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PROGRESS IN HEALTH CONSERVATION DURING THE PAST FIFTY YEARS.[1]

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BRIEF HISTORY OF HYGIENE AND SANITATION.

Before entering upon a discussion of the several achievements bearing on the conservation of human life during the past 50 years, it might prove interesting to outline briefly the history of hygiene. This branch of medicine has as its goal the preservation and promotion of health, and so its first problem is the study of the causes of disease and its prevention. Armed with reliable data, the product of investigations, the hygienist formulates rules to serve as guides in the attainment of truest culture of body and mind, so that development may be more nearly perfect, decay less rapid, life more vigorous, and death more remote.

The application of the precepts of hygiene is called practical hygiene, or sanitation, and is generally subdivided into personal and public hygiene. In the former, the rules of hygiene are applied to individuals; in the latter, to nations, communities, or to special classes requiring special supervision. Thus we deal with child hygiene, the hygiene of schools and of prisons, industrial hygiene, military and naval hygiene, sex hygiene, mental hygiene, etc.

When the State promulgates sanitary laws or rules for the protection of its citizens, the term "public health," or "State medicine," has been chosen to designate this activity; and the officials appointed to execute these health laws are termed "health officers," "sanitary inspectors," and "sanitary police."

Hygiene, which is the foundation of sanitation, can not be regarded as an independent science like anatomy or chemistry, because it is the application of the teachings of physiology, chemistry, physics, meteorology, epidemiology, pathology, bacteriology, sociology, and vital statistics, to the conservation of health and life of individuals and communities.

[1] Opening address (Jan. 14, 1923) of a series of lectures on public health held at the U. S. National Museum under the auspices of the Woman's Welfare Association.

A very important auxiliary in practical hygiene is sanitary engineering, also spoken of as sanitary technique, including architecture, plumbing, heating, lighting, etc., all of which are of great benefit not only to individuals but to communities at large, in the construction of water works, sewers, public buildings, hospitals, schools, private homes, industrial plants and the like.

It is an axiom that sickness and accidents are fundamental causes of poverty and distress. When we associate the poverty, pain, and sorrow of the wage earner with disease and injury we are face to face with the solemn obligation of preventing and mending, as far as lies within our power, these sad conditions. Though death is inevitable, suffering can be prevented and human life prolonged.

Hygiene has received such an impetus within the past 50 years that many persons regard it as of modern origin. Such, however, is not the case, for, on turning the pages of early history, we almost invariably find that the health of the population was the subject of serious consideration and legislation. Hygiene was practiced by the old Egyptians, who paid special attention to their food and child welfare. They appreciated the dangers of floods to health and resorted to preventive measures. Preventive measures were instituted against the invasion of plagues. The inhabitants of old India also gave attention to their food, habitations, exercise, games, and the isolation of children in case of infectious diseases. The Mosaic code of laws, probably borrowed from the Egyptians, contains minute directions for personal cleanliness, the purifications of dwellings and camps, the selection of healthful and avoidance of unwholesome food, the isolation of persons with contagious diseases, circumcision, the regulation of sexual intercourse, and various other points bearing on the physical welfare of the Jewish race. The sanitary code of the Hebrews, especially that part which relates to the slaughtering of animals, the food supply and its preparation, care of cooking and drinking utensils, and ablutions of the hands after every unclean act, appears peculiarly appropriate, in the light of our knowledge of infectious germs and bacillus carriers gained during the last 50 years. It is also a noteworthy fact that this people even now not only enjoys a higher expectation of life but is also more prolific than many other races.

We find that the Greeks and Romans, though not making hygiene a part of their religious duty, paid special attention to the physical training of their youth, endeavoring, by a rational care of the body, to secure freshness and energy, courage, presence of mind, grace and dignity. "The laws of Lycurgus," says Doctor Gardiner, "are not wanting in very pointed enactments on sanitary matters; and the importance attached by all the Greek republics, and in the Platonic ideal polity, to physical culture, is too well known to require

further comment." They gave also much attention to the water supply and constructed numerous aqueducts; and Athens was provided with sewers at an early period of its history.

The teaching of Hippocrates, 400 B. C., doubtless bore much fruit, and whether true or not, as stated by Galen, that he ordered, during a pestilence at Athens, aromatic fumigation and large fires in the streets, we have at least his writings on air, water, soil, habitations, and occupations, and his views of local and seasonal influences on sporadic and epidemic diseases. In Homer's Odyssey reference is made to Ulysses purifying his house with burning sulphur; and Aristotle, in his Politica, evinces his sanitary acumen when he says: "The greatest influence upon health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

The Romans, amidst their military operations, found time to construct the "Cloaca maxima" some 2,400 years ago, which not only served for the removal of refuse, but also helped to drain many of the marshes, and constitutes the principal sewer of modern Rome. Aqueducts were constructed to cover miles upon miles of the surrounding plains, and their magnificent ruins, many of which have been restored and are now used for their original purpose, attest the munificence and abundance with which the first of sanitary requisites was supplied the Eternal City. At one time Rome had 14 large and 20 small aqueducts, some of which carried the water from a distance of 50 kilometers; and during the reign of Tiberius and Nero the per capita supply was over 1,400 liters a day. It is a matter of history that between 400 B. C. and 180 A. D. about 800 public baths were installed, among them the "Thermæ Caracallæ, which alone accommodated 3,000 bathers at one time.

During the reign of the Cæsars attempts were made to drain the Pontine marshes. Sanitary officials and physicians to the poor were appointed and homes for poor girls and orphans were founded. In the meantime the true spirit of Christianity asserted itself, and we read of the establishment of hospitals as early as the fourth century. Infant and orphan asylums and homes for the poor, the aged, and incurables followed close in their wake.

During the Middle Ages sanitation received a decided set-back. War, ignorance, and brutal prejudices appear to have constituted the ruling spirit, and for many reasons this period stands out as the most insanitary era in the annals of history.

About this time most of the towns in Europe were built in a compact form, surrounded with walls. The streets were narrow and often winding, for defensive purposes, shutting out light and air from the houses. The accumulation of filth was appalling. Stables and houses were close neighbors and human filth was scattered on the

streets or piled in manure heaps. A city ordinance of Mulhberg in 1367 prescribed that manure deposited by householders on the market space must not be allowed to remain longer than 14 days. The dead were buried within churchyards. Sewers and aqueducts having been permitted to fall into disuse, the inhabitants were compelled to resort to wells with polluted subsoil water. All the conditions were favorable for the spread of infectious diseases. In the fourteenth century (1345–1351) the "Oriental pest," or bubonic plague, claimed a toll in Germany of over a million lives. Venice lost 100,000 of its inhabitants as victims and Florence 50,000. England lost one-half of its people, and London, then a city of 110,000 residents, buried 50,000 in one cemetery. According to conservative estimates, the deaths from this plague in Europe reached the 25,000,000 mark, approximately one-fourth of the world's population. The majority of the people regarded the plague as the dispensation of Divine providence, an evidence of Heaven's wrath, which they hoped to allay by all sorts of self-inflicted punishments, and the passion plays of Oberammergau and elsewhere originated about this time. Others accused the Jews of being the cause by poisoning the food, water, and air, and thousands were burned at the stake until Pope Urban IV placed them under his special protection. The Faculty of Paris attributed the epidemic to the conjunction of planets on a certain day in 1345, and the faculty of Leipzig, with equal emphasis, connected it with earthquakes, unseen waves of air, inundations, etc. Venice alone of all Europe took a scientific view of the matter, and for the first time in history, in 1348, appointed three guardians of public health; and the rules adopted later to isolate infected houses and districts for 40 days has given rise to the term quarantine (from quaranta giorni).

We are told that this board rendered excellent service in matters relating to public sanitation, the control of markets, and the sale of unwholesome foods, etc. They also inaugurated a system of mortality reports with columns for the insertion of the cause of death, showing that they fully appreciated the importance of vital statistics in the study of the causes and prevention of disease.

The repeated invasion of the "Oriental pest" appears to have everywhere compelled some sanitary efforts, and an Imperial decree in 1426 required the appointment of city physicians throughout Germany, whose duty it was to formulate preventive measures.

A city ordinance of Nürnberg in 1562 gives detailed directions as to the quality of bread, beer, and wine offered for sale, the cleaning of streets and houses, the disposition of infected clothing and bedding, the fumigation, with sulphur and straw, of pesthouses, etc. This city early in 1368 introduced street pavements, and Augsburg in 1412 inaugurated a public water supply.

In 1685 Prussia established a central medical bureau, and appointments of health officers and privy medical counsellors were also made, whose duties consisted in advising the men intrusted with the care of the government on matters relating to public health. Some of these titles are still in vogue in Europe. About the same time sanitary improvements in the nature of widening streets for the purpose of supplying more air and light to the habitations and better methods for the collection and removal of the wastes of human life were introduced; but at best at the close of the seventeenth century the habits of the people in Europe were generally filthy and in striking contrast to those observed among the most untutored savages of the present day.[2]

In Madrid, we are told, not even a privy existed in 1760. It was customary to throw the ordure out of the windows at night,

[2] A study of the habits of the primitive peoples in the different parts of the globe shows that a desire to prevent disease is innate in all men. Among matters of personal hygiene may be mentioned massage for the purpose of overcoming fatigue; ocean, river, hot-air, and vapor baths as practiced among many Indian tribes; the employment of eye protectors against the glaring effects of snow among the inhabitatns of the Arctic region; and the use of respirators by the Kwixpagmut, an Eskimo tribe, to prevent the inhalation of smoke during their sweat baths.

Many of our North American Indians have their medicine dances, the chief object of which appears to be the preservation of health. Thus the men of the Nez Perces tribe, between the ages of 18 and 40, assemble annually for the purpose of conquering "Mawisch," the spirit of fatigue: the ceremony lasts from three to seven days, and consists in the introduction of willow bougies into the stomach, followed by hot and cold baths and abstinence from food. The Indians are of the firm belief that they secure thereby increased strength and power of endurance (Bancroft). I see no reason why a perfect cleansing of the body and temporary fasting should not result in a thorough purification of the blood and tissues, a more perfect metabolism, and increased nutrition and power of resistance of the individual cells.

The disposal of the dead by cremation and the destruction of the teepee and personal effects by fire after fatal cases were practices in vogue among a number of Indian tribes, and are worthy of mention, as fire is the best known germicide. Many of these primitive peoples appear to have correct ideas as to the communicability of certain diseases. Ehrenreich tells us that consumption prevails extensively among the Karayá in Brazil; and whenever a stranger approaches their huts he is asked whether he suffers from a cough, and unless the answer is negative he is not admitted—a very suggestive precept in view of the fact that scientific medicine has established the infectious character of tuberculosis. Pallas writes that during smallpox epidemics the Kirgise do not hesitate to use their arrows if necessary to keep infected subjects from entering their homes. In passing, I may remark that such a brutal system of quarantine was practiced less than 25 years ago in our country. A man suffering from smallpox was expelled from Arkansas and refused admittance into Mississippi. As he could not remain in or on the Mississippi River until the disease had run its course, he attempted to evade the quarantine and land on the river bank in the latter State, but was shot and killed by one of the quarantine officers.

As an example of public health measures may be mentioned the fact that Harmond, during an expedition to Mé Khóng, in Farther India, in the land of Khâs, found, suspended outside of all villages which had been previously visited by cholera, a piece of wood, carved with a sign language to the effect that, "Whosoever dares to invade our palisade during the next 12 days will be imprisoned and must pay a fine of 4 buffaloes and 12 ticals." On the reverse side of the sign was given the number of men, women, and children in the village. The same observer noticed that the inhabitants of villages occupied by Attapeu, which are close neighbors of the tribes of Laotes, laid pieces of lumber in the form of a star across their roads and paths, or suspended similar signs with bunches of leaves without the gates of their settlement, to warn strangers of the prevalence of an epidemic among men or beasts within. The natives of the island of Keisar interdict marriage with lepers, evidently believing that leprosy is not contagious but is transmitted by heredity, while the natives of the Watubela Islands believe the converse and transport their lepers to Gorong for isolation and treatment.

The practice of isolating contagious disease, especially during epidemics, appears to be quite common. Thus, at the island of Nias, smallpox patients are sent to a temporary shelter outside of the camp and placed in charge of a relative protected by a previous attack. The Traos of Cochin China and the Tunguse and Burates abandon their smallpox patients after providing them with boiled rice and water. Some of the Indian tribes in northern Mexico also abandon their contagious cases after placing water and wild fruits within easy reach.

to be removed by scavengers the next day. An ordinance issued by the King, that every householder should build a privy met with the violent opposition of the people, who looked upon it as an arbitrary proceeding, and even physicians remonstrated against it, alleging that the filth absorbed the unwholesome particles of the air, which otherwise would be taken into the human body. His Majesty, however, with commendable zeal, persisted; but many of his citizens, in order to keep their food wholesome, erected privies close to their kitchen fireplaces.

With such insanitary conditions we need scarcely be surprised that the mortality in towns out balanced the birth rate, and that the city population had to be continually recruited from the country, conditions which existed until the close of the eighteenth century.[3]

It has been noted by Roscher that in Prussia, during the decade 1751–60, "688 out of every 1,000 children born perished before the age of 10, and that in 1761, 50 per cent of the English population died before reaching the age of 20."

With the development of the modern factory system of increased production in the latter part of the eighteenth century came also a concentration of the population in certain manufacturing districts, and diseases of occupation and accidents assumed more and more importance. It became apparent in countries like England, France, Germany, and Italy that death was exacting a very heavy toll in many of the industries. Indeed, the workmen began to believe that steam and speed had not improved their lot in life, and spoke of their condition as being one of slavery, and of their factories and workshops as slaughterhouses.

This was not an unreasonable conclusion, when it is recalled that in 1833 in factory towns like Manchester and elsewhere "the youthful population was physically worn out before manhood," and the average age of the laboring classes was only 22 years, as compared with 40 years among the higher classes.

Toward the close of the eighteenth century sanitary reforms were adopted in some of the European countries, with special reference to infant and orphan asylums and the much needed prison reforms. Something was also done in 1774 and 1775 toward the hygiene of schools.

As an epoch-making achievement of the eighteenth century should be mentioned Jenner's discovery of vaccination. William Jenner, on May 14, 1776, inoculated a boy with virus taken from a pustule on the hand of a milkmaid who had been infected by her master's cow. On July 1 this boy was inoculated with smallpox virus without the

[3] Statistics show that up to within a few years ago the mortality in towns and cities was always higher than in rural district; this, however, owing to superior public-health administration in some of the principal cities, is no longer true.

slightest effect, as Jenner had predicted. In spite of considerable opposition, this method was slowly but surely adopted in all civilized countries. It was introduced by Doctor Waterhouse in Boston in 1800, by Seaman in New York in 1801; and in the same year President Jefferson was vaccinated by Doctor Grant of Georgetown. The result was that smallpox, which, according to the New York Medical Record of July 14, 1894, carried off over 50,000,000 persons in Europe during the eighteenth century, and was the cause of one-tenth of all the deaths in New York City between 1785 and 1800, has been practically eliminated, except in neglected communities.

The nineteenth century can boast of many advances in hygiene, particularly since the invasion of the cholera epidemics in 1830 and 1849–50.[4] England took the lead in sanitary reforms, and other countries followed. Much attention was paid to vital statistics, the establishment of health boards, enactment of health laws, and the publication of sanitary police regulations. The towns and cities which had been visited by the cholera, and those fearful of similar scourges, were anxious to profit by the investigations of the causes of infectious diseases, and eager to do all in their power to remove the predisposing causes. As a result of this awakening, they freely instituted sanitary reforms by installing sewers and pure public water supplies, improving sanitary conditions of homes, etc.

We know that these sanitary works were prosecuted with commendable intelligence and zeal and resulted in a decided improvement in the air we breathe and the water we drink. The example of England was emulated by all civilized nations with like results, and the principles of public hygiene bore fruit in every land. A study of the causes of infectious diseases suggested more intelligent measures for their prevention or mitigation, as for instance the compulsory

[4] According to Garrison (Garrison, Fielding H.: History of Medicine. Second Edition. W. B. Saunders Co., 1917, p. 775), in 1762 a sanitary council was established in every Prussian Province, but it was not until the second pandemic of cholera (1849–50) that France and England began to wake up to the task of organizing public health. In 1840 a national organization of "Counseils d' Hygiène" for the cities, with special committees for the provinces, was formed in France, the essence of which still survives.

Early English legislation, such as the Peel Act of 1802, to preserve the health and morals "of cotton spinners and factory hands," was directed mainly toward the hygiene of occupations, particularly child labor.

Among worthy legislation of note enacted in Great Britain, Garrison mentions the following: "In 1848 Parliament passed the public health act, based upon the startling returns of the health of towns commission (1844) and constituting a general board of health with sanitary inspectors to report upon the health of cities. This was followed by the lodging-house acts (1851–1853); the nuisances removal act (1855); the burial act (1855); the act of 1858, transferring the powers of the general board of health to the privy council; the organization of the local government board (1871); the public health act of 1875; the infectious diseases (notification) act (1889); the infectious diseases (prevention) act (1890); the isolation hospitals act (1893); the local government act (1894); the vaccination acts (1898 and 1907); the rivers pollution prevention act (1898); and many other measures for the protection of children and wage earners in general.

In 1819 the age of children employed in cotton mills was limited to 9 years, and children under 16 years of age could not be employed for more than 12 hours a day. In 1844 the employment of children under 8 years of age was prohibited, and female labor was restricted. In 1847 the hours of labor for women and children were limited to 10 hours a day. The act of 1891 raised the age limit to 11 years, which has since been raised to 13 and then to 14.

vaccination against smallpox, the isolation of smallpox and typhus fever patients, and the construction of better lodging houses, hospitals, and model buildings for the care of the insane, the blind, the deaf and dumb.

PROGRESS OF SANITATION IN THE UNITED STATES.

While the people of the United States were not slow in adopting and originating sanitary measures of great value, our notions of personal liberty, guaranteed to us by the Constitution, evidently prevented early legislation in the matter of public health, and this because of the fear that such legislation might affect the personal habits of the citizen and lessen his freedom of action. Dr. Samuel W. Abbott, in his masterly exposition of "The Past and Present Condition of Public Hygiene and State Medicine in the United States," in 1900, records, however, the gratifying fact that the early colonists realized the need for preserving their family records, which constitute the foundation stone of public hygiene, by enacting a law in 1639 "that there be records kept of the days of every marriage, birth, and death of every person in this jurisdiction."

The importance of vital statistics is not fully appreciated at the present day, for even now many of our States do not have anything like a satisfactory system for keeping a complete and accurate record of vital statistics.

According to Abbott, "Up to the close of the eighteenth century and for several decades of the nineteenth, almost the only health legislation which was enacted in the different States in the Union consisted in a few laws relating to smallpox, since this pestilence was scarcely ever absent for many years at a time from any city or village untill after the general introduction of vaccination".

The invasion of cholera from Canada in 1832 and the epidemic of 1848–49 here, as in Europe, awakened public interest in sanitary reforms, and the Legislature of Massachusetts, in 1849, appointed a commission to make a sanitary survey of the State; and we are told by Doctor Abbott "that this was done none too soon, for in that year the general sanitary condition of the State, as shown by the report of the commission, was deplorable and the death rate unusually high. Only a few towns had then introduced public water supplies. Cholera was beginning to appear again and dysentery and other infectious diseases were more destructive than they had been for many years."

HEALTH BOARDS.

New Orleans having lost 8,000 victims by cholera in 1832 and in 1849–50, out of a population of about 55,000, and anxious to maintain a quarantine, secured the enactment of a law in 1855 for the

establishment of a State board of health. In 1869 a more comprehensive board was established in Massachusetts, followed in 1870 by California. Now nearly all of the States have followed the example. *Pari passu* and, in many instances, preceding the establishment of State boards of health, our local boards of health sprang into existence, and adopted measures providing for the control and restriction of infectious diseases; for the abatement of nuisances; for the sanitary inspection of the food supply, schools, public buildings, institutions, and tenements; for street cleaning and the removal of refuse; for registration of vital statistics; for supervision of burials and of municipal water supply, sewage, and sewage disposal; for the care of bathing establishments; for regulation of offensive trades, etc.

EFFECTS OF VOLUNTARY ORGANIZATION ON SANITATION.

In September, 1872, the American Public Health Association was organized. In 1873 the Section on State Medicine of the American Medical Association was created. Since then the American Climatological Association, the National Tuberculosis Association, the Council on Public Health and Hospitals of the American Medical Association, the Social and Mental Hygiene Associations, the Infant Welfare Association, the Association for the Control of Cancer, Heart Disease, etc., have sprung into existence; and, numbering, as they do, among their members some of the master minds in the profession, much good has been accomplished by these bodies and the so-called sanitary conventions, in molding public opinion and in framing and recommending health laws. There is no doubt, however, that all these organizations were stimulated into existence by the lofty tenets of the code of ethics of the American Medical Association, in which the duties of the medical profession to the public were prescribed as early as 1847.

NATIONAL BOARD OF HEALTH.

The cholera epidemic of 1872 and 1873 resulted in the appointment of a commission by Congress. This, together with the yellow fever epidemic in the Southern States in 1878, affecting, according to Sternberg, over 74,000 persons and causing 16,000 deaths, called attention to the necessity for some central sanitary organization. In March, 1878, Congress created a National Board of Health, whose duty it was to investigate the causes and means of prevention of contagious and infectious diseases, to indicate measures of national importance, and to be a distributing center of information relating to public health. Through lack of appropriation, this important body died a natural death. Since 1883, the duties pertaining to international and interstate quarantine have been satisfactorily discharged by the

Surgeon General of the United States Marine Hospital Service, now the United States Public Health Service.[5] The contributions of this bureau and its hygienic laboratory to the cause of preventive medicine merit the gratitude of the Nation. Space will not permit me to enter upon details, which doubtless will be presented to you by Surgeon General Cumming and Doctor McCoy. The bureau, apart from the management of hospitals and stations for the care of sick and disabled seamen of the merchant marine, also undertook the collection and dissemination of morbidity statistics and sanitary information; scientific investigation of the causes of disease; the physical examination of immigrants, to exclude those affected with contagious disease; service in the office of consuls at foreign ports to assure the accuracy of bills of health; and has also maintained an efficient system of national and international quarantine. The divisions of industrial hygiene and of venereal diseases have rendered excellent service; and splendid work has also been done by the bureau in rural and child hygiene.

HAS HUMAN SUFFERING BEEN MITIGATED AND HUMAN LIFE GREATLY PROLONGED BY EFFORTS IN SANITATION?

Professor Finkelnburg, of Bonn, estimates that the average length of human life in the sixteenth century was between 18 and 20 years, and at the close of the eighteenth century it was still less than 25 years. At the close of the nineteenth century it was between 45 and 48 years, whereas to-day it varies in different countries from less than 25 in India—where the average remains only about 24 years—to 60 years in New Zealand and 56 years in the United States. The best available figures show that the span of life in this country has been lengthened 15 years since 1870.

The general mortality in the registration area of the United States has been reduced from 19.8 per 1,000 in 1880 to 11.6 in 1921. This means the saving of about 500,000 lives for the year 1921 alone.

The death rate in the city of Washington has been reduced from 28.08 in 1875 to 13.9 in 1922, which means the saving of approximately 6,000 lives for the year 1922 alone. During the year 1875, 38 per cent of all the deaths were caused by consumption, infant mortality, and smallpox. The death rate from consumption has been reduced from 439 per 100,000 in 1876 to 108 in 1922, which means a saving of approximately 1,400 lives for 1922. The ratio of deaths from typhoid fever has been reduced from 83 per 100,000 of population in 1890 to 4.8 in 1922. The infant mortality rate has been reduced from 322 in 1878 to 84.5 in 1922, a saving of approximately 2,000 babies.

[5] The name of this bureau was changed by an act approved August 14, 1902, to the United States Public Health and Marine Hospital Service, and by the act of 1912 to the United States Public Health Service.

Similar gratifying results are noteworthy in the reduction of other communicable diseases, and some of our American cities have attained even greater reductions.

You will quite naturally ask how these remarkable reductions were brought about. I answer that 50 years ago we knew little or nothing of the causes of the so-called infectious or communicable diseases. It was generally assumed that they were due to such hypothetical conditions as "miasmas," formed outside of the body, which gained admission through the respired air. One class of physicians assumed that many of the infectious diseases were caused by "contagium," by which they understood a specific morbific material generated within the body of those afflicted and capable of producing the same disease in others; but the advocates of these theories failed to isolate the various agents or to demonstrate them.

BIRTH OF SCIENTIFIC MEDICINE.

It is a matter of history that a learned Jesuit Priest, A. Kircher, in his researches on plague in Rome in 1658, was the first to demonstrate that the blood of plague patients was filled with countless broods of worms not perceptible to the naked eye, but to be seen in all putrefying matter through the microscope.[6] While Kircher is credited by medical historians as being the first to state in explicit terms the doctrine of a *contagium animatum*, and Leeuwenhoek, in 1668–1675, with better lenses, recognized the existence of what we know to-day as bacteria, it was not until 1863 that the bacillus of anthrax was discovered by Davaine. In 1873 Obermeier discovered the spirochætes of relapsing fever; in 1875 Louis Pasteur discovered the bacillus of malignant odema; in 1879 Neisser isolated the micrococcus of gonorrhea; in 1880 Sternberg discovered the organism causing pneumonia; and in the same year Eberth isolated the bacillus of typhoid fever. In June, 1882, Koch discovered the tubercle bacillus, and in 1884 the spirillæ of cholera. Other important discoveries, such as the plasmodium of malarial fever, were made in the eighties by Lavaran. In 1894 Yersin and Kitasato discovered the bacillus of bubonic plague. The spirochætes that are the cause of yellow fever were isolated in 1920 by Noguchi.

With the development of bacteriology, practically since 1873, scientific preventive medicine had its birth, and we know that the diseases mentioned above, as also glanders, tetanus, leprosy, erysipelas, wound and puerperal infections, cerebrospinal meningitis, influenza, dysentery, and typhus fever, are caused by living organisms, capable of reproduction within the body; and this fact is a strong argument

[6] These organisms, however, were not identical with the bacillus of plague, which was not discovered until 1894

in favor of the microbic nature of the following diseases in which the specific organisms have not yet been isolated—smallpox, scarlet ever, whooping cough, mumps, infantile paralysis, and rabies, or hydrophobia.

Since our knowledge of the nature of infectious diseases has been more and more extended, scientific methods for their prevention have been applied in the matter of isolation of patients and the disinfection of their excretions, secretions, clothing, bedding, etc. Although certain physical and chemical agents were used empirically for ages, we now know that they are effective because they destroy the vitality of the germs. We have also learned that in addition to the germ there must be a suitable soil for the proliferation, and that sanitation will not only destroy the seed beds outside of the body, but also place the system in the best possible condition to resist their disease-producing properties. In the campaign of general sanitation, no factors have contributed as much to the general results as the improvement of the air we breathe and the water and food we consume. Indeed, we have unquestionable evidence that with the introduction of pure water and milk supplies and the installation of sewers the general mortality of numerous cities during the past 50 years has been reduced more than one-half, the good results of these measures being especially shown by a marked decrease in the number of deaths from typhoid fever, consumption, and the diarrheal diseases in infants and adults. The United States enacted a pure food and drugs law in 1906, and my friend Doctor Wiley, who led the campaign for this important sanitary measure, deserves the gratitude of the entire Nation.

Much good has also been achieved in the last 25 years by industrial and social betterment, improved housing conditions, the erection of sanitary houses at reasonable rentals for wage earners, the sanitation of schools, workshops, office buildings, hospitals, prisons, etc. Prenatal care, infant welfare work, the medical inspection of pupils for the detection of minor contagious diseases and physical defects, and the splendid health crusades carried on in the schools and by health associations and life insurance companies can not fail to develop a strong, untainted, virile race, better fitted to resist disease in general.

ACHIEVEMENT OF ANIMAL EXPERIMENTATION.

Without wishing to underrate the brilliant achievements in surgery of the brain, stomach, intestines, liver, kidneys, lungs, gall bladder, and other internal organs, and even wounds of the human heart, which have been successfully sutured in a number of instances, what, after all, are the ultimate benefits compared with the results obtained by preventive medicine?

The application of the knowledge gained from animal experimentation has saved millions of lives and ameliorated an incalculable amount of human suffering and distress, not to mention the economic aspect of the question. Recalling all this and the fact that Jenner's discovery, at the close of the eighteenth century, of a fundamental and practical method of producing artificial immunity has been far eclipsed in the last 30 years, and that we possess to-day not only curative but also protective sera for diphtheria, erysipelas, tetanus plague, cerebrospinal meningitis, typhoid fever, and pneumonia and a number of other immunizing agents for diseases of man and the lower animals, we have every reason to expect still greater results in our war upon infectious diseases.

The highest aim of scientific medicine is the eradication of preventable diseases. In the achievement of this aim most commendable progress has been made. Medical history shows that during the Civil War out of every 1,000 soldiers enrolled 65 died annually from disease; during the Spanish-American War the losses were still 30 out of every 1,000; whereas during the recent World War, in spite of the influenza and pneumonia epidemics, the mortality from disease was as low as 14.8 per 1,000.

It is an axiom that typhoid fever was the scourge of all armies. In the Spanish-American War one man out of every six contracted typhoid fever in an army of 107,973 men, and this disease caused 1,580 deaths. In 1909 preventive inoculations were introduced by Maj. F. F. Russell, with the result that during the World War only one man out of every 3,756 men in an army of approximately 4,000,000 contracted typhoid fever, and there were only 213 deaths from this disease. Had the death rates of the Spanish-American War prevailed, 51,133 deaths would have occurred from typhoid, and had the Civil War rates obtained, 68,164 lives would have been sacrificed. It has been well said that the mothers, wives, sisters, and sweethearts of the 50,000 men whose lives were saved by anti-typhoid vaccination should breathe a prayer thanking God that there was a Russell—and animal experimentation.

THE FUTURE.

While much has been accomplished, more remains to be done in the prolongation of life and happiness. A report made in 1908 by Professor Fisher, of Yale, on national vitality, for the national conservation committee, estimated that there were about 3,000,000 persons sick at all times in the United States, and that 42 per cent of this illness was preventable, involving an extension of life of over 15 years. Dr. Eugene L. Fisk, of the Life Extension Institute, in 1922, in his able report on the economic loss from preventable sick-

ness and accidents among the working population, declared that a considerable measure of Professor Fisher's prediction had been fulfilled, as the duration of life had probably been extended a period of five years since 1909. Fisk's estimate, however, even in 1922, was 2,400,000 continually ill persons, half the sickness being preventable. While such statements should be a matter of serious concern, we have still greater reason for increased activity when we realize that the mortality from diseases of the heart, blood vessels, and kidneys, apoplexy, insanity, and cancer has increased in this country during the past 40 years. Unfortunately the exact cause of all these and other chronic degenerative diseases which carry off over 250,000 victims every year are still obscure. There is much reason for assuming that focal infections from diseased tonsils, adenoids, and pus sockets of infected teeth may cause a chronic form of blood poisoning, and the continuous absorption and action of these poisonous substances on the living tissue cells may bring about degenerative changes. One of the first manifestations is usually rheumatism and heart disease. Dr. Frank Billings enumerates over 20 diseases attributable to so-called focal infections. The danger from infected teeth is real and can not be ignored. It was shown to exist by X-ray examination at the Life Extension Institute in 60 per cent of 5,000 workers. It is also believed that the increase in some of the chronic diseases is due to wrong habits of life, the result of nutritive disturbances from overfeeding and underfeeding, or an improperly selected diet. The remedy lies in periodical medical examination for the early detection of all obscure and insidious cases of illness, with a view to prompt treatment.

In reference to the increase of mental and nervous diseases, we know that the most frequent and best known causes of insanity are syphilis, alcohol, drug addiction, mental stress, and overwork. In the light of our recent knowledge of focal infections, there is much reason for assuming that the toxic effects may readily manifest themselves on the delicate tissues of the brain and nervous system. We also know that many of the chronic diseases are caused by the effects of industrial poisons to which many of our wage earners are exposed, and it will be the duty of those engaged in sexual, mental, and industrial hygiene to see to it that the predisposing causes are removed.

Let us remember that about one-third of our population is engaged in the industries, and up to 15 years ago they contributed more than one-half of all the deaths from tuberculosis. It is less than 15 years ago since serious attention has been paid to industrial hygiene in our country; but, fortunately, the effects of legislation and factory sanitation, together with the gospel of personal hygiene and higher standards of living conditions, are already strikingly

shown by a most marked decrease in the mortality from tuberculosis in eight of the most dangerous trades in the State of New Jersey.[5] Doctor Crum reports that during the year 1917 there were 45,000 fatal accidents and about 5,625,000 nonfatal injuries caused by public accidents. According to Fisk, at least 75 per cent of the accident rate is preventable, and even greater reductions have been made in some industrial plants by the adoption of safety measures and means of prevention. When we remember all this, there is reason to hope for still greater achievements in the future.

I have already stated that the average span of human life in this country has been lengthened from 41 years in 1870 to 56 years in 1920, a gain of 15 years. In the opinion of the American Public Health Association it will be possible, even without further additions to our knowledge of the causes and prevention of disease, but simply by the application of knowledge already gained and as yet unapplied, to add at least 20 years to the span of life within the next 50 years. I am sufficiently optimistic to believe that, provided we maintain our present high standards of civilization and correct living, the average span of life may reach the biblical three score and ten by 1950. This, however, can be accomplished only in an uninterrupted period of peace and prosperity; indeed, it is utterly impossible under chaotic political and economic conditions with war and food shortage. We have referred to the sad effects of the Dark Ages on health and longevity. Did time permit I could present startling details of the influence of war and revolution on poverty, famine, and pestilential diseases in poor Russia, and some of the central European States. God forbid the reenactment of the scenes of the Middle Ages, with all the evil consequences on the health, longevity, and happiness of the human race.[8]

INDICATORS FOR pH CONTROL OF ALUM DOSAGE.

By BARNETT COHEN, Associate Chemist, Hygienic Laboratory, United States Public Health Service.

It has been shown by Theriault and Clark (Public Health Reports, 1923, *38*, 181, Reprint No. 813), in laboratory experiments, that the hydrogen ion concentration of the final mixture of water and alum is of fundamental importance in the formation of floc. They found the optimum condition for floc formation at pH 5.5, and suggest that precise pH control should, in favorable cases, permit great economy in alum dosage. Whether or not experience in large-scale waterworks operations will confirm the optimum pH range found under laboratory conditions, it seems quite certain that the fundamental principle will remain valid.

[7] Based upon statistical data kindly furnished by Dr. F. S. Crum, of the Prudential Insurance Co.

[8] The writer expresses his indebtedness to Doctor Patterson of the health office of the District of Columbia for statistical data, and to Rev. Francis A. Tondorf, S. J., for revision of the manuscript.

Attention is therefore again directed to some of the new indicators proposed by the author (Public Health Reports, 1922, *38*, 199, Reprint No. 814), as well as to some in the Clark and Lubs series, which may find an important application in the control of alum dosage. The suggestions here offered are, of course, based on theoretical considerations and are illustrative of the procedure to be followed. The practical waterworks operator will have to determine the pH best suited to the particular conditions with which he has to deal.

Assuming that pH 5.5 is the optimum, it remains to determine the best indicator to use in plant operation.

It will be understood, of course, that while the midpoint of color transformation is definitely fixed for a given indicator, the "pH range" varies somewhat with the conditions of use. However, if we are to deal with approximate values, the following tabulation may be used. Let it be assumed that a mixture of alum and water is to be adjusted to pH 5.5. The color changes of the indicators would then be as follows:

Indicator.	Color at pH—				
	4.5	5.0	5.5	6.0	6.5
Methyl red	Red	Red	Orange	Yellow	Yellow.
Brom cresol green	Yellow	Green	Blue	Blue	Blue.
Brom phenol red	Yellow	Yellow	Yellow	Orange	Red.
Brom thymol blue	Yellow	Yellow	Yellow	Yellow	Green.

The colors to be expected when the mixture is too acid or too alkaline to the extent of 0.5 and 1.0 pH units are shown in the table. Other useful combinations may be readily invented after a study of the neutralization curves or apparent dissociation constants of the various indicators. It lies with the operator to determine the indicators best adapted to his special uses.

DEATHS DURING WEEK ENDED MARCH 24, 1923.

Summary of information received by telegraph from industrial insurance companies for week ended March 24, 1923, and corresponding week of 1922. (From the Weekly Health Index, March 27, 1923, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Mar. 24, 1923.	Corresponding week, 1922.
Policies in force	52,557,567	48,795,128
Number of death claims	13,027	10,786
Death claims per 1,000 policies in force, annual rate	12.9	11.5

Deaths from all causes in certain large cities of the United States during the week ended March 24, 1923, infant mortality, annual death rate, and comparison with corresponding week of 1922. (From the Weekly Health Index, March 27, 1923, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1923.	Week ended Mar. 24, 1923. Total deaths.	Week ended Mar. 24, 1923. Death rate.[1]	Annual death rate per 1,000, corresponding week, 1922.	Deaths under 1 year. Week ended Mar. 24, 1923.	Deaths under 1 year. Corresponding week, 1922.	Infant mortality rate, week ended Mar. 24, 1923.[2]
Total	29,203,302	8,485	15.2	15.1	1,103	1,097	.....
Akron, Ohio	[3] 208,435	33	8.3	7.8	6	7	71
Albany, N. Y	117,375	34	15.1	22.4	2	3	44
Atlanta, Ga	222,963	74	17.3	21.3	6	13	.....
Baltimore, Md	773,580	221	14.9	18.3	21	29	62
Birmingham, Ala	195,901	59	15.7	15.0	10	5	.....
Boston, Mass	770,400	262	17.7	18.2	37	43	106
Bridgeport, Conn	[3] 143,555	48	17.4	14.2	9	5	124
Buffalo, N. Y	536,718	140	13.6	19.1	26	52	109
Cambridge, Mass	111,444	43	20.1	18.3	3	8	53
Camden, N. J	124,157	58	24.4	16.3	10	7	166
Chicago, Ill	2,886,121	756	13.7	13.0	114	108	.....
Cincinnati, Ohio	406,312	129	16.6	15.3	13	12	85
Cleveland, Ohio	888,519	186	10.9	12.9	27	45	74
Columbus, Ohio	261,062	74	14.8	20.8	9	11	94
Dallas, Tex	177,274	47	13.8	17.6	8	7	.....
Dayton, Ohio	165,530	48	15.1	17.1	2	7	33
Denver, Colo	272,031	93	17.8	26.3	11	13	.....
Detroit, Mich	995,668	271	14.2	15.0	44	65	88
Duluth, Minn	106,289	17	8.3	.....	0	.....	0
Erie, Pa	112,571	35	16.2	13.8	4	5	81
Fall River, Mass	120,912	56	24.1	19.4	10	9	142
Flint, Mich	117,968	26	11.5	.....	3	.....	60
Fort Worth, Tex	143,821	44	16.0	5.9	6	1	.....
Grand Rapids, Mich	145,947	42	15.0	11.5	7	3	110
Houston, Tex	154,970	38	12.8	15.6	3	4	.....
Indianapolis, Ind	342,718	120	18.3	13.2	16	8	123
Jacksonville, Fla	100,046	39	20.3	18.7	3	3	.....
Jersey City, N. J	309,034	97	16.4	13.8	9	15	60
Kansas City, Kans	115,781	35	15.8	17.9	4	5	92
Kansas City, Mo	351,819	102	15.1	15.0	13	6	.....
Los Angeles, Calif	666,853	220	17.2	17.8	14	26	52
Louisville, Ky	257,671	73	14.8	15.8	12	10	129
Lowell, Mass	115,089	56	25.4	14.6	6	8	104
Lynn, Mass	102,683	40	20.3	.....	8	.....	211
Memphis, Tenn	170,067	68	20.8	20.2	8	3	.....
Milwaukee, Wis	454,595	133	14.3	13.3	26	25	129
Minneapolis, Minn	409,125	95	12.1	11.6	13	9	71
Nashville, Tenn	121,128	70	30.1	19.5	4	7	.....
New Bedford, Mass	130,072	42	16.8	16.4	7	6	104
New Haven, Conn	172,967	56	16.9	13.5	8	7	104
New Orleans, La	404,575	153	19.7	17.9	13	0	.....

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1922. Cities left blank are not in the registration area for births.
[3] Enumerated population Jan. 1, 1920.

Deaths from all causes in certain large cities of the United States during the week ended March 24, 1923, infant mortality, annual death rate, and comparison with corresponding week of 1922—Continued.

City.	Estimated population July 1, 1923.	Week ended Mar. 24, 1923.		Annual death rate per 1,000, corresponding week, 1922.	Deaths under 1 year.		Infant mortality rate, week ended Mar. 24, 1923.[2]
		Total deaths.	Death rate.[1]		Week ended Mar. 24, 1923.	Corresponding week, 1922.	
New York, N. Y.	5,927,625	1,567	13.8	14.1	189	213	76
Bronx borough	840,544	172	10.7	11.7	17	19	60
Brooklyn borough	2,156,687	513	12.4	12.7	62	64	66
Manhattan borough	2,267,001	699	16.1	16.7	89	113	87
Queens borough	535,844	134	13.0	11.6	19	12	102
Richmond borough	127,549	49	20.0	18.0	2	5	36
Newark, N. J.	438,699	121	14.4	14.1	17	18	80
Norfolk, Va.	159,089	39	12.8	15.9	4	5	71
Oakland, Calif.	240,086	44	9.6	15.2	7	11	90
Omaha, Nebr.	204,382	68	17.3	20.0	10	7	108
Paterson, N. J.	139,579	54	20.2	13.9	5	4	80
Philadelphia, Pa.	1,922,788	608	16.5	15.0	89	68	115
Pittsburgh, Pa.	613,442	234	19.9	14.3	36	32	125
Portland, Oreg.	273,621	71	13.5	13.2	5	3	51
Providence, R. I.	242,378	90	19.4	18.0	14	20	114
Richmond, Va.	181,044	65	18.7	17.0	8	7	98
Rochester, N. Y.	317,867	86	14.1	15.2	12	7	95
St. Louis, Mo.	803,853	236	15.3	16.2	27	14	.....
St. Paul, Minn.	241,891	61	13.1	15.0	7	2	65
Salt Lake City, Utah	126,241	52	21.5	14.7	9	6	147
San Antonio, Tex.	184,727	75	21.2	.....	14	.....	.....
San Francisco, Calif.	539,038	151	14.6	17.3	6	10	36
Seattle, Wash.	[3] 315,312	60	9.9	10.3	5	8	44
Spokane, Wash.	104,573	30	15.0	14.5	3	2	66
Springfield, Mass.	144,227	20	7.2	13.4	4	5	57
Syracuse, N. Y.	184,511	54	15.3	13.3	9	6	117
Tacoma, Wash.	101,731	29	14.9	.....	5	.....	125
Toledo, Ohio.	268,338	73	14.2	14.2	8	7	81
Trenton, N. J.	127,390	39	16.0	18.8	7	5	119
Washington, D. C.	[3] 437,571	180	21.4	17.2	17	19	97
Wilmington, Del.	117,728	32	14.2	14.4	5	3	102
Worcester, Mass.	191,927	46	12.5	11.9	11	4	124
Yonkers, N. Y.	107,520	28	13.6	10.4	4	1	87
Youngstown, Ohio.	[3] 132,358	39	15.4	15.4	11	10	149

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1922. Cities left blank are not in the registration area for births.
[3] Enumerated population Jan. 1, 1920.

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 STATE SUMMARIES.

Reports for Week Ended March 31, 1923.

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

ALABAMA.

	Cases.
Chicken pox	25
Diphtheria	14
Influenza	353
Malaria	55
Measles	1,136
Mumps	11
Pellagra	5
Pneumonia	111
Scarlet fever	5
Smallpox	10
Tuberculosis	47
Typhoid fever	13
Whooping cough	155

ARIZONA.

Chicken pox	4
Diphtheria	2
Leprosy	1
Measles	1
Mumps	17
Trachoma	42
Tuberculosis	42
Whooping cough	31

ARKANSAS.

Chicken pox	12
Diphtheria	2
Influenza	227
Malaria	13
Measles	164
Mumps	3
Pellagra	2
Scarlet fever	3
Smallpox	29
Trachoma	1
Tuberculosis	8
Whooping cough	8

CALIFORNIA.

	Cases.
Botulism—Santa Monica	2
Cerebrospinal meningitis:	
Pittsburg	1
Tehama County	1
Diphtheria	127
Influenza	177
Leprosy—Los Angeles	1
Lethargic encephalitis:	
Los Angeles	1
Santa Monica	1
Measles	599
Scarlet fever	172
Smallpox	13
Typhoid fever	10

COLORADO.

(Exclusive of Denver.)

Chicken pox	19
Diphtheria	20
Influenza	45
Measles	1
Mumps	87
Pneumonia	31
Scarlet fever	21
Smallpox	2
Tuberculosis	60
Typhoid fever	1
Whooping cough	11

CONNECTICUT.

Cerebrospinal meningitis	1
Chicken pox	29
Diphtheria	79
German measles	3
Influenza	26
Lethargic encephalitis	2

CONNECTICUT—continued.

	Cases.
Measles	204
Mumps	32
Pneumonia (lobar)	47
Scarlet fever	53
Smallpox	2
Trichinosis	1
Tuberculosis (all forms)	31
Typhoid fever	1
Whooping cough	39

FLORIDA.

Cerebrospinal meningitis	1
Diphtheria	5
Influenza	49
Malaria	7
Pneumonia	96
Smallpox	12
Typhoid fever	15

GEORGIA.

Chicken pox	10
Dengue	1
Diphtheria	5
German measles	11
Hookworm disease	16
Influenza	105
Malaria	5
Measles	60
Pneumonia	8
Scarlet fever	4
Smallpox	18
Trachoma	1
Tuberculosis (pulmonary)	3
Typhoid fever	3
Whooping cough	15

ILLINOIS.

Diphtheria:	
Cook County (including Chicago)	146
Chicago	129
Scattering	59
Influenza	325
Lethargic encephalitis:	
Gallatin County	1
Saline County	1
Whiteside County	1
Pneumonia	478
Scarlet fever:	
Cook County	105
Chicago	73
Peoria County	9
Will County	8
Scattering	81
Smallpox	19
Typhoid fever	9
Whooping cough	293

INDIANA.

Diphtheria	34
Influenza	68
Measles	442
Pneumonia	12
Scarlet fever	57
Smallpox	16

IOWA.

Diphtheria	19
Scarlet fever	129
Smallpox	16

KANSAS.

	Cases.
Chicken pox	89
Diphtheria	37
Influenza	50
Lethargic encephalitis	2
Malaria	2
Measles	205
Mumps	69
Pellagra	1
Pneumonia	45
Scarlet fever	75
Smallpox	9
Tetanus	1
Trachoma	1
Tuberculosis	35
Typhoid fever	3
Whooping cough	194

LOUISIANA.

Diphtheria	16
Influenza	43
Scarlet fever	5
Smallpox	21
Typhoid fever	6

MAINE.

Chicken pox	7
Diphtheria	2
German measles	9
Influenza	205
Measles	61
Mumps	1
Pneumonia	27
Scarlet fever	14
Tuberculosis	21
Typhoid fever	2
Whooping cough	133

MARYLAND.[1]

Cerebrospinal meningitis	1
Chicken pox	92
Diphtheria	40
Dysentery	1
German measles	6
Influenza	251
Lethargic encephalitis	5
Measles	653
Mumps	65
Pneumonia (all forms)	160
Scarlet fever	79
Septic sore throat	5
Tuberculosis	58
Typhoid fever	6
Whooping cough	95

MASSACHUSETTS.

Cerebrospinal meningitis	5
Chicken pox	102
Conjunctivitis (suppurative)	11
Diphtheria	182
German measles	13
Influenza	40
Lethargic encephalitis	12
Measles	763
Mumps	282
Ophthalmia neonatorum	16
Pneumonia (lobar)	103

[1] Week ended Friday.

MASSACHUSETTS—continued.

	Cases.
Poliomyelitis	1
Scarlet fever	340
Septic sore throat	5
Trachoma	1
Tuberculosis (all forms)	132
Typhoid fever	15
Whooping cough	382

MICHIGAN.

Diphtheria	124
Measles	218
Pneumonia	109
Scarlet fever	306
Smallpox	22
Tuberculosis	297
Typhoid fever	10
Whooping cough	161

MINNESOTA.

Chicken pox	8
Diphtheria	40
Influenza	45
Lethargic encephalitis	1
Measles	529
Pneumonia	4
Scarlet fever	148
Smallpox	31
Tuberculosis	42
Typhoid fever	5
Whooping cough	6

MISSISSIPPI.

Diphtheria	90
Influenza	231
Scarlet fever	3
Smallpox	4
Typhoid fever	8

MISSOURI.

Chicken pox	60
Diphtheria	53
Epidemic sore throat	2
Influenza	398
Measles	1,198
Mumps	20
Ophthalmia neonatorum	1
Pneumonia	25
Scarlet fever	80
Smallpox	12
Trachoma	7
Tuberculosis	63
Typhoid fever	4
Whooping cough	84

MONTANA.

Diphtheria	6
Scarlet fever	16
Smallpox	3

NEBRASKA.

Chicken pox	5
Diphtheria:	
Omaha	9
Scattering	7
German measles	2
Influenza	77
Lethargic encephalitis—Auburn	1

NEBRASKA—continued.

	Cases.
Measles:	
Howard County	35
Scattering	5
Mumps	25
Pneumonia	4
Scarlet fever:	
Cherry County	8
Scattering	19
Smallpox	4
Tuberculosis	1
Whooping cough	28

NEW JERSEY.

Cerebrospinal meningitis	5
Chicken pox	137
Diphtheria	106
Influenza	44
Measles	773
Pneumonia	162
Scarlet fever	192
Typhoid fever	3
Whooping cough	130

NEW MEXICO.

Chicken pox	14
Conjunctivitis	1
Diphtheria	19
German measles	1
Influenza	12
Measles	75
Mumps	2
Pneumonia	60
Scarlet fever	4
Septic sore throat	2
Smallpox	6
Tuberculosis	14
Whooping cough	14

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis	4
Diphtheria	110
Influenza	235
Lethargic encephalitis	4
Measles	1,005
Pneumonia	240
Poliomyelitis	2
Scarlet fever	345
Smallpox	4
Typhoid fever	17
Whooping cough	227

NORTH CAROLINA.

Cerebrospinal meningitis	1
Chicken pox	96
Diphtheria	33
German measles	15
Measles	2,254
Scarlet fever	16
Septic sore throat	3
Smallpox	101
Typhoid fever	15
Whooping cough	396

OREGON.

Chicken pox	20
Diphtheria:	
Portland	9
Scattering	5

OREGON—continued.

	Cases.
Influenza	13
Measles	2
Pneumonia	[1] 19
Scarlet fever:	
Portland	9
Scattering	11
Smallpox:	
Portland	10
Scattering	14
Tuberculosis	6
Typhoid fever	1
Whooping cough	2

SOUTH DAKOTA.

Chicken pox	9
Diphtheria	15
Influenza	66
Measles	16
Pneumonia	7
Scarlet fever	34
Smallpox	1
Tuberculosis	1

TEXAS.

Chicken pox	57
Dengue	5
Diphtheria	22
Influenza	14
Lethargic encephalitis	2
Measles	323
Mumps	5
Paratyphoid fever	1
Pneumonia	20
Scarlet fever	14
Smallpox	8
Tuberculosis	129
Whooping cough	70

VERMONT.

Chicken pox	13
Diphtheria	2
Measles	25
Mumps	19
Pneumonia	4
Scarlet fever	19
Typhoid fever	1
Whooping cough	23

WASHINGTON.

Chicken pox	78
Diphtheria	12

WASHINGTON—continued.

	Cases.
Lethargic encephalitis:	
Skagit County	1
Walla Walla	1
Measles	16
Mumps	18
Pneumonia	6
Scarlet fever:	
Seattle	11
Tacoma	13
Scattering	40
Septic sore throat	1
Smallpox	46
Tuberculosis	16
Typhoid fever	2
Whooping cough	96

WEST VIRGINIA.

Diphtheria	6
Scarlet fever	11
Smallpox	7
Typhoid fever	4

WISCONSIN.

Milwaukee:	
Chicken pox	16
Diphtheria	19
Measles	99
Pneumonia	7
Scarlet fever	209
Tuberculosis	8
Typhoid fever	1
Whooping cough	22
Scattering:	
Cerebrospinal meningitis	1
Chicken pox	65
Diphtheria	46
Influenza	443
Lethargic encephalitis	1
Measles	1,031
Paratyphoid fever	1
Pneumonia	32
Scarlet fever	180
Smallpox	18
Tuberculosis	17
Typhoid fever	4
Whooping cough	103

WYOMING.

Chicken pox	3
Diphtheria	1
Influenza	20
Pneumonia	1
Whooping cough	3

Reports for Week Ended March 24, 1923.

DISTRICT OF COLUMBIA.

	Cases.
Cerebrospinal meningitis	1
Chicken pox	43
Diphtheria	9
Influenza	10
Measles	400
Scarlet fever	19
Tuberculosis	26
Typhoid fever	1
Whooping cough	62

NORTH DAKOTA.

Chicken pox	1
Diphtheria	20

NORTH DAKOTA—continued.

	Cases.
Influenza	6
Lethargic encephalitis	5
Measles	5
Mumps	1
Pneumonia	7
Poliomyelitis	1
Scarlet fever	17
Smallpox	4
Tuberculosis	3
Whooping cough	9

[1] Deaths.

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

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

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
February, 1923.										
Alabama	4	65	2,247	58	255	15	3	57	29	34
Colorado	.....	269	85	.....	25	.....	.....	251	12	4
Hawaii	.....	18	77	.....	265	.....	4	.....	.....	17
Kansas	1	208	3,493	1	420	.....	2	375	36	2
Maine	.....	30	1,095	.....	283	.....	1	77	2	23
Oregon	1	48	181	.....	31	.....	3	68	61	6
South Dakota	6	57	24	.....	73	.....	.....	198	42	7
Washington	2	76	18	.....	23	.....	2	227	171	14

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923.

ANTHRAX.

City.	Cases.	Deaths.
California:		
Los Angeles	1	.....
Pennsylvania:		
Philadelphia	1	.....

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding week of the years 1915 to 1922, inclusive. In instances in which data for the full eight years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 17, 1923.		City.	Median for previous years.	Week ended Mar. 17, 1923.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				New Jersey:			
Tuscaloosa	0	1	.....	Bloomfield	0	1	.....
California:				Clifton	.....	1	.....
Los Angeles	0	2	.....	Newark	0	.....	1
Riverside	0	.....	1	Passaic	0	1	.....
Sacramento	0	1	.....	New York:			
Illinois:				Amsterdam	.....	.....	1
Chicago	3	4	.....	Buffalo	0	1	.....
Galesburg	0	1	1	New York	6	8	4
Louisiana:				North Carolina:			
New Orleans	0	1	1	Greensboro	0	.....	1
Maine:				Pennsylvania:			
Bangor	0	1	.....	Harrisburg	0	1	.....
Massachusetts:				Uniontown	0	1	.....
Cambridge	0	1	.....	South Carolina:			
Everett	0	1	1	Greenville	0	.....	1
Somerville	0	1	.....	Virginia:			
Michigan:				Norfolk	0	1	.....
Detroit	1	.....	1	Washington:			
Missouri:				Seattle	0	1	.....
Kansas City	0	1	1	West Virginia:			
Nebraska:				Huntington	0	.....	1
Omaha	0	1	1				

DIPHTHERIA.

See p. 755; also Current State summaries, p. 743, and Monthly summaries by States, above.

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

INFLUENZA.

City.	Cases.		Deaths, week ended Mar. 17, 1923.
	Week ended Mar. 18, 1922.	Week ended Mar. 17, 1923.	
Alabama:			
Birmingham	8	23	3
Dothan		2	
Mobile		1	
Montgomery	3		
Arkansas:			
Fort Smith	2		
Little Rock	27	21	
North Little Rock	5	2	
California:			
Alameda	1	2	
Bakersfield	10		
Berkeley	46		
Long Beach	26	1	
Los Angeles	478	98	6
Oakland	2	5	1
Pasadena	72		
Riverside	46		
Sacramento	13		1
San Diego	119	2	
San Francisco	50		
Santa Ana	6	2	
Santa Barbara			1
Santa Cruz	1		
Stockton	90		
Colorado:			
Colorado Springs	9		
Denver			9
Connecticut:			
Bridgeport	6	1	1
Bristol		2	
Greenwich		1	
Meriden	9		
New Britain	12	16	2
New Haven	7	12	4
New London		1	1
Stonington	25	3	
Waterbury	6		
District of Columbia:			
Washington	3	14	4
Florida:			
Tampa	7	5	
Georgia:			
Atlanta	168	22	
Augusta		35	
Macon	2	330	
Rome	7		
Savannah			1
Idaho:			
Boise	4		
Illinois:			
Alton	5		1
Aurora	1	2	
Chicago		113	22
Cicero	5		
Danville	2		
Decatur	18	1	
East St. Louis	1	1	1
Evanston		1	
Freeport	1	2	1
Jacksonville		1	
Oak Park		2	
Quincy	14	3	
Rockford	5		
Rock Island	2		
Springfield	1	3	
Indiana:			
Elkhart	4		
Fort Wayne			2
Hammond			1
Indianapolis			5
La Fayette			1
Logansport			2
Terre Haute			4
Iowa:			
Burlington	1	2	1
Kansas:			
Coffeyville		1	
Kansas City		4	
Lawrence			1
Parsons		2	
Salina	3		
Topeka		2	2
Wichita			2
Kentucky:			
Covington			1
Louisville	24	7	
Owensboro	5		
Louisiana:			
Baton Rouge	54		
New Orleans	64	21	11
Maine:			
Bangor		4	
Bath	3		
Biddeford	2	2	1
Portland	1		3
Sanford	54	25	1
Maryland:			
Baltimore	252	100	10
Cumberland	11	18	2
Massachusetts:			
Adams		1	
Amesbury			1
Arlington	2		
Attleboro	5	5	
Belmont		3	
Beverly		1	
Boston	33	8	7
Braintree	1	6	1
Brookline	1		
Cambridge	20	3	
Chelsea	1		
Clinton	1		
Everett	6		1
Fall River	15	8	4
Haverhill	8		
Lawrence		1	
Leominster	1		
Lowell	1		
Lynn		2	2
Medford		1	3
New Bedford	7		
Newton		1	
North Adams	1		
Pittsfield		1	
Quincy	11		
Salem		1	1
Sangus	1		
Somerville	6	1	2
Springfield	1		1
Waltham		1	1
Watertown		1	
Webster	7		
Winthrop	2	1	
Michigan:			
Battle Creek		1	
Detroit	63	2	6
Flint			1
Grand Rapids	9		
Highland Park		1	
Ishpeming	11		
Kalamazoo		2	1
Marquette	50		
Pontiac	8		
Saginaw	1		
Minnesota:			
Duluth	8		
Minneapolis			2
Rochester	1		

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

INFLUENZA—Continued.

City.	Cases.		Deaths, week ended Mar. 17, 1923.
	Week ended Mar. 18, 1922.	Week ended Mar. 17, 1923.	
Minnesota—Continued.			
St. Paul			4
Winona	6		
Missouri:			
Independence		8	
Kansas City	12	21	13
St. Joseph			1
St. Louis	21		
Springfield			4
Montana:			
Billings	17		
Missoula	130	6	
Nevada:			
Reno	1	60	
New Hampshire:			
Dover	1		
New Jersey:			
Bayonne		1	
Bloomfield	1		
Clifton			11
East Orange	2	2	
Garfield	2	1	1
Harrison		3	
Hoboken		5	
Jersey City	2		
Kearny	2	14	
Montclair	1		
Newark	47	32	7
Orange	1	2	
Passaic	2	1	2
Trenton	1	6	2
West Hoboken		1	1
West Orange	4	1	
New Mexico:			
Albuquerque	75		
New York:			
Albany	86	35	
Amsterdam		109	
Auburn	1		
Buffalo	39	1	2
Cohoes	7	2	
Dunkirk		91	1
Elmira	1		
Fulton	1		
Jamestown	4	1	
Middletown	6	4	
Mount Vernon	3	4	
New York	173	580	78
North Tonawanda	2		
Olean			1
Peekskill	2	2	
Poughkeepsie	10	1	
Rochester		2	5
Rome		5	
Saratoga Springs	134	6	
Schenectady	2	6	
Syracuse	11		2
Watertown	44		1
North Carolina:			
Wilmington	1		
Ohio:			
Akron	7	2	
Ashtabula		9	
Barberton	1		
Cambridge	1		2
Cincinnati	5		8
Cleveland	56	14	5
Columbus	40		5
East Cleveland	1		
Hamilton	2		
Ohio—Continued.			
Ironton	1		
Lima	1	2	1
Mansfield	13		1
Newark			1
Norwood	1		
Salem			1
Springfield	3		
Toledo	3		3
Youngstown	2		9
Oklahoma:			
Oklahoma			2
Oregon:			
Portland	8	7	1
Pennsylvania:			
Philadelphia	32	23	18
Rhode Island:			
Cumberland		4	1
Providence		2	2
South Carolina:			
Charleston			1
Greenville	2		
South Dakota:			
Sioux Falls	14		1
Tennessee:			
Chattanooga	1		
Memphis			4
Texas:			
Beaumont	5		
Corsicana		20	
Dallas	13		1
Fort Worth		3	1
Houston	100		
San Antonio		2	3
Waco		1	
Utah:			
Provo	35		
Salt Lake City	15		1
Vermont:			
Burlington			1
Virginia:			
Lynchburg			2
Norfolk	1		
Petersburg	24		
Richmond		2	
Roanoke	1		
Washington:			
Vancouver	1		
Walla Walla	8		
West Virginia:			
Bluefield	1		
Charleston	13		
Clarksburg	1		
Fairmont	31		
Huntington		10	1
Morgantown	2	3	
Wheeling		1	1
Wisconsin:			
Ashland			1
Beloit	4		
Eau Claire	2		
Fond du Lac			1
Kenosha	1	2	
Manitowoc	2		
Marinette			4
Milwaukee	4	8	2
Sheboygan			1
Wyoming:			
Casper	14		

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

LETHARGIC ENCEPHALITIS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Illinois:			New Jersey:		
La Salle		1	Paterson	1	
Nebraska:			Oregon:		
Omaha		1	Portland	1	

MALARIA.

Alabama:			Louisiana:		
Birmingham	1	1	New Orleans	2	
Dothan	1		North Carolina:		
Mobile	2	1	Greensboro		1
Florida:			Tennessee:		
Tampa		1	Memphis	1	
Georgia:					
Albany	1				
Savannah	1				

MEASLES.

See p. 755, also Current State summaries, p. 743, and Monthly summaries by States, p. 747.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			New York:		
Tuscaloosa	1		New York		1
Georgia:			North Carolina:		
Atlanta		1	Durham		1
Louisiana:			Texas:		
New Orleans	1	1	Fort Worth	1	1
Maryland:			Houston		1
Baltimore	1				
Nebraska:					
Omaha	1	1			

PNEUMONIA (ALL FORMS).

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Connecticut:		
Anniston	3		Bridgeport	10	9
Birmingham	19	8	Bristol		1
Mobile		1	Greenwich	1	
Arizona:			Hartford	9	5
Tucson		4	Manchester	5	
Arkansas:			Milford		2
Little Rock	5		New Britain	12	2
North Little Rock	1		New Haven		11
California:			New London		2
Alameda	2	1	Stonington		2
Bakersfield		1	District of Columbia:		
Eureka	2	1	Washington		33
Glendale		1	Florida:		
Long Beach		1	St. Petersburg		4
Los Angeles	85	29	Georgia:		
Oakland		8	Atlanta	17	14
Pasadena	2		Augusta		6
Sacramento		5	Savannah		1
San Bernardino		2	Illinois:		
San Diego	5	3	Alton		1
Santa Cruz		1	Aurora		5
Stockton	2	1	Bloomington		1
Colorado:			Chicago	347	145
Denver		11	Cicero	2	
Pueblo		4	Decatur	9	4

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.
Illinois—Continued.		
East St. Louis		6
Elgin	2	
Evanston	6	
Freeport		2
Jacksonville	5	3
Kewanee	2	1
Mattoon	1	
Oak Park	8	1
Peoria		6
Quincy	6	2
Springfield		7
Indiana:		
Anderson		1
Bloomington		1
East Chicago		2
Fort Wayne		3
Gary		4
Hammond		2
Indianapolis		16
Kokomo		2
Logansport		2
Michigan City		1
Muncie		3
Iowa:		
Burlington	5	2
Council Bluffs		1
Marshalltown	1	
Muscatine		2
Sioux City	1	
Kansas:		
Atchison	3	
Hutchinson	2	
Kansas City	7	
Lawrence		2
Parsons		1
Topeka	11	3
Wichita		8
Kentucky:		
Covington		8
Louisville	24	18
Owensboro	1	
Louisiana:		
New Orleans	25	18
Maine:		
Auburn		5
Bangor	8	
Bath		1
Biddeford		3
Lewiston		7
Portland	5	
Sanford	3	2
Maryland:		
Baltimore	74	62
Cumberland	13	6
Massachusetts:		
Arlington		2
Attleboro	3	
Belmont	4	
Beverly	1	
Boston		48
Braintree	3	1
Brookline	1	
Cambridge		9
Chelsea	2	
Chicopee		2
Clinton	1	
Danvers	1	
Easthampton	4	2
Everett	2	
Fall River		11
Fitchburg		2
Framingham		1
Haverhill		2
Holyoke	3	2
Leominster	1	
Lowell		14
Lynn		8
Malden		2
Medford	4	
Methuen		2
Milford		2
Massachusetts—Continued.		
New Bedford		12
Newton		6
North Adams		1
Northampton		3
Plymouth		1
Quincy	2	1
Salem	3	
Somerville	4	2
Springfield		3
Taunton	4	3
Wakefield	2	
Watertown	1	
Webster		1
Westfield		1
Weymouth		1
Winthrop		2
Woburn		2
Worcester		13
Michigan:		
Alpena	1	
Ann Arbor	2	1
Battle Creek	2	
Detroit	62	49
Flint	5	3
Grand Rapids	6	2
Hamtramck		2
Highland Park	5	1
Jackson	1	
Kalamazoo	7	6
Muskegon	3	1
Pontiac		1
Port Huron	3	2
Minnesota:		
Duluth		7
Faribault		1
Hibbing		2
Minneapolis		9
Rochester		1
St. Paul		16
Winona		2
Missouri:		
Cape Girardeau		1
Kansas City	31	23
St. Joseph		5
Springfield		4
Montana:		
Billings		1
Missoula	1	
Nebraska:		
Lincoln	1	
Omaha		23
Nevada:		
Reno		1
New Hampshire:		
Concord		3
Dover		3
Keene		2
New Jersey:		
Atlantic City		4
Belleville	2	
Bloomfield	3	
East Orange	3	1
Elizabeth		3
Englewood	4	
Garfield	5	2
Hoboken		4
Jersey City	6	
Kearny	5	2
Montclair	2	
Morristown		2
Newark	82	17
Orange	9	2
Passaic		5
Paterson	2	
Perth Amboy		2
Phillipsburg		2
Plainfield	5	2
Trenton	11	1
West Hoboken		4
West New York		1
West Orange	1	

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.
New York:		
Albany	22	
Auburn	3	
Buffalo	46	18
Cohoes	2	
Dunkirk		2
Elmira	10	
Hornell	2	1
Hudson		2
Ithaca	6	4
Jamestown	6	2
Lackawanna		3
Little Falls		1
Middletown	3	1
Mount Vernon	9	2
New York	630	289
Newburgh	12	3
Niagara Falls		4
North Tonawanda		1
Olean	3	1
Peekskill	3	1
Port Chester	5	2
Poughkeepsie	2	1
Rochester	29	12
Rome	5	2
Saratoga Springs		3
Schenectady	14	2
Syracuse	14	8
Watertown	3	1
White Plains	3	2
Yonkers		2
North Carolina:		
Greensboro		1
Raleigh		2
Rocky Mount		1
Wilmington		4
Winston-Salem		7
Ohio:		
Akron	2	
Bucyrus	2	1
Cambridge		2
Canton		6
Chillicothe		2
Cincinnati		16
Cleveland	69	33
Cleveland Heights	1	
Columbus		9
Dayton	1	
East Cleveland	5	2
East Youngstown		4
Findlay	1	
Hamilton		3
Lancaster		1
Lima		2
Lorain	1	
Mansfield		6
Newark		3
Piqua		1
Salem		1
Sandusky		1
Springfield		3
Tiffin		2
Toledo		9
Youngstown		6
Zanesville		5
Oklahoma:		
Oklahoma		4
Oregon:		
Portland		10
Pennsylvania:		
Philadelphia	125	106
Rhode Island:		
Cranston		3
Cumberland	4	2
Providence		23
Woonsocket		5
South Carolina:		
Charleston		4
South Dakota:		
Sioux Falls		1
Tennessee:		
Memphis		20
Texas:		
Beaumont		2
Dallas		7
El Paso		11
Fort Worth		2
Galveston		6
Houston		5
San Antonio		11
Waco		2
Utah:		
Salt Lake City		6
Vermont:		
Burlington		1
Virginia:		
Norfolk		13
Petersburg		3
Portsmouth		4
Richmond		3
Roanoke	5	
West Virginia:		
Bluefield		2
Charleston		3
Clarksburg		3
Huntington		1
Morgantown	3	
Petersburg		1
Wheeling		7
Wisconsin:		
Beloit	1	
Fond du Lac		3
Kenosha		3
Madison		4
Marinette		3
Milwaukee	15	
Oshkosh		4
Racine		4
Superior		2
Wyoming:		
Cheyenne		1

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding week of the years 1915 to 1922, inclusive. In instances in which data for the full eight years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 17, 1923.	
		Cases.	Deaths.
Massachusetts:			
Malden	0		1
Michigan:			
Detroit	0	1	
New Jersey:			
East Orange	0	1	
Ohio:			
Cleveland	0	1	
West Virginia:			
Clarksburg	0	1	

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

RABIES IN ANIMALS.

City.	Cases.	City.	Cases
California:		New Jersey:	
Los Angeles	19	Montclair	1
Missouri:		Texas:	
Kansas City	1	Dallas	1

SCARLET FEVER.

See p. 755; also Current State summaries, p. 743, and Monthly summaries by States, p. 747.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding week of the years 1915 to 1922, inclusive. In instances in which data for the full eight years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 17, 1923.		City.	Median for previous years.	Week ended Mar. 17, 1923.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				New York:			
Mobile	1	2	.....	New York	0	1	.....
Arizona:				Niagara Falls	0	6	.....
Tucson	0	.....	1	North Carolina:			
California:				Durham	1	3	.....
Los Angeles	2	3	.....	Greensboro	0	2	.....
Sacramento	0	1	.....	Wilmington	0	1	.....
Stockton	0	1	.....	Winston-Salem	4	33	.....
Colorado:				Ohio:			
Denver	15	1	.....	Columbus	1	12	.....
Connecticut:				Lima	0	1	.....
Bridgeport	0	1	.....	Piqua	0	1	.....
Florida:				Sandusky	0	1	.....
St. Petersburg	.....	1	.....	Toledo	3	3	.....
Georgia:				Oklahoma:			
Atlanta	5	1	.....	Oklahoma	10	4	.....
Augusta	0	2	.....	Tulsa	4	2	.....
Valdosta	0	1	.....	Oregon:			
Indiana:				Portland	5	9	.....
Bloomington	1	1	.....	Pennsylvania:			
Fort Wayne	2	6	.....	Altoona	0	1	.....
Gary	1	5	.....	Farrell	0	1	.....
Huntington	0	1	.....	Philadelphia	0	1	.....
Indianapolis	5	1	.....	South Carolina:			
Muncie	1	1	.....	Greenville	0	1	.....
Iowa:				Tennessee:			
Burlington	0	1	.....	Knoxville	2	10	.....
Kansas:				Texas:			
Atchison	0	2	.....	Dallas	10	2	.....
Coffeyville	0	1	.....	Fort Worth	3	4	.....
Hutchinson	1	1	.....	Waco	2	1	.....
Michigan:				Vermont:			
Battle Creek	0	2	.....	Burlington	0	1	.....
Detroit	12	4	.....	Virginia:			
Minnesota:				Danville	0	7	.....
Duluth	1	4	.....	Roanoke	0	4	.....
Faribault	1	1	.....	Washington:			
Minneapolis	20	5	.....	Everett	1	2	.....
Rochester	3	2	.....	Seattle	2	7	.....
St. Paul	20	15	.....	Spokane	20	17	.....
Missouri:				Tacoma	2	3	.....
St. Louis	4	1	.....	Wisconsin:			
Montana:				Eau Claire	1	1	.....
Great Falls	0	3	.....	Superior	1	8	.....
Nevada:							
Reno	0	1	.....				

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Minnesota:		
Los Angeles	1	1	Faribault	.....	1
Maryland:			Missouri:		
Baltimore	.....	1	St. Louis	1	.....

TUBERCULOSIS.

See. p. 755; also Current State summaries, p. 743.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding week of the years 1915 to 1922, inclusive. In instances in which data for the full eight years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Mar. 17, 1923.		City.	Median for previous years.	Week ended Mar. 17, 1923.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				New Jersey:			
Birmingham	2	2	.....	Morristown	0	1	.....
California:				Paterson	0	1	.....
Los Angeles	1	2	.....	Trenton	0	2	.....
Oakland	1	1	.....	New York:			
Florida:				New York	8	6	2
Tampa	3	5	2	Syracuse	0	.....	1
Georgia:				Watertown	0	1	.....
Atlanta	0	1	.....	Ohio:			
Macon	0	1	.....	Barberton	0	1	.....
Rome	0	1	.....	Cincinnati	0	1	.....
Illinois:				Cleveland	0	3	1
Chicago	5	1	.....	Columbus	0	1	.....
Decatur	0	.....	1	Lorain	0	1	.....
Peoria	0	1	.....	Middletown	0	2	.....
Springfield	0	1	1	Salem	0	1	.....
Indiana:				Oklahoma:			
Hammond	0	1	.....	Tulsa	0	1	.....
Indianapolis	0	1	.....	Pennsylvania:			
Iowa:				Lebanon	0	2	.....
Sioux City	0	1	1	North Braddock	0	1	.....
Kentucky:				Philadelphia	4	4	.....
Covington	0	6	1	York	0	1	.....
Louisiana:				Tennessee:			
New Orleans	1	2	3	Memphis	1	1	.....
Maine:				Virginia:			
Lewiston	0	1	1	Roanoke	0	1	.....
Portland	0	1	.....	Washington:			
Maryland:				Seattle	0	1	.....
Baltimore	3	1	.....	Tacoma	0	1	.....
Massachusetts:				Yakima	0	1	.....
Lawrence	1	1	.....	West Virginia:			
Newton	0	1	.....	Bluefield	0	.....	1
Somerville	0	1	1	Fairmont	0	1	.....
Southbridge	0	.....	1	Wisconsin:			
Michigan:				Sheboygan	0	1	.....
Grand Rapids	0	1	.....				

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston	17,734								1	
Birmingham	178,806	53	3		34		1		13	4
Dothan	10,024								1	
Mobile	60,777	19	1						1	1
Tuscaloosa	11,996				9		1			
Arizona:										
Tucson	20,292	13								5
Arkansas:										
Fort Smith	28,870				7					
Hot Springs	11,695	3			1					
Little Rock	65,142				47		1		1	
North Little Rock	14,048				32				1	
California:										
Alameda	28,806	12			1		2			
Bakersfield	18,638	10	2						1	1
Eureka	12,922	8					2		3	1
Glendale	13,536	8				1				3
Long Beach	55,593	15	9		31		3			
Los Angeles	576,673	209	44		167	1	42		84	21
Oakland	216,261	52	14	2	63		11		2	2
Pasadena	45,354	17	2		9		3		5	2
Richmond	16,843	1					1			
Riverside	19,341	7	2				1			2
Sacramento	65,908	31	1		1		5	1	3	2
San Bernardino	18,721	12	1		3					2
San Diego	74,683	25	2		115		8		2	2
Santa Ana	15,485	7			8					
Santa Barbara	19,441	4								
Santa Cruz	10,917	4								1
Stockton	40,296	8	1		12		3		1	
Colorado:										
Denver	256,491	89	20	1	31		23			14
Pueblo	43,050	17	6						5	
Connecticut:										
Bridgeport	143,555	44	10	1	33	5	13		6	6
Bristol	20,620	2	1		4		1			
Fairfield (town)	11,475	1			2					
Greenwich (town)	22,123						3			
Hartford	138,036	47	7	2					7	
Manchester (town)	18,370	6					1		1	
Milford (town)	10,193	4	1				1		1	
New Britain	59,316	10	8		3		1			1
New Haven	162,537	62	1		46		4		3	
New London	25,688	11	1		22					
Stonington (town)	10,236	5			14	1				
District of Columbia:										
Washington	437,571	154	7		285	1	40		31	16
Florida:										
St. Petersburg	14,237	20					1			2
Tampa	51,608	20	2						1	1
Georgia:										
Albany	11,555		2		15		2			
Atlanta	200,616	73	2		2		5	1	1	5
Augusta	52,548	24	1		1					
Brunswick	14,413	3	1							
Macon	52,995		2		350		1			
Rome	13,252		1				1			
Savannah	83,252	28	3				2	1	2	4
Valdosta	10,783	8							1	1
Idaho:										
Boise	21,393	3					1			
Pocatello	15,001	3								
Illinois:										
Alton	24,282	7	5		6		1		2	
Aurora	36,397	10	4		4		4			1
Bloomington	28,725	11	1		1		1		2	1
Centralia	12,491	3								
Champaign	15,873				10		3			
Chicago	2,701,705	815	123	9	577	7	89	2	237	59
Cicero	44,995	1	1		5		3		2	
Decatur	43,818	15	1				1		1	
East St. Louis	66,767	21			31					1

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Illinois—Continued.										
Elgin	27,454	6			1		1			
Evanston	37,234	9	1		34		4		3	
Freeport	19,669	8	3		2					1
Galesburg	23,834	7								
Jacksonville	15,713	12					3		2	1
Kewanee	16,026	5								
La Salle	13,050	4			1		3		2	
Mattoon	13,552	3	2				1	1	2	
Oak Park	39,858	13	1		4		2		1	
Peoria	76,121	24					7			1
Quincy	35,978	8	1	1	1				1	
Springfield	59,183	26	1		82	1	3			
Indiana:										
Anderson	29,767	4					2			
Bloomington	11,595	5								
Crawfordsville	10,139	2					5			
East Chicago	35,967	3	4		4		2			
Fort Wayne	86,549	46	5				3	1		1
Frankfort	11,585	4								
Gary	55,378	17			24		4			
Hammond	36,004	12			14					
Huntington	14,000	1								
Indianapolis	314,194	106	10	2	57		3		10	4
Kokomo	30,067	12			1					
La Fayette	22,486	6	4							
Logansport	21,626	8			17					
Michigan City	19,457	8								
Mishawaka	15,195	5	1				4		2	
Muncie	36,524	11	1				1			1
South Bend	70,983	14	1		5		4		5	1
Terre Haute	66,083	18	1		35		4			1
Iowa:										
Burlington	24,057						2			
Cedar Rapids	45,566		1				1			
Clinton	24,151		2							
Council Bluffs	36,162	10	1		2					
Davenport	56,727		4				2			
Dubuque	39,141				57	1	3			
Iowa City	11,267						3			
Marshalltown	15,731						2			
Mason City	20,065	5	2							
Muscatine	16,068	9			10					1
Sioux City	71,227	1	2				3			
Waterloo	36,230				13		5			
Kansas:										
Atchison	12,630								1	1
Coffeyville	13,452	1	1						1	
Kansas City	101,177		6		3		1		2	
Lawrence	12,456	6					1		1	1
Leavenworth	16,912						1			
Parsons	16,028	6			2					
Topeka	50,022	13	1				9		2	
Wichita	72,217	41	3		3		1			1
Kentucky:										
Covington	57,121	34			4		8	1	1	4
Henderson	12,109	4								1
Louisville	234,891	105	1		14		6		23	4
Owensboro	17,424				3				1	
Paducah	24,735		1		5					
Louisiana:										
New Orleans	387,219	146	19	1	1		7		27	9
Maine:										
Auburn	16,985	12					5			1
Bangor	25,978						2		2	
Bath	14,731	3								1
Biddeford	18,008	14								1
Lewiston	31,791	19			2		1		5	
Portland	69,272	54	1	1	42		1			2
Sanford (town)	10,691	5								
Maryland:										
Baltimore	733,826	283	32	3	205		53	2	21	14
Cumberland	29,837	17	1		95		1			
Frederick	11,066	5								

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts:										
Adams (town)	12,987	2								
Amesbury (town)	10,036	6			1					
Arlington (town)	18,665	3			18				2	1
Attleboro	19,731	10			4				6	
Belmont (town)	10,749	4			5		2		1	1
Beverly	22,561	14								1
Boston	748,060	292	68	6	116	1	80	3	30	17
Braintree (town)	10,580	7	1	1	23		2		1	2
Brookline	37,748	7	2		1		4			
Cambridge	109,694	44	5		51		16		5	2
Chelsea	43,184	15	2		1		8			1
Chicopee	36,214	8								1
Clinton	12,979	2			1		1			
Danvers	11,108		1				1			
Dedham	10,792	6								
Easthampton	11,261	2					1		2	
Everett	40,120	14	2		8		3		2	
Fall River	120,485	46	3	2	17		5		8	3
Fitchburg	41,029	14					2			
Framingham	17,033	6			1					
Gardner	16,971	3	1							
Greenfield	15,462	3							1	
Haverhill	53,884	18	5	1	1		11	1		
Holyoke	60,203	14			1		21		2	1
Lawrence	94,270	33	1		7		1		1	3
Leominster	19,744	4					3		1	
Lowell	112,759	46	4	1	92		7		8	1
Lynn	99,148	30	3		36	2	8		1	
Malden	49,103	19	3		17		6		1	1
Medford	39,038	15	1		6		7		1	
Melrose	18,204	4		1	1		8		2	
Methuen	15,189	6								
Milford	13,471	4					12		1	
Natick	10,907		1				1			
New Bedford	121,217	39	1	1	37		1		9	7
Newburyport	15,618	6			1					
Newton	46,054	17	1				8			
North Adams	22,282	6								
Northampton	21,951	15			1		10		1	
Pittsfield	41,763	10	2				5			
Plymouth	13,045	4								
Quincy	47,876	10	7		12		15		1	
Salem	42,529	14	3	1			1		1	3
Somerville	93,091	41	6		12		5	1	3	2
Southbridge	14,245	5	1							
Springfield	129,614	38	6		2		2		1	2
Taunton	37,137	21			38	1	11			3
Wakefield	13,025	5			10		3			1
Waltham	30,915	11			1		10			
Watertown	21,457	3	7		1		4		1	
Webster	13,258	2					5		1	
Westfield	18,604	7							1	
West Springfield	13,443	2								
Weymouth	15,057	2								
Winthrop	15,455	3	1		43					
Woburn	16,574	5								
Worcester	179,754	63	5				7	1	6	5
Michigan:										
Alpena	11,101				1		2	1		
Ann Arbor	19,516	12	3		1		1			
Battle Creek	36,164	2	5	1	1		6	1		
Benton Harbor	12,233	3	2							
Detroit	993,678	281	52	4	44		150	3	21	19
Flint	91,599	25	7		6		13	1		2
Grand Rapids	137,634	44	3		3		10		6	4
Hamtramck	48,615	9			1					1
Highland Park	46,499	7			23		6		3	
Holland	12,183						2			
Ironwood	15,739	3					3			
Jackson	48,374	14			2		5			1
Kalamazoo	48,487	23	4				8		3	

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Michigan—Continued.										
Marquette	12,718	7	2							
Muskegon	36,570	14	5	1	1		1			1
Pontiac	34,273	13	2				4			1
Port Huron	25,944	15			1		1			
Sault Ste. Marie	12,093	2							1	
Minnesota:										
Duluth	98,917	19	2	1	87		3		4	
Faribault	11,089	5	1				3			
Hibbing	15,089	8			13		4			2
Mankato	12,469						1			
Minneapolis	380,582	99	7		37		29		44	8
Rochester	13,722	17								1
St. Paul	234,698	78	11	2	212	1	49		6	3
Virginia	14,022						1			
Winona	19,143	7					1			1
Missouri:										
Cape Girardeau	10,252	4								
Independence	11,686				2					
Joplin	29,902						1			
Kansas City	324,410	115	8	1	54	1	13	1	4	4
Saint Joseph	77,939	26	3		1					
St. Louis	772,897	260	31		588	1	21	1	29	10
Springfield	39,631	21								1
Montana:										
Anaconda	11,668	1								
Billings	15,100	4	1						2	
Great Falls	24,121	7	1					1		
Helena	12,037	3								
Missoula	12,668	3								
Nebraska:										
Lincoln	54,948	8	1		2		2		1	
Omaha	191,601	74	5		1		1			2
Nevada:										
Reno	12,016	4								
New Hampshire:										
Berlin	16,104	1					1			
Concord	22,167	16			3					1
Dover	13,029	6			1					1
Keene	11,210	5								1
New Jersey:										
Asbury Park	12,400	2							1	1
Atlantic City	50,707	13	2		24		9		4	
Bayonne	76,754	3					5		4	
Belleville	15,660						1		1	
Bloomfield	22,019	2			8		6			
Clifton	26,470	6	4	1	8					1
East Orange	50,710	7	1		28		5		1	
Elizabeth	95,783		20	2	20		12		6	
Englewood	11,627	2			13		4			
Garfield	19,381	8	2		6		1			1
Harrison	15,721		1		8		2		1	
Hoboken	68,166	21	4		5				5	2
Jersey City	298,103		15		11		15		13	
Kearny	26,724	12			12		2		1	
Long Branch	13,521	3					1		1	
Montclair	28,810	11	1		3		3			
Morristown	12,548	12								
Newark	414,524	136	14		181	3	17		45	10
Orange	33,268	9			26		1		1	
Passaic	63,841	21	3	1	9		1		2	
Paterson	135,875	6	12		4		3		7	6
Perth Amboy	41,707	13	1				3		2	2
Phillipsburg	16,923	7							2	
Plainfield	27,700	7			1				1	
Trenton	119,289	42	32	3	2		10	1	6	1
Union (town)	20,651	1								
West Hoboken	49,074	6							2	1
West New York	29,926	5	2				3		3	
West Orange	15,573	1			9					
New Mexico:										
Albuquerque	15,157	9					1		2	7

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York:										
Albany	113,344		3		2		4		3	
Amsterdam	33,524	6	2		4					1
Auburn	36,192	8			7					1
Buffalo	506,775	165	12		336	2	34		15	9
Cohoes	22,987	5								
Dunkirk	19,336	6			1		5			
Elmira	45,393		1		1		1			
Geneva	14,648	2								
Hornell	15,025	3								
Hudson	11,745	7					1			
Ithaca	17,004	11	1				2			
Jamestown	38,917	12	1		2		1		1	
Lackawanna	17,918	7					2		3	1
Little Falls	13,029	2								
Lockport	21,308	5			1					
Middletown	18,420				1				2	
Mount Vernon	42,726	7	2		2		4			
New York	5,620,048	1,759	171	8	284	5	304	2	[1] 248	[1] 126
Newburgh	30,366	8								
Niagara Falls	50,760	17	1				8		2	
North Tonawanda	15,482	4			14		1			
Olean	20,506	11			57		17			
Peekskill	15,868	5			19		4		4	
Plattsburgh	10,909	0								
Port Chester	16,573	5	1				2			
Poughkeepsie	35,000	6					3			
Rochester	295,750	79	9	1	84		4		16	3
Rome	26,341	13	1							1
Saratoga Springs	13,181	8							3	1
Schenectady	88,723	15	1		10	1	6			
Syracuse	171,717	50	2		11		15	1	2	2
Watertown	31,285	12							3	1
White Plains	21,031	12					10	1		
Yonkers	100,176	24	2		5		8			4
North Carolina:										
Durham	21,719	8	1		60	1	1		4	
Greensboro	15,861	8			1					1
Raleigh	24,418	8	1		51		1			2
Rocky Mount	12,742	6				1				1
Wilmington	33,372	13			1					
Winston-Salem	48,395	15					1		3	
North Dakota:										
Fargo	21,961	0	4				3			
Grand Forks	14,010				2		4			
Ohio:										
Akron	208,435	48	2		20		2		6	
Ashtabula	22,082	2			1					
Barberton	18,811	2			4		6			
Bucyrus	10,425	3			16					
Cambridge	13,104	11			4					
Canton	87,091	18	6		7				1	
Chillicothe	15,831	4								
Cincinnati	401,247	137	10		18		9	1	21	18
Cleveland	796,841	215	26	4	209	1	124	2	47	14
Cleveland Heights	15,236				27		5		1	
Columbus	237,031	92	4		188		11		3	6
Coshocton	10,847				1					
Dayton	152,559	52	2		5		13		1	
East Cleveland	27,292	5			70		3			
East Youngstown	11,237	5								
Findlay	17,021	7			49					
Fremont	12,468	3			2				1	
Hamilton	39,675	11			9				2	
Lancaster	14,706	8	1							1
Lima	41,326	17	1		3					2
Lorain	37,295		5		56		10			
Mansfield	27,824	17	1		13				5	
Marion	27,891		2		2		3		3	
Martins Ferry	11,634	4								
Middletown	23,594	8			5	1	1		2	1
Newark	26,718	13	1		6					1

[1] Pulmonary only.

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Ohio—Continued.										
Niles	13,080	1			19					
Norwood	24,966	3			1		1		1	
Piqua	15,044	4	1							
Salem	10,305	5	1	1						
Sandusky	22,897	7			37					1
Springfield	60,840	24	2		157	1	3			2
Steubenville	28,508	15					1			
Tiffin	14,375	7								
Toledo	243,164	71	3		61	2	32	1	5	6
Youngstown	132,358	58	14	2	15		1		7	5
Zanesville	29,569	17	1		2					
Oklahoma:										
Oklahoma	91,295	34	3		4		7			1
Tulsa	72,075		2		58		1		8	
Oregon:										
Portland	258,288	55	4		3		3		9	4
Pennsylvania:										
Allentown	73,502		2		149		12		4	
Altoona	60,331		1		55				2	
Ambridge	12,730		1		2		1			
Beaver Falls	12,802		1		1					
Bethlehem	50,358		9		87		4		3	
Braddock	20,879		2		1					
Bradford	15,525		1		12					
Bristol	10,273		6		1					
Butler	23,778				27		1			
Carlisle	10,916				2					
Carnegie	11,516				2					
Carrick	10,504		1		1		1			
Chambersburg	13,171				29		6			
Charleroi	11,516				5					
Chester	58,030		2		24		2			
Coatesville	14,515				3					
Connellsville	13,804		1		1		1			
Dickson	11,049				1					
Donora	14,131				32					
Dubois	13,681				5					
Dunmore	20,250		2				1			
Duquesne	19,011				1					
Easton	33,813		1		19		2			
Erie	93,372		2		5		7		6	
Farrell	15,586		4		4		5			
Greensburg	15,033				5		1			
Harrisburg	75,917		3		162		2			
Hazleton	32,277		1				3			
Homestead	20,452		1		15					
Jeannette	10,627				31					
Johnstown	67,327		6		17		9			
Lancaster	53,150				148		4			
Lebanon	24,643		1		5		4		1	
McKees Rocks	16,713		2		8					
McKeesport	46,781				11		1			
Mahanoy City	15,599		1		3					
Monessen	18,179				2				2	
Mount Carmel	17,469		1						1	
Nanticoke	22,614				13					
New Castle	44,938				1				1	
New Kensington	11,987				7				2	
Norristown	32,319				4					
North Braddock	14,928		1		4		1			
Oil City	21,274				82				1	
Philadelphia	1,823,779	610	102	3	246	6	57	4	66	47
Phoenixville	10,484				1		1			
Pittsburgh	588,343		17		382		28		13	
Pittston	18,497				6		1			
Pottstown	17,431		1		41		2			
Pottsville	21,876				17					
Reading	107,784		4		58		1		2	
Scranton	137,783		3		27		1		7	
Shamokin	21,204				1					
Sharon	21,747				32					
Shenandoah	24,726		3							
Steelton	13,428				2		1			

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pennsylvania—Continued.										
Sunbury	15,721		2		2					
Swissvale	10,908				3					
Tamaqua	12,353				6					
Uniontown	15,692		5		80					
Warren	14,272						1		1	
Washington	21,480		1		1					
West Chester	11,717		2		7					
Wilkes-Barre	73,833		1		9		1		3	
Wilkinsburg	24,403				29		1			
Williamsport	36,198		1							
Woodlawn	12,495				3					
York	47,512		2		25		3		1	
Rhode Island:										
Cranston	29,407	9			6		1			
Cumberland (town)	10,077	7								
East Providence (town)	21,793				75		1			
Newport	30,255	2			12					
Providence	237,595	100	10	2	228	4	7			3
Woonsocket	43,496	16								2
South Carolina:										
Charleston	67,957	31					1			1
Columbia	37,524	23	1				1		1	
Greenville	23,127	8			1		1			1
South Dakota:										
Sioux Falls	25,202	8	1				6			
Tennessee:										
Knoxville	77,818		2	1	1		2		1	
Memphis	162,351	86	6	1	200		4		9	3
Texas:										
Beaumont	40,422	9			1				2	1
Corpus Christi	10,522	2								
Corsicana	11,356	4								
Dallas	158,976	51	4	2			1			2
El Paso	77,560	48	1	1	142	4		1	8	8
Fort Worth	106,482	21	2				1		2	1
Galveston	44,255	19	1				1			1
Houston	138,276	48	2							5
San Antonio	161,379	65	1		1		2			8
Waco	38,500	8	1		31	1	1			2
Utah:										
Salt Lake City	118,110	41	2	1	5		5		1	3
Vermont:										
Barre	10,008						1			
Burlington	22,779	9			2					1
Rutland	14,954	4					2			
Virginia:										
Alexandria	18,060	4			1					1
Charlottesville	10,688	6	2							1
Danville	21,539	8			6				6	1
Lynchburg	30,070	11			111	3				
Norfolk	115,777		2		18		1		13	2
Petersburg	31,012	15	1		4				2	2
Portsmouth	54,387	7			1					
Richmond	171,667	60	2		23		6		18	6
Roanoke	50,842	11	1		151					
Washington:										
Everett	27,644						1			
Seattle	315,312		7				11		12	
Spokane	104,437		6		3		11			
Tacoma	96,965		7		2		4			
Vancouver	12,637		1							
Yakima	18,539		2		7					
West Virginia:										
Bluefield	15,282	7			21	1				
Charleston	39,608	16	3						1	
Clarksburg	27,869	10			5				1	
Fairmont	17,851	1					12			
Huntington	50,177	16	1		10		2			1
Martinsburg	12,515				3					
Morgantown	12,127		1		11					
Moundsville	10,669	4	1							
Parkersburg	20,050	11	1	1						
Wheeling	56,208	23	2		116		2		4	2

CITY REPORTS FOR WEEK ENDED MARCH 17, 1923—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Population Jan. 1, 1920.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Wisconsin:										
Appleton	19,561	6	1		1					
Ashland	11,334	6								2
Beloit	21,284	5	1				1		1	
Eau Claire	20,906								2	
Fond du Lac	23,427	6					1			1
Green Bay	31,017	3	2	1	4		4	2	1	
Janesville	18,293	2	1		24		1			
Kenosha	40,472	13	2		58	1	3			1
La Crosse	30,421		1		13		5		1	
Madison	38,378	13	1		53	1	3			
Manitowoc	17,563								1	
Marinette	13,610	14			1		3		3	
Milwaukee	457,147	144	21	3	131		233	5	16	6
Oshkosh	33,162	12					2			
Racine	58,593	13	1		85		3		6	1
Sheboygan	30,955	6	2		15		1		1	
Stevens Point	11,371				7		1			
Superior	39,671	12			6		2			
Waukesha	12,558				4		3			
Wausau	18,661		2		5					
West Allis	13,745		2		1		2			
Wyoming:										
Cheyenne	13,829	6								

FOREIGN AND INSULAR.

BRAZIL.

Yellow Fever—Bahia.

During the week ended February 17, 1923, two cases of yellow fever with two deaths were reported at Bahia, Brazil.

BULGARIA.

Lethargic Encephalitis—Sofia.[1]

During the week ended February 10, 1923, a fatal case of lethargic encephalitis was reported at Sofia, Bulgaria.

CANADA.

Typhoid Fever—Cochrane, Ontario.

Under date of March 21, 1923, 125 cases of typhoid fever were reported at Cochrane, Ontario, 225 miles north of North Bay. The outbreak was attributed to polluted water supply. No mortality was reported. A chlorination plant was stated to have been installed by the board of health of the Province of Ontario.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	Mar. 11-20, 1923.		Remaining under treatment Mar. 20, 1923.
	New cases.	Deaths.	
Cerebrospinal meningitis	3	.....	[a] 3
Chicken pox	17	.....	17
Diphtheria	2	1	1
Leprosy	1	.....	11
Malaria	14	1	[b] 26
Measles	1	.....	2
Paratyphoid fever	1	1	.....
Scarlet fever	2	.....	2
Typhoid fever	8	1	[c] 21

[a] From abroad, 2. [b] From the interior, 22 [c] From the interior, 10.

[1] Public Health Reports, Mar. 23, 1923, p 650.

ECUADOR.

Health Requirements for Persons Entering the Country.

According to information dated February 5, 1923, the following requirements have been imposed on all persons desiring to enter the Republic:

To be provided with health certificate and certificate of vaccination against smallpox, both to be viséed by the Ecuadorian consul at the port of departure. Certificates of health shall in every case be issued by a graduate physician, appointed, if possible, with official character by the consular officers in the respective countries. An Ecuadorian physician shall be preferred.

To present the aforesaid certificates, on arrival of the vessel at any port of the Republic, to the maritime physician. Passengers not in possession of said certificates shall be considered under suspicion and shall be immediately vaccinated against smallpox.

Plague—Plague-Infected Rats—Guayaquil.

During the period February 16–28, 1923, 7 cases of plague with 2 deaths were reported at Guayaquil, Ecuador. During the same period, out of 4,100 rats examined, 35 rats were found plague infected.

FINLAND.

Communicable Diseases—February 1–15, 1923.

During the period February 1–15, 1923, there were reported in Finland 169 cases of diphtheria, 1 case of poliomyelitis (infantile paralysis), 60 cases of scarlet fever, and 36 cases of typhoid fever.

Dysentery—Lethargic Encephalitis—February 1–15, 1923.

During the same period there were reported in Finland 8 cases of dysentry and 8 cases of lethargic encephalitis. (Population, officially estimated, 3,325,814.)

Epidemic Diseases—Year, 1922.

During the year 1922 there were reported in Finland 53,822 cases of influenza, of which 14,301 cases occurred in January. The distribution of occurrence during the succeeding months was reported as follows: February, 9,433 cases; March, 10,177; April, 5,907; May, 2,046; June, 681; July, 514; August, 720; September, 1,016; October, 2,056; November, 3,352; and December, 3,619. A total of 1,880 cases of diphtheria was reported, of which the greatest number of cases occurred in February (234), and the least in June (90); and 1,289 cases of undifferentiated typhus were recorded. Other diseases were reported as follows: Chicken pox, 84 cases; dysentry, 209 cases; infantile paralysis, 21 cases; scarlet fever, 978 cases.

ITALY.

Lethargic Encephalitis—Catania.

During the week ended February 25, 1923, two fatal cases of lethargic encephalitis were reported in the Province of Catania, Italy.

JAMAICA.

Smallpox (Reported as Alastrim).[1]

During the two weeks ended March 10, 1923, 86 new cases of smallpox (reported as alastrim) were reported in the Island of Jamaica. Of these, 1 case was notified in the Parish of Kingston, occurring during the week ended March 3, 1923.

Typhoid Fever—Kingston and Vicinity.

During the same period, 8 cases of typhoid fever were reported at Kingston and 35 cases in the surrounding country.

SIBERIA.

Epidemic Measles—Vladivostok.

During the month of January, 1923, epidemic measles was reported present at Vladivostok, Siberia, with 394 reported cases. (Population, 194,707.)

VIRGIN ISLANDS.

Disease Prevalence—February, 1923.

During the month of February, 1923, disease prevalence in the Virgin Islands was reported as follows:

Island and disease.	Cases.	Remarks.
St. Thomas and St. John:		
Chancroid	2	
Chicken pox	15	10 in St. John.
Dengue	8	
Fish poisoning	1	
Gonococcus infection	4	1 imported.
Influenza	5	2 in St. John.
Syphilis	5	3 imported; 2 in St. John; 2 congenital; 2 secondary.
Uncinariasis	1	Necator Americanus.
St. Croix:		
Chicken pox	19	
Dengue	5	
Dysentery	1	
Filariasis	7	
Mumps	1	
Syphilis	1	Secondary.

[1] The disease reported to the Public Health Service as alastrim, and so noted heretofore in Public Health Reports, in the future will be recorded as "smallpox (reported as alastrim)."

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 April 6, 1923.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India				Dec. 31, 1922–Jan. 13, 1923: Cases, 2,061; deaths, 1,209.
Madras	Feb. 11–17	4	1	

PLAGUE.

British East Africa:				
Kenya Colony—				
Tanganyika Territory	Jan. 14–20	7	6	
Uganda	Dec. 1–31	141	129	
Entebbe	Nov. 24–30	211	202	
Ceylon:				
Colombo	Feb. 4–17	17	9	Plague rodents, 5.
Ecuador:				
Guayaquil	Feb. 16–28	7	2	Rats examined, 4,100; found infected, 35.
Egypt				Jan. 1–Mar. 1, 1923: Cases, 17; deaths, 11.
Province—				
Assiout	Feb. 26–27	2	2	Pneumonic, 1 case, 1 death; septicemic, 1 case, 1 death.
Minieh	Feb. 24		1	
India				Jan. 28–Feb. 3, 1923: Cases, 6,158; deaths, 4,980.
Bombay	Jan. 28–Feb. 3	14	10	
Karachi	Feb. 11–17	1	1	
Madras Presidency	do	380	294	
Rangoon	Feb. 4–10	15	12	
Java				Jan. 1–31, 1923: Cases, 490; deaths, 549.
Madagascar:				
Province—				
Diego Suarez				Jan. 1–31, 1923: Cases, 2.

SMALLPOX.

Arabia:				
Aden	Feb. 18–Mar. 3	13		
Bolivia:				
La Paz	Jan. 1–31	6	4	
Brazil:				
Para	Feb. 12–Mar. 4	6		
British East Africa:				
Kenya Colony—				
Tanganyika Territory	Dec. 17–23	14	1	
Do	Jan. 7–20	17		
Uganda	Dec. 1–31	2		
Entebbe	Nov. 24–30	3	3	
Canada:				
New Brunswick—				
Restigouche County	Mar. 11–17	1		
Chile:				
Concepcion	Feb. 6–26		5	
China:				
Changsha	Feb. 11–17	1		
Chungking	Jan. 28–Feb. 3			Present.
Foochow	Feb. 11–17			Do.
Shanghai	Feb. 19–25		1	Chinese.
Ecuador:				
Guayaquil	Feb. 16–28	1		
India				Dec. 31, 1922–Jan. 13, 1923: Cases, 2,533; deaths, 613.
Bombay	Jan. 28–Feb. 3	17	8	
Karachi	Feb. 11–17	8	1	
Madras	do	22	4	
Rangoon	Feb. 4–10	20	11	

[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 April 6, 1923—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Jamaica	Feb. 25-Mar. 10	86		Reported as alastrim.
Mexico:				
Chihuahua	Mar. 5-18	15	2	
Persia:				
Teheran	Nov. 22-Dec. 22		103	
Spain:				
Seville	Feb. 27-Mar. 11		1	
Syria:				
Aleppo	Feb. 18-24	6	1	Feb. 25-Mar. 3, 1923: Present.
Damascus	Jan. 21-31	2		
Turkey:				
Constantinople	Feb. 17-23	82	24	
Union of South Africa:				
Cape Province	Jan. 28-Feb. 3			Outbreaks.
Orange Free State	do			Do.
Transvaal—				
Johannesburg	Jan. 1-31	1		

TYPHUS FEVER.

Bolivia:				
La Paz	Jan. 1-31	17	9	
Bulgaria:				
Sofia	Feb. 4-10	1		Paratyphus, 2 cases.
Chile:				
Antofagasta	Feb. 18-24	1	1	
Hungary:				
Budapest	Feb. 4-10	5		
Italy:				
Trieste	Feb. 26-Mar. 3	1		
Palestine				Feb. 27-Mar. 5, 1923: One case; in northern section.
Siberia:				
Vladivostok	Dec. 1-31	1		Remittent, 1 case; indefinite, 6 cases.
Do	Jan. 1-31	43		Remittent, 1 case; indefinite, 10 cases.
Turkey:				
Constantinople	Feb. 11-17	26	1	
Union of South Africa:				
Cape Province	Jan. 28-Feb. 3			Outbreaks
Orange Free State	do			Do.
Transvaal	do			Do.
Johannesburg	Jan. 1-31	4	2	

YELLOW FEVER.

Brazil:				
Bahia	Feb. 11-17	2	2	

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

Reports Received from December 30, 1922, to March 30, 1923.[1]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Liutaoku	Sept. 22	60	20	
Chosen (Korea):				
Yalu River Region				Sept. 22, 1922: 30 deaths reported.
India				Sept. 24–Dec. 30, 1922: Cases, 14,637; deaths, 8,833.
Bombay	Oct. 27–Dec. 23	2	1	
Calcutta	Nov. 12–Dec. 30	102	60	
Do	Dec. 31–Feb. 3	114	76	
Madras	Nov. 19–Dec. 16	4	2	
Do	Jan. 21–Feb. 10	2	1	
Rangoon	Nov. 12–Dec. 23	17	10	
Do	Dec. 31–Jan. 27	3	2	
Philippine Islands:				
Province—				
Laguna	Oct. 12–18	1		
Russia				Jan. 1–Oct. 7, 1922: Cases, 83,367.
Archangel (Government)	Oct. 1–7	7		
Tashkent	....do	27		Turkestan Republic: 3 cases reported on waterways.
Ukraine				Sept. 1–30, 1922: Cases, 119.
Donetz (Government)	Sept. 1–30	29		
Tchernigov (Government)	....do	36		
Siam:				
Bangkok	Oct. 29–Dec. 23	4	1	
Do	Dec. 31–Jan. 27	3		

PLAGUE.

Azores:				
Fayal Island—				
Castelo Branco	Dec. 2–31		3	Vicinity of Horta. Dec. 30, 1922: Several cases.
Pico Island—				
Lages	Nov. 27–Dec. 15		8	1 case present Dec. 15, 1922.
St. Michaels Island				Nov. 12–Dec. 30, 1922: Cases, 100 deaths, 35. At localities 3–9 miles from Ponta Delgada.
Ponta Delgada	Nov. 26–Dec. 9	3		
Brazil:				
Bahia	Oct. 29–Dec. 30	5	5	Dec. 31, 1922–Feb. 3, 1923: Cases, 108; deaths, 41. From 6 to 20 miles distant from port of Ponta Delgada.
Do	Jan. 28–Feb. 3	1	1	
Pernambuco	Jan. 14–20	3	2	
Porto Alegre	Nov. 19–25	1		
British East Africa:				
Kenya Colony—				
Tanganyika Territory	Oct. 15–Dec. 16	12	7	
Ceylon:				
Colombo	Nov. 12–Dec. 30	46	38	Plague rodents, 16.
Do	Dec. 31–Feb. 3	34	31	Plague rodents, 12.
Chile:				
Antofagasta				Quarantine. Year, 1922. March 1 case; May, 1 case.
China:				
Hongkong	Nov. 5–Dec. 23	14	12	
Manchuria—				
Harbin	Jan. 29–Feb. 4	7		
Ecuador:				
Guayaquil	Nov. 1–Dec. 31	9	3	Rats examined, 16,600; found infected, 72.
Do	Jan. 1–Feb. 15	11	3	Rats examined, 13,800; found infected, 48.
Egypt				Jan. 1–Dec. 28, 1922: Cases, 485; deaths, 228. Jan. 1, 1922–Jan. 4, 1923: Cases, 487; deaths, 228. Jan. 1–Feb. 8, 1923: Cases, 8 deaths, 5.
City—				
Alexandria	Nov. 19–25	2		
Do	Jan. 8–10	1	1	
Port Said	Nov. 19–27	4	2	
Do	Jan. 26	1		
Suez	Nov. 18–Dec. 5	3	4	
Province—				
Assiout	Nov. 19–Dec. 29	4	1	Septicemic: 1 case, 1 death.
Do	Jan. 26–Feb. 7	6	4	Pneumonic: 3 cases, 3 deaths.
Dakahlieh	Dec. 3	1	1	Pneumonic.
Minieh	Nov. 18–27	2	1	
Hawaii:				
Honokaa				Feb. 8–9, 1923: Plague rats, 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 December 30, 1922, to March 30, 1923—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
India				Oct. 1-Dec. 30, 1922: Cases, 25,007; deaths, 18,803. (Report for Nov. 19-25, 1922, not received.) Dec. 31, 1922-Jan. 27, 1923: Cases, 18,991; deaths, 14,651.
Bombay	Oct. 27-Dec. 30	41	32	
Do	Dec. 31-Jan. 27	14	11	
Karachi	Dec. 10-16	1	1	
Do	Dec. 31-Feb. 10	8	7	
Madras Presidency	Nov. 19-Dec. 30	2,269	1,448	
Do	Dec. 31-Feb. 10	2,498	1,877	
Madras	Nov. 19-25	1	1	
Do	Jan. 21-27	1	1	
Rangoon	Nov. 12-Dec. 30	52	49	
Do	Dec. 31-Feb. 3	75	67	
Japan:				
Osaka				July 1-Nov. 30, 1922: Cases, 70.
Java				Oct. 1-Nov. 3, 1922: Cases, 900 deaths, 763.
East Java				Dec. 1-31, 1922: Deaths, 990.
Residencies—				
Pekalongan	Dec. 1-31	56		
Samarang	do	202		
Soerabaya	Oct. 22-Dec. 31	34	14	
Do	Jan. 14-20	2	2	Jan. 17-23, 1923: Cases, 5; deaths, 3.
Toclong-Agoeng	Oct. 29-Dec. 16	18	18	Not a seaport.
Soerakarta—				
Klaten	Nov. 4			Present in epidemic form.
Madagascar				Jan. 1-Dec. 10, 1922: Cases, 143. Jan. 1-15, 1923: Cases, 22.
Province—				
Diego Suarez	Jan. 1-15	1		
Moramanga				To Nov. 12, 1922: Cases, 24; deaths, 21. Cases reported to Oct. 30, pneumonic.
Amparafara region	Sept. 18-Nov. 5	21		Bubonic, 18; septicemic, 3 (doubtful, 2).
Moramanga	Dec. 6-9	3		Bubonic.
Tamatave	Feb. 10-Sept. 12	10		Do.
Miarinarivo				Dec. 14, 1922-Jan. 1, 1923: 1 case (European).
Tananarive				Jan. 1-Dec. 10, 1922: Cases, 73 (bubonic, 37; pneumonic, 8; septicemic, 28). Jan. 1-15, 1923: Cases, 19.
Ambohimangakeley	Nov. 19-Dec. 9	9		Bubonic, 3; pneumonic, 3; septicemic, 3.
Anketrina	Mar. 27-May 9	11		Bubonic, 4; pneumonic, 2; septicemic, 5 (3 doubtful).
Fenoarivo region	Oct. 7-Nov. 28	16		Bubonic, 3; pneumonic, 8; septicemic, 5.
Tananarive	Oct. 23-Dec. 10		5	1 septicemic.
Do	Dec. 14-Jan. 15	13		
Mesopotamia:				
Bagdad	Oct. 1-Nov. 30	16		
Mexico:				
Tampico	Mar. 23	2	1	Plague rodent found, Mar. 14, 1923.
Palestine:				
Jaffa	Nov. 27-Dec. 4	1		
Peru				Nov. 1-Dec. 31, 1922: Cases, 199; deaths, 93.
Do				Jan. 1-31, 1923: Cases, 151; deaths, 59.
Localities—				
Canete	Nov. 16-Dec. 31	56	19	Including vicinity.
Do	Jan. 1-31	22	7	Do.
Casma	do	1		At Campina.
Catacaos	do	4	1	
Chepen	Dec. 16-31	2	1	Present Nov. 9-15, 1922.
Do	Jan. 1-31	1		
Chiclayo (city and country).	Nov. 16-Dec. 15	17	7	
Do	Jan. 1-31	18	9	
Eten	Nov. 16-Dec. 15	4		
Guadeloupe	Nov. 1-Dec. 31	22	12	
Do	Jan. 1-31	4	1	
Huacho	Nov. 16-Dec. 31	4	2	
Do	Jan. 1-31	4	1	
Huara	do	6		Country.

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

Reports Received from December 30, 1922, to March 30, 1923—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru—Continued.				
Localities—Continued.				
Huaral	Nov. 16-30	1		
Do	Jan. 1-31	3	1	
Huarmey	Dec. 1-31	2	2	
Jayanca	Nov. 16-Dec. 31	10	8	
Lambayeque	do	7	3	
Do	Jan. 1-31	9	7	
Lima (city)	Nov. 1-Dec. 31	11	8	
Do	Jan. 1-31	1	1	
Lima (country)	Nov. 1-Dec. 31	14	5	
Do	Jan. 1-31	4	2	
Lurin	Dec. 1-15	1		
Magdalena del Mar	Nov. 16-30	1		
Do	Jan. 1-31	1	1	
Magdalena Vieja	Dec. 16-31	1	1	
Mala	Dec. 1-31	2		
Do	Jan. 1-31	4		
Miraflores	Jan. 1-23	3		
Mochumi	Dec. 16-31	3	3	
Mosche	Nov. 16-30	2	1	
Paita	Dec. 16-31	3	2	
Do	Jan. 1-31	10	7	
Piura	Nov. 16-Dec. 31	12	7	
Do	Jan. 1-31	14	4	
Pueblo Nuevo	Dec. 1-31	7	4	
Do	Jan. 1-31	10	6	
San Pedro	Nov. 1-Dec. 31	8	4	
Do	Jan. 1-31	6	3	
Sullana	Nov. 16-30	3	3	
Do	Jan. 1-31	1	1	
Trujillo	Nov. 1-Dec. 31	3	1	
Do	Jan. 1-31	25	7	District.
Tuman	Nov. 16-30	3		
Portugal:				
Lisbon	Nov. 10-29	4	2	
Oporto	Jan. 21-27		1	
Portuguese West Africa:				
Angola—				
Loanda	Oct. 1-Dec. 30		45	Fatal cases among white population.
Siam:				
Bangkok	Nov. 12-Dec. 23	5	5	
Do	Dec. 31-Jan. 27	8	7	
Spain:				
Barcelona	Nov. 15-Dec. 18	1		Sept. 24-Nov. 14, 1922: Cases, 23; deaths, 9.
Malaga	Jan. 27	3		17 suspected cases.
Straits Settlements:				
Singapore	Dec. 17-23	2	2	
Do	Jan. 21-27	1	1	
Syria:				
Beirut	Nov. 6-30	4	3	
Turkey:				
Constantinople	Nov. 22-28	2		
Do	Jan. 28-Feb. 10	2		
Union of South Africa:				
Transvaal—				
Klipfontein Farm	Dec. 16	2	1	Natives. Jan. 25, 1923: Plague-infected wild rodent found in vicinity.
On vessels:				
S. S. Helcion	Dec. 1	1		At Thursday Island Quarantine, Australia, from Singapore, Straits Settlements. In Chinese firemen.
S. S. ———	Dec. 30			At port of London; plague-infected rats and cats found in grain cargo on vessel from South America.

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

Reports Received from December 30, 1922, to March 30, 1923—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers	Dec. 1–10	1		
Do	Jan. 1–Feb. 20	2		
Arabia:				
Aden	Nov. 19–Dec. 23	7	3	
Do	Jan. 7–Feb. 17	5	2	
Brazil:				
Bahia	Nov. 5–11	1		
Pernambuco	Jan. 21–27	1	1	
Rio de Janeiro	Nov. 25–Dec. 30	40	15	
Do	Dec. 31–Feb. 10	31	14	
Sao Paulo	Oct. 16–22	1	1	
British East Africa:				
Kenya Colony—				
Tanganyika Territory	Oct. 8–Dec. 15	179	9	
Uganda	Sept. 1–30	1	1	
Canada:				
Manitoba—				
Winnipeg	Dec. 10–30	14		
Do	Jan. 21–27	1		
New Brunswick—				
Northumberland County.	Jan. 21–Feb. 17	8		
Ontario				Dec. 1–31, 1922: Cases, 51; deaths, 1. Jan. 1–Feb. 28, 1923: Cases, 66.
Hamilton	Dec. 31–Feb. 24	7		
Niagara Falls	Dec. 3–30	10		
Do	Dec. 31–Jan. 12	12		
Ottawa	Dec. 10–23	6		
Do	Jan. 7–20	10		
Toronto	Dec. 10–30	2		
Do	Feb. 4–10	1		
Quebec—				
Quebec	Jan. 14–20	3		
Saskatchewan—				
Regina	Dec. 3–23	2		
Ceylon:				
Colombo	Nov. 12–Dec. 24	9	4	1 case, 1 death outside city.
Chile:				
Concepcion	Oct. 30–Dec. 25		7	
Valparaiso	Oct. 2–Dec. 26	4	54	In hospital, 83 cases.
Do	Jan. 9–Feb. 10		90	Dec. 31, 1922–Jan. 27, 1923: Deaths, 66. Feb. 16, 1923: 80 cases present (estimated).
China:				
Amoy	Nov. 5–Dec. 23		3	Nov. 26–Dec. 30, 1922: Present.
Do	Jan. 7–Feb. 3		5	
Antung	Nov. 13–Dec. 10	2		
Canton	Oct. 1–Nov. 30			Prevalent.
Do	Jan. 21–Feb. 10			Present.
Chungking	Nov. 5–Dec. 30			Do.
Do	Dec. 31–Jan. 27			Do.
Foochow	Nov. 12–Dec. 30			Do.
Do	Dec. 31–Feb. 10			Do.
Hankow	Dec. 31–Jan. 20	4	1	
Hongkong	Nov. 5–11		1	
Do	Dec. 31–Jan. 20	3	1	
Manchuria—				
Harbin	Nov. 20–Dec. 31	13		
Do	Jan. 8–Feb. 11	7		
Mukden	Nov. 19–Dec. 16			Do.
Do	Jan. 7–Feb. 3			Do.
Nanking	Nov. 5–Dec. 23			Do.
Do	Jan. 7–20			Do.
Shanghai	Jan. 15–Feb. 4	3		Foreign.
Chosen (Korea):				
Chemulpo	Oct. 1–Dec. 31	135	84	
Do	Jan. 1–31	26	17	
Fusan	Nov. 1–Dec. 31	4		
Do	Jan. 1–31	5		
Gensan	Dec. 1–31	6	2	
Seoul	Oct. 1–Dec. 31	19	1	
Do	Jan. 1–31	35	11	
Colombia:				
Bucnaventura	Jan. 25–Feb. 20	48		Estimated, 50 cases present; type mild; among colored population.

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

Reports Received from December 30, 1922, to March 30, 1923—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Cuba:				
Province—				
Camaguey	Nov. 11–Dec. 31	20		
Matanzas	Jan. 1–31	2		
Oriente	Nov. 21–Dec. 31	22		
Do	Jan. 1–Feb. 10	10		
Santa Clara	Dec. 21–31	1		
Czechoslovakia				Oct. 1–31, 1922: Cases, 3
Province—				
Bohemia	Oct. 1–31	1		
Moravia	do	1		
Slovakia	Oct. 1–Nov. 30	2		
Dominican Republic:				
Puerto Plata	Dec. 14–30	2		
Santo Domingo	Dec. 3–16			Present.
Do	Feb. 28–Mar. 6	3		
San Pedro de Macoris	Jan. 13–19	2		
Ecuador:				
Guayaquil	Dec. 1–31	10		
Do	Jan. 1–Feb. 15	10		
Egypt:				
Alexandria	Feb. 19–25	1		
Port Said	Jan. 21–27	1		
Esthonia	Oct. 1–Dec. 31	61		
France:				
Paris	Dec. 1–10	1		
Germany:				
Bremen	Dec. 3–9	1		
Great Britain:				
Liverpool	Dec. 11–17	1		From vessel.
London	Nov. 26–Dec. 23	3		
Nottingham	Nov. 19–Dec. 13	4		
Do	Jan. 7–Feb. 24	11		
Greece:				
Patras	Jan. 21–Feb. 3		10	
Saloniki	Nov. 6–Dec. 31	6	5	
Do	Jan. 15–28	3		
Zante				Epidemic, Jan. 17, 1923.
Do	Jan. 7–14	13	4	
India				Nov. 5–Dec. 30, 1922: Cases, 5,783; deaths, 333.
Bombay	Nov. 5–Dec. 30	22	10	
Do	Dec. 31–Jan. 27	22	11	
Calcutta	Nov. 12–Dec. 30	46	23	
Do	Dec. 31–Feb. 3	54	30	
Karachi	Nov. 26–Dec. 30	6		
Do	Dec. 31–Feb. 10	22	12	
Madras	Nov. 12–Dec. 30	71	23	
Do	Dec. 31–Feb. 10	123	42	
Rangoon	Nov. 5–Dec. 30	27	6	
Do	Jan. 7–Feb. 3	56	14	
Japan:				
Kobe	Jan. 13–Feb. 16	6	2	
Yokohama	Jan. 22–28	1		
Java:				
East Java—				
Soerabaya	Nov. 5–11	4		
West Java—				
Batavia	Nov. 11–Dec. 22	25	1	City and Province.
Do	Jan. 27–Feb. 2	2	1	Province.
Latvia	Oct. 1–Dec. 31	7		
Mesopotamia:				
Bagdad	Oct. 1–Nov. 30	568	361	
Mexico:				
Chihuahua	Dec. 4–17		4	
Do	Jan. 1–Feb. 28	23	15	
Guadalajara	Dec. 1–31	4		
Do	Jan. 1–30	15		
Mexico City	Nov. 12–Dec. 23	43		Including municipalities in Federal district.
Do	Dec. 31–Feb. 17	107		Do.
Nogales	Dec. 10–19		1	
Do	Dec. 31–Feb. 10		2	
Saltillo	Jan. 28–Feb. 3		1	
San Luis Potosi	Jan. 14–20		1	
Sonora, State				Nov. 1–30, 1922: Present in northern section.
Empalme	Nov. 1–30	4	1	
Torreon	Dec. 1–31		1	
Vera Cruz	Feb. 26–Mar. 11	9	4	

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

Reports Received from December 30, 1922, to March 30, 1923—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Palestine				Jan. 23-Feb. 19, 1923: Cases, 8. Northern district.
Persia:				
Teheran	Oct. 24-Nov. 24		36	
Peru:				
Callao	Nov. 1-15	2		
Lima (city)	Dec. 1-15	3	1	
Lima (country)	Nov. 1-15	2	1	
Poland				Oct. 1-Dec. 2, 1922: Cases, 103; deaths, 24.
Portugal:				
Lisbon	Nov. 19-Dec. 30	143	34	
Do	Dec. 31-Feb. 24	135	73	Dec. 25-31, 1922: Deaths, 12.
Oporto	Oct. 15-Dec. 30	24	12	
Do	Dec. 31-Feb. 24	15	8	Jan. 5-20, 1923: Cases, 22; deaths, 6.
Portuguese West Africa:				
Angola—				
Loanda	Oct. 27-Nov. 11		10	
Russia:				
Province—				
Ukraine				Jan.-Sept., 1922: Cases, 8,744.
Spain:				
Corunna	Nov. 26-Dec. 2		1	
Huelva	Nov. 24-Dec. 31		4	
Madrid	Dec. 1-31		1	
Do	Jan. 1-31		1	
Seville	Nov. 27-Dec. 31		32	
Do	Jan. 1-Feb. 25		15	
Valencia	Nov. 26-Dec. 23	3		
Do	Dec. 31-Feb. 24	18	1	
Switzerland:				
Berne	Nov. 19-Dec. 30	85		
Do	Dec. 31-Feb. 24	133		
Lucerne	Jan. 1-31	6		
Zurich	Nov. 19-Dec. 30	19		
Do	Jan. 14-Feb. 24	6		
Syria:				
Aleppo	Nov. 19-Dec. 23	38	20	Dec. 3-30, 1922: Present.
Do	Dec. 31-Feb. 17	20	5	Jan. 28-Feb. 3, 1922: Present.
Beirut	Dec. 11-20	1		
Damascus	Nov. 1-Dec. 31	97	16	
Do	Jan. 1-20	17		
Tunis:				
Tunis	Dec. 1-22	2	1	
Do	Jan. 22-Feb. 4	1	1	
Turkey:				
Constantinople	Nov. 19-Dec. 16	122	34	
Do	Dec. 31-Feb. 10	334	120	
Union of South Africa				Oct. 1-Dec. 31, 1922: Cases—Colored, 64; deaths, 1; white, cases 4.
Cape Province				Oct. 1-Dec. 31, 1922: Cases—Colored, 48; deaths, 1; white, 4 cases.
Do	Dec. 31-Jan. 27			Outbreaks.
East London	Jan. 7-13	2		
Natal				Dec. 1-31, 1922: Cases, 6 (colored).
Orange Free State				Dec. 1-31, 1922: Cases, 2 (colored).
Do	Jan. 14-20			Outbreaks.
Southern Rhodesia	Nov. 9-15	3		
Transvaal				Oct. 1-Dec. 31, 1922: Cases, 10.
Do	Dec. 31-Jan. 6			Outbreaks.
Johannesburg	Nov. 1-30		1	
Yugoslavia				Aug. 1-31, 1922: Cases, 30; deaths, 12.
Serbia				Aug. 1-31, 1922: Cases, 26.
Belgrade	Nov. 12-Dec. 31	10	4	
On vessel:				
S. S. Huntress	Nov. 11	1		At Fremantle, Australia; from Cape Town, South Africa.
S. S. Junin	Jan. 13	1		At Antofagasta, Chile. Vessel proceeded to Arica, Chile, with patient on board.
S. S. ———	Dec. 17-23	1		At Liverpool.

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

Reports Received from December 30, 1922, to March 30, 1923—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers	Nov. 11-Dec. 31	2	1	
Do	Jan. 1-31	7	2	
Oran	Jan. 11-20	1	1	
Brazil:				
Pernambuco	Dec. 3-9	2	2	
Porto Alegre	Nov. 19-Dec. 16	3		
Chile:				
Antofagasta	Nov. 12-Dec. 30	24	5	Nov. 11-Dec. 5, 1922: Cases, 10; deaths, 2. Quarantine station; October, 1922—one fatal case, on vessel from Valparaiso; November, 1922—cases, 7; December, 1922—cases, 9; remaining, Dec. 31, 3 cases.
Do	Dec. 31-Jan. 6	2	1	
Concepcion	Oct. 17-Dec. 18		9	
Do	Dec. 26-Jan. 15		7	
Iquique	Jan. 14-20		1	
Talcahuano	Nov. 12-Dec. 23	10	6	
Do	Jan. 7-Feb. 11	5	2	
Valparaiso	Dec. 3-30		9	
Do	Dec. 31-Feb. 10		23	Daily hospital average, 25 cases.
China:				
Antung	Nov. 13-Dec. 10	7		
Manchuria—				
Harbin	Nov. 20-26	7		
Do	Jan. 1-28	4		
Cuba:				
Matanzas	Dec. 25-31	1	1	
Czechoslovakia:				
City—				
Prague	Nov. 19-25	1		
Province—				
Bohemia	Nov. 1-30	1		
Ruthenia	Oct. 1-Dec. 31	25		
Slovakia	Nov. 1-30	2		
Danzig (Free City)	Jan. 7-13	1		
Egypt:				
Alexandria	Nov. 19-Dec. 31	2	1	
Do	Jan. 22-28	1		
Cairo	Oct. 1-Dec. 31	19	9	
Esthonia				Oct. 1-Dec. 31, 1922: Cases, 6.
Libau	Dec. 24-30	1		Recurrent typhus: Cases, 10. Year 1922: Cases, 159; recurrent typhus, 91 cases.
Narva				Year 1922: Cases, 140; recurrent typhus cases, 83.
Germany:				
Berlin	Nov. 26-Dec. 2		1	
Coblenz	Dec. 10-16	1		
Dresden	do	1		
Great Britain:				
Glasgow	Jan. 7-Feb. 17	4	1	
Greece:				
Corfu Island	Feb. 8			Present.
Leucadia	Jan. 17			Do.
Patras	Nov. 19-25		1	
Do	Jan. 1-7	3	1	
Piræus	Feb. 8			Do.
Prevesa	Jan. 1-7			Do.
Saloniki	Dec. 18-24	3		Among refugees.
Do	Jan. 7-28	16	3	Refugees.
Zante	Jan. 17			Present.
Guatemala:				
Guatemala City	Jan. 1-31		1	
Hungary:				
Budapest	Jan. 14-Feb. 17	8	3	
Ireland:				
Belmullet	June 15-Dec. 14	20		In county Mayo.
Latvia				Oct. 1-Dec. 31, 1922: Cases, 74. Recurrent typhus, cases, 10.
Mexico:				
Mexico City	Nov. 12-Dec. 30	90		Including municipalities in Federal District.
Do	Dec. 31-Feb. 17	81		Do.
San Luis Potosi	Jan. 28-Feb. 10		2	
Palestine				Dec. 5-25, 1922: Cases, 3; in northern section.
Jaffa	Dec. 12-18	2		
Do	Jan. 16-Feb. 26	4		
Jerusalem	Dec. 26-Jan. 1	1		
Paraguay:				
Asuncion	Jan. 1-27		1	

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

Reports Received from December 30, 1922, to March 30, 1923—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Persia:				
Teheran	Sept. 24-Nov. 24		3	
Poland				Oct. 1-Dec. 2, 1922: Cases, 1,415; deaths, 101. Recurrent typhus: Cases, 1,583; deaths, 45.
Portugal:				
Oporto	Oct. 15-Dec. 2	1	1	
Rumania:				
Bucharest				To Jan. 21, 1923: Cases, 96; deaths, 13.
Chisinau	Nov. 1-30	5		
Russia				July 30-Sept. 23, 1922: Cases, 23,803.
Ukraine	Jan.-Sept	307,329		Provisional figures.
Ukraine, Tartar Republic, and Siberia.	June 1-30	35,926		
Do	July 1-31	17,262		Do.
Do	Aug. 1-31	6,864		Do.
Do	Sept. 1-30	2,388		Do.
Siberia:				
Vladivostok	Nov. 1-Dec. 31	5		Recurrent typhus, cases, 4.
Spain:				
Barcelona	Nov. 30-Dec. 27		3	
Do	Jan. 11-17		1	
Madrid	Dec. 1-31		1	
Syria:				
Aleppo	Dec. 10-16	1	1	
Do	Jan. 7-Feb. 17	37	9	Generally among refugees.
Beirut	Oct. 1-22	1		
Turkey:				
Constantinople	Nov. 27-Dec. 2	3		
Do	Dec. 31-Feb. 10	44	4	Mar. 6, 1923: Present.
Union of South Africa				Oct. 1-Dec. 31, 1922: Colored—cases,3,097; deaths,298; white—cases, 11; deaths, 2.
Cape Province				Oct. 1-Dec. 31, 1922: Colored—cases,2,799; deaths,250; white—cases, 6; deaths, 1.
Do	Dec. 31-Jan. 27			Outbreaks.
Port Elizabeth	Jan. 28-Feb. 3	1		
Natal				Oct. 1-Dec. 31, 1922: Colored—cases, 113; deaths, 32; white—cases, 2.
Orange Free State				Oct. 1-Dec. 31, 1922: Colored—cases, 91; deaths, 8; white—cases, 3; deaths, 1.
Do	Jan. 7-27			Outbreaks.
Transvaal				Oct. 1-Dec. 31, 1922: Colored—cases, 61; deaths, 8.
Do	Jan. 14-20			Outbreaks.
Johannesburg	Nov. 1-30	3	6	
Venezuela:				
Maracaibo	Jan. 21-27		1	
Yugoslavia:				
Bosnia-Herzegovina	Aug. 1-31	1		
Serbia				Aug. 1-31, 1922: Recurrent typhus fever, cases, 4.

YELLOW FEVER.

Brazil:				
Bahia	Dec. 31-Feb. 10	31	7	
Mexico:				
Ciudad Victoria	Dec. 17-23	1		
West Africa:				
Gold Coast—				
Saltpond				Reported present Dec. 21, 1922.
Nigeria—				
Warrai				Do.

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