Uganda was visited by very severe plague outbreaks.

The annual minimum incidence of plague in India was reached early in July. Up to August 20, human plague was practically absent in the whole of Northern India. There were a few cases from the second week of August in two districts of the Central Provinces. The incidence began to increase from early in August in the Madura district in the southern part and Bellary district in the central part of Madras Presidency, in Mysore and in the districts of Belgaum and Dharwar in Bombay Presidency, which both border on the Bellary district. Sporadic plague cases occurred also in many districts of Burma.

In Java, 438 deaths from plague were reported during the four weeks ended July 9, which is slightly more than the number reported during each of the three preceding four-weekly periods.

In Greece, one plague case was reported at Patras on September 3, and six cases were reported between the 15th and 29th of the same month at Plomarion on the island of Mytilene. Two cases were reported at Beirut, Syria, on September 10 and 17.

Ten plague cases and six deaths were reported in the district of Salsk in north Caucasus between August 28 and September 17. These were the only plague cases reported in recent months in the U. S. S. R.

In Egypt, three cases of plague were reported between August 14 and September 17. In Algeria there were five cases in August and one case in the first 10 days of September.

No plague case was reported during the first nine months of 1927 in Chinese ports reporting to the Singapore bureau. Both human and rat plague were reported to be prevalent in Fukien Province in May and sporadic cases were reported in Kwantung. The Report notes that "The Kwantung Government states that there has been an epidemic of pneumonic plague, causing many deaths, in the latter part of August in the district north of Hamintala (in Eastern Gobi in Inner Mongolia)."

Yellow fever.—The number of yellow fever cases increased in Senegal in September, when 20 fatal cases occurred; all were among the European population. Of these, 15 were at Dakar, 2 on the island of Goree, 2 at Thies, and 1 at Khombole. The center of the epidemic in the preceding year and a half was farther inland than Dakar.

In August, there was 1 case in Gambia, 2 cases on the Ivory Coast, and 1 case in Togo. There has been no fresh case reported at Porto Novo in Dahomey since July 2.

In the Gold Coast Colony, 98 cases of yellow fever were reported from February to July, and cases were still occurring at Accra and on the Cape Coast.

Smallpox.—Smallpox continued to spread in Algeria; 459 cases were reported in August, of which number 373 were in the department of Oran and 78 in the department of Algiers. In August of the years 1924, 1925, and 1926, there were 5, 73, and 114 cases, respectively. The disease has been less prevalent during the last two years in Tunis, where only 12 cases were reported in August. In Morocco, 76 cases were reported in August. In Egypt, also, the incidence is lower than it has been for several years; only 5 cases occurred during the four weeks ended August 26.

In England the incidence of smallpox remained somewhat higher than at the corresponding season of previous years, but no seasonal increase was indicated by the returns for September. On the European continent cases continued to be rare. In France the situation has improved markedly, and only 6 cases were reported in August as compared with 23 and 50 in July and June, respectively. In Italy 5 cases were reported in the four weeks ended July 17.

Smallpox is less prevalent in Mexico than in the preceding three years, but the severe type predominates; 911 deaths were attributed to this cause during the first half of 1927, as against 1,942 deaths during the corresponding period of 1926.

In Nigeria smallpox has been more prevalent than usual and, during the first seven months of 1927, 3,244 cases were reported, with a case fatality of 22 per cent.

In the Union of South Africa the smallpox cases occurring since the epidemic at Durban came to an end last November have been of the mild form. No deaths occurred among the 40 cases reported during the first seven months of 1927.

Typhus and relapsing fever.—September is usually the month of lowest incidence of typhus fever in Eastern Europe, where the winter increase begins in the fourth quarter of the year. The incidence of this disease during the first nine months of 1927 was relatively low everywhere in this area. Relapsing fever has all but disappeared from Europe except in certain areas of the Union of Socialist Soviet Republics; it decreased markedly in the Ukraine.

Enteric fever.—The prevalence of enteric fever during August and the first half of September was lower than the normal for that season in countries of northwest Europe, including the Scandinavian countries, Finland, Germany, the Netherlands, and Belgium. In Switzerland, Austria, and Hungary, the incidence was about the same as last year. East and south of these countries the incidence has been higher than last year.

In Poland there were 2,477 cases during the four weeks ended September 10, as compared with 2,002 during the corresponding period of the preceding year. In August 1,027 cases were reported in Czechoslovakia, and 697 in the Kingdom of the Serbs, Croats, and Slovenes, as compared with 547 and 322 cases, respectively, in August, 1926.

Typhoid fever spread rapidly in Italy in July; 4,277 cases were reported during the four weeks ended July 31, as compared with 2,001 during the corresponding weeks of the preceding year, the last figure being about normal for the season.

In France and England the returns were also somewhat higher than in the preceding year, though the incidence, especially in the latter country, is not excessive.

Dysentery.—Dysentery has become less prevalent in Germany in recent years; 546 cases were reported during the four weeks ended September 10 as compared with 803 and 1,229 cases, respectively, in the corresponding period of the preceding two years.

In Poland cases of dysentery increased in the last two years, although the incidence was still much lower than in 1924 and earlier years. During the four weeks ended September 10 of the current year 1,600 cases were reported. The disease has been most prevalent in Galicia.

In Rumania and the Kingdom of the Serbs, Croats, and Slovenes dysentery was more than twice as prevalent in August as in the corresponding month a year ago; but there was no serious epidemic prevalence.

In Morocco, as in many subtropical or tropical countries, dysentery is a serious cause of illness; 8,855 cases were reported during the first eight months of 1927. The maximum incidence occurred in May.

Acute poliomyelitis.—The reported incidence of poliomyelitis in European countries for August and September showed a prevalence above the normal in several countries, particularly in Germany and Rumania. The Report states:

> The first severe outbreak in Europe occurred at Bucharest in Rumania in June and July, spreading gradually to other parts of the country.
>
> In Germany an outbreak began early in July in the Province of Merseburg (Prussian Saxony), but did not reach its maximum until the middle of September. It spread during the last week of July to the neighboring Province of Leipzig, in Saxony, where the number of cases continued to increase up to the middle of September. In these two Provinces 255 cases were reported between July 3 and September 17 which have together a population of 2,684,000. There were during the same period 503 cases in the remainder of Germany in a population over twenty times greater. These districts are thus very clearly the center of the outbreak. In a large area of central Germany the incidence is between 1 and 3 cases per 100,000 population, while it is lower in the more distant Provinces.
>
> Acute poliomyelitis was more prevalent in England and Wales in 1926 than in any previous year; 1,159 cases and 176 deaths were reported during the year, giving a case mortality rate of 15.2 per cent. If 138 cases and 59 deaths reported as polioencephalitis are included, the case mortality rate is increased to 18.1 per cent. The incidence remained above normal during the first quarter of 1927, owing to the slow decrease of the 1926 outbreaks, which reached their maximum only late in October. The seasonal minimum incidence was reached in April and May. The number of cases has increased markedly since July and is higher than in previous years except 1926, the incidence of which was not equaled during any week up to the end of September. The incidence of poliomyelitis was above the normal in Scotland.

Scarlet fever.—The reported incidence of scarlet fever in September in most European countries differed very little from that for the corresponding season last year. The incidence was lower than in the preceding two years in Sweden, Denmark, Latvia, Lithuania, and Poland. More cases than were reported a year ago were notified

during the summer and autumn in England and Germany. The Report states:

In England and Wales there were 6,711 cases during the four weeks ended September 24, as compared with 5,566 during the corresponding weeks of 1926. In Germany 6,132 cases were reported during the four weeks ended September 10, as against 4,367 during the corresponding period of the preceding year. This is the fourth year in which the incidence of scarlet fever has increased in Germany; it may be a good sign, however, that the increase of the number of cases in the last four-week period (September 10) this year over the preceding four-week period has been 19 per cent, while the corresponding figure last year was 45.2 per cent.

Scarlet fever has since the beginning of the year been more prevalent in Australia than for some years past. The incidence normally decreases from the beginning of June, but this year there was a new increase in July (which corresponds to our January); 926 cases were reported during the four weeks ended July 30, as compared with 468 cases during the corresponding period of the previous year.

Natality and general mortality.—The birth and death rates in England, France, and Germany since 1901 are shown in the accompanying table. The birth rate in each country was lower in 1926 than in the preceding year. The birth rate in Germany has been declining in recent years more rapidly than in France, and the difference in the rate between the two countries is becoming slight. The decline in the death rate in Germany in recent years has been remarkable and is also much greater than the decline in the death rate in France. Part of the decline in the death rate in Germany is a result of the smaller proportion of infants in the population.

TABLE 2.—*Birth and death rates per 1,000 of the population in England, France and Germany from 1901 to 1926*

Country	1901–1904	1910–1914	1920–1924	1925	1926
BIRTH RATE					
England	28.4	24.3	21.3	18.3	17.8
Germany	34.7	28.2	23.1	20.6	19.5
France	21.4	19.0	20.1	19.1	18.8
DEATH RATE					
England	16.2	13.9	12.2	12.2	11.6
Germany	19.9	16.6	13.9	11.9	11.7
France	19.6	18.1	17.5	17.7	17.5

POLIOMYELITIS CASES REPORTED BY STATES, OCTOBER 16 TO NOVEMBER 12, 1927, AND CORRESPONDING WEEKS OF 1925 AND 1926

The following table gives a comparison of the telegraphic reports from State health officers for the four-week period from October 16 to November 12, 1927, with the reports from the same sources for the corresponding period of the years 1925 and 1926. This table is a

continuation of tables appearing in the Public Health Reports, October 7, 1927, page 2452, and November 4, 1927, page 2726. Reports for the week ended November 19, 1927, will be found on page 2919 of this issue.

Cases of poliomyelitis reported by State health officers October 16–November 12, 1927, compared with reports for the corresponding weeks of 1925 and 1926

State	Week ended—											
	Oct. 22, 1927	Oct. 23, 1926	Oct. 24, 1925	Oct. 29, 1927	Oct. 30, 1926	Oct. 31, 1925	Nov. 5, 1927	Nov. 6, 1926	Nov. 7, 1925	Nov. 12, 1927	Nov. 13, 1926	Nov. 14, 1925
Alabama	2	1	2	1	0	0	0	1	1	1	0	2
Arizona	4	0	0	1	0	0	0	0	0	0	0	0
Arkansas	2	2	0	2	0	1	1	0	0	1	1	0
California	32	6	9	30	1	4	35	5	11	23	2	15
Colorado	7	0	0	------	0	1	7	1	0	6	0	0
Connecticut	9	1	1	9	4	0	7	0	1	3	0	1
Delaware	0	0	0	0	0	0	1	0	0	0	0	0
District of Columbia	3	0	0	1	1	0	0	1	1	------	0	1
Florida	0	0	1	3	0	0	1	0	1	2	0	0
Georgia	1	0	2	0	0	2	0	0	2	0	4	0
Idaho	0	0	0	2	0	------	8	0	------	11	0	------
Illinois	37	5	15	25	4	7	14	2	11	18	4	0
Indiana	11	2	2	19	2	3	11	2	7	7	0	3
Iowa	------	0	9	8	0	------	3	0	------	7	0	5
Kansas	8	0	5	14	3	6	4	1	4	3	1	2
Louisiana	2	0	0	2	0	1	0	1	3	0	0	2
Maine	13	1	0	6	1	0	5	0	0	7	3	1
Maryland	2	2	19	3	1	4	1	1	1	2	0	1
Massachusetts	99	9	10	66	6	4	56	10	5	38	7	3
Michigan	18	0	0	18	0	0	14	0	0	8	0	0
Minnesota	8	0	17	6	2	18	3	0	5	2	0	4
Mississippi	2	2	0	0	1	0	3	0	0	0	0	0
Missouri	9	1	2	12	0	4	7	0	1	6	0	1
Montana	2	0	3	0	0	0	1	0	0	1	0	0
Nebraska	5	0	16	14	1	7	10	3	2	5	1	3
New Jersey	11	3	3	8	1	2	9	2	4	3	2	1
New Mexico	7	0	0	3	0	1	2	0	1	3	0	1
New York	32	23	28	31	14	6	23	9	23	18	12	11
North Carolina	1	2	1	1	2	0	2	3	2	0	2	0
North Dakota	0	0	3	0	0	1	1	0	3	------	0	1
Ohio	46	------	------	51	------	------	54	------	------	26	------	------
Oklahoma	10	1	1	7	0	0	3	2	1	3	2	1
Oregon	31	1	0	26	1	0	20	1	2	22	0	0
Pennsylvania	45	9	------	18	3	------	18	6	6	27	2	0
Rhode Island	3	2	------	4	------	0	3	0	1	2	0	0
South Carolina	3	3	3	2	10	4	4	2	2	1	4	0
South Dakota	5	0	2	6	0	2	7	1	0	6	1	6
Tennessee	7	0	------	2	0	------	4	0	------	5	0	------
Texas	9	0	1	3	0	0	11	2	2	5	0	1
Utah	0	0	1	2	1	0	2	0	1	0	0	0
Vermont	7	0	5	6	0	2	------	0	2	------	0	4
Virginia	0	0	1	2	0	0	0	0	0	1	0	0
Washington	22	0	7	21	0	9	26	1	4	26	0	1
West Virginia	17	0	0	9	2	0	12	0	0	8	0	------
Wisconsin	8	5	7	9	4	14	8	2	7	9	3	6
Wyoming	1	0	0	1	0	0	0	2	0	1	1	1

PUBLIC HEALTH ENGINEERING ABSTRACTS

Eradication of Salt Marsh Mosquitoes. Edward Stuart and N. M. Stover. *American Journal of Public Health*, vol. 17, No. 7, July, 1927, pp. 704–707. (Abstract by H. B. Hommon.)

Mosquito-abatement work in California is carried on under the mosquito abatement act of 1915. To organize a district it is necessary to present to the board of county supervisors a petition with the signatures of 10 per cent of the registered voters of the district. A district may be any size up to that of a county and may include municipalities that wish to join in the work. The board of county supervisors, after approving a district, appoint a board of trustees who serve without pay and have complete charge of all abatement work. Tax levies for this work can not exceed $0.10 on $100 assessed valuation.

There are five abatement districts around the San Francisco Bay, which include 120 miles of water frontage and 443 square miles of land consisting of hills and marshes. There are 12 other mosquito-abatement districts in the State which were organized for malaria control. The districts around San Francisco Bay spend approximately $50,000 a year.

The chief problem around the San Francisco Bay is the control of the *Aëdes dorsalis* and *Aëdes squamiger*. These two species breed in salt or brackish water and have a range of flight extending 15 miles from any possible breeding ground.

The open marshland around the bay is easily controlled by ditches, 18 inches wide and 1 to 2 feet deep, that permit a constant flow with the tides and allow small fish to enter and devour the larvæ. The reclaimed land, however, presents many difficult problems. In a general way it is handled as follows: (1) Tide gates are used to let out drainage water at low tide and prevent water returning at high tide; (2) cracked land is best taken care of by plowing, dragging, and disking; (3) lowland, either natural or caused by shrinking in reclaiming, is best controlled by pumping; and (4) breeding places which can not be drained are oiled with a mixture of equal parts of crude oil and stove distillate. Crude oil costs 5 cents per gallon and stove distillate 8 cents. Power sprayers mounted on trucks are used, which throw the oil to distances varying from 50 to 100 feet.

Carbon Tetrachloride as Applied for the Extermination of Mosquitoes and Flies. Kenzo Takashima *Journal of the Public Health Association of Japan*, vol. 3, No. 6, June, 1927, pp. 1–9. (Abstract by Fred Almquist.)

In order to use carbon tetrachloride to exterminate mosquitoes, flies, etc., the best method is to add cresol-soap solution. But the addition of soap decreases the value of night soil as manure in that it kills certain kinds of vegetables.

By experimenting it was found that a special solution of cresol soap containing little water was most suitable. In mixing with carbon tetrachloride a sol is formed which becomes a gel on dilution under certain conditions. This mixture, when diluted with water, forms a milky dilution until a certain quantity of cresol-soap solution is added.

Biological and Physical Properties of Activated Sludge. F. W. Harris, T. Cockburn, and T. Anderson. *Water Works*, vol. 66, No. 1, January, 1927, pp. 24–29. (Abstract by E. A. Reinke.)

This paper defines activated sludge, describes the analogy between nature's method and artificial processes of sewage transformation, discusses the predominant organisms and their significance, the changes due to enzymic action, and principles in the utilization of sludge. Experimental work at Shieldhall is described in considerable detail. The minimum effective percentage of sludge for a contact period of four hours was found to be 8 per cent. The product of the percentage of sludge and the hours of contact is called the "coefficient of interfacial contact," and experimental work is given in tabular form showing that for a coefficient of 30, with contact periods of one-half hour to 12 hours, and sludge percentages of 60 to 2½, uniform results were obtained. At Shieldhall, treatment for one hour will be used for partial purification before discharging to tidal waters. The advantages of reactivation, particularly with partial treatment as at Shieldhall, are stressed.

Dissolved oxygen absorbed by sludge was determined by filling half-Winchester bottles with aerated water of known dissolved oxygen content, adding 5 per cent of the bottle capacity of sludge (settled one hour) agitating continuously for half an hour, then settling 30 minutes and estimating the unabsorbed dissolved oxygen content.

Rate of settlement of sludge depends on the density, or the total solids contained in a definite volume of sludge. The method of Arden and Lockett is used and is described as follows: "Samples equal in volume were collected at a fixed hour at different points in the aeration channels, thoroughly mixed, and their combined volume, representative of the contents of the aeration tank, was poured into a 1,000-c. c. cylinder. After one hour's settlement the supernatant liquid was siphoned off, the remaining sludge well mixed, and 100 c. c. pipetted into weighed basins for the estimation of the total solids."

Charts showing the density of sludge, volume, percentage, and mineral matter are given, together with rainfall records. The relation between aeration and density is discussed and the authors conclude with the following statement: "Our experience has proved that density of sludge is a phase of the process, the study of which can only lead to increased efficiency, and may possibly prove to be of material advantage in solving the problem of economic dewatering of the sludge."

Sewage-Treatment Plants in Illinois Sanitary Districts. Samuel A. Greeley. *Water Works*, vol. 66, No. 1, January, 1927, pp. 17–25. (Abstract by E. A. Reinke.)

This is a detailed account of the operations of the sanitary districts of Illinois under the act of 1917. The act and amendments are summarized. Statistics are given in several tables. Sewage flows are given for various districts showing average flows of 75 to 125 gallons per day. Sewages vary in composition from weak combined sewage to domestic sewage plus strong starch wastes. Intercepting sewers have been proportioned to take normal flow and first run-off. Capacities and costs are given in accompanying tables, which are complete and detailed. Costs for complete treatment vary from $9.46 to $13.40 per capita.

Sewage Disposal in Great Britain. J. D. Watson. *Water Works* vol. 66, No. 9, September, 1927, pp. 367–370. (Abstract by W. R. Schreiner.)

This article contains a discussion of the various methods possible.

Dilution.—Should be thought of first, in all cases. Best results are obtained by multiple nozzles discharging into comparatively still waters or by a few outlets into tidal or current channels.

Land irrigation.—Where there is available at least 1 acre per 100 persons, an efficiently worked sewage farm is still considered among the best methods. The effluents are free from micro-organisms, almost uniformly good and clear, with a very low nitrate figure.

Contact beds.—Contact beds are not now considered sound or economical, or as reliable as other methods. Liability of clogging, less aeration, more space required, are bad features. Many old contact beds are being replaced by newer methods.

Percolating filters.—Advantages: Moderate first cost, low operating cost, clear, nonputrescible effluent. Disadvantages: Fly nuisance, nauseating odors. Wastes from gas works, dairy factories, sugar-beet factories, etc., produce inhibitory effects upon the purification processes of this type.

Activated sludge has lost its position as the long sought cure-all. Advantages: Low first cost, scientific soundness of principle, less space requirement. Disadvantages: Can not properly handle all types of wastes, is extremely sensitive to changes in character of wastes, requires more knowledge and more skillful management. In this process mechanical agitation is a strong competitor of

the earlier aeration types of mixing. This process is a most valuable adjunct to existing contact beds and percolating filters, doubling the capacity and removing odors. It makes a valuable additional step in purification when placed between sedimentation tanks and percolating filters. Imhoff tanks are not in favor, though deserving of more attention.

Sludge disposal.—Lagooning is practiced in majority of places; smell nuisance greatest drawback; merits of separate digestion tanks in producing a good sludge not generally recognized in Great Britain; activated sludge presents a serious problem in dewatering.

Storm water.—Recommendations of royal commission that storm-water storage should be equal to six hours of dry weather flow are now out of date; storage equal to 18 to 24 hours' dry weather flow more nearly correct, in these days of impervious roads.

In conclusion it may be said that pollution of streams is now due rather to lack of money than to indifference such as prevailed some years ago. The sewage problem has not been solved, but public opinion becomes more and more insistent on the employment of best possible means of purifying wastes.

Automatic Control of Sewage at Syracuse Sewage Treatment Plant. E. F. Sipher. *American City*, vol. 37, No. 1, July, 1927, pp. 6–9. (Abstract by A. S. Bedell.)

The sewage-treatment plant at Syracuse, N. Y., contains several unusual features. The most noteworthy is the method of controlling the rate of flow of sewage through the grit chamber, by use of pumps operated by automatically controlled variable speed motor to maintain the velocity of the sewage within close limits without excessive loss of head.

City topography necessitates pumping the sewage to the settling tanks. Sewage enters the works at an overflow chamber connected to an overflow conduit direct to the lake for volumes in excess of 55 million gallons daily. The sewage passes through coarse bar screens to a three-channel grit chamber, then through fine screens, mechanically raked, and into pump well, thence by three 24-inch pumps of 18 million gallons daily capacity each (with a fourth pump in reserve) to settling tanks provided with Dorr clarifiers. Sludge is pumped through a 4-inch main, and buried with wastes of Solvay Process Co. Entire plant is controlled from an 18-panel switchboard which can be superseded by manual control in emergencies. Automatic control devices are described in some detail. Automatic measuring and recording devices are also a feature of the plant.

The Many Algal Growths that Annoy Water Works. Anon. *Water Works Engineering*, vol. 80, No. 18, August 31, 1927, pp. 1256 and 1283. (Abstract by Frank Raab.)

Fresh-water algæ are classified into three groups: (1) The red algæ group, which contains 17 varieties; (2) the green algæ division, which has 356 species; and (3) the blue-green algæ group, which numbers 232 plants. The odor produced by the various algæ may be sweet, grassy, geraniumlike, fishy, or obnoxious. Algæ must have CO_2, nitrogen, and sunlight for their growth and development. The nitrogen may be obtained from the nitrates in the water. Copper sulphate is now widely used for the destruction of algæ. Chlorine is also used in some places. Copper is probably not a true poison. Doses as high as 15 grains have been prescribed in medicine.

Lethal doses of copper sulphate

Algæ	Lethal dose of copper sulphate, parts per million	Pounds of copper sulphate, per million gallons
Synedra	0.20	1.7
Uroglena	.50	4.2
Asterionella	.10	.8

Amounts of copper present in well-known foods

Food	Cu present as a metal	$CuSO_4$, parts per million
Almonds	36.8	145.0
Milk	1.6	6.3
Cucumbers	35.0	177.0
Potatoes	2.8	11.0
Strawberries	8.0	31.4

Lethal doses to fish

Fish	$CuSO_4$, parts per million	$CuSO_4$, pounds per million gallons
Trout	0.14	1.2
Carp	.33	2.8
Pickerel	.40	3.5
Goldfish	1.50	4.2
Perch	.67	5.5
Bass	2.00	16.6

How Quality of Water Affects Industries. W. D. Collins. *Water Works Engineering*, vol. 80, No. 13, June 22, 1927, p. 927. (Abstract by Fred Almquist.)

Early development in manufacturing took place in the northeastern part of the United States. It happened that most of these industries were able to obtain soft water. With the shifting of the center of population westward toward the hard-water region, it was some time before the accompanying industrial activity rose very greatly. The great rise came not from a shifting of plants westward, but more by the development of new industries.

The quality of the water as affecting the locating of steel mills is of slight consideration, while for wool and silk goods excellent water is necessary. Cotton manufacturing, formerly entirely in New England, now is found in parts of the South where soft water is found. Where it is a question of steam, the water must be of soft quality.

Nearly all public water supplies are now safe to drink, but there is room for large improvement with reference to industrial use, in knowledge of composition, treatment, and control.

Spore-bearers in the Spavinaw Water Supply. R. L. Ginter, *Journal American Water Works Association*, vol. 17, No. 5, May, 1927 pp. 591–594. (Abstract by L. M. Fisher.)

Water is collected in a 20-billion gallon reservoir from a 400 square mile watershed about 65 miles east of Tulsa, Okla. It flows to within 4 miles of the city, where it is chlorinated, aerated, and pumped to an inclosed high-pressure reservoir.

The raw water had a *B. coli* index of 0.1 per cubic centimeter. The average 37° agar count was 490. The *B. coli* index does not vary much throughout the year, whereas the count increases in the warm months and decreases in the winter season.

Twenty-seven per cent of the samples of chlorinated tap water gave positive results that did not confirm. In all cases gas formation in these tubes was more rapid than in control tubes of untreated water, indicating that organisms in the untreated water which are killed by chlorine inhibit, to a certain extent, the spore bearers. It was found that neither 17 parts per million of chlorine nor 19 parts per million of copper (in terms of metallic copper) killed the organism. The organism is similar to the one described by Norton and Weight. No sanitary significance is attached to it. Evidence that 5 per cent bile inhibits *B. coli* has not been obtained.

It is suggested that a change in the presumptive test involving a low per cent bile medium, similar to the one used by Dunham, McCrady, and Jordon, would result in a saving of routine time and increase the dependence that water works men place in the presumptive test.

The Effects of Storage upon the Quality of Water. A. Gordon Gutteridge. *Health*, Commonwealth of Australia, vol. 5, No. 2, March, 1927, pp. 35–38. (Abstract by L. M. Fisher.)

The quality of stream water depends upon the proportion of ground water to run-off water present. In dry weather there is proportionately more ground water than surface water in the stream, and proportionately greater quantities of inorganic salts are present. This is conducive to development of algæ, which, in the presence of sunlight, because of their chlorophyl, are able to combine these salts with dissolved carbon dioxide and thus obtain their food supply.

Ninety-nine per cent of the normal strains of pathogenic bacteria disappear at the end of a week's storage, and all of them at the end of a month. Water initially good obtained from an upland source will not be improved much by storage; in fact a deterioration may result. Water from a large river will almost invariably be improved.

In general, under these conditions, storage will result in decided decreases in (1) concentration of organic and inorganic solids by sedimentation; (2) concentration of organic impurities by precipitation and oxidation; (3) color in upper layers by oxidation and the bleaching action of sunlight; (4) concentration of hardness-forming salts due to loss of CO_2 by diffusion, on utilization by plants, and by absorption of these salts by plants and animals during growth; (5) the number of bacteria, by sedimentation, exhaustion of food supplies, and utilization as food by other forms of life.

A New Agar-Dye Differential Medium for the Colon-Typhoid Group—With Special Reference to Its Use in Water Analysis. A. J. Salle. *Journal of Infectious Diseases*, vol. 41, No. 1, July, 1927, pp. 1–8. (Abstract by E. A. Reinke.)

After reviewing the literature on differential media the author describes experimental work based on the ability of *B. coli* to form more acid from sugar than *B. aerogenes*, provided the greatest amount added is just sufficient for *B. coli* to produce a final pH of 5.0. A tritration curve is given. The author's summary follows:

A new agar-dye differential medium for the identification of the members of the colon-aerogenes-typhoid group is described, containing peptone (Difco), 5 gm.; K_2HPO_4, 5 gm.; KH_2PO_4, 1 gm.; distilled water 1,000 c. c.; agar, 20 gm.; lactose, 5 gm.; erythrosin (2 per cent aqueous), 20 c. c.; methylene blue (1 per cent aqueous), 10 c. c.; bromcresol purple (1 per cent aqueous), 20 c. c.; and by its use two tests are incorporated in one operation, thereby shortening the period of a complete water analysis by 24 hours. Glucose broth cultures may be dispensed with. *B. coli* and *B. aerogenes* are sharply differentiated on this medium because of distinct differences in their carbohydrate metabolism.

Methods of Estimating Pollution in Tidal Estuaries and Water Reservoirs. David Ellis. *The Surveyor*, vol. 71, No. 1850, July 8, 1927, pp. 37–38. (Abstract by H. N. Old.)

In this article the writer treats of the composition of organic matter in water, with its potentialities of pollution, and the two principal methods of detecting and measuring the amount of polluting substance—the chemical and the biological tests.

The chemical determinations, usually the albuminoid ammonia and the "oxygen absorbed" tests, are briefly outlined as to purpose, with the explanation that while the former will give definite estimation of the amount of organic matter present in a given unit of water, the connection between this and the determination of the amount of organic matter capable of suffering putrefactive change, with which the water engineer is mainly concerned, is very vague.

In discussing the "oxygen absorbed" test the author states that "the assumption that the more oxidizable organic matter is also more putrefiable is not warranted."

The estimate of total nitrogen contained in a measured quantity of water is referred to as probably the best of the chemical tests if it were not for the length of time required for its completion and the fact that it suffers from the defect inherent in all chemical tests—that the amount of nitrogen-containing matter is not a measure of the amount of putrefiable matter.

The biological tests for total bacteria and the presence of colon bacilli are discussed. With proper interpretation they are direct estimations of the very matter concerning which the water engineer requires information. The author treats of the differentiation to which consideration must be given in the matter of total bacteria, the greater part of which are probably harmless, and the evidence of colon bacilli as indicating sewage pollution.

The extension of biological methods by use of the determinations of iron bacteria, sulphur bacteria, and the organisms which have been found in black-mud investigations, in the matter of judging the source of a domestic water supply, is suggested and discussed.

Pollution of Boundary Waters. G. H. Ferguson. *Canadian Engineer*, vol. 52, No. 13, March 29, 1927, p. 384. (Abstract by R. E. Thompson.)

This is a brief general discussion of the pollution of the water of the Great Lakes. So efficacious is the self-purifying power of water that, with the exception of a margin along the shores and the areas adjacent to the mouths of the tributary rivers, the water of the Great Lakes, when unaffected by vessel pollution, is pure. The discharge of sewage from boats seriously pollutes the water in the lines of vessel traffic. Turbidity may usually be avoided if intake is placed in deep water at a sufficient distance from shore. There has been a remarkable reduction in typhoid in Great Lakes communities during the last 25 years, and high explosive rates, which indicate epidemics, have been very much reduced. By the terms of the British North America act, jurisdiction over navigable waters of Canada is vested exclusively in the Federal Government at Ottawa. The public health act of the Province of Ontario provides for action that may be taken in regard to pollution of springs, wells, ponds, etc., used as a source of public water supply.

Disinfection of New Mains. Chas. H. Eastwood. *Water Work*, vol. 66, No. 9, September, 1927, p. 363. (Abstract by W. R. Schreiner.)

This paper gives detailed instructions for using liquid chlorine. Apparatus improvised from spare duplicate parts is described. The recommended dosage is 10 to 20 parts per million applied at inlet end of the main, through which the dosed water is allowed to flow until water issuing from outlet end shows an orange red with orthotolidine. The dosed water is then allowed to stand for several hours before the main is flushed out with fresh water.

DEATHS DURING WEEK ENDED NOVEMBER 12, 1927

Summary of information received by telegraph from industrial insurance companies for week ended November 12, 1927, and corresponding week of 1926. (From the Weekly Health Index, November 16, 1927, issued by the Bureau of the Census, Department of Commerce)

	Week ended Nov. 12, 1927	Corresponding week, 1926
Policies in force	69, 066, 180	65, 911, 828
Number of death claims	10, 208	11, 240
Death claims per 1,000 policies in force, annual rate	7. 7	8. 9

Deaths from all causes in certain large cities of the United States during the week ended November 12, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, November 16, 1927, issued by the Bureau of the Census, Department of Commerce)

City	Week ended Nov. 12, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Nov. 12, 1927 [2]
	Total deaths	Death rate [1]		Week ended Nov. 12, 1927	Corresponding week 1926	
Total (67 cities)	6,684	11.9	[3] 12.2	649	[3] 706	[4] 54
Akron	32			4	4	43
Albany [5]	28	12.2	14.1	1	0	21
Atlanta	54			7	11	
White	28			3	3	
Colored	26	(6)		4	8	
Baltimore [5]	214	13.6	15.6	19	31	60
White	152		14.4	10	25	40
Colored	62	(6)	22.3	9	6	141
Birmingham	68	16.5	15.1	7	4	
White	22		13.9	2	4	
Colored	46	(6)	17.0	5	0	
Boston	207	13.6	13.4	15	22	42
Bridgeport	20			1	2	17
Buffalo	135	14.7	13.6	16	21	67
Cambridge	25	10.5	9.8	3	2	53
Camden	26	10.2	8.4	4	6	68
Canton	25	11.5	11.9	3	3	72
Chicago [5]	684	11.5	10.2	73	62	63
Cincinnati	143	18.1	15.2	16	9	97
Cleveland	188	10.0	10.3	20	20	54
Columbus	76	13.6	16.4	9	9	84
Dallas	43	10.7	12.1	4	2	
White	37		11.2	4	2	
Colored	6	(6)	17.6	0	0	
Dayton	41	11.9	10.6	3	7	50
Denver	94	16.9	11.3	8	7	
Des Moines	34	11.9	16.1	3	8	53
Detroit	285	11.1	10.7	41	45	63
Duluth	22	10.0	8.3	0	2	0
El Paso	35	16.0	15.3	3	3	
Erie	26			2	3	43
Fall River [5]	26	10.2	14.3	3	2	51
Flint	15	5.5	11.5	3	4	47
Fort Worth	29	9.2	9.8	5	3	
White	23		8.6	5	3	
Colored	6	(6)	18.9	0	0	
Grand Rapids	37	12.1	9.3	4	1	59
Houston	71			13	7	
White	41			7	5	
Colored	30	(6)		6	2	
Indianapolis	96	13.4	14.1	4	9	30
White	77		13.9	2	8	17
Colored	19	(6)	15.6	2	1	121
Jersey City	65	10.5	12.1	7	7	53

[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, Nov. 11, 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.

Deaths from all causes in certain large cities of the United States during the week ended November 12, 1927, infant mortality, annual death rate, and comparison with corresponding week of 1926. (From the Weekly Health Index, November 16, 1927, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Nov. 12, 1927		Annual death rate per 1,000 corresponding week 1926	Deaths under 1 year		Infant mortality rate, week ended Nov. 12, 1927
	Total deaths	Death rate		Week ended Nov. 12, 1927	Corresponding week 1926	
Kansas City, Kans.	30	13.4	8.9	3	2	63
White	19		7.6	1	2	25
Colored	11	(6)	15.3	2	0	290
Kansas City, Mo.	94	12.8	14.3	7	13	
Knoxville	27	13.8		2		
White	21			2		
Colored	6	(6)		0		
Los Angeles	240			24	23	68
Louisville	84	13.7	12.9	7	7	58
White	62		12.1	3	7	28
Colored	22	(6)	17.6	4	0	375
Lowell	26	12.3	9.5	4	3	85
Lynn	14	7.0	10.0	1	0	28
Memphis	55	16.0	17.4	4	8	
White	28		14.2	2	3	
Colored	27	(6)	23.1	2	5	
Milwaukee	93	9.1	11.0	18	9	83
Minneapolis	81	9.6	10.2	4	7	23
Nashville	42	15.9	14.1	6	7	
White	27		9.6	5	5	
Colored	15	(6)	25.4	1	2	
New Bedford	15	6.5	13.1	3	5	57
New Haven	27	7.6	12.9	2	2	28
New Orleans	102	12.5	20.6	15	16	
White	60		16.3	10	8	
Colored	42	(6)	33.0	5	8	
New York	1,284	11.2	12.0	110	116	47
Bronx Borough	153	8.6	8.2	10	11	32
Brooklyn Borough	427	9.8	10.6	41	45	43
Manhattan Borough	521	15.0	16.6	44	48	53
Queens Borough	141	9.1	8.5	13	11	57
Richmond Borough	42	14.9	15.0	2	1	38
Newark, N. J.	99	11.1	12.7	9	14	45
Oklahoma City	27			3	2	
Omaha	44	10.5	11.4	5	5	57
Paterson	32	11.6	8.4	2	3	36
Philadelphia	407	10.4	11.8	37	64	50
Pittsburgh	170	13.8	12.4	18	11	62
Portland, Oreg.	61			4	5	43
Providence	64	11.9	11.4	9	3	77
Richmond	52	14.1	18.2	6	10	78
White	27		16.0	2	6	40
Colored	25	(6)	23.5	4	4	147
Rochester	73	11.7	10.9	5	6	42
St. Louis	228	14.2	11.7	23	17	
St. Paul	42	8.8	10.1	5	5	46
Salt Lake City [5]	35	13.4	15.2	4	7	64
San Antonio	54	13.3	12.2	7	7	
San Diego	26	11.8	15.1	1	1	22
San Francisco	163	14.8	12.7	2	4	12
Schenectady	26	14.6	14.0	1	7	30
Seattle	72			5	1	53
Somerville	16	8.2	8.8	2	1	58
Spokane	31	14.8	11.5	1	1	24
Springfield, Mass.	31	11.0	11.1	5	3	79
Syracuse	40	10.6	11.5	5	4	65
Tacoma	35	17.1	14.8	5	3	117
Toledo	68	11.7	11.7	3	6	29
Trenton	34	12.9	18.2	6	4	106
Utica	20	10.1	10.2	2	4	47
Washington, D. C.	132	12.7	13.8	7	13	41
White	83		10.3	5	5	43
Colored	49	(6)	24.2	2	8	36
Waterbury	11			2	4	47
Wilmington, Del.	27	11.2	16.4	4	6	99
Worcester	42	11.2	11.6	4	8	48
Yonkers	12	5.3	10.8	5	3	115
Youngstown	46	14.2	9.2	6	2	80

[5] Deaths for week ended Friday, Nov. 11, 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 November 19, 1927

DIPHTHERIA	Cases
Alabama	93
Arizona	23
Arkansas	31
California	183
Colorado	30
Connecticut	46
Delaware	2
Florida	37
Georgia	43
Idaho	2
Illinois	237
Indiana	75
Iowa [1]	15
Kansas	42
Louisiana	40
Maine	5
Maryland [1]	48
Massachusetts	135
Michigan	129
Minnesota	48
Mississippi	51
Missouri [2]	67
Montana	1
Nebraska	17
New Jersey	201
New Mexico	10
New York	365
North Carolina	133
Ohio	111
Oklahoma [3]	132
Oregon	16
Pennsylvania	289
Rhode Island	15
South Carolina	73
South Dakota	1
Tennessee	70
Texas	108
Utah [1]	10
Washington	13
West Virginia	35
Wisconsin	37
Wyoming	4

INFLUENZA	Cases
Alabama	80
Arkansas	78
California	11
Connecticut	10
Florida	2
Georgia	89
Illinois	15
Indiana	9
Kansas	4
Louisiana	15
Maine	6
Maryland [1]	28
Massachusetts	8
Michigan	4
Minnesota	1
Missouri [2]	7
Nebraska	4
New Jersey	11
New York [4]	15
Ohio	5
Oklahoma [3]	53
Oregon	17
South Carolina	495
South Dakota	1
Tennessee	53
Texas	60
Utah [1]	5
West Virginia	8
Wisconsin	11

MEASLES	
Alabama	12
Arizona	8
Arkansas	8
California	66
Colorado	1
Connecticut	30
Delaware	11
Georgia	37
Idaho	1
Illinois	45
Indiana	13

[1] Week ended Friday. [2] Exclusive of Kansas City. [3] Exclusive of Tulsa. [4] New York City only.

MEASLES—continued	Cases
Iowa [1]	3
Kansas	36
Louisiana	12
Maine	51
Maryland [1]	45
Massachusetts	311
Michigan	90
Minnesota	1
Missouri [2]	10
Montana	1
Nebraska	3
New Jersey	46
New Mexico	11
New York	173
North Carolina	611
Ohio	36
Oklahoma [3]	59
Oregon	17
Pennsylvania	444
South Carolina	159
South Dakota	10
Tennessee	103
Texas	8
Utah [1]	1
Washington	86
West Virginia	12
Wisconsin	60
Wyoming	8

MENINGOCOCCUS MENINGITIS	
Alabama	2
California	7
Colorado	2
Florida	1
Illinois	4
Massachusetts	3
Michigan	4
Minnesota	3
Mississippi	1
Missouri [2]	3
Montana	1
New Jersey	1
Ohio	1
Oklahoma [3]	1
Rhode Island	1
Utah [1]	3
Washington	2
West Virginia	1
Wisconsin	2

POLIOMYELITIS	
Arkansas	4
California	26
Colorado	2
Connecticut	6
Idaho	3
Illinois	17
Indiana	7
Iowa [1]	4
Kansas	2
Louisiana	1
Maine	3
Maryland [1]	2

POLIOMYELITIS—continued	Cases
Massachusetts	30
Michigan	11
Minnesota	6
Mississippi	1
Missouri [2]	5
Montana	2
Nebraska	4
New Jersey	3
New Mexico	3
New York	15
North Carolina	1
Ohio	27
Oklahoma [3]	2
Oregon	33
Pennsylvania	21
Rhode Island	3
South Carolina	3
South Dakota	5
Tennessee	8
Texas	6
Utah [1]	1
Vermont	2
Washington	11
West Virginia	13
Wisconsin	5

SCARLET FEVER	
Alabama	30
Arizona	16
Arkansas	17
California	169
Colorado	47
Connecticut	69
Delaware	1
Florida	7
Georgia	28
Idaho	15
Illinois	263
Indiana	114
Iowa [1]	37
Kansas	83
Louisiana	18
Maine	41
Maryland [1]	50
Massachusetts	247
Michigan	213
Minnesota	148
Mississippi	35
Missouri [2]	66
Montana	22
Nebraska	50
New Jersey	127
New Mexico	7
New York	309
North Carolina	140
Ohio	246
Oklahoma [3]	43
Oregon	22
Pennsylvania	389
Rhode Island	16
South Carolina	46
South Dakota	52
Tennessee	59

[1] Week ended Friday. [2] Exclusive of Kansas City. [3] Exclusive of Tulsa.

SCARLET FEVER—continued	Cases
Texas	66
Utah [1]	8
Vermont	1
Washington	32
West Virginia	56
Wisconsin	141
Wyoming	20

SMALLPOX	
Arkansas	3
California	8
Colorado	12
Florida	1
Idaho	14
Illinois	37
Indiana	41
Iowa [1]	19
Kansas	20
Louisiana	3
Michigan	7
Mississippi	11
Missouri [2]	75
Montana	6
Nebraska	11
New York	5
North Carolina	11
Ohio	9
Oklahoma [3]	40
Oregon	38
South Carolina	8
South Dakota	3
Tennessee	2
Texas	6
Utah [1]	45
Washington	11
West Virginia	6
Wisconsin	17
Wyoming	1

TYPHOID FEVER	Cases
Alabama	13
Arizona	2
Arkansas	10
California	15
Colorado	2
Connecticut	5
Delaware	1
Florida	2
Georgia	14
Illinois	28
Indiana	4
Iowa [1]	2
Kansas	6
Louisiana	9
Maine	1
Maryland [1]	21
Massachusetts	14
Michigan	14
Minnesota	3
Mississippi	5
Missouri [2]	13
Nebraska	5
New Jersey	8
New Mexico	8
New York	45
North Carolina	20
Ohio	20
Oklahoma [3]	28
Oregon	5
Pennsylvania	39
South Carolina	34
South Dakota	1
Tennessee	30
Texas	25
Utah [1]	1
Washington	4
West Virginia	20
Wyoming	2

[1] Week ended Friday. [2] Exclusive of Kansas City. [3] Exclusive of Tulsa.

Reports for Week Ended November 12, 1927

DIPHTHERIA	Cases
District of Columbia	12
North Dakota	3

MEASLES	
District of Columbia	2
North Dakota	2

POLIOMYELITIS	
North Dakota	1

SCARLET FEVER	Cases
District of Columbia	21
North Dakota	40

SMALLPOX	
North Dakota	6

TYPHOID FEVER	
District of Columbia	4

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
September, 1927										
District of Columbia	0	46	----	----	4	----	3	38	1	11
October, 1927										
District of Columbia	0	92	2	----	8	----	7	63	0	14
Maryland	2	142	39	8	69	1	10	133	0	770
Michigan	0	403	4	1	144	----	90	489	38	11
New Hampshire	0	17	59	----	----	----	18	44	0	3
New Jersey	4	566	23	2	64	----	45	272	0	39
North Dakota	5	41	3	----	27	----	3	159	12	9
South Carolina	0	591	1,557	3,943	595	396	12	143	14	233

September, 1927

District of Columbia: Cases
- Chicken pox 7
- Lethargic encephalitis 1
- Whooping cough 16

October, 1927

Actinomycosis:
- North Dakota 1

Anthrax:
- New Jersey 1

Chicken pox:
- District of Columbia 22
- Maryland 124
- Michigan 197
- New Jersey 319
- North Dakota 76
- South Carolina 34

Dengue:
- South Carolina 54

Dysentery:
- Maryland 28
- New Jersey 7

German measles:
- Maryland 8
- New Jersey 15

Hookworm disease:
- South Carolina 144

Impetigo contagiosa:
- Maryland 2

Lead poisoning:
- New Jersey 3

Leprosy:
- Michigan 1

October, 1927—Continued

Lethargic encephalitis: Cases
- Maryland 2
- Michigan 2

Mumps:
- Maryland 22
- Michigan 237
- North Dakota 26

Ophthalmia neonatorum:
- Maryland 3
- New Jersey 2
- South Carolina 41

Paratyphoid fever:
- New Jersey 1
- South Carolina 22

Rabies in animals:
- Maryland 7
- South Carolina 4

Rabies in man:
- Michigan 1

Septic sore throat:
- Maryland 8
- Michigan 9

Trichinosis:
- New Jersey 1

Vincent's angina:
- Maryland 5

Whooping cough:
- District of Columbia 23
- Maryland 103
- Michigan 442
- New Jersey 378
- North Dakota 6
- South Carolina 248

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 99 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 30,770,000. The estimated population of the 94 cities reporting deaths is more than 30,180,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended November 5, 1927, and November 6, 1926

	1927	1926	Estimated expectancy
Cases reported			
Diphtheria:			
42 States	2,986	2,770	
99 cities	1,267	1,283	1,242
Measles:			
41 States	2,090	2,564	
99 cities	455	473	
Poliomyelitis:			
42 States	347	61	
Scarlet fever:			
42 States	3,235	3,322	
99 cities	879	1,088	853
Smallpox:			
42 States	495	246	
99 cities	109	14	22
Typhoid fever:			
42 States	639	911	
99 cities	114	140	89
Deaths reported			
Influenza and pneumonia:			
94 cities	574	636	
Smallpox:			
94 cities	0	0	

City reports for week ended November 5, 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 period are excluded and the estimated expectancy is the mean number of cases reported for the week during nonepidemic years.

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

Division, State, and city	Population, July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	75,333	4	2	2	0	1	1	0	2
New Hampshire:									
Concord	22,546	0	0	0	0	0	1	0	2
Manchester	83,097	0	3	0	0	0	0	0	1
Vermont:									
Barre	10,008	0	0	0	0	0	0	0	0
Burlington	24,089	0	1	0	0	0	0	0	3
Massachusetts:									
Boston	779,620	40	47	16	6	1	92	8	7
Fall River	128,993	1	4	4	0	0	1	0	3
Springfield	142,065	2	3	2	0	0	2	2	1
Worcester	190,757	16	7	6	0	0	2	12	3
Rhode Island:									
Pawtucket	69,760	0	1	0	0	0	1	7	1
Providence	267,918	0	8	9	0	0	0	0	2
Connecticut:									
Bridgeport	(1)	0	9	4	0	0	0	0	0
Hartford	160,197	2	7	6	0	0	0	0	2
New Haven	178,927	9	3	0	0	0	4	3	4
MIDDLE ATLANTIC									
New York:									
Buffalo	538,016	48	18	17		0	6	15	7
New York	5,873,356	76	150	262	9	8	16	11	92
Rochester	316,736	1	11	6		0	1	0	5
Syracuse	182,003	5	11	2		0	17	14	3

[1] No estimate made.

City reports for week ended November 5, 1927—Continued

Division, State, and city	Population, July 1, 1925, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
MIDDLE ATLANTIC—Con.									
New Jersey:									
Camden	128,642	4	9	8	0	0	2	2	1
Newark	452,513	13	11	30	10	0	4	24	6
Trenton	132,020	0	3	0	0	1	1	0	2
Pennsylvania:									
Philadelphia	1,979,364	83	74	54	-------	5	3	43	33
Pittsburgh	631,563	16	33	76	-------	3	96	14	25
Reading	112,707	16	4	2	-------	0	0	0	2
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	409,333	5	17	14	0	4	1	0	17
Cleveland	936,485	31	52	137	5	5	6	32	3
Columbus	279,836	7	10	21	3	2	0	0	3
Toledo	287,380	32	15	3	2	2	9	7	4
Indiana:									
Fort Wayne	97,846	0	4	6	0	0	2	0	3
Indianapolis	358,819	10	12	16	0	1	1	20	12
South Bend	80,091	1	4	0	0	0	1	0	0
Terre Haute	71,071	0	2	5	0	0	0	0	1
Illinois:									
Chicago	2,995,239	77	115	114	8	0	6	18	56
Springfield	63,923	1	3	0	0	0	0	2	0
Michigan:									
Detroit	1,245,824	45	78	44	0	1	17	30	23
Flint	130,316	9	12	14	0	0	0	36	6
Grand Rapids	153,698	0	6	0	0	0	7	0	3
Wisconsin:									
Kenosha	50,891	5	3	1	0	0	1	1	0
Milwaukee	509,192	67	30	15	1	1	2	14	7
Racine	67,707	2	2	2	0	0	0	0	0
Superior	39,671	0	0	2	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	110,502	16	3	0	0	0	0	0	3
Minneapolis	425,435	34	35	18	0	2	1	1	4
St. Paul	246,001	10	19	7	0	2	1	10	8
Iowa:									
Davenport	52,469	0	2	0	0	-------	0	0	-------
Des Moines	141,441	2	8	1	0	-------	0	0	-------
Sioux City	76,411	-------	3	-------	-------	-------	-------	-------	-------
Waterloo	36,771	6	1	0	0	-------	0	2	-------
Missouri:									
Kansas City	367,481	8	13	10	0	0	0	27	8
St. Joseph	78,342	2	3	0	0	0	0	1	0
St. Louis	821,543	19	51	53	0	0	5	3	-------
North Dakota:									
Fargo	26,403	6	0	0	0	0	0	3	1
Grand Forks	14,811	4	0	0	0	-------	0	0	-------
South Dakota:									
Aberdeen	15,036	0	0	0	0	-------	0	0	-------
Sioux Falls	30,127	0	1	0	0	-------	0	0	-------
Nebraska:									
Lincoln	60,941	5	3	1	0	0	0	5	0
Omaha	211,768	5	11	1	0	0	0	0	6
Kansas:									
Topeka	55,411	11	3	4	1	1	0	0	0
Wichita	88,367	3	7	5	0	0	0	0	0
SOUTH ATLANTIC									
Delaware:									
Wilmington	122,049	0	4	5	0	0	0	0	4
Maryland:									
Baltimore	796,296	27	34	22	10	2	17	2	26
Cumberland	33,741	1	1	0	0	0	0	0	0
Frederick	12,035	0	1	1	0	0	0	0	0
District of Columbia:									
Washington	497,906	4	21	20	1	1	0	0	7
Virginia:									
Lynchburg	30,395	1	3	5	0	0	0	0	0
Norfolk	(1)	8	5	1	0	0	0	0	1
Richmond	186,403	1	24	13	0	1	4	1	8
Roanoke	58,208	1	6	3	0	0	18	0	2
West Virginia:									
Charleston	49,019	0	4	1	0	0	1	0	0
Wheeling	56,208	10	4	0	0	0	0	1	3

[1] No estimate made.

City reports for week ended November 5, 1927—Continued

Division, State, and city	Population, July 1, 1926, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
SOUTH ATLANTIC—Con.									
North Carolina:									
Raleigh	30,371	2	3	5	0	0	1	0	0
Wilmington	37,061	0	1	0	0	0	8	0	1
Winston-Salem	69,031	0	4	5	0	0	0	0	1
South Carolina:									
Charleston	73,125	0	2	1	32	0	4	1	3
Columbia	41,225	4	2	0	0	---	4	3	---
Greenville	27,311	0	2	0	0	0	0	1	1
Georgia:									
Atlanta	(1)	2	11	9	28	0	1	2	4
Brunswick	16,809	0	0	0	0	0	0	5	1
Savannah	93,134	0	3	9	21	0	15	0	1
Florida:									
Miami	69,754	0	---	1	0	0	0	0	1
St. Petersburg	26,847	---	0	---	---	1	---	---	0
Tampa	94,743	0	2	2	2	0	0	0	1
EAST SOUTH CENTRAL									
Kentucky:									
Covington	58,309	2	3	0	0	0	0	0	3
Lexington	46,895	2	---	0	1	0	1	1	0
Louisville	305,935	1	11	1	1	0	3	0	4
Tennessee:									
Memphis	174,533	0	13	5	0	0	41	0	5
Nashville	136,220	8	7	2	0	1	0	1	3
Alabama:									
Birmingham	205,670	0	7	10	5	1	1	0	7
Mobile	65,955	0	2	4	0	1	1	0	0
Montgomery	46,481	0	3	8	2	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	31,643	2	2	7	0	---	0	0	---
Little Rock	74,216	0	3	4	0	0	1	0	0
Louisiana:									
New Orleans	414,493	1	12	12	5	4	0	0	5
Shreveport	57,857	5	1	10	0	0	0	0	3
Oklahoma:									
Oklahoma City	(1)	0	5	14	6	0	1	0	1
Tulsa	124,478	2	---	1	0	---	0	2	---
Texas:									
Dallas	194,450	5	15	25	0	1	0	0	1
Galveston	48,375	0	0	3	0	0	0	0	1
Houston	164,954	0	6	7	0	0	0	0	6
San Antonio	198,069	0	3	9	0	1	4	0	5
MOUNTAIN									
Montana:									
Billings	17,971	0	0	0	0	0	0	0	0
Great Falls	29,883	4	1	0	0	0	0	0	1
Helena	12,037	9	0	0	0	0	0	0	0
Missoula	12,668	17	0	0	0	0	0	0	0
Idaho:									
Boise	23,042	0	0	0	0	0	0	8	0
Colorado:									
Denver	280,911	33	17	2	---	1	0	7	9
Pueblo	43,787	3	4	0	0	0	0	0	0
New Mexico:									
Albuquerque	21,000	0	0	4	0	0	0	1	0
Utah:									
Salt Lake City	130,948	23	4	9	0	1	1	1	2
Nevada:									
Reno	12,665	0	0	0	0	0	0	0	1
PACIFIC									
Washington:									
Seattle	(1)	20	8	3	0	---	15	3	---
Spokane	108,897	21	4	2	0	---	0	0	---
Tacoma	104,455	---	4	---	---	---	---	---	---
Oregon:									
Portland	282,383	8	12	14	0	0	9	1	2
California:									
Los Angeles	(1)	24	48	31	8	2	2	9	21
Sacramento	72,260	4	2	1	0	0	0	1	2
San Francisco	557,530	45	18	15	4	0	12	7	4

[1] No estimate made.

City reports for week ended November 5, 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	2	0	0	0	0	0	1	0	2	28
New Hampshire:											
Concord	0	0	0	0	0	0	0	0	0	0	7
Manchester	0	0	0	0	0	0	0	0	0	0	9
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	3
Burlington	1	5	0	0	0	0	0	0	0	0	12
Massachusetts:											
Boston	37	44	0	0	0	11	3	0	0	43	193
Fall River	2	6	0	0	0	3	1	1	0	0	28
Springfield	5	2	0	0	0	2	0	0	0	0	31
Worcester	10	5	0	0	0	1	0	1	1	9	44
Rhode Island:											
Pawtucket	0	2	0	0	0	1	0	0	0	0	27
Providence	6	12	0	0	0	7	0	0	0	1	65
Connecticut:											
Bridgeport	6	6	0	0	0	1	0	2	0	0	17
Hartford	5	7	0	0	0	5	0	2	1	1	40
New Haven	5	0	0	0	0	2	1	0	0	3	39
MIDDLE ATLANTIC											
New York:											
Buffalo	16	24	0	0	0	6	1	3	0	10	120
New York	82	88	0	0	0	[1] 93	21	30	2	156	1,316
Rochester	6	9	0	0	0	3	1	2	0	2	76
Syracuse	8	6	0	0	0	1	0	1	0	5	37
New Jersey:											
Camden	4	0	0	0	0	3	0	0	0	1	34
Newark	11	10	0	0	0	4	2	3	0	47	100
Trenton	0	0	0	0	0	0	0	0	0	0	30
Pennsylvania:											
Philadelphia	58	55	0	0	0	24	7	1	0	19	456
Pittsburgh	37	30	0	0	0	8	1	1	1	6	181
Reading	1	1	0	0	0	1	0	0	0	0	23
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	13	5	0	1	0	13	1	1	0	2	147
Cleveland	24	27	0	0	0	12	2	0	0	16	193
Columbus	9	12	0	0	0	2	0	0	0	2	60
Toledo	11	15	0	1	0	5	1	0	0	10	59
Indiana:											
Fort Wayne	1	7	0	0	0	2	0	1	0	2	31
Indianapolis	9	32	2	4	0	4	0	1	1	2	92
South Bend	3	0	0	0	0	2	0	0	0	0	14
Terre Haute	3	1	0	0	0	0	0	1	1	0	22
Illinois:											
Chicago	85	85	0	3	0	55	6	4	0	67	626
Springfield	3	13	0	0	0	0	0	1	0	1	16
Michigan:											
Detroit	63	45	1	0	0	20	3	0	0	47	261
Flint	9	15	0	0	0	0	0	-------	0	1	35
Grand Rapids	9	5	0	0	0	0	0	0	0	0	34
Wisconsin:											
Kenosha	2	2	0	1	0	0	1	0	0	1	7
Milwaukee	20	7	2	0	0	14	1	1	1	7	118
Racine	5	2	0	0	0	0	0	0	0	2	-------
Superior	2	1	1	0	0	0	0	0	0	0	11
WEST NORTH CENTRAL											
Minnesota:											
Duluth	6	8	0	0	0	1	1	0	0	8	27
Minneapolis	42	21	1	0	0	3	1	0	0	1	89
St. Paul	18	4	1	0	0	1	0	1	1	3	48

[1] Pulmonary tuberculosis only.

City reports for week ended November 5, 1927—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—contd											
Iowa:											
Davenport	1	0	0	0	----	----	0	0	----	0	----
Des Moines	9	14	0	11	----	----	0	0	----	0	----
Sioux City	3	----	1	----	----	----	0	----	----	----	----
Waterloo	2	3	0	0	----	----	0	0	----	1	----
Missouri:											
Kansas City	11	7	0	0	0	5	1	0	1	1	111
St. Joseph	4	0	0	75	0	0	0	0	0	0	21
St. Louis	33	22	0	3	0	7	3	11	0	10	182
North Dakota:											
Fargo	2	2	0	0	0	0	1	0	0	1	6
Grand Forks	1	1	0	0	----	----	0	0	----	0	----
South Dakota:											
Aberdeen	0	0	1	0	----	----	0	0	----	0	----
Sioux Falls	2	5	0	0	----	----	0	0	----	0	5
Nebraska:											
Lincoln	1	2	0	0	0	0	0	0	0	7	12
Omaha	5	6	2	2	0	2	0	0	0	0	55
Kansas:											
Topeka	3	1	0	0	0	1	0	0	0	5	17
Wichita	4	6	0	0	0	0	0	0	0	0	33
SOUTH ATLANTIC											
Delaware:											
Wilmington	5	1	0	0	0	0	0	0	0	0	36
Maryland:											
Baltimore	13	9	0	0	0	16	5	5	0	22	228
Cumberland	1	1	0	0	0	0	0	0	0	0	14
Frederick	0	0	0	0	0	0	0	1	0	0	4
District of Columbia:											
Washington	15	24	0	1	0	6	2	2	1	4	123
Virginia:											
Lynchburg	1	5	0	0	0	0	0	5	0	4	13
Norfolk	2	5	0	0	0	1	0	0	0	1	----
Richmond	9	9	0	0	0	2	0	0	0	0	----
Roanoke	3	3	0	0	0	0	0	0	0	0	16
West Virginia:											
Charleston	2	3	0	0	0	1	0	0	2	0	24
Wheeling	3	0	0	0	0	1	0	0	0	0	17
North Carolina:											
Raleigh	2	1	0	0	0	0	0	0	0	1	9
Wilmington	1	1	0	0	0	1	0	0	0	0	10
Winston-Salem	2	6	0	0	0	2	0	0	0	3	24
South Carolina:											
Charleston	1	0	0	0	0	0	0	4	2	3	20
Columbia	1	0	0	0	----	----	0	0	----	0	10
Greenville	1	4	0	0	0	0	0	0	0	2	4
Georgia:											
Atlanta	6	9	0	0	0	5	1	0	1	0	76
Brunswick	0	0	0	0	0	2	0	0	0	0	3
Savannah	1	5	0	7	0	3	0	0	0	0	35
Florida:											
Miami	----	1	----	0	0	0	----	1	0	0	26
St. Petersburg	0	----	0	----	0	0	0	----	0	----	11
Tampa	0	2	0	0	0	3	0	0	0	0	29
EAST SOUTH CENTRAL											
Kentucky:											
Covington	2	2	0	0	0	0	0	0	0	0	17
Lexington	----	2	----	0	0	2	----	1	0	0	14
Louisville	4	4	0	0	0	2	2	2	0	1	64
Tennessee:											
Memphis	5	8	0	0	0	6	2	2	0	0	56
Nashville	4	2	0	0	0	4	3	2	0	1	42
Alabama:											
Birmingham	4	9	1	0	0	3	2	0	2	1	67
Mobile	1	1	0	0	0	0	0	0	0	0	18
Montgomery	1	7	0	0	0	0	0	1	0	10	----

City reports for week ended November 5, 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	1	0	0			0	0		0	
Little Rock	2	5	0	0	0	0	1	0	0	0	
Louisiana:											
New Orleans	5	5	0	0	0	16	3	8	0	1	135
Shreveport	1	2	0	0	0	1	0	0	0	0	32
Oklahoma:											
Oklahoma City	2	1	0	2	0	1	1	0	1	0	20
Tulsa		1		2				0		1	
Texas:											
Dallas	4	14	0	0	0	2	1	2	0	2	48
Galveston	1	0	0	0	0	0	0	0	0	0	14
Houston	1	6	0	0	0	5	0	3	0	0	62
San Antonio	0	3	0	1	0	3	0	1	0	1	50
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	0	5
Great Falls	1	1	0	1	0	1	0	0	0	0	7
Helena	0	2	0	0	0	0	0	0	0	0	2
Missoula	0	0	0	0	0	0	0	0	0	0	2
Idaho:											
Boise	1	2	1	0	0	0	0	0	0	0	6
Colorado:											
Denver	9	12	1	0	0	11	1	1	0	0	76
Pueblo	1	1	0	0	0	1	1	0	0	0	8
New Mexico:											
Albuquerque	0	0	0	0	0	4	0	0	0	0	6
Utah:											
Salt Lake City	2	2	0	3	0	3	1	3	0	2	27
Nevada:											
Reno	0	0	0	0	0	0	0	0	0	0	4
PACIFIC											
Washington:											
Seattle	8	14	3	0			1	1		4	
Spokane	9	3	2	7			0	0		0	
Tacoma	3		2				0				
Oregon:											
Portland	9	6	3	7	0	4	1	0	0	0	68
California:											
Los Angeles	17	17	3	0	0	35	2	0	0	10	239
Sacramento	1	3	0	0	0	0	1	0	0	0	28
San Francisco	9	17	1	0	0	10	1	1	0	15	171

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									
Maine:									
Portland	0	0	0	0	0	0	0	2	0
Massachusetts:									
Boston	0	1	0	0	0	0	1	11	2
Fall River	0	0	0	0	0	0	0	3	2
Springfield	0	0	0	0	0	0	0	1	0
Worcester	0	0	0	0	0	0	0	2	0
Rhode Island:									
Providence	0	0	0	0	0	0	0	3	0

City reports for week ended November 5, 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:									
New York [1]	0	1	6	4	0	0	7	13	1
Rochester	0	0	0	0	0	0	0	0	1
New Jersey:									
Camden	0	0	0	0	0	0	0	1	0
Pennsylvania:									
Philadelphia	0	0	0	0	1	1	0	1	1
Pittsburgh	0	0	0	0	0	0	0	2	2
EAST NORTH CENTRAL									
Ohio:									
Cincinnati [1]	0	0	0	0	0	0	0	4	2
Cleveland	0	1	0	1	0	0	1	0	0
Indiana:									
Fort Wayne	0	0	0	0	0	0	0	2	2
Illinois:									
Chicago [2]	4	1	1	0	0	0	2	1	1
Michigan:									
Detroit	3	2	0	0	0	0	1	2	0
Grand Rapids	0	0	0	0	0	0	0	1	0
Wisconsin:									
Milwaukee	6	5	0	0	0	0	0	1	1
WEST NORTH CENTRAL									
Minnesota:									
St. Paul	0	0	0	0	0	0	1	1	0
Iowa:									
Waterloo	0	0	0	0	0	0	0	2	1
Kansas:									
Topeka	0	0	1	0	0	0	0	1	0
SOUTH ATLANTIC [1 3]									
Delaware:									
Wilmington	0	0	0	0	0	0	0	1	0
Virginia:									
Lynchburg	0	0	0	0	0	1	0	0	0
Richmond	0	0	0	0	0	0	0	0	1
West Virginia:									
Wheeling	0	0	0	0	0	0	0	1	0
North Carolina:									
Raleigh	0	0	0	0	0	1	0	0	0
Winston-Salem	0	0	0	0	2	1	0	0	0
South Carolina:									
Charleston [3]	0	0	0	0	0	0	0	1	0
Florida:									
Tampa	0	1	0	0	0	0	0	0	0
EAST SOUTH CENTRAL [1]									
Kentucky:									
Covington	0	0	0	0	0	0	0	1	0
Lexington	0	0	0	0	0	0	0	2	0
Tennessee:									
Memphis	0	0	0	0	1	0	0	0	0
Nashville	0	0	0	0	0	0	0	1	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock	0	0	0	0	1	4	0	0	0
Louisiana:									
New Orleans	0	0	0	0	2	0	0	0	0
Shreveport	0	0	0	0	0	2	0	0	0
Texas:									
Dallas	0	0	0	0	0	0	0	3	0
Houston	0	0	0	0	0	0	0	1	0

[1] Typhus fever: 1 case at New York, N. Y., 1 case at Cincinnati, O., 11 cases at Savannah, Ga., and 1 case at Mobile, Ala.
[2] Rabies (human): 1 case and 1 death at Chicago, Ill.
[3] Dengue: 13 cases at Charleston, S. C., and 1 case at Savannah, Ga.

City reports for week ended November 5, 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									
Idaho:									
Boise	0	0	0	0	0	0	0	2	0
Colorado:									
Denver	1	1	0	0	0	0	0	0	1
Utah:									
Salt Lake City	0	1	0	0	0	0	0	2	0
PACIFIC									
Washington:									
Seattle	0	----	0	----	0	----	0	3	----
Spokane	1	----	0	----	0	----	0	2	----
Oregon:									
Portland	1	0	0	0	0	0	1	5	1
California:									
Los Angeles	3	2	0	0	0	0	1	8	1
Sacramento	1	1	0	0	0	0	0	1	0
San Francisco	0	0	0	0	0	0	1	1	0

The following table gives the rates per 100,000 population for 101 cities for the five-week period ended November 5, 1927, compared with those for a like period ended November 6, 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 pouulations 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, October 2 to November 5, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	Oct. 9, 1926	Oct. 8, 1927	Oct. 16, 1926	Oct. 15, 1927	Oct. 23, 1926	Oct. 22, 1927	Oct. 30, 1926	Oct. 29, 1927	Nov. 6, 1926	Nov. 5, 1927
101 cities	159	143	165	144	203	170	213	195	224	[2] 215
New England	66	132	85	128	85	123	106	135	118	114
Middle Atlantic	119	129	100	123	122	143	138	191	143	226
East North Central	188	158	218	138	260	199	241	232	275	261
West North Central	177	145	210	119	240	129	264	139	252	[3] 201
South Atlantic	214	170	216	203	300	194	354	192	317	185
East South Central	253	153	269	158	398	168	383	260	424	153
West South Central	176	197	219	256	279	268	331	298	253	323
Mountain	173	126	164	198	255	153	155	99	219	99
Pacific	198	99	174	154	190	220	204	152	287	[4] 144

[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] Sioux City, Iowa, and Tacoma, Wash., not included.
[3] Sioux City, Iowa, not included.
[4] Tacoma, Wash., not included.

Summary of weekly reports from cities, October 2 to November 5, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued

MEASLES CASE RATES

	Week ended—									
	Oct. 9, 1926	Oct. 8, 1927	Oct. 16, 1926	Oct. 15, 1927	Oct. 23, 1926	Oct. 22, 1927	Oct. 30, 1926	Oct. 29, 1927	Nov. 6, 1926	Nov. 5, 1927
101 cities	31	40	43	50	49	55	64	70	81	[2] 77
New England	33	118	26	132	26	186	24	190	66	241
Middle Atlantic	11	56	9	53	12	64	13	72	16	72
East North Central	29	11	36	17	50	21	77	18	80	29
West North Central	26	12	44	14	42	22	85	34	151	[3] 14
South Atlantic	15	31	20	69	26	45	9	107	20	132
East South Central	5	56	0	127	21	51	21	204	26	234
West South Central	0	8	13	55	4	38	0	21	9	21
Mountain	109	27	237	18	337	72	392	63	793	9
Pacific	179	45	289	58	276	50	340	92	313	[4] 80

SCARLET FEVER CASE RATES

101 cities	111	103	129	96	152	117	169	146	188	[2] 149
New England	144	139	144	130	193	151	245	211	264	200
Middle Atlantic	57	101	62	63	51	74	92	97	94	110
East North Central	120	102	132	108	155	128	157	166	186	173
West North Central	216	107	319	175	373	137	355	248	415	[3] 164
South Atlantic	99	123	125	91	162	161	132	168	197	159
East South Central	145	66	145	82	222	148	331	138	248	168
West South Central	69	67	86	88	95	80	112	126	112	151
Mountain	301	126	264	108	447	279	365	144	583	180
Pacific	158	76	204	97	233	136	236	97	204	[4] 149

SMALLPOX CASE RATES

101 cities	3	5	4	6	3	7	3	7	3	[2] 18
New England	0	0	0	0	0	0	0	9	0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	1	1	3	5	3	0	1	0	6	6
West North Central	2	14	6	26	0	42	2	52	2	[3] 164
South Atlantic	0	4	4	2	9	7	6	0	0	14
East South Central	10	0	0	0	10	5	5	5	10	0
West South Central	4	4	4	4	0	0	4	0	9	4
Mountain	9	54	9	72	0	72	9	45	0	36
Pacific	19	31	32	16	16	21	21	16	3	[4] 19

TYPHOID FEVER CASE RATES

101 cities	33	25	32	19	26	20	27	17	24	[2] 19
New England	17	23	57	16	19	16	12	19	17	16
Middle Atlantic	27	21	26	16	20	15	14	12	12	20
East North Central	23	17	16	18	12	16	17	13	13	7
West North Central	22	28	14	22	22	22	24	16	26	[3] 25
South Atlantic	76	47	65	27	76	33	75	22	45	31
East South Central	145	20	140	31	98	31	140	46	103	36
West South Central	21	71	26	29	21	29	39	38	21	59
Mountain	64	54	46	63	27	81	46	27	91	36
Pacific	21	8	16	8	13	16	19	16	46	[4] 6

[2] Sioux City, Iowa, and Tacoma, Wash., not included.
[3] Sioux City, Iowa, not included.
[4] Tacoma, Wash., not included.

Summary of weekly reports from cities, October 2 to November 5, 1927—Annual rates per 100,000 population, compared with rates for the corresponding period of 1926—Continued

INFLUENZA DEATH RATES

	Week ended—									
	Oct. 9, 1926	Oct. 8, 1927	Oct. 16, 1926	Oct. 15, 1927	Oct. 23, 1926	Oct. 22, 1927	Oct. 30, 1926	Oct. 29, 1927	Nov. 6, 1926	Nov. 5, 1927
95 cities	4	5	6	6	7	9	11	8	11	[1] 9
New England	0	5	5	2	7	5	7	0	12	5
Middle Atlantic	3	6	4	8	8	7	8	4	9	8
East North Central	2	1	2	3	5	5	14	5	6	9
West North Central	6	4	11	2	2	12	2	6	6	10
South Atlantic	6	4	8	7	8	11	21	13	15	7
East South Central	5	10	16	10	10	25	10	41	21	15
West South Central	13	9	13	13	13	13	26	17	40	26
Mountain	18	45	27	9	27	18	9	27	18	18
Pacific	0	3	11	3	0	14	7	10	7	[1] 7

PNEUMONIA DEATH RATES

95 cities	64	65	77	71	86	77	93	91	101	[1] 90
New England	33	81	75	95	83	86	99	65	99	63
Middle Atlantic	76	71	88	72	104	75	101	92	114	87
East North Central	54	58	62	49	61	66	86	82	85	93
West North Central	63	42	53	60	49	64	63	69	84	62
South Atlantic	61	57	89	108	113	72	108	88	121	118
East South Central	83	82	52	46	98	127	134	112	98	112
West South Central	88	69	106	69	53	86	88	190	115	90
Mountain	55	72	118	117	128	144	182	144	164	117
Pacific	53	69	81	83	99	100	88	97	49	[1] 100

[1] Tacoma, Wash., 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 October 29, 1927.—The following report for the week ended October 29, 1927, was transmitted by the eastern bureau of the health section of the secretariat of the League of Nations, located at Singapore, to the headquarters at Geneva:

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

PLAGUE

India.—Rangoon.

CHOLERA

India.—Calcutta, Tuticorin, Rangoon.

SMALLPOX

India.—Bombay, Rangoon, Tuticorin, Moulmein, Madras.
Dutch East Indies.—Banjermasin, Samarinda.
Sarawak.—Kuching.
Manchuria.—Mukden.
Kwantung.—Dairen.

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

ASIA

Aden Protectorate.—Perim, Kamaran, Aden.
Arabia.—Bahrein.
Persia.—Bender-Abbas, Mohammerah (last case of cholera August 31, 1927), Abadan (last case of cholera August 31, 1927), Bushire.
Ceylon.—Colombo (last case of plague October 22, 1927).
India.—Chittagong (last case of cholera August 13, 1927), Cochin, Vizagapatam, Bassein (last case of plague October 8, 1927; cholera, August 23, 1927), Negapatam (last case of cholera August 20, 1927), Karachi (last case of cholera June 4, 1927).
Portuguese India.—Nova Goa.
Siam.—Bangkok.
Federated Malay States.—Port Swettenham.
Straits Settlements.—Penang, Singapore (last case of plague August 30, 1927; cholera, October 15, 1927).
Dutch East Indies.—Batavia, Semarang (last case of plague January 8, 1927), Cheribon, Padang, Belawan-Deli, Tarakan, Menado, Sabang, Surabaya (last case of plague April 16, 1927), Makassar (last case of plague August 27, 1927), Balik-Papan.
British North Borneo.—Sandakan, Jesselton, Kudat, Tawao.
Portuguese Timor.—Dilly.
Philippine Islands.—Manila (last case of cholera September 3, 1927), Iloilo, Jolo, Cebu, Zamboanga.
French Indo-China.—Saigon and Cholon (last case of plague September 17, 1927; cholera, October 8, 1927), Tourane (last case of cholera October 1, 1927), Haiphong (last case of cholera August 20, 1927)
China.—Tsingtao, Chinwangtao (last case of cholera October 8, 1927), Tientsin (last case of cholera October 1, 1927), Newchang (last case of cholera September 24, 1927), Swatow (last case of cholera October 8, 1927), Amoy (last case of cholera October 15, 1927), Shanghai (last case of cholera October 22, 1927).
Hong Kong.
Macao.—Last case of cholera October 8, 1927.
Wei-hai-wei.
Formosa.—Keelung, Takao.
Chosen.—Chemulpo, Fusan.
Manchuria.—Yingkow (last case of cholera September 11, 1927), Antung, Harbin, Changchun.
Kwantung.—Port Arthur.
Japan.—Nagasaki, Yokohama, Niigata, Shimonoseki, Tsuruga, Kobe, Osaka, Ha-ko-date, Moji.

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.
Western Samoa.—Apia.
New Caledonia.—Noumea.
Fiji.—Sava,
Hawaii.—Honolulu.
Society Islands.—Papeete.

AFRICA

Egypt.—Alexandria (last case of plague August 27, 1927), Port Said (last case of plague July 19, 1927). Suez (last case of plague September 3, 1927).

AFRICA—continued

Anglo-Egyptian Sudan.—Port Sudan, Suakin.
Eritrea.—Massaua.
French Somaliland.—Djibouti.
British Somaliland.—Berbera.
Italian Somaliland.—Mogadiscio.
Kenya.—Mombasa (last case of plague July 30, 1927).
Zanzibar.—Zanzibar.
Tanganyika.—Dar es Salaam.
Seychelles.—Victoria.
Mozambique.—Mozambique, Beira, Lourenco-Marques.

AFRICA—continued

Union of South Africa.—East London, Port Elizabeth, Cape Town, Durban.
Mauritius.—Port Louis (last case of plague September 16, 1927).
Reunion.—St. Denis (last case of plague January 22, 1927).
Madagascar.—Majunga, Diego-Suarez (last case of plague, January 31, 1927), Tamatave (last case of plague March 5, 1927).

AMERICA

Panama.—Colon, Panama.

Returns for the week ended October 29 were not received from the following ports:

Iraq.—Basra (last case of cholera October 22, 1927).
Dutch East Indies.—Pontianak, Palembang.
China.—Canton (last case of cholera October 22, 1927).
Union of Socialist Soviet Republics.—Vladivostok.

CANADA

Communicable diseases—Week ended November 5, 1927.—The Canadian Ministry of Health reports cases of certain communicable diseases from six Provinces of Canada for the week ended November 5, 1927, as follows:

Disease	Nova Scotia	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	Total
Cerebrospinal fever			1				1
Influenza	9						9
Lethargic encephalitis			3				3
Poliomyelitis	1	1	2	1		5	10
Smallpox			38	14	12	2	66
Typhoid fever	3	18	12	2	3	2	40

Communicable diseases—Quebec—Week ended November 5, 1927.—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended November 5, 1927, as follows:

Disease	Cases	Disease	Cases
Chicken pox	26	Scarlet fever	75
Diphtheria	75	Smallpox	2
German measles	1	Tuberculosis	33
Influenza	1	Typhoid fever	18
Measles	59	Whooping cough	10
Poliomyelitis	1		

Vital statistics—Quebec—August, 1927.—Births and deaths in the Province of Quebec for the month of August, 1927, were reported as follows:

Estimated population	2,604,000
Births	6,377
Birth rate per 1,000 population	29.39
Deaths	2,827
Death rate per 1,000 population	13.22
Deaths under 1 year	975
Infant mortality rate	152.89
Deaths from—	
Accidents (all)	103
Cancer	137
Cerebrospinal meningitis	5
Diabetes	19
Diarrhea	374
Deaths from—Continued.	
Diphtheria	32
Heart disease	239
Influenza	12
Measles	10
Pneumonia	123
Scarlet fever	11
Syphilis	5
Tuberculosis (pulmonary)	177
Tuberculosis (other forms)	49
Typhoid fever	32
Whooping cough	44

Typhoid fever—Montreal—January 2–November 12, 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	June 18, 1927	86	18
Jan. 15, 1927	4	3	June 25, 1927	75	23
Jan. 22, 1927	1	2	July 2, 1927	66	21
Jan. 29, 1927	3	1	July 9, 1927	52	10
Feb. 5, 1927	1	0	July 16, 1927	39	4
Feb. 12, 1927	0	0	July 23, 1927	22	9
Feb. 19, 1927	1	2	July 30, 1927	23	10
Feb. 26, 1927	1	1	Aug. 6, 1927	16	5
Mar. 5, 1927	9	1	Aug. 13, 1927	20	5
Mar. 12, 1927	203	4	Aug. 20, 1927	14	4
Mar. 19, 1927	383	14	Aug. 27, 1927	8	3
Mar. 26, 1927	568	22	Sept. 3, 1927	27	0
Apr. 2, 1927	649	48	Sept. 10, 1927	17	0
Apr. 9, 1927	386	40	Sept. 17, 1927	13	2
Apr. 16, 1927	175	38	Sept. 24, 1927	6	3
Apr. 23, 1927	125	43	Oct. 1, 1927	18	1
Apr. 30, 1927	105	23	Oct. 8, 1927	14	1
May 7, 1927	106	19	Oct. 15, 1927	5	1
May 14, 1927	367	16	Oct. 22, 1927	3	1
May 21, 1927	770	26	Oct. 29, 1927	9	1
May 28, 1927	353	38	Nov. 5, 1927	1	1
June 4, 1927	239	37	Nov. 12, 1927	3	0
June 11, 1927	128	36			

EGYPT

Communicable diseases—Two weeks ended September 30, 1927.—During the two weeks ended September 30, 1927, communicable diseases were reported in Egypt as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Influenza	621		Typhoid fever	149	
Smallpox	1		Typhus fever	3	2

HAWAII

Plague-infected rat—Kapulena, island of Hawaii—October 22, 1927.—Under date of October 22, 1927, a plague-infected rat was reported found at Kapulena, island of Hawaii.

JAMAICA

Smallpox (alastrim)—September 25–October 29, 1927.—During the five-week period ended October 29, 1927, 10 cases of smallpox (alastrim) were reported in the island of Jamaica, exclusive of Kingston.

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

Disease	Cases		Disease	Cases	
	Kingston	Other localities		Kingston	Other localities
Chicken pox	2	9	Puerperal fever	1	2
Dysentery	4	9	Tuberculosis	25	43
Erysipelas		1	Typhoid fever	16	73

Population: Kingston, 62,707; Jamaica, general, 926,000.

MADAGASCAR

Plague—August 16–31, 1927.—During the 16-day period ended August 31, 1927, 56 cases of plague with 49 deaths were reported in the island of Madagascar. The occurrence was distributed by localities as follows: Province—Antisirabe, 12 cases, pneumonic; Itasy, 8 cases; Moramanga, 1 case, bubonic; Tananarive, 35 cases, including Tananarive Town, with 10 cases. The distribution according to type was: Bubonic, 22; pneumonic, 27; septicemic, 7 cases.

MEXICO

Increase in mortality, October, 1927—Epidemic malaria—Progreso, Yucatan, Mexico.—Information dated November 1, 1927, shows increased mortality at Progreso, Mexico, during the month of October, 1927, 58 deaths being reported for that period. Epidemic malarial fever was reported at Progreso, with 12 deaths. Two cases of blackwater fever and one case of pernicious malarial fever were reported during October.

TRINIDAD, BRITISH WEST INDIES

Health Week—October 1–8, 1927.—According to information dated November 11, 1927, the week ended October 8, 1927, was observed as Health Week in the island of Trinidad, British West Indies. It included an educational campaign for preventive and curative measures against disease, aided by the publication of articles in newspapers and in pamphlets, public-health exhibits, and lectures by Government medical officers and practicing physicians delivered in schools, colleges, and other places. The program included demonstrations by the department of agriculture and Government veterinary surgeons on sanitary dairy management; also demonstrations by the Child Welfare Society. Special attention was given to the subject of the prevention of tuberculosis. Statistics were quoted showing an average of 500 deaths from tuberculosis per annum in the colony, or about 1.5 per 1,000 of the population. The distribution of handbills to householders resulted in general clearing away of rubbish, the cutting down of undergrowth about houses, and the filling up of pools liable to breed malaria mosquitoes.

VENEZUELA

Gastroenteritis—Caracas—September, 1927.—During the month of September, 1927, 43 deaths from gastroenteritis were reported at Caracas, Venezuela. Of these, 29 deaths occurred in children under 2 years of age.

Mortality—Deaths from certain communicable diseases.—During the same period 266 deaths from all causes were reported at Caracas, including cerebrospinal meningitis 6, tuberculosis 38, and typhoid fever 1 death. Population, 135,253.

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 November 25, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Amoy	Oct. 2-8	4		
Shanghai	Oct. 2-15		4	Report from foreign concession.
Tientsin	Sept. 18-Oct. 1	5		Reported by 1 mission hospital and British concession.
India				Sept. 18-24, 1927: Cases, 5,189; deaths, 2,526.
Calcutta	Sept. 24-Oct. 8	34	26	
Madras	Oct. 9-15		1	
Siam				Sept. 24-Oct. 1, 1927: Cases, 6; deaths, 4. Apr. 1-Oct. 1, 1927: Cases, 749; deaths, 511.
Bangkok	Sept. 24-Oct. 1	3	3	District.

PLAGUE

Algeria:				
Algiers	Oct. 11-20	2		
Ceylon:				
Colombo	Sept. 25-Oct. 1	2		
Hawaii Territory:				
Hawaii—				
Kapulena	Oct. 22			Plague rat found.
India				Sept. 18-Oct. 24, 1927: Cases, 608; deaths, 319.
Madras Presidency	Sept. 18-24	123	49	
Java:				
Batavia	Oct. 2-8	33	33	Province.
Surabaya	Sept. 18-24	7	7	East Java and Madura.
Madagascar				Aug. 16-31, 1927: Cases, 56; deaths, 49. Bubonic: Cases, 22; pneumonic, 27; septicemic, 7. Deaths: Bubonic, 15; pneumonic, 27; septicemic, 7.
Province—				
Antisirabe	Aug. 16-31	12	12	Pneumonic.
Itasy	do	8	6	Bubonic: Cases, 5; pneumonic, 1; septicemic, 2.
Moramanga	do	1	1	Bubonic.
Tananarive	do	35	30	Including Tananarive Town, with 10 cases, 7 deaths.

SMALLPOX

Algeria:				
Oran	Oct. 23-29	5		
Angola:				
Loanda	Sept. 1-15	1		
Portuguese Congo	do	4		
British South Africa:				
Northern Rhodesia	Sept. 17-30	11	5	
Canada:				
Alberta	Oct. 30-Nov. 5	2		
Manitoba	do	14		
Ontario	do	38		
Ottawa	Oct. 30-Nov. 12	68		
Toronto	Oct. 30-Nov. 5	16		
Quebec	do	2		
Montreal	Nov. 6-12	1		
Saskatchewan	Oct. 30-Nov. 5	12		
China:				
Tientsin	Sept. 18-Oct. 1	12		
Egypt	Sept. 18-30		1	
Great Britain:				
England and Wales	Oct. 23-29			Cases, 199.
Bradford	do	1		
Bristol	do	1		
Cardiff	do	1		
Leeds	do	1		
Newcastle-on-Tyne	do	2		

[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 November 25, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
India				Sept. 18–24, 1927: Cases, 722; deaths, 173.
Bombay	Sept. 25–Oct. 1	4		
Calcutta	Sept. 25–Oct. 8	4	3	
Madras	Oct. 9–15	2		
Jamaica	Sept. 25–Oct. 29	10		Exclusive of Kingston.
Java:				
Batavia	Oct. 2–8	3		Province.
East Java and Madura	Sept. 17–30	19		
Siam				Apr. 1–Oct. 1, 1927: Cases, 250; deaths, 67.

TYPHUS FEVER

Algeria:				
Algiers	Oct. 11–20	1		
China:				
Tientsin	Sept. 18–24	2		
Egypt				Sept. 24–30, 1927: Cases 3; deaths, 2.
Palestine				Oct. 1–10, 1927: Cases, 3.
Haifa	Oct. 1–10	2		
Tel Aviv	do	1		
Poland				Sept. 25–Oct. 1, 1927: Cases, 10; deaths, 3.
Portugal:				
Oporto	Oct. 23–29	1		
Union of South Africa:				
Cape Province	Sept. 25–Oct. 1			Outbreaks.
Orange Free State	do			Do.

Reports Received from June 25 to November 18, 1927 [1]

CHOLERA

Place	Date	Cases	Deaths	Remarks
China:				
Amoy	May 22–Oct. 1	113	11	
Canton	May 1–Oct. 1	89	54	
Foochow	July 24–Sept. 10			Present.
Hong Kong	July 17–Sept. 3	3	3	
Kulangsu	June 21	1		
Shanghai	June 19–25	2		
Do	July 31–Oct. 1		114	In international settlement and French concession.
Swatow	May 15–Sept. 10	138	13	
Tienstsin	Aug. 27–Sept. 17	9		
India	Apr. 17–Sept. 17			Cases, 174,475; deaths, 95,407.
Bombay	May 8–Sept. 17	127	57	
Calcutta	May 8–Sept. 24	727	426	
Karachi	May 29–June 4	1	1	
Madras	June 19–Oct. 8	832	440	
Rangoon	May 8–Oct. 1	23	19	
India, French Settlements in	Mar. 30–Aug. 27	253	168	
Indo-China (French)	Apr. 1–Sept. 20			Cases, 15,564.
Annam	do	4,509		
Cambodia	do	408		
Cochin-China	do	1,606		
Saigon	June 4–Sept. 2	11	4	
Laos	July 11–Sept. 20	223		
Tonkin	Apr. 1–Sept. 20	9,818		
Iraq:				
Amarah	Oct. 2–8	10	3	
Baghdad	July 24–30	29	18	
Basra	July 17–Oct. 8	384	289	
Diwaniyah	Oct. 2–8	44	26	
Hillah	do	1		
Kerbala	do	11	7	
Kut	do	1		
Muntafiq	do	5	3	

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

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

Reports Received from June 25 to November 18, 1927—Continued

CHOLERA—Continued

Place	Date	Cases	Deaths	Remarks
Japan:				
Yokohama	July 31-Aug. 6	1	1	
Persia:				
Abadan	July 24-Aug. 13	215	183	
Ahwaz	July 31-Aug. 13	20	13	
Minab	Aug. 7-13		23	
Mohammerah	July 17-Aug. 27	194	155	
Nasseri	July 19-31		10	
Philippine Islands:				
Bulacan Province	June 7-July 8	3	2	
Leyte Province—				
Barugo	June 29	1	1	
Carigara	June 23	1	1	Final diagnosis not received.
Palo	May 18	1		
Manila	July 17-Aug. 27	2		
Siam	May 1-Sept. 17			Cases, 356; deaths, 209.
Bangkok	do	48	15	
On vessel:				
S. S. Adrastus	Reported Aug. 6	1	1	At Yokohama, Japan.
S. S. Montreal Maru	Sept. 20			At Muke, Japan.
S. S. Tabaristan	Oct. 6	1		Case in coolie removed at Basra.
S. S. Morea	Sept. 2			At Hong Kong; cholera-infected.
S. S. War Mehtar (oil tanker).	Aug. 4	1	1	At Saffagha, Egypt.

PLAGUE

Algeria:				
Algiers	Aug. 21-31	1		
Oran	Aug. 21-Sept. 10	5	4	
Argentina	Jan. 1-Aug. 2			Cases, 80; deaths, 44.
Buenos Aires	Apr. 10-May 7	4	3	
Cordoba	Jan. 11-Aug. 6	52	29	
Corrientes	June 1	1	1	
Entre Rios	Mar. 29-Aug. 13	8	1	
Sante Fe	Apr. 28-May 16	4	3	
Territory—				
Chaco—				
Barranqueras	May 29	2	2	
Formosa	June 25	3	2	
Pampa	July 27-Aug. 2	4		
Rio Negro	Aug. 6	1		
City—				
Merou	Reported July 14			Present
Rosario	May 7	1	1	
Santa Fe	May 16	4	2	
Azores:				
St. Michaels Island	May 15-Oct. 1	9	1	
Ribeira Grande	June 12-18	1		
Brazil:				
Sao Paulo	June 3-9	1	1	
British East Africa:				
Kenya	Apr. 24-July 31	73	14	
Mombassa	July 24-30	1	1	
Nairobi	May 22-28	6		
Tanganyika	Mar. 29-May 28		37	
Do	July 24-Aug. 28		40	
Uganda	Jan. 1-Feb. 28	138	121	
Do	Mar. 27-June 18	469	300	
Canary Islands:				
Laguna district—				
Tejina	June 17	1		
Las Palmas	Oct. 8-11	8		
Ceylon:				
Colombo	May 1-Sept. 24	21	14	Plague rats, 4.
China:				
Amoy	July 3-23			Present in surrounding country.
Mongolia	Reported Oct. 11		200	Approximate.
Tientsin	Aug. 14-20	2		
Tungliao	Reported Oct. 15			Outbreak.
Ecuador:				
Guayaquil	June 1-Aug. 31	7		Rates taken, 72,410; found infected, 45.

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

Reports Received from June 25 to November 18, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
Egypt:				
Alexandria	June 4–Sept. 2	4		
Beni-Souef	June 4–July 13	5	2	
Biba	June 4–10	1		At Nama.
Dakhalia	June 24–July 9	6	1	
Minia	Aug. 8–9	4		
Port Said	June 24–July 21	4	1	
Suez	Sept. 4	1		
Tanta district	June 4–10	1		
Greece	May 1–June 30	4	3	
Athens	June 1–Aug. 29	3		Including Piraeus.
Mytilene	Aug. 9–Sept. 26	6		
Patras	May 30–Oct. 1	9	2	
Hawaii Territory:				
Hamakua	July 15–Aug. 30			2 plague rodents.
Honokaa	May 17–23	2	2	
Kukuihaele	Aug. 12–17	1	1	Do.
Paauilo	July 26–Aug. 1		4	
India	Apr. 17–Sept. 10			Cases, 24,795; deaths, 10,845.
Bombay	May 8–Sept. 24	102	86	
Calcutta	Aug. 21–Sept. 3	18	10	
Madras	May 1–Sept. 17	1,324	611	
Rangoon	May 8–Oct. 1	73	67	
Indo-China (French)	Apr. 1–Aug. 10	50		
Saigon	Sept. 2–16	2		
Kwang-Chow-Wan	May 21–July 31	73		
Iraq:				
Baghdad	Apr. 8–May 28	12	1	
Java:				
Batavia	May 1–Sept. 24	313	294	Province.
East Java and Madura	May 22–July 16	28	27	
Pasoeroean Residency	May 9			Outbreak reported at Nagdiwano.
Surabaya	Apr. 17–Sept. 10	85	83	
Madagascar				Mar. 16–Apr. 30, 1927: Cases, 256; deaths, 135.
Province—				
Ambositra	Mar. 16–Aug. 15	100	93	
Antisirabe	do	30	30	
Miarinarivo (Itasy)	do	72	64	
Moramanga	May 16–Aug. 15	31	30	
Tananarive	Mar. 16–Aug. 15	246	217	
Tananarive Town	Mar. 16–June 30	22	20	
Mauritius:				
Port Louis	May 1–June 30	1	1	
Nigeria	Mar. 1–May 31	228	117	
Peru	Apr.–May 31			Cases, 22; deaths, 8.
Departments—				
Ica	Apr. 1–30	1		
Lambayeque	do	1		
Libertad	Apr. 1–May 31	7	4	
Lima	Apr. 1–July 31	13	8	
Lima City	Apr. 1–30	5	1	
Senegal	May 23–Oct. 16			Cases, 1,159; deaths, 646.
Baol	June 2–Oct. 16	235	109	
Cayor Frontier	July 4–Oct. 16	982	556	
Dakar	June 20–Oct. 2	147	94	
Facel	July 6	17	8	
Guindel	June 20–26	11	2	
Louga district	Sept. 18–Oct. 16	13	4	
M'Bour	July 6–10	28	23	
Medina	June 13–19	2	2	
Pout	July 4–10	1		
Rufisque	May 23–Sept. 25	223	167	
Thies district	do	34	15	
Tivaouane	June 2–July 17	50	32	
Siam	Apr. 1–June 25			Cases, 10; deaths, 7.
Bangkok	May 8–June 11	2	1	
Syria:				
Beirut	June 11–Sept. 10	4		
Tunisia	Apr. 21–July 10	144		
Tunis	July 25–Aug. 1	1		
Turkey:				
Constantinople	May 13–19	1		
Do	Sept. 18–24	1		

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

Reports Received from June 25 to November 18, 1927—Continued

PLAGUE—Continued

Place	Date	Cases	Deaths	Remarks
Union of South Africa:				
Cape Province—				
Maraisburg district	May 1-14	2	2	Native.
Orange Free State—				
Edenburg district	July 17-26	3	3	Natives; on farm.
Rouxville district	July 21-Aug. 6	2	2	
On vessel:				
S. S. Avoroff	June 24-30	1		Greek warship at port of Athens.
S. S. Capafric	Aug. 23	3	1	At Duala, French Cameroons, from Nigeria.
S. S. Elcano	Aug. 19	1		At Piræus, Greece.
S. S. Madonna	Aug. 21	1		At Dakar, Senegal, from ports south.
S. S. Ransholm	Aug. 5	3		At Gefle, Sweden, from Rufisque, Senegal.

SMALLPOX

Algeria	Apr. 21-Sept. 20			Cases, 955.
Algiers	May 11-June 30	8		
Oran	May 21-Oct. 10	69		
Angola	June 1-July 31	45		
Arabia:				
Aden	July 17-Aug. 1	2	1	
Brazil:				
Bahia	Aug. 7-13	1		
Porto Alegre	July 1-Sept. 30	11		
Rio de Janeiro	May 22-Sept. 17	23	19	
British East Africa:				
Kenya	Apr. 24-May 14	7	14	
Tanganyika	Mar. 29-June 18		22	
Do	Aug. 7-28		21	
Zanzibar	Apr. 1-Aug. 31	121	41	
British South Africa:				
Northern Rhodesia	Apr. 30-Sept. 9	179	3	
Canada	June 5-Oct. 29			Cases, 783.
Alberta	June 12-Oct. 29			Cases, 239.
Edmonton	Oct. 23-29	1		
Calgary	June 12-Aug. 27	9		
British Columbia—				
Vancouver	May 23-Sept. 4	4		
Manitoba	June 5-Oct. 29			Cases, 48.
Winnipeg	June 12-Oct. 22	23		
Nova Scotia	Sept. 11-Oct. 15	2		
Halifax	Oct. 8-15	1		
Ontario	June 5-Oct. 29			Cases, 375.
Ottawa	June 12-Oct. 29	252		
Sarnia	Aug. 7-13	1		
Toronto	June 19-Oct. 29	23		
Windsor	Oct. 2-15	9		
Quebec	June 19-Oct. 29	30		
Riviere du Loup	Oct. 30-Nov. 5	3		
Saskatchewan	June 12-Oct. 29			Cases, 156.
Moose Jaw	Aug. 14-Oct. 22	24		
Regina	July 17-Oct. 8	15		
Ceylon	May 1-7			Cases, 3; deaths, 1.
Colombo	July 31-Aug. 6	1	1	
China:				
Amoy	May 8-28	1		
Do	July 3-16			Present in surrounding country.
Antung	July 4-31	3		
Canton	Sept. 18-24	1	1	
Chefoo	May 8-14			Present.
Foochow	May 8-Sept. 10			Do.
Hong Kong	May 8-Sept. 17	22	21	

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

Reports Received from June 25 to November 18, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
China—Continued.				
Manchuria—				
Anshan	May 22–28	1		
Changchun	May 15–July 30	8		
Dairen	May 2–July 3	10	5	
Fushun	May 15–Sept. 17	11		
Harbin	June 13–July 10	4		
Kaiyuan	July 3–9	2		
Mukden	May 22–Oct. 1	7		
Pensihu	July 3–Oct. 1	2		
Ssupingkai	May 8–July 9	3		
Tientsin	May 8–Sept. 10	18	4	
Chosen	Feb. 1–July 30			Cases, 526; deaths, 211.
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.
Ecuador:				
Guayaquil	June 1–Aug. 31	4		
Egypt	May 7–July 29			Cases, 21; deaths, 3.
Alexandria	May 21–June 17	4	1	
Cairo	Jan. 22–Apr. 15	14	3	
France	Apr. 1–Aug. 31			Cases, 207.
Lille	July 24–30	1		
Paris	May 21–July 31	14	2	
Gold Coast	Mar. 1–July 31	42	7	
Great Britain:				
England and Wales	May 22–Oct. 22			Cases, 3,800.
Birmingham	Aug. 14–Sept. 30	2		
Bradford	May 29–June 11	2		
Bristol	Oct. 16–22	6		
Cardiff	June 19–July 2	4		
Leeds	July 17–Oct. 22	23		
Liverpool	July 17–30	1		
London	May 15–June 18	2		
Manchester	Oct. 2–15	3		
Newcastle-upon-Tyne	June 12–Oct. 15	11		
Sheffield	June 12–Oct. 22	33		
Stoke-on-Trent	Aug. 21–27	1		
Scotland—				
Dundee	May 29–Sept. 3	6		
Greece	June 1–30	14		
Saloniki	July 12–Aug. 15		2	
Guatemala:				
Guatemala City	June 1–30		9	
Guinea (French)	June 4–10	9		
India	Apr. 17–Sept. 10			Cases, 77,163; deaths, 20,336.
Bombay	May 28–Sept. 24	244	158	
Calcutta	May 8–Sept. 24	412	315	
Karachi	May 15–Aug. 6	10	5	
Madras	May 22–Oct. 8	35	8	
Rangoon	May 8–Oct. 1	194	158	
India, French Settlements in	Mar. 20–Aug. 27	174	155	
Indo-China (French)	Mar. 21–Sept. 20			Cases, 332.
Saigon	May 14–Sept. 9	4	1	
Iraq:				
Baghdad	Apr. 10–Oct. 1	8	4	
Basra	Apr. 10–Sept. 17	9	8	
Italy	Apr. 10–May 21	13		
Rome	June 13–July 17	3		Including consular district.
Jamaica	May 29–Sept. 24	37		Reported as alastrim.
Japan	Apr. 3–May 7			Cases, 19.
Nagasaki City	June 20–Aug. 14	26	7	
Taiwan Island	May 21–31	1		
Java:				
Batavia	May 22–Aug. 20	7		
East Java and Madura	Apr. 24–Sept. 3	23	1	
Latvia	Apr. 1–30	1		

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

Reports Received from June 25 to November 18, 1927—Continued

SMALLPOX—Continued

Place	Date	Cases	Deaths	Remarks
Mexico	Mar. 1–June 30			Deaths, 621.
Acapulco	Aug. 28–Sept. 17	2	2	
Durango	June 1–30		1	
Monterey	July 1–31	6	4	
San Luis Potosi	May 29–Aug. 13		11	
Tampico	June 1–July 31	1	2	
Torreon	Aug. 7–Oct. 1		2	
Morocco	Apr. 1–Aug. 31	283		
Netherlands India:				
Borneo—				
Holoe Soengei	Apr. 21			Epidemic in 2 localities.
Pasir Residency	Apr. 30–May 6			Epidemic outbreak.
Samarinda Residency	May 21–27			Do.
Nigeria	Mar. 1–July 31	2,844	653	
Paraguay:				
Asuncion	July 10–23		2	
Persia:				
Teheran	Feb. 21–July 23		16	
Poland	Apr. 10–Aug. 6	20	2	
Portugal:				
Lisbon	May 29–Oct. 8	26	1	
Oporto	Sept. 3–9	1		
Senegal:				
Medina	July 4–10	7		
Siam	Apr. 1–Sept. 3			Cases, 246; deaths, 66.
Bangkok	May 1–Sept. 10	16	8	
Spain:				
Madrid	Aug. 1–31		1	
Valencia	May 29–June 4	3		
Do	Sept. 25–Oct. 1	1		
Straits Settlements	June 12–18			Cases, 3.
Singapore	Apr. 1–June 18	7	2	
Sumatra:				
Medan	June 5–Aug. 20	3		
Switzerland:				
Berne	June 26–July 2	1		
Syria:				
Damascus	Aug. 11–Sept. 30	8		
Tunisia	Apr. 1–June 10			Cases, 10.
Tunis	June 1–10	1		
Union of South Africa:				
Cape Province	July 7–Aug. 20			Outbreaks.
Elliott district	May 11–June 10			Do.
Idutywa district	July 3–9			Do.
Kalanga district	May 11–June 10			Do.
Mount Ayliffe district	July 31–Aug. 6			Do.
Orange Free State	Aug. 7–13			Do.
Transvaal—				
Barberton district	May 1–7			Do.
Venezuela:				
Maracaibo	July 12–Oct. 3		4	

TYPHUS FEVER

Algeria	Apr. 21–July 20			Cases, 399; deaths, 39.
Algiers	May 11–Oct. 10	33		
Oran	May 21–Aug. 31	34		
Argentina:				
Rosario	Aug. 1–31		1	
Bulgaria	Mar. 1–Aug. 10			Cases, 245; deaths, 21.
Sofia	June 4–Oct. 21	19		
Chile:				
Antofagasta	Apr. 16–May 31	1		
Do	Sept. 25–Oct. 1		1	
Concepcion	May 29–June 4		1	
La Calera	Apr. 16–May 31	1		
Ligua	Mar. 16–31	2		
Puerto Montt	Apr. 16–May 31	1		
Santiago	do	5	1	
Talcahuano	July 10–16		1	
Valparaiso	Apr. 16–Sept. 3	5	3	

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

Reports Received from June 25 to November 18, 1927—Continued

TYPHUS FEVER—Continued

Place	Date	Cases	Deaths	Remarks
China:				
Manchuria—				
Harbin	July 25–Aug. 21	5		
Mukden	May 29–June 4	1		
Tientsin	July 10–16	1		
Chosen	Feb. 1–July 31			Cases, 793; deaths, 68.
Chemulpo	May 1–Aug. 31	3		
Gensan	do	4		
Seoul	Apr. 1–Aug. 31	35	3	
Czechoslovakia	do			Cases, 55.
Egypt	May 28–Sept. 16			Cases, 130; deaths, 20.
Alexandria	May 21–Aug. 5	13	5	
Cairo	Jan. 15–July 1	43	16	
Port Said	Sept. 24–30	1		
Estonia	Apr. 1–June 30			Cases, 5.
Greece	June 1–30	2		
Athens	June 1–July 31		9	
Guatemala:				
Guatemala	Aug. 25–31		1	
Iraq:				
Baghdad	Apr. 24–30	1		
Irish Free State:				
Cork County	July 3–9	1		In urban district.
Donegal County—				
Letterkenney	Oct. 16–22	4		
Latvia	Apr. 1–July 31	32		
Lithuania	Feb. 1–Aug. 31	365	50	
Mexico	Feb. 2–June 30			Deaths, 166.
Mexico City	May 29–Oct. 22	79		Including municipalities in Federal district.
San Luis Potosi	July 31–Aug. 6		1	
Morocco	Apr. 1–Sept. 20	981		
Palestine	May 24–Sept. 26			Cases, 29.
Haifa	May 24–Aug. 29	8		
Jaffa	Aug. 2–Oct. 3	3		
Jerusalem	June 28–Aug. 15	3		
Mahnaim	May 17–23	1		In Safad district.
Nazareth	July 19–25	1		
Safad	May 17–Aug. 8	10		
Peru:				
Arequipa	Apr. 1–30		1	
Do	Aug. 1–31		2	
Poland	Apr. 10–Sept. 24	1,123	102	
Portugal:				
Lisbon	May 29–June 4	1		
Oporto	Aug. 20–27	1		
Rumania	Apr. 3–Aug. 27	1,000	69	
Spain:				
Seville	Aug. 19–25		2	
Syria:				
Aleppo	Sept. 11–17	2		
Tunisia	Apr. 22–July 20			Cases, 158.
Tunis	July 5–Aug. 21	2		
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–Aug. 27	42	5	Outbreaks.
Albany district	June 5–11			Do.
East London	May 22–28	1		Do.
Glen Gray district	May 1–7			Do.
Kentani district	June 26–July 2			
Port Elizabeth	Aug. 7–13	1		Do.
Qumbu district	May 1–7			Do.
Umzimkulu district	June 26–July 2			
Natal	Apr. 1–Aug. 6	7	3	Do.
Impendhle district	June 5–11			
Orange Free State	Apr. 1–July 23	5		
Transvaal	Apr. 1–30	1		
Johannesburg	July 3–Aug. 20	19	5	
Yugoslavia	May 1–Aug. 31			Cases, 24; deaths, 5.

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

Reports Received from June 25 to November 18, 1927—Continued

YELLOW FEVER

Place	Date	Cases	Deaths	Remarks
Ashanti:				
Obuasi	Aug. 6	1	1	
Dahomey (West Africa):				
Porto Novo	July 1	1	1	In Syrian woman.
Gold Coast	Apr. 1–June 30	60	22	
Do	Aug. 4	2		
Ivory Coast	July 29	1	1	
Liberia:				
Monrovia	May 29–Sept. 10	5	5	
Senegal	Oct. 3–16			Cases, 24; deaths, 18.
Dakar	July 9	1		
Do	Aug. 8		2	
Do	Sept. 17			Present.
Do	Oct. 3–16	12	7	
Geoul	Sept. 26–Oct. 2	1	1	
Island of Goree	Aug. 22–Sept. 4	2	2	
Kebemer	Oct. 9–16	1	1	
Kelle	do	2	1	
Khombole	Aug. 1–Oct. 9	6	3	
Louga	Sept. 26–Oct. 2	1	1	
M'Bour	May 27–June 19	5	5	
Ouakam	June 2–Aug. 14	4	2	
Pout	Sept. 19–25	1	1	
Rufisque	Oct. 9–16	1	1	
St. Louis	Aug. 1–Oct. 2	3	3	
Thies	July 10	1	1	In European.
Do	Sept. 12–Oct. 16	10	10	
Tiaroye	Aug. 22–Sept. 4	1	1	
Tivaouane	May 27–Sept. 11	6	5	
Togoland:				
Melatza	Aug. 15–21	1	1	
On vessel:				
S. S. Desirade	Sept. 16	1	1	At Leixoes, Portugal, in passenger from Dakar, Senegal.