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THE ABUSIVE USE OF NARCOTIC DRUGS IN EGYPT *

A REVIEW

By W. L. TREADWAY, *Assistant Surgeon General, Narcotics Division, United States Public Health Service*

Two articles on the abusive use of narcotic drugs in Egypt appear in the printed proceedings of the International Congress of Tropical Medicine and Hygiene, held in Cairo, Egypt, in December, 1928. Both articles contain information of value as reflecting the relationship of the abusive use of narcotic drugs to the general health. They also contain certain epidemiological data dealing with this subject which may be of interest to the public health official. The first article is entitled "Investigations of Narcotics in Egypt," by Dr. Abdel Wahab Mahmud, S. O. O., Cairo Central Prison. The second article is entitled "Heroin Habit in Egypt as Seen in Prisoners," by Aly Hassan El Ramly.

The article by Dr. Abdel Wahab Mahmud has to do with a group of narcotic drug addicts coming within the purview of the official responsible for the health of the inmates of the Cairo Central Prison. He divides the use of narcotics in Egypt into two periods—before and after the World War. The advent of the World War seems to have modified or altered the use of narcotic drugs in Egypt. Previous to 1914 the smoking of hasheesh or cannabis indica, and of opium, was fairly widespread among the middle and working classes. Both of these substances were smoked when mixed with tobacco or both were masticated into a paste with other substances. Manual laborers were accustomed to taking small doses of opium as a stimulant and as a sedative in the evening. It was used as a home remedy for the relief of pain and as a general narcotic.

During and subsequent to the World War the use of narcotic drugs was characterized by a much more extensive use of morphine and cocaine, these drugs replacing the smoking or eating of opium and hasheesh. The use of morphine, heroin, and cocaine spread, not only among the very poor, but among the very rich also. The use of these drugs was enhanced by the financial prosperity following the war and the great growth of the illicit traffic in these drugs stimulated by the enormous profits to be had. The article points out that there

* Tome II, Cairo National Press, 1929. "International Congress of Tropical Medicine and Hygiene," Cairo, Egypt, December, 1928.

has been a decrease in the number of cocaine addicts within recent years and a substitution of heroin for cocaine. This is due to the difference in price, cocaine being much more expensive than heroin.

Of the 1,000 addicts admitted to the Cairo Central Prison in 1928, 64.9 per cent were between 20 and 30 years of age; 25 per cent were between 31 and 45 years of age; and 9.7 per cent were between 46 and 60 years of age. In 1927, 57 per cent were between 20 and 30 years of age; 35 per cent were between 31 and 45 years of age; and 7 per cent were between 46 and 60 years of age. This age distribution indicates that a greater proportion of young addicts were coming within the purview of prison officials in 1928 than in 1927.

The drugs of preference among the addicts admitted to the prison were as follows: Heroin was preferred by 65 per cent of the addicts; cocaine by 3½ per cent; and hasheesh by 10.2 per cent. Heroin was a very popular drug among women addicts, it being preferred by 83 per cent of the women under care. Some of the reasons given for preferring heroin were that it does not cause insomnia; small doses are sufficient to give the maximum effect; it is easily accessible; it is less costly than cocaine; and it is more quickly efficacious. Moreover, the effects of heroin were preferable to those of hasheesh, cocaine, or morphine.

The reasons given for acquiring opium addiction by the several addicts under observation include relief from worry incurred by hard work; relief from the hasheesh habit; relief from pain and the production of sleep; imitation of elder brothers; and an increasing possibility for the greater consumption of alcoholic beverages. In some instances married women attributed their addiction to the compulsion of their husbands and others became addicted while trafficking in the drug.

The article points out that a variety of alleged cures for drug addiction have appeared in Egypt in recent years. Practically all of these cures contain a proportion of narcotic drugs. In the treatment of the condition a gradual reduction method was used for all varieties of addiction. The article proposes a program for the control of narcotics, which, briefly, includes the following:

(1) More stringent antinarcotic laws.
(2) Widespread and intensive educational program, including the use of moving pictures.
(3) Greater vigilance and supervision on the part of customs and coast guard authorities to prevent smuggling.
(4) An increase in the number of inspectors and greater regulation of the medical profession in prescribing opium.
(5) The prohibition of the access of heroin to the country.
(6) Development of a special corps of police for antinarcotic work.
(7) The establishment of sanatoria and homes for addicts.

The article by Aly Hassan El Ramly dealing with the heroin habit in Egypt as seen in prisoners, points out that before and during the

first two years of the war cocaine was used by a very limited number of spoiled, rich young men in Egypt. By the end of the war the cocaine habit had spread amongst all classes, and especially among the working classes. Until 1920, cocaine was the drug most prevalently used, and heroin was used only by a very limited number of people. Since the latter year, however, the use of heroin has become more widespread and has been met with an enthusiastic reception by former cocaine addicts.

Of the 1,000 addicts coming within the purview of this study, only 5 used cocaine alone, while 43 used a mixture of cocaine and heroin. In Egypt the heroin addict first used the drug either in powder or watery solution, it being administered by sniffing. Subsequently, addicts became dissatisfied with the effects obtained by this method of administration and adopted the subcutaneous method, but finally resorted to the intravenous method of administration. The statistical data presented in the article indicate that since 1925 an increased proportion of heroin addicts were adopting the intravenous method of administration in lieu of the subcutaneous route.

In many instances the use of cocaine was adopted in connection with or associated with the use of alcoholic beverages. The general opinion appears to prevail among the addicts observed that greater quantities of alcoholic beverages could be consumed with the synchronous taking of cocaine.

Of 3,000 addicts observed, only 90 were women. In 73 per cent the ages were between 20 and 30 years; in 15 per cent, between 30 and 40 years; in 3 per cent, between 40 and 50 years; and in 9 per cent, between the ages of 15 and 20 years. Of all the heroin addicts observed, 26 per cent used in addition thereto other forms of opium, hasheesh, cocaine, and alcohol. Excessive use of alcohol seems to be an important complicating factor in heroin addiction in Egypt. In many instances, however, the heroin addict did not use alcohol unless it was associated with the use of cocaine.

ACUTE RESPONSE OF GUINEA PIGS TO VAPORS OF SOME NEW COMMERCIAL ORGANIC COMPOUNDS

II—ETHYL BENZENE[1]

By W. P. YANT, *Supervising Chemist*, H. H. SCHRENK, *Associate Toxicologist*, C. P. WAITE, *Assistant Surgeon*,[2] and F. A. PATTY, *Assistant Physiological Chemist, Health Laboratory Section, Bureau of Mines Experiment Station, Pittsburgh, Pa.*

This report on the acute response of guinea pigs to ethyl benzene vapors is the second of a series of similar reports which deal with studies pertinent to evaluating the hazards involved in exposure

[1] Published by permission of the director, U. S. Bureau of Mines.

[2] Assistant surgeon, U. S. Public Health Service, detailed to the Bureau of Mines.

to some chemical products which have recently reached, or promise to reach, important domestic and industrial use. The investigation was undertaken at the request of the Carbide and Carbon Chemicals Corporation, and was conducted jointly with the United States Bureau of Mines at its Pittsburgh Experiment Station. The first report of the series dealt with exposure to ethylene dichloride vapors.[3]

PRESENT USE OF ETHYL BENZENE

The following are the principal present-day uses or contemplated uses of ethyl benzene. Antiknock, especially for airplane fuel; small use as a lacquer diluent; synthesis of styrols for the styrol type of resins; general solvent, especially for paraffin waxes; and for "spotting" in the making of cellulose acetate silks.

SCOPE OF WORK

The scope of work included a study of the toxicity of ethyl benzene and the physiological response to its vapors as determined by exposure of guinea pigs. Only the acute effects as produced by a single exposure were studied. The experiments were planned to give information relative to the concentrations and periods of exposure which produce but slight response, moderate response, and serious response.

DESCRIPTION OF MATERIAL USED FOR TESTS

Ethyl benzene, $C_6H_5C_2H_5$, is a colorless liquid which possesses a pungent odor and is irritating to the eyes and mucous membranes. The boiling point of the pure compound is 136.5° C. at 776.7 mm. Hg.; specific gravity, 0.868 at 20/4; vapor pressure, 15.3 mm. Hg. at 20° C. It is stable and resistant to hydrolysis. The vapor is nearly four times heavier than air.

The material used in the tests described in this report was a commercial product which had the following properties:

Boiling range, 95 per cent between 135.2° and 136.5° C.; specific gravity, 0.8599 at 25/15; and flash point, 23.3° C.

From a consideration of the manufacturing process, the only apparent impurities are benzol (B. P. 79.6° C.) and diethyl benzene (B. P. 182° to 184.5° C.) the boiling points of which differ widely from ethyl benzene.

TEST APPARATUS, TEST PROCEDURE, AND DESCRIPTION AND CARE OF ANIMALS

The test apparatus, test procedure, and description and care of animals, were the same as described in the report (cited) dealing with ethylene dichloride, to which the reader is referred. The composition

[3] Sayers, R. R., Yant, W. P., Waite, C. P., and Patty, F. A.; Acute response of guinea pigs to vapors of some new commercial organic compounds. I. Ethylene dichloride. Pub. Health Rep., vol. 45, No. 5, Jan. 31, 1930, pp. 225-239. (Reprint No. 1349.)

of the atmosphere was determined by calculation from the quantity of material used and was checked by absorption in air-equilibrated activated charcoal and by determining the gain in weight for absorption from a measured volume of the vapor-air mixture.

RESULTS OF TESTS

The detailed test data are too voluminous to be presented in this report; accordingly, only the summarized results pertinent to symptoms, gross pathology, and fatality are given. Specimens of tissue were taken for microscopic examination, a report of which will be made later.

SYMPTOMS OF ANIMALS

Control animals.—No symptoms or death occurred in the control animals, which numbered approximately one-third the number of animals exposed to vapor.

Exposed animals.—Concentrations of 0.5 and 1 per cent of ethyl benzene vapor in air produced immediate intense irritation to the conjunctiva and nasal mucous membrane, as evidenced by squinting of the eyes and lacrimation and by rubbing and scratching at the nose with the forepaws. Further symptoms noted in their order of occurrence were as follows: Unsteadiness and staggering on attempting to move about; apparent unconsciousness; intermittent tremors and twitching of the extremities, which at first were severe and constant, and later became less frequent and weaker; and changes in the respiration. A concentration of 0.2 per cent ethyl benzene produced moderate eye and nasal irritation in one minute. An apparent vertigo was observed in all pigs at the end of 390 minutes, and static and motor ataxia was observed in 480 minutes. Apparent unconsciousness occurred in only one pig, at the end of 345 minutes. In 3 minutes 0.1 per cent concentration caused only a slight nasal irritation, and in 8 minutes a slight lacrimation; both disappeared at the end of 30 minutes. No further symptoms were observed during the exposure of 480 minutes.

In the animals exposed to 0.5 per cent vapor the respiration remained apparently normal until after unconsciousness occurred, when it became shallow. Toward the end of the test it was difficult to determine whether breathing was present or not. Animals exposed to 1 per cent vapor-air mixture developed a rapid, jerky type of respiration very soon after unconsciousness occurred, which later became shallow and gradually slowing in rate until a very slow gasping type of respiration developed.

Table 1 gives the average time required to produce the symptoms observed, using 0.1, 0.2, 0.5, and 1 per cent by volume of vapor in air.

TABLE 1.—*Symptoms produced in guinea pigs during exposure to ethyl benzene vapor*

Type of symptom	Minutes of exposure causing symptoms at given per cent concentration of vapor			
	0.1 per cent	0.2 per cent	0.5 per cent	1 per cent
1. Eye irritation—squinting and lacrimation	8	1	1	1
2. Nasal irritation—rubbing nose	3	1	1	1
3. Vertigo—unsteadiness	(1)	[2] 390	26	4–10
4. Static and motor ataxia	(1)	480	30	4–10
5. Apparent unconsciousness	(1)	(1)	160	18
6. Tremors of extremities	(1)	(1)	178	5–18
7. Rapid jerky respiration	(1)	(1)	(1)	21
8. Shallow respiration	(1)	(1)	215	57
9. Very slow gasping type of respiration	(1)	(1)	(1)	260

[1] Not observed.
[2] 1 pig unsteady in 270 minutes; same pig unconscious at 345 minutes; tremors at 480 minutes.

SYMPTOMS EXPERIENCED BY MEN

Six men upon breathing 0.1 per cent vapor in air found the atmosphere very irritating to the eyes, producing a sensation of smarting and burning, accompanied by profuse lacrimation. This irritation gradually decreased on continued exposure until, after a minute or two, it was scarcely noticeable. Two men upon leaving and returning to the chamber noticed no eye irritation. It was the opinion of the observers that this atmosphere could be tolerated after the first few minutes. The same six observers found 0.2 per cent vapor almost intolerable on first entering the chamber, although it became less irritating upon continued exposure. One observer stayed in the atmosphere five minutes and found that the irritation to the eyes and throat gradually disappeared, but a vertigo developed. Exposure to 0.2 per cent was accompanied by throat irritation and a feeling of constriction of the chest. Four observers exposed six minutes while a concentration of 0.2 per cent vapor was being "built up" noticed a moderate nasal irritation and a moderate to strong eye irritation. All complained of dizziness upon leaving the atmosphere. Three observers upon entering a 0.5 per cent mixture of ethyl benzene with air found the atmosphere intolerable, being extremely irritating to the eyes, nose, and throat.

It was the opinion of the men exposed to the vapors of ethyl benzene that a 0.2 per cent concentration of vapor would give ample warning and would not be tolerated; and that 0.5 per cent would have sufficient irritating properties to render working in this atmosphere impossible.

GROSS PATHOLOGY

Control animals.—A total of 18 control guinea pigs were killed for autopsy. These animals were taken from the same stock and were selected in the same manner as were the groups of animals used for exposure to ethyl benzene vapor-air mixtures. No significant gross pathology was found in the control animals.

Exposed animals.—The gross pathological findings in animals that died from exposure to ethyl benzene vapors were an intense cerebral congestion, congestion and edema of the lungs, with signs of passive congestion throughout the abdominal viscera. The blood appeared much darker in color than normal and gave a cyanotic hue to all the organs.

The cerebral congestion was manifested by an intense injection and dilatation of the vessels. This injection was of both arteries and veins, including the finest radicles covering the surface of the

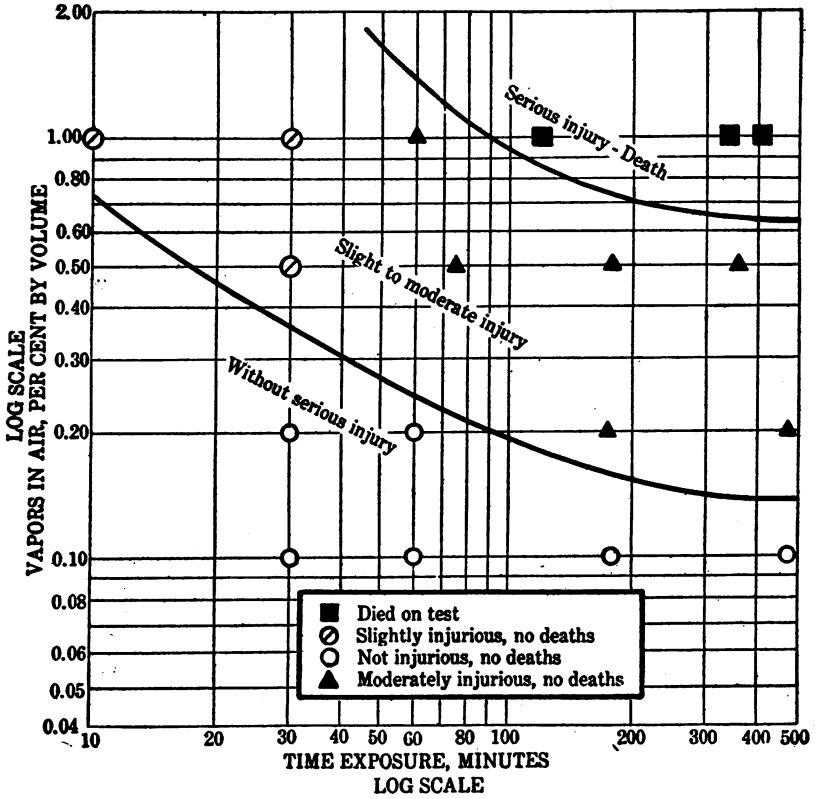

FIGURE 1.—Acute effects of exposure of guinea pigs to ethyl benzene vapor in air

brain. This picture was in marked contrast to the normal appearance of the surface of the cerebrum of the control guinea pigs, over which ordinarily only a few vessels are discernible.

The lungs were voluminous, deep pink to dark red in color, and bled freely on cut sections. A frothy exudate was expressible from the bronchioles and air sacs.

The abdominal viscera were normal in appearance with the exception of the cyanotic hue referred to previously and the fact that they appeared to bleed more freely than normally. The mesenteric vessels were apparently congested and dilated, standing out rather prominently on inspection of the abdomen.

The findings in the animals killed 4 days after exposure to a concentration that caused death to 2 members of the group (2 hours in 1 per cent) showed a persistence of the lung lesion with an apparent clearing up of the cerebral congestion. The remaining two animals of this group were killed seven days after exposure and were found to be negative for pathology.

The findings in the animals killed immediately after exposure to conditions that did not cause death (see fig. 1) but which caused some pathology (classified as moderate), were similar in type but milder in degree than the findings in the animals that died as a result of exposure to more severe conditions. The animals of those groups which were killed in four to eight days were apparently negative for any pathology except in three individuals. This shows an early clearing up of the lesions noted in those killed immediately after test. The exceptions occurred in groups which were exposed to 1 per cent for 2 hours and 0.2 per cent for three hours and 8 hours. Those pigs which were killed four days following exposure showed an atelectasis and emphysema of the lungs.

The groups exposed to conditions that produced only slight injury (a mild degree of same lesions previously described) did not show gross pathology four and eight days after exposure.

DISCUSSION OF PATHOLOGY

Gross pathological examination indicates that exposure to ethyl benzene causes damage to the central nervous system and to the lungs. The degree of damage increases with the severity of exposure. The change in the appearance of the vascular condition of the brain is marked and is a constant finding in the pigs that died on test or as a result of exposure. Hyperemia was found in all the groups that exhibited nervous symptoms (tremors, unsteadiness, etc.), and its extent apparently appeared to be related directly to the severity of the nervous phenomena. The hyperemia was not noted in the animals that were autopsied four and eight days after exposure, showing it to be not a permanent change but a temporary adjustment occurring during exposure.

Ethyl benzene is apparently capable of irritating the lungs to the point of producing a rather marked congestion and edema. In the cases of animals which did not die on test or soon after test, there was not much evidence that the lung irritation was severe enough to produce permanent injury. In only three instances were there any changes in the lungs after an interval of four days following exposure, and after eight days no animals showed resultant damage.

SUMMARY OF FATALITY AND RESPONSE

The fatality and summary of the response of guinea pigs exposed to ethyl benzene vapor in air during these tests are shown graphically

in Figure 1. The results for each group of animals are designated by a symbol which represents one of four different degrees of severity. With few exceptions the selected symbol describes the results obtained for at least half the individual animals, and in most cases it describes the results for the majority or all of the group (at least three and usually six animals) exposed to a given condition.

It should be noted that a logarithmic scale has been used for both the abscissæ and the ordinate of the graph. This mode of representation appeared desirable in view of the nature of the data and the significance of the results within certain ranges of conditions; for example, with long exposures a change in composition is of more importance than exact periods of exposure, whereas with short exposures it is desired to lay more emphasis on the time than on small changes in the composition of the atmosphere.

As noted from the legend for Figure 1, the four degrees of response are as follows:

1. Died on test.
2. Moderately injurious, no deaths.
3. Slightly injurious, no deaths.
4. Not injurious, no deaths.

In previous work,[4] additional degrees of response were employed for a similar representation, as (*a*) "majority died in 24 hours after exposure"; (*b*) "majority died in one to eight days"; and (*c*) "moderate injury, few deaths." These additional degrees were not necessary in describing the work with ethyl benzene, because with only one exception the animals either died during the test or recovered afterwards.

In addition to representing the response of each group by symbols, the latter have been separated into three general zones of probable response, namely:

1. Serious injury, death.
2. Slight to moderate injury.
3. Without serious injury.

The nomenclature for these zones also deviates from those used in the report of the work with ethylene dichloride,[5] the reason for the deviation being the same as that given for degrees of response or injury.

Several degrees of response that may be used for making comparison with data for other compounds which appear in the literature,[6,7,8,9]

[4] See footnote 3.
[5] See footnote 3.
[6] Sayers, R. R., Yant, W. P., Thomas, B. G. H., and Berger, L. B.: Physiological response attending exposure to vapors of methyl bromide, methyl chloride, ethyl bromide, and ethyl chloride. Pub. Health Bull. No. 185 (1929), 56 pp.
[7] International Critical Tables, first edition, (1927) vol. 2, p. 318. Also see errata sheet, vol. 2.
[8] Henderson, Yandell, and Haggard, Howard W.: Noxious gases. American Chemical Society Monograph No. 35, 1927. Chemical Catalogue Co., New York.
[9] Fieldner, A. C., Katz, S. H., and Kinney, S. P.: Gas masks for gases met in fighting fires. U. S Bureau of Mines Tech. Paper 248, 1921, 56 pp.

are given in Table 2. The table also includes symptoms accompanying the particular condition of exposure.

TABLE 2.—*Acute effects of exposure of guinea pigs to ethyl benzene vapor*

Effects of exposure after various periods of time	Concentration, per cent by volume
Kills in a few minutes	(1)
Marked symptoms in a few minutes, as vertigo, ataxia, unconsciousness	1.0
Dangerous to life in 30 to 60 minutes	1.0
Marked symptoms in 30 to 60 minutes, such as vertigo and unsteadiness	0.30.5
Maximum amount for 60 minutes without serious disturbances leading to death	.7
Maximum amount for 60 minutes without serious symptoms	.3
Slight symptoms after several hours or maximum amount without serious disturbances	.10.2

[1] Not attained with air saturated with ethyl benzene at 20° C. In this work it was difficult to obtain concentrations above 1 per cent when working at 20° to 23° C.

RELATION OF SYMPTOMS TO FATALITY FOLLOWING EXPOSURE

There appeared to be no relation between the severity of symptoms and occurrence of death following exposure. Only one animal died after terminating exposure, and in this exceptional case death occurred in a few minutes following the test. Another animal of this same group of six died a few minutes before the termination, but the remaining four recovered and were killed in groups of two at the end of four and eight days, respectively. This does not indicate, however, that no damage existed in many of the pigs at the time of terminating the exposure. Many of those killed for autopsy immediately following test showed irritation of the lungs and congestion of the brain, but examination of other animals of the same groups made four to eight days later either showed a less degree of damage or were negative.

GENERAL DISCUSSION OF HEALTH HAZARDS AND WARNING PROPERTIES

A comparison of the results obtained for ethyl benzene with those reported in the literature for other common compounds (cited) indicates that the concentrations producing acute response are slightly less than those of gasoline and benzene when dealing with high concentrations (those causing death in a few minutes), and similar to those of gasoline and benzene in moderate and low concentrations. In the comparison with benzene, consideration is given to acute poisoning and not to chronic poisoning.

The potential health hazards from exposure to ethyl benzene are, however, lessened by its low vapor pressure at ordinary room temperatures. From vapor-pressure measurements it may be calculated that air saturated at room temperature will contain only 2 per cent ethyl benzene vapor by volume. In the experimental work described

in this report it was difficult to attain concentrations above 1 per cent, even when the air in a gas-tight chamber was recirculated for several hours over large surfaces wet with liquid ethyl benzene.

Health hazards from ethyl benzene are also mitigated by the warning it gives by irritation of the eyes, nose, and throat, and by warning symptoms, such as vertigo. These occur with conditions of exposure below those causing harm. Concentrations of vapor which cause injury in 30 to 60 minutes or less are intolerable to breathe.

It should be mentioned in connection with the discussion of warning properties that the action of low concentrations of ethyl benzene vapor differs to some extent from the action of low concentrations of the common irritants such as crotonaldehyde, allyl alcohol, acrolein, and others. The irritation produced by the latter compounds increases in severity with continued exposure, whereas the irritation produced by low concentrations of ethyl benzene decreases in perceptible severity with continued exposure. In this respect it acts similarly to odorants. The decrease in perceptible odor intensity of substances is attributed to olfactory fatigue or paralysis. The decrease in perceptible irritation produced by ethyl benzene may be due to local anæsthetic action.

SUMMARY AND CONCLUSIONS

The acute physiological response of guinea pigs to air containing ethyl benzene vapor was determined. The concentration of vapor and periods of exposure ranged from those which produced death to those which caused no apparent effect after several hours' exposure. The symptoms, gross pathology, and fatality are given, with a discussion of the potential health hazards.

(1) In the order of occurrence, the symptoms observed were eye and nose irritation, and apparent vertigo, static and motor ataxia, apparent unconsciousness, tremor of extremities, rapid jerky respiration, then shallow respiration, and finally slow, gasping respiration, followed by death. Exposure to 1 per cent caused all these symptoms and death in from two to three hours; 0.5 per cent caused all the symptoms up to and including tremor of extremities, but not respiratory disturbances and death during or after exposure of eight hours; 0.2 per cent caused all the symptoms up to and including ataxia in eight hours; 0.1 per cent did not cause symptoms other than eye irritation during eight hours.

(2) The gross pathological findings were congestion of the brain and congestion and edema of the lungs. These were most severe for the exposures to 1 per cent concentration of vapor until death ensued. A more moderate degree of the same type of pathology was found in the animals killed for autopsy immediately after exposure to 0.5 per cent and to a less degree after exposure to 0.2 per cent. Gross pathology was not found in animals exposed to 0.1 per cent for eight hours.

The degree of pathological changes increased in severity with increase in period of exposure to a given concentration of vapor. The pathology, however, decreased in severity during the 4-day period of observation following exposure and was absent in most cases after eight days.

(3) From the standpoint of acute poisoning, as produced by a single exposure, the relative toxicity of ethyl benzene appears to be slightly less than that of gasoline and benzene in the range of high concentrations, and practically the same as that of gasoline and benzene in moderate and low concentrations.

(4) Ethyl benzene vapors are irritating to the eyes and upper respiratory passages in concentrations below those causing serious response. Also, other warning symptoms, such as vertigo, occur in advance of serious response from a single exposure.

(5) The relatively low vapor pressure of ethyl benzene mitigates health hazards. Saturated air at 20° C. contains less than 2 per cent vapor.

(6) It was not possible at room temperatures to attain a concentration high enough to kill guinea pigs in a short time. Exposure of from 30 to 60 minutes to 1 per cent by volume produces marked symptoms and is dangerous to life following exposure; 0.7 per cent is the maximum amount for 60 minutes' exposure without the occurrence of death, and 0.3 per cent the maximum for 60 minutes without serious symptoms; 0.1 to 0.2 per cent is the maximum concentration for a single exposure of several hours.

ACKNOWLEDGMENTS

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OCCUPATIONAL MORTALITY AS INDICATED IN LIFE-INSURANCE RECORDS FOR THE YEARS 1915-1926

By ROLLO H. BRITTEN, *Associate Statistician, Office of Industrial Hygiene and Sanitation, United States Public Health Service*

So important is a recent investigation into occupational mortality in this country [1] that a special analysis of the published report has been made from the point of view of the industrial hygienist, and the results are given in this paper. The original investigation was made

[1] Joint Occupation Study: 1928. Compiled and published by the Actuarial Society of America and the Association of Life Insurance Medical Directors. New York: 1929. (Chairman of Joint Committee, Arthur Hunter, to whom grateful acknowledgment is made for review of the present paper.)

jointly by the Actuarial Society of America and the Association of Life Insurance Medical Directors, and the occupational data involved 1,300,000 entrants and 22,600 deaths, during the years 1915–1926, for 12 insurance companies. For certain occupations where the only known hazard was that of accident, the data were limited to the years 1920–1926. Since policies issued only during these periods were considered, it is evident that the cumulative effect of industrial hazards is more or less lost, and that the chief value of the material for the industrial hygienist will lie in its accurate picture of the accident hazard in specific occupations and in its measure of the effect of economic and social differences upon occupational mortality.

The paucity of data in regard to occupational mortality in this country makes this report of unique interest; but it also has a valuable advantage over official mortality data by occupation, in that the information as to the number exposed to risk and the number of deaths is based on the same source, namely, the individual policy. As is well known, the fundamental weakness of official occupational mortality data lies in the fact that the information as to the population depends on the occupational census and the information as to the deaths on the death certificates (with the doctor's statement as to occupation). In life-insurance data the deaths are checked off against the original policies. We know that, at the time of issuance of the policy, the man was employed in the occupation to which his death is actually assigned. Change of occupation will still offer a difficulty, but in view of the relatively short period covered in this study, this does not appear to be a particularly disturbing factor. In connection with this point it should be noted that when an individual transferred from one occupation to another, the exposure was terminated upon reduction in the rating either from a substandard to a standard policy or from a higher to a lower extra premium for hazardous occupation. Thus, generally speaking, there will not be in these data any great tendency to ascribe to a given occupation deaths actually due to the hazards of another occupation.

No policies were in operation for more than 12 years for the 1915–1926 data, or for more than 7 years for the 1920–1926 data. Of course, in many cases the workers had been employed for much longer periods in the specified occupations, but it is known that they were able to pass the usual life-insurance physical examination sometime during the period covered by the study. Therefore, one will not expect the data to be comparable with official mortality rates according to occupation, which reflect long exposure to specific industrial hazards. In connection with this point it is well to quote the following statement from the joint report:

> Previous investigations in this subject have led actuaries to expect at least two distinct types of extra mortality—one with a fairly constant extra during the working years of life, and the other with increasing additional cost to middle life

or beyond. Locomotive firemen exemplify the first and saloon keepers the second type. In each of these classes the mortality ratio is affected by the duration of the experience. A less usual type is that where the extra mortality decreases with duration. In the present investigation the average duration is distinctly shorter than the average life of a policy on the books of the companies. Accordingly, for the first type of hazard, like locomotive firemen, those years are emphasized in which accidents are heaviest as a percentage of the mortality, and the ratios of actual to expected mortality are too high. For the second type, like saloon keepers, the emphasis is placed upon the period of lowest extra cost, and their ratios are understated in an experience of short duration.

The fact that all persons considered had passed life-insurance physical examinations is, of course, a point of great importance that the reader will not overlook.

The method of study limited the value of the material from the point of view of age, as data as to specific causes were secured for only two broad age groups, 15 to 39, 40 and over. For all causes, however, it has been possible to adjust the rates on the basis of a 5-year age group. The ages used in the report are those at time of issuance of the policy; but except for certain specific points this proved not to be an important factor.

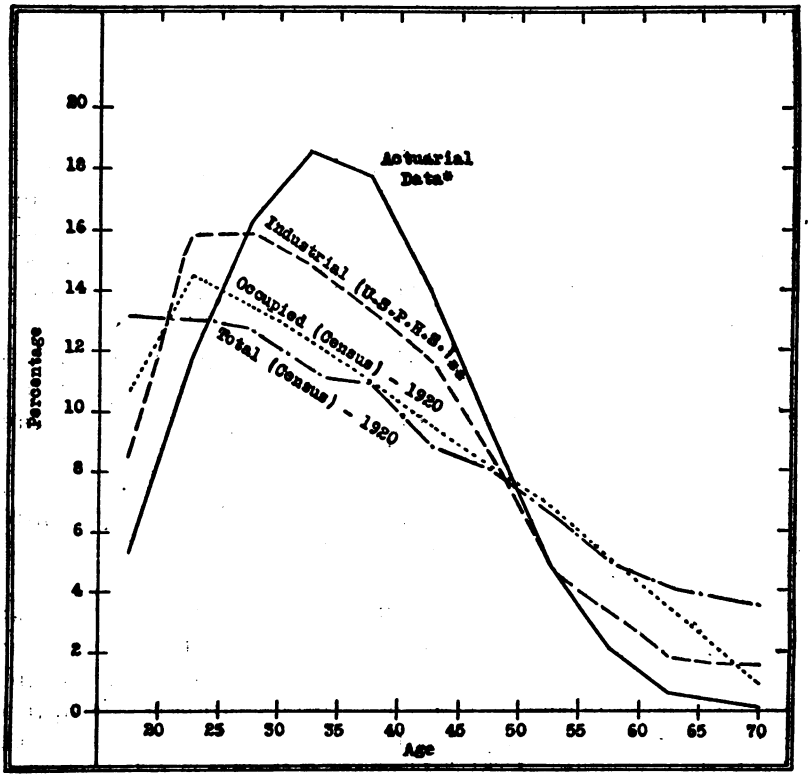
All 12 of the companies cooperating in the study gave all of their substandard data (i. e., where the premium asked was higher than normal), but two gave none of their standard data, and two gave but one-fifth of it coming within the required occupational classes. The correction devised in the course of that investigation has been included in the figures used in this paper without further comment. The effect of this correction was, obviously, to reduce the mortality rates in certain occupations.

The only policies included in the study were those under which life insurance would have been issued at the standard rate of premium if it had not been for the occupation. Thus, all policies were omitted which would have been classed as substandard because of build, race, residence, or medical impairment. Only ordinary business was included.

Both men and women were included, but in most occupational groups the men naturally predominated.

In the Joint Report the method has usually been to present the ratio of actual to expected deaths for a given number of years a policy had been in force and for a given age at issuance. The expected deaths were taken from tables of basic rates for 1915–1926 and for 1920–1926, these tables having been prepared on the basis of the investigation itself, rather than on the basis of previous standards. In this analysis, because of the familiarity of industrial hygienists with mortality rates, it has been found preferable to convert the ratios of actual to expected deaths into death rates. In doing so, it is of particular importance to note that these death rates are automatically adjusted both for age and for the length of time the policies had been in force.

The difference in the age distribution of this group of policyholders and that of the total population, however, is a point that must be kept in mind. Figure 1 presents the curves representing the percentage of persons in each age group, for the actuarial data, for a group of 10,000 industrial workers studied by the United States Public Health Service, for occupied males (1920 census), and for the total population of the country (15 years of age and over). It is noted that the life insurance group are concentrated in the ages from 25 to 45—ages



* Age at issuance of policy.
** Public Health Bulletin No. 152.

FIGURE 1.—Percentage of persons in each age group

when the risk of accidental death is especially high and the risk of death from most diseases very low.

It must be noted that the age distribution of the various occupations is by no means the same. For instance, farm laborers have 78 per cent under 30 years of age; janitors, 21 per cent. Table 1 presents the percentage in each of four broad age groups.[1] The occupations are ranked according to the percentage in the age group 15–29. Ages are those at entry, but this is of no moment from a relative point of view. The table is limited to occupations having 25,000 or more population.

[1] According to age at issuance—clearly an insignificant factor in the use of broad age groups.

TABLE 1.—*Proportion of persons in each age group by occupation [1] and age at entry*

Occupation	Percentage			
	15 to 29	30 to 39	40 to 49	50 and over
Farm laborers	78.5	14.1	5.8	1.5
Deliverymen for bakeries, etc., auto	71.6	22.0	5.4	1.1
Chauffeurs, truck (not delivery men)	70.9	23.4	5.1	.7
Unskilled operatives in coal mines (underground)	69.1	21.9	7.0	2.0
Auto and garage mechanics	67.1	26.9	5.3	.7
Skilled and semiskilled operatives in cotton mills	63.3	23.6	10.3	2.8
Delivery men for bakeries, etc., horse [2]	63.0	26.0	8.5	2.5
Electricians not elsewhere classified	61.5	28.4	8.8	1.3
Compositors, electrotypers, linotypers, pressmen	60.0	25.4	11.2	3.4
Semiskilled operatives in clothing manufacture (not hats)	59.4	28.6	10.1	1.9
Waiters in hotels, restaurants, and clubs (no liquor served)	58.4	31.6	8.6	1.3
Machinists not elsewhere classified	57.1	29.0	11.0	3.0
Cranemen, derrick men, and hoist men	56.7	32.9	8.9	1.4
Semiskilled fur workers	56.4	30.4	10.9	2.2
Chauffeurs, private family	55.9	34.0	8.7	1.3
Mechanics not elsewhere classified	55.8	30.7	10.5	3.0
Bakers	55.1	31.1	11.0	2.8
Draymen, teamsters, and expressmen	53.9	29.8	12.6	3.7
Rollers or roll hands in iron and steel mills	53.4	33.6	11.0	2.0
Oil and gas field foremen and miscellaneous operatives	50.6	34.7	12.1	2.6
Auto demonstrators	49.8	37.6	10.8	1.8
Semiskilled operatives in iron and steel works	47.6	32.0	15.9	4.5
Semiskilled operatives in car and railroad shops	47.2	32.6	15.9	4.4
Operatives in coal mines, underground [2]	44.8	37.2	14.8	3.1
Drug and medicine dealers, including druggists, etc	43.0	35.3	16.9	4.8
Cooks, hotel and domestic	43.0	40.2	14.0	2.8
Tailors	42.1	36.8	16.6	4.4
Firemen, fire departments	40.3	39.1	16.0	4.5
Molders, founders, and casters of iron and steel	39.8	39.2	16.9	4.0
Painters and varnishers, house	39.1	37.9	18.1	4.9
Garage proprietors, not driving [2]	38.5	44.0	14.6	3.0
Farmers	36.8	32.1	22.0	9.1
Carpenters	36.7	36.0	20.6	6.8
Policemen, including motor cycle and State enlisted	31.0	42.8	20.4	5.7
Blacksmiths not elsewhere classified	30.5	39.9	21.8	7.8
Keepers of hotels, etc., not at bar	24.7	39.7	26.1	9.5
Undertakers	24.0	35.0	26.9	14.1
Officials and mining engineers in mines, and ore dressing and concentrating mills	21.2	43.8	26.5	8.5
Janitors and sextons	21.0	34.5	27.9	16.6
Other [2] builders and building contractors in general construction	15.3	42.4	30.9	11.4
Inspecting and supervising builders and building contractors in general construction	13.3	43.1	30.7	12.9

[1] Occupations with 25,000 or more persons.
[2] And not specified.

From the point of view of safety engineers and others interested in accident prevention in industry, the most valuable feature of the report is the possibility of obtaining from it the death rate from occupational accidents in a large number of specific occupations. A point previously mentioned must be stressed here: The data have the unique value of having both the population and death records obtained from a single source, so that the occupation ascribed to the man at the time of his death is very likely to have been the occupation at the time when the policy was taken out and, furthermore, the classification will be identical in both cases. The following table, therefore, which gives the death rates per 1,000 for occupational accidents in specific occupations, is a very concrete and relatively accurate picture of occupational accidents in this country since 1915. The rates are given without adjustment as the data were not in such a form that an adjustment by age could be made. The figure for all accidents is included at the right.

TABLE 2.—*Death rates from occupational accidents, by specific occupation*

Occupation	Death rate per 1,000	
	Occupational accidents	All accidents
Linemen and cable splicers in electric light and power plants	5.19	5.89
Oil and gas field rig builders and handlers of explosives	5.00	6.07
Skilled coal miners (underground)	4.85	5.75
Iron mine operatives (underground)	3.35	4.39
Other structural iron workers not elsewhere classified	2.89	4.16
Not specified operatives in coal mines (underground)	2.76	3.45
Freight (and not specified) train brakemen	2.72	3.74
Safety engineers and Government mine inspectors	2.63	2.79
Bratticemen, etc., in coal mines (underground)	2.47	2.93
Unskilled operatives in coal mines (underground)	2.18	2.66
Foremen in mines, etc. (underground)	1.87	2.31
Mine machinists and mechanics (underground)	1.68	1.94
Freight (and not specified) train conductors	1.66	2.27
Switchmen and flagmen	1.61	2.21
Telegraph and telephone foremen and linemen (not climbing poles or not specified)	1.58	2.12
Longshoremen, stevedores, and freight handlers	1.51	2.12
Constables, marshals, and sheriffs who arrest	1.47	2.58
Officers on ocean, Great Lakes, river and harbor craft	1.43	1.87
Forestry (not owners, engineers, or firemen)	1.41	2.06
Locomotive engineers	1.36	1.82
Copper mine operatives (underground)	1.35	2.84
Coal mine operatives (not underground)	1.30	1.80
Working window cleaners	1.29	2.00
Fishermen	1.26	2.66
Pole climbers in telephone and telegraph construction and operation	1.24	2.15
Mine stationary engineers and hoist men, etc. (not underground)	1.16	1.59
Mechanics in steel mills	1.11	1.97
Locomotive firemen	1.07	1.80
Surface operatives in mines other than coal	1.03	1.71
Quarry operatives (not handling explosives)	1.03	1.62
Car repairers in roundhouse, track, and yard	.93	1.21
Electricians in electric light and power plants	.92	1.48
Officials and mining engineers in mines, and ore dressing and concentrating mills	.90	1.97
Policemen (including motor cycle and State enlisted)	.88	1.39
Certain other operatives in electric light and power plants	.84	1.54
Mine stationary engineers and hoist men, etc. (underground)	.79	1.25
Laborers in iron and steel works	.76	1.79
Yard foremen and inspectors	.76	1.17
Furnacemen, puddlers, etc., in iron and steel works	.74	1.23
Firemen (fire departments)	.74	1.40
Oil and gas field foremen and miscellaneous operatives	.72	1.48
Mine machinists and mechanics (not underground)	.68	1.25
Electricians not elsewhere classified	.67	1.16
Semiskilled operatives in certain chemical trades (acid, fertilizer, glue, white lead, etc.)	.65	1.30
Army officers	.65	1.05
Section and track laborers	.58	1.22
Workers in petroleum refineries	.54	1.44
Carriage riders, doggers, block setters, and other skilled operatives in saw and planing mills	.50	1.30
Cranemen, derrick men, and hoist men	.49	.90
Miscellaneous laborers	.48	1.70
Conductors and guards on street and interurban railroads	.46	.93
Auto delivery men for bakeries, etc	.38	1.10
Truck chauffeurs (not delivery men)	.33	.77
Rollers and roll hands in iron and steel mills	.31	.84
Carpenters	.30	.85
Draymen, teamsters, and expressmen	.29	.89
Other and not specified builders and building contractors in general construction	.27	.85
Brick and stone masons	.26	.91
Semiskilled operatives in iron and steel works	.26	.76
Farmers	.23	.84
Auto and garage mechanics	.23	.93
Garage proprietors not driving or not specified	.21	.71
Farm laborers	.19	.92
Mechanics not elsewhere classified	.19	.74
Semiskilled operatives in car and railroad shops	.19	.71
Molders, founders, and casters of iron and steel	.17	.73
Auto demonstrators	.17	.75
Machinists not elsewhere classified	.14	.76
Painters and varnishers (house)	.13	.62

It is quite evident that there are a large group of occupations in this country at the present time subject to a severe accident hazard. The relative risk in the different industrial groups is brought out

clearly in the table. The hazard is most marked among linemen and cable splicers in electric light and power plants, oil and gas field rig builders and handlers of explosives, skilled coal miners (underground), and iron-mine operatives (underground). But in running down the list one finds a large number of occupations where the occupational accidents must form an important part of the total mortality in the group.[1]

Although it has been emphasized that data of this character are quite incapable of representing the mortality "with increasing additional cost to middle life or beyond," as it is put in the Joint Report, it was of great interest to determine whether differences in the mortality by occupation would be found to be expressive of economic or social levels. It was first necessary to eliminate accidental deaths, occupational or otherwise, from the comparison. This was a phase of the investigation which did not concern the Joint Committee, since they were interested in establishing ratios for the total mortality, on the basis of which the various occupations could be rated, but from the point of view of the industrial hygienist it is necessary to separate accidents from the other causes of death. The tables in the Joint Report were in such form that this could easily be done, and in Table 3 are given the death rates per 1,000 for each occupation with 25,000 or more persons, exclusive of accidents, occupational and nonoccupational. As before indicated, these rates are adjusted for age and for the number of years the policy had been in force, but it must be kept in mind that the age distribution to which the adjustment has been made is that of the life-insurance data as a whole, not of the general population of the United States. We would not expect, therefore, to find mortality rates nearly so high as those of the country generally, even aside from the question of selection due to the physical examination.

Interpretation of the relative rates in this table is quite difficult. High rates are found for unskilled and not specified operatives in coal mines (underground), keepers of hotels, semiskilled operatives in iron and steel works; and on the other hand, low rates were found for builders and contractors, electricians, and farmers. But a close inspection of the table indicates many inconsistencies, such as a high mortality level for undertakers and policemen, and a low mortality level for delivery men (auto), semiskilled fur workers, etc. The data do not appear to be capable of further analysis in regard to mortality. The failure to obtain any clear-cut distinctions in different economic or social levels may be due to an extent to the factor of selection present in all life-insurance data.

[1] Insufficient data are available as yet with respect to aviators. In the light of the accident mortality rates given in this table, however, it is of interest to quote the statement of Dr. L. I. Dublin that "the fatal accident rate for full-time pilots is now estimated at anywhere from 25 to 50 deaths per 1,000 annually. * * * It has become clear that the hazard to passengers taking an occasional flight is negligible." ("The Job and the Life Span," Harpers' Monthly Magazine, January, 1930.)

TABLE 3.—*Death rates, all causes except accidents, adjusted for age and number of years policy had been in force*

Occupation	Death rate per 1,000	Average age at entry
Not specified operatives in coal mines (underground)	5.46	36
Molders, founders, and casters of iron and steel	4.59	35
Cranemen, derrick men, and hoist men	4.48	31
Undertakers	4.40	42
Policemen, including motor cycle and State enlisted	4.39	38
Keepers of hotels, etc., not at bar	4.08	41
Officials and mining engineers in mines, and ore dressing and concentrating mills	3.91	40
Semiskilled operatives in iron and steel works	3.79	37
Unskilled operatives in coal mines (underground)	3.76	30
Painters and varnishers, house	3.65	38
Draymen, teamsters, and expressmen	3.64	34
Mechanics not elsewhere classified	3.61	34
Waiters in hotels, restaurants, and clubs (no liquor served)	3.49	30
Cooks, hotel and domestic	3.39	32
Janitors and sextons	3.34	44
Semiskilled operatives in car and railroad shops	3.33	36
Deliverymen for bakeries, etc., horse [1]	3.29	32
Skilled and semiskilled operatives in cotton mills	3.28	34
Drug and medicine dealers, including druggists, etc	3.25	37
Firemen, fire departments	3.25	36
Semiskilled operatives in clothing manufacture (not hats)	3.25	33
Auto demonstrators	3.19	32
Machinists not elsewhere classified	3.11	34
Bakers	3.08	31
Garage proprietors, not driving [1]	3.02	35
Other and not specified builders and building contractors in general construction	3.01	42
Chauffeurs, private family	2.99	30
Compositors, electrotypers, linotypers, pressmen	2.98	33
Farm laborers	2.96	28
Oil and gas field foremen and miscellaneous operatives	2.93	32
Carpenters	2.93	38
Rollers and roll hands in iron and steel mills	2.87	31
Semiskilled fur workers	2.81	34
Chauffeurs, truck (not delivery men)	2.81	30
Farmers	2.57	40
Electricians not elsewhere classified	2.42	31
Delivery men for bakeries, etc., auto	2.39	29
Auto and garage mechanics	2.27	28
Inspecting and supervising builders and building contractors in general construction	2.21	42

[1] And not specified.

In this connection, however, the following quotation in regard to laborers may be taken from the Joint Report (p. 52):

The unfavorable mortality among laborers constitutes a distinct feature of this report. In all cases accidents were significantly high as a cause of death. * * * Tuberculosis was most severe among those working indoors, in steel mills and foundries, and about normal among the laborers on railroad sections and on city streets. Pneumonia was above the average in every group, while the only other cause significantly serious was heart disease among the section hands.

That a certain difference associated with social or economic levels does exist was shown by a special analysis. In so far as possible specific occupations were combined into four groups and the adjusted death rates obtained for each group. These are given in Table 4.

TABLE 4.—*Death rates from all causes, exclusive of accidents,*[1] *adjusted for age and number of years policy had been in force; by social classes*

Occupational class	Death rate per 1,000
Professional and semiprofessional	3.27
Skilled	3.67
Semiskilled	4.53
Unskilled [2]	4.77

[1] Accidents were deducted, but this had to be done on actual, not adjusted, basis.
[2] Farm laborers excluded.

The semiskilled and unskilled have definitely higher mortality rates than the professional (and semiprofessional) and the skilled.

The form in which the data were collected, although suitable for the purpose of the investigation itself, made any very detailed comparison as to causes of death impossible. Data were obtained for two broad age groups (15 to 39 and 40 and over). In preference to presenting a table of the rates by cause in the various occupations in these two age groups, there is given at this point a quotation from the Joint Report itself bearing on the causes of mortality in the various occupations:

Tuberculosis of the lungs stands high in 25 classes, and these are chiefly among the groups of unskilled labor and the lower social strata. This tendency has been emphasized by other investigators, particularly in connection with the report for England and Wales (1921–1923). Tuberculosis is three times as heavy at each age group among unskilled laborers as it is among the upper and middle classes of society. This consideration may explain the presence of high tuberculosis rates among farm laborers, general laborers, hucksters, and freight elevator tenders. Dust is an important factor in connection with tuberculosis. Examples of dust hazard are found among miners of copper, gold, or silver, stonecutters, workers in sawmills, chippers of metal and other skilled metal workers, molders in brass and bronze, carders and combers of cotton, and upholsterers. It has been suggested that alcoholism may have an influence on the tuberculosis rate, and this report shows a high mortality from tuberculosis among hotel keepers, waiters, and cooks in hotels, restaurants, and clubs, indicating that the suggestion has some foundation. The mortality from this cause was low among farmers and druggists.

Pneumonia appears of importance in 17 classes, the principal factor in which is exposure to abnormal temperatures. Thus, there are included seven underground mining classes, as well as rollers, roll hands, and laborers in steel mills. Inclement weather conditions may lead to high death rates from this cause among chauffeurs, and alcoholism among actors and saloon keepers. Social class seems to have little importance in regard to pneumonia.

Bright's disease or chronic nephritis was significant in 10 classes, and cerebral hemorrhage or apoplexy in 5 classes. It may be mentioned that four of the latter are in the same occupations as the former, namely, the group of underground coal miners, buyers and shippers of livestock, guards, watchmen, doorkeepers, and hotel keepers. Bright's disease was also important among section foremen, locomotive engineers, motormen, proprietors driving their own express wagons, and policemen. Heart disease—which some investigators have found to be correlated with both Bright's disease and cerebral hemorrhage—appears as a

significant cause in eight occupations of this investigation, and five of these have already been mentioned in reference to these two other causes of death. The remaining three employments were tailors, undertakers, and janitors.

Cancer as a cause of death has given rise to much speculation in recent years. Efforts have been made to show that it is most prevalent among those exposed to (*a*) coal-tar preparations, expecially soft coal, (*b*) products of decomposition of living matter, (*c*) chemical fumes, (*d*) metallic dusts and fumes, (*e*) certain food and drink conditions, (*f*) alcoholism. The 10 employments showing a high death rate from cancer in the present research are railroad section foremen, janitors, junk and rag dealers, blacksmiths, workers in nonalcoholic beverages, hotel keepers, freight elevator tenders, tailors and semiskilled clothing workers and guards, watchmen and doorkeepers. Those last mentioned have had in many cases some other principal occupation before becoming guards, watchmen, and doorkeepers as a method of partial retirement from active service.

Appendicitis was prominent in the following classes: Farmers, mine officials, mine foremen underground, druggists, and policemen. In the case of farmers and those attached to mines, the difficulty of obtaining adequate medical and surgical attention for this acute disease has been suggested as a reason for the high death rate from appendicitis.

Cirrhosis of the liver was significantly high among bartenders and saloon keepers, and also among the large group of underground coal miners. It showed a low rate among farmers. This cause is well known to be closely related to alcoholism.

The purpose of the joint investigation of the Actuarial Society and the Association of Life Insurance Medical Directors was to furnish information on the basis of which the ratings of insurance companies for specific occupations could be revised. It is not possible in this review to summarize these recommended ratings. Reference is made therefore to the supplementary report of the Joint Committee based on this and other investigations.[1] The report gives suggested ratings for total insurance and also for accidental death benefits for a large number of specific occupations.

CURRENT STATE MORTALITY STATISTICS[2]

For about two years the United States Public Health Service has secured from State health departments current mortality data and each month has published death rates from certain important causes for as many States as could furnish the information to the Service. In this issue the tabulation of these current mortality rates has been completely revised and some explanation seems necessary. Inasmuch as in many instances the monthly rates are based on a rather small number of deaths, and in other instances the monthly variation in the death rate is not important, the present plan is to publish rates for each State for a period covering as many months of the current calendar year as are available, with comparative rates for the same

[1] Occupational Mortality Ratings. Compiled and published by the Actuarial Society of America and the Association of Life Insurance Medical Directors. New York, December, 1929.

[2] From the Office of Statistical Investigations, U. S. Public Health Service.

period in the three preceding calendar years if data are available for that many years. In the present report, figures are available for the 3-month period January to March for some of the States but only for the 2-month period January and February for other States.

At the top of the table are rates for the six States for which data for January to March, inclusive, are available for both 1930 and 1929. In addition to the rates for this 3-month period for the two years, there are given for these States the rates for January, February, and March of 1930. For the individual States, rates are not shown by months, but only the cumulative rate for the total 2 or 3 month period is given. (All rates are on an annual basis.)

As the year proceeds, it is planned to publish rates of this kind for a period including the months of the calendar year for which data are available. While in the first few months of the calendar year these cumulative rates are of little more significance than monthly rates, it is anticipated that as the year progresses this method of computing rates for the "year to date" for each of the States, with comparative rates for corresponding periods of preceding years, will give more useful information than the rates that have formerly been published for specific months without any summary of the "year-to-date" period.

The rates are computed from current and generally preliminary reports furnished by State departments of health. Because of (*a*) some lack of uniformity in the method of classifying deaths according to cause, (*b*) some delayed death certificates, and (*c*) various other reasons, these preliminary rates can not be expected to agree in all instances with final rates published by the Bureau of the Census, which are based on a complete review and retabulation of the individual death certificates from each State. The preliminary rates given in the accompanying table are intended to serve as a current index of mortality until final figures are issued by the Bureau of the Census. Populations used in computing the rates are estimates as of July 1, 1929. As soon as the new census populations are available for the States, it is expected to recompute not only the 1930 rates, but with the new estimates for the preceding years to correct the rates for the comparative years also. When new census populations are available by color, some additional data may be added by presenting rates for white and colored populations for States having large colored populations. If it seems worth while, these later tables may also include rates for the last month for which data are available as well as the summary rate for the "year-to-date" period.

Death rates from certain causes in stated periods of 1930, with comparative data for corresponding periods in preceding years

State	Period	Year	Rate per 1,000 pop.	Rate per 1,000 live births		Rates per 100,000 population (annual basis)																						
			All causes (1-206)	Infant mortality	All except malformations and early infancy	Typhoid fever (1)	Measles (7)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Influenza (11)	Poliomyelitis (22)	Lethargic encephalitis (23)	Meningococcus meningitis (24)	Tuberculosis, all forms (31-37)	Cancer, all forms (43-49)	Diabetes (57)	Diseases of the nervous system (70-96)	Cerebral hemorrhage, apoplexy (74)	Diseases of the circulatory system (87-96)	Diseases of the heart (87-90)	Diseases of the respiratory system (97-107)	Pneumonia, all forms (100, 101)	Diseases of the digestive system (108-127)	Diarrhea and enteritis under 2 years (113)	Nephritis (128, 129)	Puerperal state (143-150)
* 6 States	Jan. to Mar.	1930	12.2	(1)	(1)	1.7	4.2	2.0	6.9	8.2	45.3	0.4	1.0	6.8	99.9	70.8	17.5	115.3	79.5	215.0	194.8	151.6	136.0	63.2	7.8	100.7	14.8
		1929	15.0	(1)	(1)	1.6	1.9	1.8	8.9	8.8	239.1	.7	1.3	2.8	106.6	72.2	16.5	120.7	79.7	236.1	216.4	192.7	175.7	71.5	10.2	101.6	13.5
	Jan.	1930	11.6	(1)	(1)	1.9	3.0	2.1	6.0	9.3	45.7	.6	.9	7.0	90.6	70.5	17.9	107.0	72.4	206.5	185.8	144.1	130.0	58.6	6.6	94.0	12.9
	Feb.	1930	12.7	(1)	(1)	1.9	4.6	1.9	6.7	9.1	48.1	.5	1.0	5.7	100.1	70.2	18.0	117.9	79.0	221.7	201.5	169.8	151.7	67.4	7.8	102.6	15.2
	Mar.	1930	12.3	(1)	(1)	1.5	5.1	1.9	8.0	6.3	42.3	.3	.9	7.5	109.0	71.7	16.5	121.1	86.9	217.4	197.6	142.6	127.7	64.0	9.1	105.8	16.3
Alabama	Jan. to Mar.	1930	11.7	85	47	2.2	3.9	.9	8.6	5.6	68.1	.3	.6	2.3	83.9	46.4	10.3	99.2	62.5	150.2	138.0	140.1	129.1	54.7	7.7	96.8	18.7
		1929	15.2	100	68	1.7	3.9	1.7	9.1	6.4	392.6	1.1	1.7	2.2	83.4	41.5	10.0	95.4	55.3	141.8	132.6	179.0	169.7	87.5	5.8	87.9	16.2
		1928	12.5	92	56	(1)	(1)	(1)	(1)	(1)	96.3	(1)	(1)	(1)	92.9	42.7	11.7	(1)	58.6	(1)	124.9	(1)	172.1	(1)	7.7	78.9	18.0
		1927	9.6	62	35	(1)	(1)	(1)	(1)	(1)	40.1	(1)	(1)	(1)	79.1	44.5	6.8	(1)	49.8	(1)	95.8	(1)	92.1	(1)	6.2	69.2	16.4
Arizona	do	1930	14.6	(1)	(1)	4.1	.8	2.5	5.0	8.3	25.7	(2)	.8	29.0	326.8	46.4	7.5	118.6	55.6	146.8	129.4	266.2	221.4	97.0	38.2	52.2	10.8
		1929	13.7	141	110	7.5	(2)	(2)	9.1	1.7	25.7	.8	.8	15.8	310.2	48.1	(2)	81.3	37.3	136.8	121.1	165.0	129.4	165.0	100.4	42.3	10.8
California	Jan.	1930	16.1	58	29	1.5	3.8	4.5	2.0	7.5	26.4	1.0	1.3	6.3	126.3	142.7	31.5	161.6	114.2	410.9	351.5	179.9	158.3	95.4	12.3	110.2	7.5
		1929	16.4	66	31	1.0	(2)	1.8	6.8	4.8	89.1	.3	3.3	10.8	133.9	147.5	28.2	157.5	110.5	416.5	362.6	139.7	120.3	84.0	9.3	116.3	9.8
		1928	14.8	63	34	1.8	.8	1.3	1.6	10.4	23.1	3.1	.8	2.9	135.5	129.8	23.3	138.6	95.6	372.1	315.1	147.3	131.6	74.2	8.0	114.3	9.1
Connecticut	Jan. to Feb.	1930	11.9	80	(1)	.4	(2)	3.6	4.0	5.5	80.2	.7	1.8	1.1	55.4	115.9	20.4	(1)	(1)	(1)	217.5	(1)	149.4	(1)	8.4	83.1	(1)
		1929	14.7	95	(1)	.4	4.0	1.1	5.1	3.6	161.0	(2)	1.8	1.1	68.9	102.4	18.9	(1)	(1)	(1)	230.6	(1)	235.7	(1)	9.8	87.1	10.9
		1928	11.3	67	(1)	1.8	2.6	.7	4.8	10.6	26.0	1.1	2.2	.4	65.9	105.4	(1)	(1)	(1)	(1)	175.3	(1)	138.0	(1)	7.0	(1)	8.8
		1927	11.4	75	(1)	1.1	2.3	.8	5.7	6.4	30.6	.8	(1)	.8	74.1	104.0	(1)	(1)	(1)	(1)	199.3	(1)	119.9	(1)	10.2	(1)	12.1
District of Columbia	Jan. to Mar.	1930	13.9	69	35	(2)	(2)	3.6	3.6	5.0	10.1	(2)	.7	.7	110.1	109.3	28.8	131.6	96.4	354.5	303.4	171.1	149.6	72.6	2.21	65.4	18.0
		1929	17.2	83	45	.7	(2)	2.2	6.5	10.8	61.1	(2)	(2)	2.2	122.2	115.8	28.0	143.8	93.5	430.7	366.7	274.0	247.4	92.0	5.01	77.6	12.9
		1928	14.3	(1)	(1)	1.5	.7	1.5	2.9	7.3	21.1	(2)	(2)	.7	106.4	107.8	32.1	147.2	107.8	332.3	295.1	217.9	185.8	76.5	9.51	55.2	12.4
		1927	16.0	(1)	(1)	1.5	(2)	.8	3.0	7.5	50.0	(2)	3.0	.8	118.7	109.7	18.8	177.2	126.2	341.7	302.7	232.8	205.0	81.1	3.01	79.5	18.0

*Alabama, Arizona, District of Columbia, New Jersey, Tennessee, and Virginia.

[1] Not available.

[2] No deaths.

Death rates from certain causes in stated periods of 1930, with comparative data for corresponding periods in preceding years—Continued

State	Period	Year	Rate per 1,000 pop.	Rate per 1,000 live births	Rates per 100,000 population (annual basis)																						
			All causes (1-205)	Infant mortality	All except malformations and early infancy	Typhoid fever (1)	Measles (7)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Influenza (11)	Poliomyelitis (22)	Lethargic encephalitis (23)	Meningococcus meningitis (24)	Tuberculosis, all forms (31-37)	Cancer, all forms (43-49)	Diabetes (57)	Diseases of the nervous system (70-86)	Cerebral hemorrhage, apoplexy (74)	Diseases of the circulatory system (87-96)	Diseases of the heart (87-90)	Diseases of the respiratory system (97-107)	Pneumonia, all forms (100, 101)	Diseases of the digestive system (108-127)	Diarrhea and enteritis under 2 years (113)	Nephritis (128, 129)	Puerperal state (143-150)
Georgia	Jan.	1930	9.0	89	(1)	0.7	2.5	1.1	4.0	5.5	49.9	1.8	(1)	3.6	56.8	37.5	11.6	95.7	65.1	120.5	107.7	116.1	103.7	44.4	5.1	103.4	15.7
		1929	15.0	(1)	(1)	2.2	1.1	1.5	4.0	7.3	498.3	(1)	(1)	(1)	63.7	35.3	13.5	(1)	64.1	(1)	112.8	(1)	183.8	(1)	2.2	133.2	18.2
Hawaii	Jan. to Feb.	1930	11.8	104	(1)	1.7	5.2	(2)	12.1	22.5	19.0	(2)	(2)	5.2	96.8	55.3	15.6	(1)	51.8	(1)	141.7	(1)	143.4	181.4	117.5	(1)	(1)
		1929	14.2	109	(1)	1.8	3.5	(2)	33.7	7.1	26.6	(2)	(2)	14.2	99.3	70.9	8.9	(1)	65.6	(1)	127.6	(1)	196.8	205.6	125.9	(1)	(1)
		1928	12.6	(1)	(1)	5.2	3.5	(2)	3.5	12.2	15.7	(1)	(1)	5.2	132.8	76.9	5.2	(1)	45.4	(1)	127.6	(1)	188.8	183.5	101.4	(1)	(1)
Idaho	Jan. to Mar.	1930	(1)	59	30	1.5	2.9	2.9	.7	2.9	7.3	(2)	(2)	10.2	27.6	46.5	3.6	86.5	50.9	157.7	143.9	116.3	96.7	42.9	1.5	28.3	8.7
Illinois	Jan. to Feb.	1930	(1)	(1)	(1)	1.1	1.3	8.0	2.9	10.9	24.8	.1	.8	3.8	62.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	110.7	(1)	(1)	(1)	(1)
		1929	(1)	(1)	(1)	1.5	3.3	5.2	2.6	8.0	143.7	(2)	1.2	5.8	76.3	(1)	(1)	(1)	(1)	(1)	(1)	(1)	165.6	(1)	(1)	(1)	(1)
		1928	(1)	(1)	(1)	1.6	.5	2.8	3.7	10.8	(1)	(1)	(1)	2.6	71.3	(1)	(1)	(1)	(1)	(1)	(1)	(1)	122.6	(1)	(1)	(1)	(1)
		1927	(1)	(1)	(1)	1.3	7.3	4.6	3.9	8.6	(1)	(1)	(1)	1.5	81.8	(1)	(1)	(1)	(1)	(1)	(1)	(1)	118.5	(1)	(1)	(1)	(1)
Indiana	Jan. to Mar.	1930	(1)	59	46	1.3	1.8	3.3	4.7	5.3	31.0	.3	.8	17.5	73.3	71.8	19.1	(1)	123.1	(1)	201.8	(1)	131.7	(1)	6.8	90.1	11.5
		1929	15.0	83	(1)	.8	6.1	5.4	6.5	5.1	179.7	.4	(2)	.8	77.0	95.8	17.1	(1)	127.3	(1)	223.2	(1)	191.8	(1)	8.9	88.4	14.2
		1928	12.6	66	(1)	1.8	1.8	3.0	4.7	6.8	54.2	(1)	(1)	(1)	74.8	101.9	(1)	(1)	122.5	(1)	182.6	(1)	136.9	(1)	9.0	81.0	10.8
		1927	12.2	68	(1)	3.5	3.1	4.8	7.7	7.5	45.8	(1)	(1)	(1)	80.2	98.9	(1)	(1)	99.9	(1)	175.0	(1)	118.3	(1)	7.7	90.1	15.9
Iowa	Jan. to Feb.	1930	11.6	68	54	1.0	7.4	5.6	4.6	2.5	57.5	.3	1.8	2.0	37.4	109.7	24.9	146.3	98.2	254.2	231.1	150.1	137.9	70.7	3.1	47.1	10.4
		1929	13.4	88	47	1.3	.8	3.3	4.3	(2)	212.0	1.0	2.0	3.1	36.6	106.1	23.9	156.0	113.5	300.8	268.0	144.8	127.0	55.2	3.6	55.2	12.0
		1928	10.2	63	28	2.0	(1)	2.3	1.5	5.0	34.2	.5	1.3	1.5	32.2	98.0	19.8	135.4	102.8	248.0	221.8	115.6	101.2	62.6	2.3	58.8	9.3
Maryland	Jan. to Mar.	1930	14.4	69	38	2.0	.7	5.5	5.2	7.9	12.7	(2)	1.0	2.5	112.4	108.4	24.1	160.0	121.5	313.3	278.3	203.9	183.1	69.7	9.9	170.9	7.4
Michigan	Jan. to Feb.	1930	11.8	78	36	.5	4.2	4.0	3.7	10.3	23.7	(2)	2.1	15.2	60.8	91.5	18.7	132.4	100.9	258.4	229.4	135.8	113.0	77.4	8.2	68.6	16.3
		1929	14.7	94	54	1.2	1.2	4.7	7.3	10.2	158.0	.8	1.3	9.4	74.6	96.1	23.7	155.7	108.8	305.4	269.4	202.8	178.9	86.2	15.0	77.3	12.7
Minnesota	do	1930	10.0	46	19	1.1	6.5	2.2	3.1	2.0	29.8	(2)	2.0	3.1	46.4	110.8	19.7	104.1	82.5	195.8	185.5	100.5	103.2	59.9	6.1	49.6	10.1
		1929	11.8	74	38	.2	4.0	4.3	7.9	2.2	148.9	.4	2.9	2.9	50.7	100.9	24.2	106.3	78.3	227.9	186.4	123.8	118.0	60.1	3.6	66.4	9.2
		1928	9.6	(1)	(1)	.4	(2)	3.1	1.3	2.9	22.0	.2	1.1	.7	58.0	104.0	19.7	(1)	(1)	(1)	166.1	(1)	79.3	(1)	(1)	64.5	9.9
Mississippi	do	1930	13.5	(1)	(1)	4.5	2.4	.3	7.9	9.3	80.1	1.4	(2)	11.1	87.0	47.7	13.1	(1)	85.0	(1)	125.7	(1)	133.7	(1)	7.6	106.0	23.5
		1929	18.8	(1)	(1)	4.8	8.6	(2)	10.7	6.2	553.4	.7	.3	1.0	78.4	46.6	9.0	(1)	79.8	(1)	109.2	(1)	151.3	(1)	3.5	108.5	14.5
Montana	Jan. to Mar.	1930	9.2	(1)	(1)	1.5	4.4	.7	.7	(2)	27.3	(2)	2.2	11.1	59.8	40.6	17.0	100.5	63.5	165.5	153.7	140.4	126.3	65.7	4.4	65.7	12.6

New Jersey	do	1930	12.1	(1)	(1)	.6	3.6	2.5	3.3	13.4	16.6	.1	.8	2.7	72.3	104.2	27.2	121.1	89.8	297.0	270.6	148.2	134.1	71.9	8.9	111.3	10.1
		1929	14.6	78	(1)	.6	1.7	1.4	8.6	14.4	82.1	.4	1.8	2.7	80.2	108.7	27.4	134.6	99.5	340.9	315.1	241.6	219.7	72.7	9.4	122.3	9.6
		1928	12.4	(1)	(1)	(1)	(1)	(1)	(1)	(1)	17.9	(1)	(1)	(1)	71.8	103.5	(1)	120.2	(1)	276.4	(1)	73.1	100.2	55.4	10.1	117.6	(1)
		1927	12.5	(1)	(1)	(1)	(1)	(1)	(1)	(1)	22.5	(1)	(1)	(1)	81.2	103.1	(1)	137.5	(1)	266.4	(1)	73.1	89.6	65.9	14.3	106.8	(1)
New York	Jan. to Feb	1930	13.4	66	29	.8	1.7	2.0	3.2	3.9	15.8	.3	1.1	1.0	69.5	117.6	30.9	139.2	105.5	276.0	332.8	140.9	124.2	73.3	10.5	135.6	10.4
		1929	13.3	84	42	1.0	.5	1.1	5.6	4.0	170.3	.7	1.1	1.2	83.5	137.1	36.0	185.2	145.7	496.4	439.9	262.8	235.0	71.4	9.8	133.5	11.2
		1928	12.9	70	30	1.9	3.6	3.6	3.5	5.3	20.4	.4	1.3	.9	74.1	124.8	27.5	164.7	126.6	388.0	337.5	142.3	126.8	77.5	11.2	120.1	12.1
		1927	13.9	77	36	2.2	5.6	2.1	5.3	5.5	25.7	.1	.9	(2)	77.8	122.4	27.2	164.7	126.0	365.6	315.9	154.4	132.8	80.0	13.4	123.6	10.5
North Carolina	do	1930	12.6	85	(1)	1.0	(2)	1.2	9.1	8.7	53.0	.4	1.0	.2	86.6	(1)	(1)	(1)	(1)	(1)	(1)	(1)	154.3	(1)	7.3	(1)	17.4
		1929	15.7	(1)	(1)	2.1	1.9	2.1	8.7	13.5	326.2	.4	(1)	.2	89.7	(1)	(1)	(1)	(1)	(1)	(1)	(1)	179.0	(1)	10.2	(1)	(1)
Pennsylvania	do	1930	12.2	(1)	(1)	.7	2.4	2.7	5.3	7.5	30.8	.4	.9	2.7	60.8	90.8	22.1	122.0	91.5	278.7	249.8	154.6	138.5	70.7	12.8	107.8	11.3
		1929	16.7	107	68	1.7	7.1	4.0	10.4	8.7	231.6	.6	1.6	2.2	74.2	100.3	28.9	143.8	104.9	333.6	304.7	251.8	224.9	73.4	14.4	127.7	13.1
		1928	12.5	76	39	1.1	3.8	3.6	4.0	12.9	36.8	.6	.7	.1	69.6	96.3	22.0	(1)	98.1	(1)	244.8	(1)	138.7	(1)	17.4	116.3	11.3
		1927	13.0	88	50	1.7	5.2	3.9	6.5	9.7	46.2	(2)	1.3	.4	71.0	91.2	20.8	(1)	96.3	(1)	241.3	(1)	157.9	(1)	18.5	118.6	14.3
South Carolina	Jan. to Mar	1930	(1)	(1)	(1)	5.2	.2	.4	11.8	5.8	66.7	.4	3.0	8.0	64.6	31.9	7.3	(1)	(1)	288.8	(1)	(1)	140.4	(1)	(1)	98.0	(1)
		1929	(1)	(1)	(1)	5.0	(2)	.4	6.5	6.0	217.1	.6	2.6	2.4	68.5	34.2	8.8	(1)	(1)	278.7	(1)	(1)	130.7	(1)	6.7	84.9	(1)
		1928	(1)	(1)	(1)	4.1	43.8	.2	9.9	8.4	88.5	1.3	3.9	1.7	78.8	40.3	12.5	(1)	(1)	259.1	(1)	(1)	165.7	(1)	(1)	97.5	(1)
		1927	(1)	(1)	(1)	4.8	1.3	(2)	4.0	4.8	26.2	.7	2.9	1.1	80.9	35.6	9.0	(1)	(1)	263.6	(1)	(1)	137.8	(1)	(1)	82.4	(1)
Tennessee	do	1930	12.1	76	49	3.4	6.6	1.6	5.8	5.0	68.4	1.0	1.0	17.2	124.1	51.4	10.8	107.4	64.1	139.9	127.8	152.8	130.4	59.9	4.0	82.1	17.2
		1929	15.7	108	78	2.4	.3	2.1	7.1	5.6	251.1	.8	.3	2.1	140.9	55.1	11.4	108.7	69.1	159.7	148.1	182.4	167.0	56.7	5.3	73.4	16.1
		1928	12.4	(1)	(1)	4.2	17.0	2.4	5.9	5.1	85.2	1.0	.5	.6	137.0	54.7	10.4	(1)	(1)	(1)	121.0	(1)	163.6	(1)	4.3	(1)	5.9
		1927	11.4	(1)	(1)	7.1	6.7	2.3	14.4	6.7	51.6	.5	.3	.7	132.8	(1)	(1)	(1)	(1)	(1)	(1)	(1)	128.3	(1)	5.4	(1)	7.0
Virginia	do	1930	11.9	76	(1)	1.2	4.7	2.0	12.8	6.7	54.4	.8	1.6	4.2	89.1	60.3	15.9	126.2	96.7	212.1	191.4	141.1	124.1	53.6	5.8	102.0	15.6
		1929	14.7	101	(1)	1.4	2.3	1.4	11.4	6.9	290.8	.6	1.4	1.7	94.5	60.0	12.0	139.2	99.4	224.1	203.6	131.0	117.4	45.9	4.8	106.1	14.6
Wisconsin	do	1930	10.8	68	(1)	.3	5.7	5.3	3.0	3.0	26.9	.3	1.1	3.0	51.3	115.1	(1)	(1)	(1)	(1)	(1)	(1)	106.5	(1)	7.9	(1)	(2)
		1929	12.4	78	(1)	1.2	2.2	3.4	3.0	2.6	127.3	.1	1.5	7.5	51.4	100.0	(1)	(1)	(1)	(1)	(1)	(1)	122.4	(1)	12.8	(2)	(2)
		1928	(1)	65	(1)	.7	.4	2.5	1.2	3.4	26.8	.3	1.5	3.9	55.0	(1)	(1)	(1)	(1)	(1)	(1)	(1)	91.1	(1)	10.4	(2)	(2)

[1] Not available.

[2] No deaths.

COURT DECISION RELATING TO PUBLIC HEALTH

Pneumonia held not compensable under workmen's compensation act.—(Connecticut Supreme Court of Errors; Galuzzo *v.* State et al., 149 A. 778; decided Mar. 31, 1930.) A proceeding was brought under the workmen's compensation act by the plaintiff to recover for the death of her husband who had been an employee of the State highway department. The deceased had lost only two or three days' time during his five years' employment with the department. On the day when he was taken ill he was engaged in shoveling sand into a truck from a sand pit and then in shoveling the sand from the truck on to the road at different points. The day was clear and the mean temperature was a few degrees below freezing. On reporting for work in the morning nothing abnormal or unusual in his condition was noticed, but in the afternoon he was obviously ill. The next morning a physician found "a beginning pneumonia" which progressed and caused the employee's death a week later. The claimant's contention was that the pneumonia was caused by the exposure to which the deceased was subjected while working on his job the last day, and, therefore, arose out of and in the course of the employment.

Under the law the claimant's right to compensation rested upon proof that the deceased suffered a "personal injury" and this was required to be "only accidental injury which may be definitely located as to the time when and the place where the accident occurred." It was also provided that "a personal injury shall not be deemed to arise out of the employment unless causally traceable to the employment other than through weakened resistance or lowered vitality." The supreme court sustained the action of the compensation commissioner and the trial court in denying compensation saying:

> It appears quite conclusively that the pneumonia was not a contemporaneous result of the exposure, and that the only contemporaneous result which could have been caused was a weakened resistance and a lowered vitality.

DEATHS DURING WEEK ENDED MAY 17, 1930

Summary of information received by telegraph from industrial insurance companies for the week ended May 17, 1930, and corresponding week of 1929. (From the Weekly Health Index, May 21, 1930, issued by the Bureau of the Census, Department of Commerce)

	Week ended May 17, 1930	Corresponding week, 1929
Policies in force	75,793,257	74,154,288
Number of death claims	15,282	14,371
Death claims per 1,000 policies in force, annual rate	10.5	10.1

Deaths from all causes in certain large cities of the United States during the week ended May 17, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929. (From the Weekly Health Index, May 21, 1930, issued by the Bureau of the Census, Department of Commerce)

City	Week ended May 17, 1930		Annual death rate per 1,000, corresponding week, 1929	Deaths under 1 year		Infant mortality rate, week ended May 17, 1930 [2]
	Total deaths	Death rate [1]		Week ended May 17, 1930	Corresponding week, 1929	
Total (65 cities)	6,994	12.3	13.3	649	701	[3] 56
Akron	39			5	3	46
Albany [4]	35	15.2	16.5	4	1	87
Atlanta	74	15.1	17.6	8	9	85
White	35			5	2	159
Colored	39	(5)	(5)	3	7	48
Baltimore [4]	224	14.1	14.4	11	23	37
White	165			9	17	39
Colored	59	(5)	(5)	2	6	32
Birmingham	69	16.2	17.1	8	7	75
White	36			2	3	31
Colored	33	(5)	(5)	6	4	142
Boston	223	14.5	13.2	27	24	76
Bridgeport	28			0	3	0
Buffalo	151	14.2	20.7	14	14	62
Cambridge	25	10.4	9.5	1	4	19
Camden	34	13.1	12.3	5	6	91
Canton	20	8.9	12.5	2	4	50
Chicago [4]	577	9.5	12.8	44	68	39
Cincinnati	113			8	7	47
Cleveland	197	10.2	17.2	27	19	81
Columbus	80	14.0	12.7	7	5	63
Dallas	55	13.2	12.4	9	3	----
White	39			8	1	----
Colored	16	(5)	(5)	1	2	----
Dayton	35	9.9	13.3	4	6	59
Denver	82	14.5	16.1	12	7	125
Des Moines	35	12.0	10.6	5	0	87
Detroit	276	10.4	13.3	27	40	42
Duluth	31	13.8	13.8	2	5	54
El Paso	40	17.7	14.6	12	5	----
Erie	28			2	4	43
Fall River [4]	34	13.2	12.0	6	3	137
Flint	27	9.5	11.2	5	4	58
Fort Worth	31	9.5	9.8	2	4	----
White	23			1	4	----
Colored	8	(5)	(5)	1	0	----
Grand Rapids	31	9.8	8.6	6	3	91
Houston	66			9	4	----
White	48			8	1	----
Colored	18	(5)	(5)	1	3	----
Indianapolis	71	9.7	13.6	5	9	37
White	64			4	8	35
Colored	7	(5)	(5)	1	1	54
Jersey City	73	11.7	11.7	6	5	52
Kansas City, Kans	32	14.1	14.1	0	2	0
White	26			0	2	0
Colored	6	(5)	(5)	0	0	0
Kansas City, Mo	98	13.1	16.9	6	7	47
Knoxville	35	17.3	12.4	3	0	70
White	28			3	0	78
Colored	7	(5)	(5)	0	0	0
Los Angeles	267			23	20	70
Louisville	77	12.2	13.8	14	7	122
White	55			6	7	59
Colored	22	(5)	(5)	8	0	579
Lowell	28			4	2	95
Lynn	16	7.9	10.9	2	3	51
Memphis	88	24.1	15.1	11	6	131
White	44			6	3	110
Colored	44	(5)	(5)	5	3	169
Milwaukee	131	12.6	11.4	13	15	65
Minneapolis	102	11.7	11.0	15	11	97
Nashville	44	16.4	20.9	8	7	124
White	28			5	6	103
Colored	16	(5)	(5)	3	1	190

See footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended May 17, 1930, infant mortality, annual death rate, and comparison with corresponding week of 1929—Continued

City	Week ended May 17, 1930		Annual death rate per 1,000, corresponding week, 1929	Deaths under 1 year		Infant mortality rate, week ended May 17 1930
	Total deaths	Death rate		Week ended May 17, 1930	Corresponding week, 1929	
New Bedford	15			3	4	77
New Haven	44	12.2	11.4	2	4	39
New Orleans	164	19.9	14.8	13	17	75
White	88			9	7	80
Colored	76	(5)	(5)	4	10	67
New York	1,438	12.5	13.1	137	150	58
Bronx Borough	206	11.3	10.0	20	18	47
Brooklyn Borough	508	11.5	11.4	53	49	56
Manhattan Borough	534	15.9	18.7	49	64	80
Queens Borough	153	9.3	9.0	14	16	41
Richmond Borough	37	12.8	16.3	1	3	19
Newark, N. J	91	10.0	12.1	5	15	26
Oakland	61	11.6	11.0	3	3	36
Oklahoma City	34			3	0	59
Omaha	44	10.3	7.5	3	1	34
Paterson	47	16.9	11.5	2	5	35
Philadelphia	507	12.8	12.6	39	40	58
Pittsburgh	165	12.8	12.0	15	16	55
Portland, Oreg	76			2	5	25
Providence	63	11.5	10.7	6	7	55
Richmond	60	16.1	14.8	4	6	59
White	40			2	3	45
Colored	20	(5)	(5)	2	3	87
Rochester	70	11.1	14.6	4	8	35
St. Louis	166	10.2	13.5	11	12	36
St. Paul	47			1	7	10
Salt Lake City [4]	32	12.1	17.0	3	3	47
San Antonio	78	18.6	17.9	13	28	
San Diego	41			4	9	84
San Francisco	173	15.4	15.9	7	3	48
Schenectady	20	11.2	7.3	2	1	62
Seattle	79	10.7	9.8	0	1	0
Somerville	17	8.6	11.7	2	1	65
Spokane	30	14.3	10.5	1	2	26
Springfield, Mass	34	11.8	10.4	2	3	32
Syracuse	39	10.2	13.3	1	3	12
Tacoma	28	13.2	11.3	3	2	77
Toledo	66	11.0	11.3	9	5	82
Trenton	41	15.4	12.4	3	3	56
Utica	31	15.5	15.0	4	3	114
Washington, D. C	132	12.5	13.0	9	8	52
White	86			3	6	26
Colored	46	(5)	(5)	6	2	106
Waterbury	24			4	2	102
Wilmington, Del	28	11.4	13.0	2	4	45
Worcester	33	8.7	11.3	1	4	13
Yonkers	20	8.6	8.2	5	2	119
Youngstown	40	12.0	12.9	7	5	110

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Data for 73 cities.
[4] Deaths for week ended Friday.
[5] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended May 17, 1930, and May 18, 1929

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 17, 1930, and May 18, 1929

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929
New England States:								
Maine	4	5	-------	6	77	127	2	1
New Hampshire	4	1	4	2	2	66	0	1
Vermont	-------	1	-------	-------	39	4	0	0
Massachusetts	59	64	4	5	1,474	581	7	4
Rhode Island	3	7	-------	-------	2	62	0	0
Connecticut	21	15	-------	10	75	253	4	1
Middle Atlantic States:								
New York	120	281	[1] 16	[1] 17	2,851	1,001	19	37
New Jersey	83	128	10	4	1,483	295	4	10
Pennsylvania	106	126	-------	-------	1,580	1,933	18	9
East North Central States:								
Ohio	23	24	7	11	713	892	3	5
Indiana	17	14	-------	-------	137	609	5	1
Illinois	117	168	40	27	578	1,882	8	19
Michigan	63	83	4	-------	2,243	1,198	24	101
Wisconsin	14	29	10	31	900	1,657	2	6
West North Central States:								
Minnesota	5	10	-------	-------	169	640	5	6
Iowa	4	5	-------	-------	478	80	4	1
Missouri	30	58	6	7	90	210	12	19
North Dakota	2	8	-------	-------	17	205	3	1
South Dakota	3	2	-------	-------	107	20	0	1
Nebraska	9	12	-------	-------	168	248	0	0
Kansas	13	10	-------	-------	776	678	1	4
South Atlantic States:								
Delaware	1	1	-------	-------	12	17	0	0
Maryland [2]	25	18	17	14	102	39	1	1
District of Columbia	5	7	-------	2	47	32	0	0
West Virginia	6	11	14	6	97	372	2	0
North Carolina	18	12	15	-------	60	28	1	5
South Carolina	6	15	245	225	-------	7	2	0
Georgia	-------	14	8	20	190	40	0	5
Florida	7	7	2	2	247	89	0	1
East South Central States:								
Kentucky	-------	-------	-------	-------	21	36	2	3
Tennessee	2	6	21	13	117	45	14	2
Alabama	4	5	9	21	112	49	2	1
Mississippi	-------	5	-------	-------	-------	-------	5	0

[1] New York City only.

[2] Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 17, 1930, and May 18, 1929—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929
West South Central States:								
Arkansas	4		23	43	52	16	2	2
Louisiana	11	25	16	12	23	77	2	1
Oklahoma [3]	6	6	35	24	152	52	2	2
Texas	27	19	40	7	259	156	1	1
Mountain States:								
Montana	2	1		1	10	81	1	1
Idaho	2			15	12	1	1	1
Wyoming					46	56	0	0
Colorado	5	8		1	641	17	0	3
New Mexico	1	5			43	9	3	7
Arizona	4	1	7		152	5	3	4
Utah [2]				4	311	3	2	7
Pacific States:								
Washington	1	4			579	196	3	9
Oregon	6	2	13	16	97	225	0	0
California	45	49	30	57	2,033	124	5	19

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929
New England States:								
Maine	0	0	26	40	0	0	12	4
New Hampshire	0	0	13	15	0	1	0	1
Vermont	0	0	4	14	1	9	0	0
Massachusetts	4	2	214	215	0	7	2	7
Rhode Island	0	1	20	18	0	0	8	0
Connecticut	1	0	71	61	0	9	0	1
Middle Atlantic States:								
New York	1	3	442	385	11	1	18	14
New Jersey	1	0	183	148	0	0	3	3
Pennsylvania	0	2	421	379	1	0	13	30
East North Central States:								
Ohio	1	9	166	226	79	65	6	5
Indiana	0	0	123	257	195	79	8	11
Illinois	0	1	369	422	161	90	17	10
Michigan	0	1	283	503	71	60	2	2
Wisconsin	0	0	165	153	13	13	0	3
West North Central States:								
Minnesota	0	0	111	100	6	3	0	4
Iowa	0	0	64	108	124	39	1	0
Missouri	0	0	96	75	37	22	9	6
North Dakota	0	0	28	29	36	12	1	1
South Dakota	0	2	12	28	58	30	0	0
Nebraska	0	0	35	111	47	25	0	2
Kansas	0	0	73	139	40	50	7	3
South Atlantic States:								
Delaware	0	0	12	3	0	0	0	0
Maryland [2]	0	1	70	124	0	0	7	6
District of Columbia	0	0	9	16	0	0	2	0
West Virginia	0	0	22	11	27	22	11	18
North Carolina	1	3	24	28	20	18	9	3
South Carolina	2	2	3	5	2	0	17	15
Georgia	0	0	15	18	0	0	8	17
Florida	0	0	4	6	0	0	2	4
East South Central States:								
Kentucky	0	1	23	34	20	7	3	5
Tennessee	9	0	27	16	19	12	12	8
Alabama	0	1	9	5	10	0	3	7
Mississippi	0	0	3	4	6	1	4	3

[2] Week ended Friday.
[3] Figures for 1930 are exclusive of Oklahoma City and Tulsa, and for 1929 are exclusive of Oklahoma City only

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended May 17, 1930, and May 18, 1929—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929	Week ended May 17, 1930	Week ended May 18, 1929
West South Central States:								
Arkansas	0	0	1	5	13	2	1	7
Louisiana	0	0	10	43	6	4	18	30
Oklahoma [3]	0	0	14	40	74	74	3	6
Texas	0	0	34	31	61	137	10	8
Mountain States:								
Montana	1	0	24	15	3	14	0	1
Idaho	0	0	2	4	1	3	1	0
Wyoming	0	0	10	9	6	6	0	0
Colorado	0	1	22	28	6	19	2	1
New Mexico	2	0	11	2	5	1	1	2
Arizona	1	0	6	0	9	12	4	2
Utah [2]	0	0	2	8	2	6	0	0
Pacific States:								
Washington	0	0	36	22	62	30	4	1
Oregon	0	0	14	15	19	27	3	0
California	14	4	142	379	47	44	6	9

[2] Week ended Friday.
[3] Figures for 1930 are exclusive of Oklahoma City and Tulsa and for 1929 are exclusive of Oklahoma City only.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
March, 1930										
Hawaii Territory	21	18	21	-------	54	-------	4	4	0	15
Iowa	12	47	-------	-------	2,435	-------	0	406	412	6
April, 1930										
Alabama	16	53	357	246	691	46	0	47	27	13
Florida	3	30	5	20	1,957	5	0	32	-------	9
Georgia	4	30	266	207	905	49	0	86	5	18
Louisiana	18	105	62	97	443	96	2	82	50	58
Maryland	8	76	127	1	257	-------	1	548	0	13
Minnesota	11	52	9	1	1,137	2	1	522	18	7
New Hampshire	-------	5	16	-------	-------	-------	-------	77	0	2
New Jersey	15	462	72	-------	5,864	-------	2	1,030	0	9
New York	88	581	-------	9	7,671	-------	4	2,368	35	60
Pennsylvania	74	512	-------	-------	6,409	1	6	2,080	5	47
Rhode Island	-------	36	7	-------	21	-------	0	142	0	1
South Carolina	-------	97	2,633	959	203	558	4	22	14	23
West Virginia	10	42	112	-------	506	-------	1	158	142	45

March, 1930

	Cases
Chicken pox:	
Hawaii	27
Iowa	165
Conjunctivitis, follicular:	
Hawaii	85
Dysentery:	
Hawaii (bacillary)	1
German measles:	
Iowa	3
Hookworm disease:	
Hawaii	3

March, 1930—Continued

	Cases
Leprosy:	
Hawaii	5
Mumps:	
Hawaii	14
Iowa	171
Tetanus:	
Hawaii	2
Trachoma:	
Hawaii	3
Undulant fever:	
Iowa	10

March, 1930—Continued

	Cases
Whooping cough:	
Hawaii	17
Iowa	81

April, 1930

	Cases
Actinomycosis:	
Pennsylvania	1
Anthrax:	
Georgia	1
New York	4
Chicken pox:	
Alabama	254
Florida	396
Georgia	163
Louisiana	158
Maryland	861
Minnesota	515
New Jersey	959
New York	2,657
Pennsylvania	2,751
Rhode Island	71
South Carolina	338
West Virginia	209
Conjunctivitis:	
Georgia	12
Dengue:	
Georgia	2
South Carolina	11
Diarrhea:	
Maryland	3
South Carolina	538
Dysentery:	
Georgia	32
Louisiana	3
Maryland	4
Minnesota (amebic)	3
New Jersey	2
New York	1
South Carolina	2
German measles:	
Maryland	167
New Jersey	1,423
New York	1,804
Rhode Island	126
South Carolina	93
Hookworm disease:	
Georgia	228
Louisiana	518
South Carolina	117
Impetigo contagiosa:	
Maryland	2
Lead poisoning:	
New Jersey	3
Pennsylvania	1
Leprosy:	
Alabama	1
Louisiana	2
Lethargic encephalitis:	
Alabama	1
Georgia	1
Louisiana	4
Maryland	1
New York	12
Pennsylvania	3
Rhode Island	1

April, 1930—Continued

	Cases
Mumps:	
Alabama	69
Florida	699
Georgia	251
Louisiana	16
Maryland	132
New York	3,029
Pennsylvania	1,876
Rhode Island	1
South Carolina	193
Ophthalmia neonatorum:	
Maryland	2
New Jersey	2
New York	5
Pennsylvania	10
South Carolina	7
Paratyphoid fever:	
Minnesota	1
New Jersey	4
New York	9
South Carolina	8
Psittacosis:	
Maryland	1
Puerperal fever:	
New York	17
Pennsylvania	17
Rabies in animals:	
Louisiana	24
Maryland	1
New York	12
Rhode Island	6
South Carolina	14
Scabies:	
Maryland	1
Septic sore throat:	
Georgia	64
Maryland	17
New York	24
Rhode Island	5
Tetanus:	
Louisiana	2
Maryland	3
New York	3
Pennsylvania	3
Trachoma:	
Louisiana	1
New Jersey	1
New York	3
Pennsylvania	1
Rhode Island	2
Trichinosis:	
New Jersey	1
Pennsylvania	17
Tularaemia:	
Georgia	4
Louisiana	1
Maryland	1
Minnesota	2
South Carolina	2
Typhus fever:	
Florida	2
Georgia	3
Undulant fever:	
Alabama	2
Louisiana	2

April, 1930—Continued

Undulant fever—Continued.	Cases
Maryland	2
Minnesota	3
New York	14
Pennsylvania	2
Vincent's angina:	
Maryland	9
New York [1]	83
Whooping cough:	
Alabama	209
Florida	70

April, 1930—Continued

Whooping cough—Continued.	Cases
Georgia	199
Louisiana	38
Maryland	150
Minnesota	207
New Jersey	430
New York	1,601
Pennsylvania	1,158
Rhode Island	123
South Carolina	557
West Virginia	233

RECIPROCAL NOTIFICATIONS

Notifications regarding communicable diseases sent during the month of April, 1930, by departments of health of certain States to other State health departments

Disease	California	Illinois	Massachusetts	Minnesota	New York	Washington
Gonorrhea				1		
Measles					2	
Meningococcus meningitis				2		
Rocky Mountain spotted fever						1
Scarlet fever				2	2	
Smallpox		4		1	1	
Syphilis				1		
Tuberculosis		9	1	34		
Typhoid fever	2	1	2			

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 98 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 32,165,000. The estimated population of the 91 cities reporting deaths is more than 30,570,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended May 10, 1930, and May 11, 1929

	1930	1929	Estimated expectancy
Cases reported			
Diphtheria:			
46 States	1,051	1,421	
98 cities	488	844	825
Measles:			
45 States	18,850	15,956	
98 cities	8,903	5,432	
Meningococcus meningitis:			
46 States	218	299	
98 cities	91	137	
Poliomyelitis:			
47 States	24	18	
Scarlet fever:			
46 States	3,920	4,304	
98 cities	1,628	1,758	1,286
Smallpox:			
46 States	1,259	1,039	
98 cities	151	67	72
Typhoid fever:			
46 States	203	306	
98 cities	41	66	36
Deaths reported			
Influenza and pneumonia:			
91 cities	857	687	
Smallpox:			
91 cities	2	0	
Cleveland, Ohio	1	0	
Omaha, Nebraska	1	0	

[1] Exclusive of New York City.

City reports for week ended May 10, 1930

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

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1921 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND								
Maine:								
Portland	9	1	0	----------	0	0	68	0
New Hampshire:								
Concord	0	0	0	----------	0	0	0	0
Manchester	0	0	0	----------	0	0	0	2
Nashua	0	0	0	----------	0	0	0	0
Vermont:								
Barre	1	0	0	----------	0	10	1	0
Massachusetts:								
Boston	0	35	18	----------	2	637	43	36
Fall River	4	3	0	----------	0	3	0	0
Springfield	10	2	1	----------	0	2	1	1
Worcester	15	4	1	----------	0	281	0	1
Rhode Island:								
Pawtucket	21	1	1	----------	0	2	0	0
Providence	2	6	5	----------	0	1	0	7
Connecticut:								
Bridgeport	1	4	1	3	2	2	1	4
Hartford	2	5	0	1	0	6	0	1
New Haven	27	1	0	----------	0	8	12	4
MIDDLE ATLANTIC								
New York:								
Buffalo	16	10	11	----------	0	25	9	21
New York	247	260	99	20	10	1,730	210	246
Rochester	16	8	0	----------	0	36	4	3
Syracuse	21	4	0	----------	0	30	46	7
New Jersey:								
Camden	3	8	9	----------	0	1	2	4
Newark	30	14	17	1	1	353	25	11
Trenton	2	2	5	1	0	10	0	3
Pennsylvania:								
Philadelphia	88	59	15	3	6	335	60	46
Pittsburgh	46	16	30	----------	4	335	11	43
Reading	4	2	1	----------	0	1	7	4
Scranton	9	3	1	----------	0	1	0	0
EAST NORTH CENTRAL								
Ohio:								
Cincinnati	4	6	2	----------	0	97	10	16
Cleveland	116	22	19	4	2	11	79	13
Columbus	9	3	2	1	2	147	3	8
Toledo	47	4	1	2	2	64	11	4
Indiana:								
Fort Wayne	1	2	0	----------	0	0	0	0
Indianapolis	19	3	1	----------	0	5	7	14
South Bend	0	1	1	----------	0	0	0	1
Terre Haute	1	0	0	----------	0	31	0	3
Illinois:								
Chicago	131	82	94	2	6	49	65	59
Springfield	5	1	0	----------	0	0	0	1
Michigan:								
Detroit	78	43	39	3	1	994	71	22
Flint	13	3	0	----------	1	140	4	1
Grand Rapids	4	1	1	----------	0	0	2	1

City reports for week ended May 10, 1930—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued								
Wisconsin:								
Kenosha	6	0	0	----------	0	0	0	0
Madison	12	0	0	----------	0	31	2	1
Milwaukee	123	11	7	2	2	13	98	6
Racine	0	2	0	----------	0	5	0	2
Superior	0	0	0	----------	0	2	1	1
WEST NORTH CENTRAL								
Minnesota:								
Duluth	3	0	0	----------	0	45	0	1
Minneapolis	56	14	2	----------	1	35	45	10
St. Paul	25	10	0	----------	0	2	15	8
Iowa:								
Davenport	4	1	0	----------	----------	24	0	----------
Des Moines	1	1	0	----------	----------	12	3	----------
Sioux City	6	0	0	----------	----------	153	12	----------
Waterloo	20	0	0	----------	----------	3	0	----------
Missouri:								
Kansas City	28	3	0	----------	0	12	7	9
St. Joseph	0	0	0	----------	0	0	1	3
St. Louis	55	35	18	----------	----------	25	8	----------
North Dakota:								
Fargo	0	0	0	----------	0	1	43	3
Grand Forks	0	0	0	----------	----------	0	0	----------
South Dakota:								
Aberdeen	1	0	0	----------	----------	6	2	----------
Sioux Falls	0	0	0	----------	----------	8	0	----------
Nebraska:								
Omaha	12	2	2	----------	0	58	1	4
Kansas:								
Topeka	8	1	0	----------	0	231	21	1
Wichita	7	1	1	----------	0	90	1	3
SOUTH ATLANTIC								
Delaware:								
Wilmington	3	1	2	----------	0	1	0	2
Maryland:								
Baltimore	189	21	10	4	0	41	24	20
Cumberland	7	0	0	----------	0	0	0	[1] 2
Frederick	0	0	0	----------	0	0	0	0
District of Columbia:								
Washington	37	11	8	1	1	60	0	7
Virginia:								
Lynchburg	13	1	0	----------	0	61	8	2
Norfolk	41	0	1	----------	0	4	42	2
Richmond	5	2	5	----------	0	5	1	3
Roanoke	2	0	0	----------	0	249	0	1
West Virginia:								
Charleston	10	1	1	2	1	1	7	1
Wheeling	11	0	0	----------	0	6	0	4
North Carolina:								
Raleigh	1	1	0	----------	0	0	0	0
Wilmington	6	0	0	----------	0	2	0	2
Winston-Salem	13	0	0	----------	0	5	12	4
South Carolina:								
Charleston	0	0	0	9	0	0	2	3
Columbia	2	0	0	----------	0	0	5	4
Georgia:								
Atlanta	6	2	4	19	1	86	11	7
Brunswick	0	0	0	----------	0	0	2	1
Savannah	1	0	1	----------	0	0	0	2
Florida:								
Miami	0	1	2	1	0	9	0	1
St. Petersburg	----------	0	----------	----------	0	----------	----------	2
Tampa	4	1	0	----------	0	131	15	1

[1] Nonresident.

City reports for week ended May 10, 1930—Continued

Division, State, and city	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
		Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL								
Kentucky:								
Covington	0	1	0		0	4	0	2
Tennessee:								
Memphis	19	2	1		0	9	18	9
Nashville	0	1	0		2	44	0	2
Alabama:								
Birmingham	5	1	0	2	0	19	8	8
Mobile	2	0	0		0	4	0	1
Montgomery	1	0	0			3	0	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith	0	0	0			39	0	
Little Rock	5	1	0		0	1	0	1
Louisiana:								
New Orleans	0	7	10	2	1	5	0	15
Shreveport	9	1	0		0	4	1	6
Oklahoma:								
Oklahoma City	1	1	0	2	0	37	1	4
Tulsa	32	1	0			73	2	
Texas:								
Dallas	7	3	8	3	4	154	4	7
Fort Worth	7	1	2		1	30	1	4
Galveston	0	0	0		0	0	0	0
Houston	1	3	3		0	1	0	7
San Antonio	0	2	0		3	0	0	10
MOUNTAIN								
Montana:								
Billings	0	0	0		0	6	0	0
Great Falls	3	0	0		0	1	5	0
Helena	0	0	0		0	0	0	0
Missoula	0	0	0		0	0	0	1
Idaho:								
Boise	1	0	0		0	1	0	1
Colorado:								
Denver	25	9	8		0	713	12	8
Pueblo	5	0	0		0	4	103	1
Arizona:								
Phoenix	1	0	1		0	11	1	3
Utah:								
Salt Lake City	3	3	0		0	309	9	3
Nevada:								
Reno	0	0	0		0	2	1	0
PACIFIC								
Washington:								
Seattle	25	3	0			279	65	
Spokane	26	2	2	4		11	0	
Tacoma	5	1	0		0	115	9	0
Oregon:								
Portland	10	5	3	1	0	31	6	5
Salem	9	0	2		0	2	5	0
California:								
Los Angeles	41	35	10	12	2	398	49	11
Sacramento	2	2	3		0	37	24	3
San Francisco	42	16	9	2	1	144	80	7

City reports for week ended May 10, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	3	5	0	0	0	1	1	0	0	14	19
New Hampshire:											
Concord	1	0	0	0	0	0	0	0	0	0	8
Manchester	3	0	0	0	0	0	0	0	0	0	26
Nashua	1	0	0	0	0	0	0	0	0	0	----
Vermont:											
Barre	1	0	0	1	0	0	0	0	0	0	4
Massachusetts:											
Boston	66	73	0	0	0	17	2	0	0	61	253
Fall River	4	1	0	0	0	0	0	0	0	1	29
Springfield	8	6	0	0	0	1	0	0	0	17	32
Worcester	7	8	0	0	0	1	0	0	0	9	51
Rhode Island:											
Pawtucket	1	1	0	0	0	0	0	0	0	3	18
Providence	9	14	0	0	0	4	0	0	0	4	76
Connecticut:											
Bridgeport	11	7	0	0	0	1	0	0	0	1	28
Hartford	5	3	0	0	0	1	0	0	0	2	40
New Haven	5	10	0	0	0	2	0	0	0	9	45
MIDDLE ATLANTIC											
New York:											
Buffalo	25	22	0	0	0	14	0	0	1	24	157
New York	287	326	0	0	0	120	8	8	1	62	1,714
Rochester	12	8	0	0	0	2	0	0	0	3	71
Syracuse	10	13	0	0	0	1	0	0	0	43	56
New Jersey:											
Camden	5	2	0	0	0	0	0	0	0	0	39
Newark	29	43	0	0	0	9	0	0	0	17	127
Trenton	3	2	0	0	0	1	0	0	0	0	45
Pennsylvania:											
Philadelphia	91	144	0	0	0	30	2	1	0	12	544
Pittsburgh	30	23	0	0	0	9	0	0	0	36	184
Reading	5	4	0	0	0	0	0	0	0	3	18
Scranton	2	0	0	0	0	0	0	0	0	8	----
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	16	11	2	1	0	8	1	1	1	4	154
Cleveland	39	58	1	1	1	8	1	2	0	48	196
Columbus	8	5	2	0	0	5	0	0	0	1	107
Toledo	11	18	1	1	0	11	1	2	0	3	91
Indiana:											
Fort Wayne	3	2	1	8	0	0	0	0	0	0	40
Indianapolis	13	26	8	6	0	2	0	0	0	17	----
South Bend	4	10	0	0	0	1	0	0	0	3	17
Terre Haute	2	1	0	1	0	1	0	0	0	0	27
Illinois:											
Chicago	116	232	2	4	0	48	2	0	0	59	731
Springfield	4	1	1	1	0	0	0	0	0	6	11
Michigan:											
Detroit	106	105	1	6	0	33	2	1	0	96	313
Flint	7	11	2	3	0	4	0	0	0	19	34
Grand Rapids	9	14	0	4	0	1	0	0	0	5	23
Wisconsin:											
Kenosha	2	11	0	2	0	0	0	0	0	6	7
Madison	2	3	0	0	----	----	0	0	----	9	7
Milwaukee	5	24	1	0	0	10	0	0	0	29	126
Racine	30	2	1	0	0	2	0	0	0	3	15
Superior	2	0	0	0	0	0	0	0	0	0	9
WEST NORTH CENTRAL											
Minnesota:											
Duluth	7	1	0	1	0	2	0	0	0	13	16
Minneapolis	40	13	2	0	0	3	1	0	0	4	107
St. Paul	22	8	1	0	0	2	0	0	0	16	66

City reports for week ended May 10, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—contd.											
Iowa:											
Davenport	1	0	1	37	----	----	0	0	----	0	----
Des Moines	5	6	1	9	----	----	0	0	----	0	40
Sioux City	1	8	0	3	----	----	0	0	----	3	----
Waterloo	2	2	0	22	----	----	0	0	----	3	----
Missouri:											
Kansas City	12	21	1	0	0	8	0	1	0	16	105
St. Joseph	3	4	0	0	0	0	0	0	0	3	18
St. Louis	31	54	3	2	0	14	1	3	1	6	225
North Dakota:											
Fargo	1	0	0	1	0	0	0	0	0	3	8
Grand Forks	1	0	0	0	----	----	0	0	----	0	----
South Dakota:											
Aberdeen	1	1	0	5	----	----	0	0	----	10	----
Sioux Falls	3	0	0	4	----	----	0	0	----	0	----
Nebraska:											
Omaha	3	7	4	17	1	2	0	0	0	2	63
Kansas:											
Topeka	3	0	0	4	0	0	0	0	0	17	19
Wichita	3	5	1	2	0	1	0	0	0	0	24
SOUTH ATLANTIC											
Delaware:											
Wilmington	4	0	0	0	0	2	0	0	0	1	25
Maryland:											
Baltimore	33	80	0	0	0	21	2	2	0	25	239
Cumberland	0	0	0	0	0	0	0	0	0	0	13
Frederick	0	0	0	0	0	0	0	0	0	0	3
District of Columbia:											
Washington	22	14	0	0	0	13	1	2	2	7	167
Virginia:											
Lynchburg	0	0	0	0	0	0	0	0	0	7	13
Norfolk	1	2	1	0	0	0	0	0	0	4	----
Richmond	3	6	0	0	0	3	1	0	0	0	54
Roanoke	0	0	0	0	0	0	0	0	1	3	15
West Virginia:											
Charleston	0	1	0	0	0	0	1	1	0	6	10
Wheeling	1	2	0	0	0	0	0	0	0	10	21
North Carolina:											
Raleigh	0	0	1	0	0	2	0	0	1	4	13
Wilmington	0	0	0	0	0	1	0	0	0	9	11
Winston-Salem	1	0	2	0	0	2	0	2	0	7	16
South Carolina:											
Charleston	0	0	1	0	0	0	0	0	0	0	29
Columbia	0	0	0	0	0	0	0	0	1	5	26
Georgia:											
Atlanta	4	15	4	0	0	7	0	0	0	5	81
Brunswick	0	0	0	0	0	1	0	0	0	0	4
Savannah	0	0	0	0	0	5	0	1	0	0	34
Florida:											
Miami	0	1	1	[1]1	0	1	1	0	0	0	23
St. Petersburg	0	----	0	----	0	0	0	----	0	----	13
Tampa	0	3	0	0	0	1	1	0	0	2	16
EAST SOUTH CENTRAL											
Kentucky:											
Covington	1	0	1	0	0	0	0	0	1	0	20
Tennessee:											
Memphis	7	16	1	0	0	11	1	2	0	8	100
Nashville	2	5	0	0	0	2	1	1	0	1	35
Alabama:											
Birmingham	1	2	3	0	0	6	1	0	0	7	80
Mobile	0	0	0	1	0	0	0	0	0	0	17
Montgomery	0	0	0	0	----	----	0	0	----	2	----

[1] Nonresident.

City reports for week ended May 10, 1930—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	0	0	0	0	-------	-------	0	0	--------	0	--------
Little Rock	1	0	0	0	0	0	0	0	0	0	--------
Louisiana:											
New Orleans	7	15	0	1	0	15	2	1	0	2	137
Shreveport	0	0	1	0	0	1	0	0	0	0	27
Oklahoma:											
Oklahoma City	1	10	2	10	0	4	0	0	0	0	30
Tulsa	0	3	2	2	-------	-------	0	0	--------	12	--------
Texas:											
Dallas	2	9	2	1	0	6	0	0	0	5	64
Fort Worth	2	0	4	1	0	2	0	1	0	0	43
Galveston	0	0	1	0	0	1	1	0	0	0	17
Houston	2	1	0	9	0	5	0	0	0	0	75
San Antonio	0	2	0	0	0	6	0	0	1	0	86
MOUNTAIN											
Montana:											
Billings	0	1	1	0	0	0	0	0	0	0	7
Great Falls	0	17	1	0	0	1	0	0	0	0	12
Helena	0	1	0	0	0	0	0	0	0	0	7
Missoula	0	0	0	3	0	0	0	0	0	1	7
Idaho:											
Boise	1	1	0	0	0	0	0	0	0	0	5
Colorado:											
Denver	12	15	0	1	0	6	0	1	0	65	68
Pueblo	1	0	0	2	0	1	0	1	0	0	13
Arizona:											
Phoenix	1	0	0	6	0	1	0	0	0	2	18
Utah:											
Salt Lake City	2	7	1	0	0	0	0	0	0	49	35
Nevada:											
Reno	0	0	0	3	0	0	0	0	0	0	2
PACIFIC											
Washington:											
Seattle	7	10	3	2	--------	-------	1	1	--------	19	--------
Spokane	5	0	6	26	--------	-------	6	0	--------	23	--------
Tacoma	3	0	3	6	0	1	0	2	0	6	27
Oregon:											
Portland	5	1	7	27	0	3	1	0	0	35	59
Salem	0	0	0	0	0	0	0	0	0	3	--------
California:											
Los Angeles	30	26	5	3	0	28	0	5	1	18	253
Sacramento	2	2	0	4	0	1	1	0	0	8	20
San Francisco	20	26	1	0	0	10	1	2	0	4	160

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Rhode Island:									
Providence	1	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
New York City[1]	10	8	6	2	0	0	1	3	2
Syracuse	0	1	0	0	0	0	0	0	0

[1] Typhus fever: 1 case at New York City, N. Y.

City reports for week ended May 10, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
MIDDLE ATLANTIC—contd.									
New Jersey:									
Newark	4	0	0	0	0	0	0	0	0
Pennsylvania:									
Philadelphia	4	3	0	0	0	0	0	0	0
Pittsburgh	5	2	0	0	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	2	1	0	0	0	0	0	0	0
Cleveland	3	2	0	0	0	0	0	0	0
Toledo	0	1	0	0	0	0	0	0	0
Indiana:									
Indianapolis	4	1	0	0	0	0	0	0	0
Illinois:									
Chicago	11	3	0	0	0	0	0	0	0
Michigan:									
Detroit	15	9	0	0	0	0	0	0	0
Flint	2	0	0	0	0	0	0	0	0
Wisconsin:									
Milwaukee	1	2	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis	1	0	0	0	0	0	0	0	0
Iowa:									
Waterloo	2	1	0	0	0	0	0	0	0
Missouri:									
Kansas City	1	1	0	0	0	1	0	0	0
Nebraska:									
Omaha	1	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore	2	1	0	0	0	0	0	1	0
District of Columbia:									
Washington	1	1	0	0	0	0	0	0	0
Virginia:									
Richmond	0	1	0	0	0	0	0	0	0
West Virginia:									
Charleston	1	1	0	0	0	0	0	0	0
North Carolina:									
Raleigh	0	0	0	0	0	2	0	0	0
Wilmington	0	0	0	0	0	2	0	0	0
Winston-Salem	0	0	0	0	2	0	0	0	0
South Carolina:									
Charleston	0	0	0	0	1	0	0	0	0
Georgia:									
Atlanta	1	1	0	0	1	0	0	0	0
Savannah	0	1	0	0	1	1	0	0	0
Florida:									
Miami	0	0	0	0	2	0	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis	12	2	0	0	0	3	0	0	0
Alabama:									
Birmingham	1	1	1	1	0	0	0	0	0
Montgomery	0	0	0	0	2	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans	1	0	0	0	4	1	0	0	0
Oklahoma:									
Tulsa	2	1	0	0	0	0	0	0	0
Arizona:									
Phoenix	1	1	0	0	0	0	0	0	0
Utah:									
Salt Lake City	1	2	0	0	0	0	0	0	0

City reports for week ended May 10, 1930—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
PACIFIC									
Washington:									
Seattle	4	0	0	0	0	0	0	0	0
Oregon:									
Portland	1	0	1	0	0	0	0	0	0
California:									
Los Angeles	0	0	0	0	0	0	1	2	0

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended May 10, 1930, compared with those for a like period ended May 11, 1929. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have an estimated aggregate population of more than 32,000,000. The 91 cities reporting deaths have more than 30,500,000 estimated population.

Summary of weekly reports from cities, April 6 to May 10, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929 [1]

DIPHTHERIA CASE RATES

	Week ended									
	Apr. 12, 1930	Apr. 13, 1929	Apr. 19, 1930	Apr. 20, 1929	Apr. 26, 1930	Apr. 27, 1929	May 3, 1930	May 4, 1929	May 10, 1930	May 11, 1929
98 cities	95	124	88	135	93	136	[2] 86	135	79	139
New England	75	117	109	141	78	110	75	81	60	117
Middle Atlantic	97	166	87	198	104	194	76	190	89	206
East North Central	115	126	96	122	114	143	[3] 132	160	104	145
West North Central	87	83	85	112	66	85	66	77	44	104
South Atlantic	73	71	59	66	59	58	[4] 46	69	57	64
East South Central	7	75	20	7	54	55	0	21	7	27
West South Central	164	122	220	99	108	126	[5] 107	99	78	88
Mountain	77	61	9	70	86	78	43	61	69	52
Pacific	59	65	43	58	57	58	71	72	57	39

MEASLES CASE RATES

98 cities	1,222	824	1,255	896	1,387	838	[2] 1,331	928	1,443	894
New England	1,431	638	1,491	498	1,566	561	1,779	496	2,109	480
Middle Atlantic	1,019	160	1,156	146	1,256	153	1,353	165	1,365	186
East North Central	913	1,946	1,084	2,028	1,009	1,964	[3] 1,026	2,322	936	2,194
West North Central	1,174	1,657	988	2,124	1,324	1,713	983	1,776	1,243	1,549
South Atlantic	976	464	996	760	1,194	536	[4] 1,098	434	1,187	521
East South Central	371	130	337	55	459	21	209	130	499	41
West South Central	773	232	538	175	635	278	[5] 814	343	762	366
Mountain	7,475	192	6,617	209	8,573	366	5,758	444	8,891	296
Pacific	2,402	319	2,100	377	2,412	377	2,009	287	2,324	422

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1930 and 1929, respectively.
[2] South Bend, Ind., Atlanta, Ga., and Little Rock, Ark., not included.
[3] South Bend, Ind., not included.
[4] Atlanta, Ga., not included.
[5] Little Rock, Ark., not included.

Summary of weekly reports from cities, April 6 to May 10, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929—Continued

SCARLET FEVER CASE RATES

	Week ended									
	Apr. 12, 1930	Apr. 13, 1929	Apr. 19, 1930	Apr. 20, 1929	Apr. 26, 1930	Apr. 27, 1929	May 3, 1930	May 4, 1929	May 10, 1930	May 11, 1929
98 cities	327	270	305	268	267	295	[2] 302	299	264	289
New England	321	317	358	242	319	292	246	278	284	260
Middle Atlantic	296	224	276	224	252	246	300	245	281	209
East North Central	428	372	395	418	363	451	[3] 393	467	321	454
West North Central	291	242	359	216	243	281	376	262	233	277
South Atlantic	282	122	277	90	227	97	[4] 258	114	222	243
East South Central	148	185	162	144	142	109	148	226	155	130
West South Central	116	229	123	225	64	217	[5] 127	274	101	309
Mountain	326	165	343	70	223	122	352	78	260	52
Pacific	253	374	168	372	205	394	128	345	151	282

SMALLPOX CASE RATES

98 cities	29	12	28	9	30	13	[2] 28	12	24	11
New England	2	2	2	0	0	0	0	0	2	2
Middle Atlantic	0	0	0	0	0	0	1	0	0	0
East North Central	23	20	23	11	18	17	[3] 21	15	23	17
West North Central	146	8	137	10	142	13	129	13	99	27
South Atlantic	9	4	4	2	0	2	[4] 0	0	0	0
East South Central	13	7	20	0	47	0	40	21	7	27
West South Central	30	76	75	11	41	23	[5] 36	42	41	8
Mountain	60	78	26	44	94	26	146	122	77	26
Pacific	104	10	83	60	128	80	85	39	97	39

TYPHOID FEVER CASE RATES

98 cities	5	12	6	10	6	8	[2] 7	8	7	11
New England	0	9	7	7	4	4	2	7	0	11
Middle Atlantic	1	7	2	8	5	4	3	5	4	3
East North Central	1	11	3	4	6	4	[3] 6	3	3	6
West North Central	4	25	8	10	4	12	4	10	8	31
South Atlantic	20	13	20	24	11	17	[4] 6	11	15	15
East South Central	20	21	7	7	0	21	27	27	20	27
West South Central	7	42	7	42	26	34	[5] 24	30	4	53
Mountain	43	0	17	0	0	0	51	9	17	0
Pacific	5	7	9	10	5	7	7	10	24	7

INFLUENZA DEATH RATES

91 cities	17	15	15	15	12	13	[2] 9	8	10	10
New England	7	7	7	9	11	7	4	2	9	2
Middle Atlantic	21	14	15	10	9	12	10	6	10	8
East North Central	8	15	13	14	14	6	[3] 7	5	9	7
West North Central	9	6	18	18	9	12	9	18	3	3
South Atlantic	24	17	20	21	11	13	[4] 12	11	5	17
East South Central	52	30	66	15	44	30	22	30	15	37
West South Central	27	31	27	51	27	43	[5] 24	8	31	27
Mountain	26	17	9	9	17	52	0	17	0	26
Pacific	15	22	3	13	0	13	6	16	9	13

[2] South Bend, Ind., Atlanta, Ga., and Little Rock, Ark., not included.
[3] South Bend, Ind., not included.
[4] Atlanta, Ga., not included.
[5] Little Rock, Ark., not included.

Summary of weekly reports from cities, April 6 to May 10, 1930—Annual rates per 100,000 population, compared with rates for the corresponding period of 1929—Continued

PNEUMONIA DEATH RATES

	Week ended									
	Apr. 12, 1930	Apr. 13, 1929	Apr. 19, 1930	Apr. 20, 1929	Apr. 26, 1930	Apr. 27, 1929	May 3, 1930	May 4, 1929	May 10, 1930	May 11, 1929
91 cities	169	139	153	127	144	117	[2] 138	123	137	109
New England	171	126	146	114	173	144	151	106	120	90
Middle Atlantic	195	161	190	134	168	130	172	136	185	123
East North Central	126	126	115	119	109	99	[3] 108	125	93	101
West North Central	148	114	154	108	80	111	112	126	124	105
South Atlantic	211	165	185	146	192	127	[4] 182	109	121	109
East South Central	228	164	236	157	258	97	140	172	162	149
West South Central	195	98	130	78	142	90	[5] 118	90	176	94
Mountain	180	113	163	122	146	87	69	165	120	87
Pacific	89	94	46	151	61	119	52	72	64	94

[2] South Bend, Ind., Atlanta, Ga., and Little Rock, Ark., not included.
[3] South Bend, Ind., not included.
[4] Atlanta, Ga., not included.
[5] Little Rock, Ark., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended May 3, 1930.—The Department of Pensions and National Health reports cases of certain communicable diseases in Canada for the week ended May 3, 1930, as follows:

Province	Cerebro-spinal fever	Influenza	Lethargic encephal-itis	Poliomy-elitis	Smallpox	Typhoid fever
Prince Edward Island [1]						
Nova Scotia		2				
New Brunswick [1]						
Quebec	3					35
Ontario	4	7	2		12	9
Manitoba				1	2	
Saskatchewan					21	1
Alberta [1]						
British Columbia				2	3	5
Total	7	9	2	3	38	50

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

Quebec Province—Communicable diseases—Week ended May 10, 1930.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended May 10, 1930, as follows:

Disease	Cases	Disease	Cases
Chicken pox	89	Mumps	137
Diphtheria	25	Scarlet fever	93
Erysipelas	12	Tuberculosis	71
German measles	40	Typhoid fever	14
Influenza	3	Whooping cough	27
Measles	122		

ITALY

Communicable diseases—Four weeks ended February 16, 1930.—During the four weeks ended February 16, 1930, certain communicable diseases were reported in Italy as follows:

Disease	Jan. 20-26		Jan. 27-Feb. 2		Feb. 3-9		Feb. 10-16	
	Cases	Com-munes affected	Cases	Com-munes affected	Cases	Com-munes affected	Cases	Com-munes affected
Anthrax	15	15	9	7	21	20	36	27
Cerebrospinal meningitis	14	11	11	9	16	15	7	6
Chicken pox	414	127	418	131	435	154	546	162
Diphtheria and croup	615	352	689	360	642	332	679	347
Dysentery	2	1	2	2	2	1	6	6
Lethargic encephalitis	1	1	3	3	2	1	3	3
Measles	2,966	373	2,850	372	3,299	394	2,752	369
Poliomyelitis	2	2	6	5	6	6	6	5
Scarlet fever	278	137	427	137	428	154	386	120
Typhoid fever	307	197	290	183	315	192	344	195

JAMAICA

Communicable diseases—Four weeks ended April 26, 1930.—During the four weeks ended April 26, 1930, cases of certain communicable diseases were reported in Kingston, Jamaica, and in the Island of Jamaica outside of Kingston, as follows:

Disease	Cases		Disease	Cases	
	Kingston	Other localities		Kingston	Other localities
Chicken pox	7	13	Lethargic encephalitis		2
Dysentery	2	1	Puerperal fever		1
Erysipelas		2	Tuberculosis	20	47
Leprosy	1	5	Typhoid fever	14	49

VIRGIN ISLANDS

Communicable diseases—April, 1930.—During the month of April, 1930, cases of certain communicable diseases were reported in the Virgin Islands as follows:

St. Thomas and St. John:	Cases
Chancroid	1
Gonorrhea	4
Syphilis	7
Tuberculosis	2

St. Croix:	Cases
Chicken pox	2
Gonorrhea	2
Syphilis	4
Tuberculosis	1

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

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

CHOLERA

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

Place		Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May, 1930	
					15	22	1	8	15	22	29	5	12	19	26	3	10
China:																	
Canton	C	2															
Manchuria—Dairen	C							1									
Swatow	D	2															
India	C	19,582	12,350	6,461	1,577	1,258	1,515	1,564	1,834	2,278							
	D	10,903	6,507	3,606	877	765	900	829	929	1,225							
Bassein	C												3	1		2	
	D												2	1	1	1	
Bombay	C											4					
Calcutta	C	265	138	202	65	46	53	105	97	53	110	94	137		165		
	D	114	90	110	45	27	25	56	73	25	51	71	85		118		
Madras	C	2															
	D	2															
Negapatam	C		1	12													
	D		1	4													
Rangoon	C	1	6	3		1	1	1	1	1						1	
	D	1	5	3		1			1	1						1	
Tuticorin	C	23	35	3													
	D	6	9	1													
India (French):																	
Chandernagor	C	14	1		1	2	1		1			2	1			1	
	D	12	1				1	1		1		2					
Karikal	C		1			2	1	1			1	11		1			
	D						1				1	8		1			
Pondicherry Province	C	4															
	D	3															
Indo-China (see also table below):																	
Pnompenh	C	4	3	11		2	5	2									
	D	3	3	8	1	2	3	1	1	2	1	2			2		
Saigon and Cholon	C	2	1	2				5	1	6	1	6	17	12	19	28	
	D		1	2				4	1	5			10	10	13	22	

Siam	C	7	11	3	1	3		3				1	8		3		2
	D	3	2			1		3					6		2		
Bangkok	C	5	9	3	1	1				1		1	1	5	4	5	
	D	1	1									1	1	2	1		
Nagara Pathom	C							1							4	6	
	D							1							2		
On vessel:																	
S. S. at Suva, Fiji Islands	C						1										
S. S. Sutley, at Batavia, from Calcutta	C				1												

Place		October, 1929	November, 1929	December, 1929	January, 1930			February, 1930			March, 1930			April, 1930	
					1-10	11-20	21-31	1-10	11-20	21-28	1-10	11-20	21-31	1-10	11-20
Indo-China (French) (see also table above):															
Annam [1]	C		2		1			2	2						
Cambodia [1]	C	221	43	41	71		76	41	3	46	49	32		18	6
Cochin-China [1]	C	3	15	46	67		110	64	39	21	5	22	55	48	

[1] Reports incomplete.

PLAGUE

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

Place		Oct. 20-Nov. 16, 1929	Nov. 17-Dec. 14, 1929	Dec. 15, 1929-Jan. 11, 1930	Jan. 12-Feb. 8, 1930	Week ended—												
						February, 1930		March, 1930					April, 1930				May, 1930	
						15	22	1	8	15	22	29	5	12	19	26	3	10
Argentina:																		
Andalgala. [1]																		
Rosario	C	2			P													
Plague-infected rats		3																
Santa Fe	C	1			6													
Tucuman	C	1																
Villa Lia	D							2										
Azores: Ponta Delgada	C			P														
Belgian Congo: Djugu	D		2															

[1] On Mar. 11, 3 deaths from bubonic plague were reported in Andalgala, Catamarca Province, Argentina, since Feb. 5, 1930.

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

PLAGUE—Continued

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

Place		Oct. 20–Nov. 16, 1929	Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May, 1930	
						15	22	1	8	15	22	29	5	12	19	26	3	10
Brazil:																		
Rio de Janeiro	C				1													
	D				1													
Sao Paulo.[3]																		
British East Africa (see also table below):																		
Tanganyika	C								7						11			
	D														10			
Uganda	C	336	261	127	82			23	24	30	40		28					
	D	310	262	112	70			22	21	26	33		28					
Ceylon:																		
Colombo	C		5	2	4	2			1		1	1	2	1		1		
	D		4	1	4	2			1		1	1	2	1		1		
Plague-infected rats			1		1	1		1	1		2			2			2	
Chile: Antofagasta	C				1	1							1					
	D												2					
Dutch East Indies:																		
Batavia and West Java	C	266	340	286	167	31	38	38	46	34	41	23	26					
	D	262	335	280	164	30	37	37	46	33	42	23	25					
Plague-infected rats		1	8		3		2	1			2		1		6	2		
Celebes—Makassar	C		1		1													
	D				1													
Plague-infected rodents			1	4														
East Java and Madura	C	41	29	2														
	D	43	29	2														
Java and Madura	D	475	537	458	317	64	69	105	58	59	73	45						
Surabaya	C		4															
	D		4															
Ecuador (see table below).																		
Egypt:																		
Alexandria	C	11	6	2	4			1		1	1	1	1			1	2	2
	D	4	3	3	1						1					1		
Assiout	C		1	4												7	7	3
	D		1	2												3	2	

Assuan	C			2							3	1							
Beheira	C		1		2						3		1						
Beni Suef	C	2									4		1		2		1	2	3
Dakahlieh	C		1	1		3	2	1	2	4		1							
	D			1						1									
Gharbieh	C	6	3	2	1												1		
	D		2	1													1		
Girga	C													1					
Greece (see also table below):																			
Messenia	C	2																	
Patras	C	2										P	1						
Piraeus	C		1		1														
Pyrgos	C	6	2											1					
India	C	8,265	6,016	4,713	4,814	1,670	1,255	1,324	1,390	1,090	1,187								
	D	4,374	3,457	3,093	3,308	875	913	1,046	1,106	838	911								
Bassein	C				1					2	1								
	D				1					1									
Bombay	C				1			1			2		3		4				
	D				1			1			2		1	1	3	4			
Plague-infected rats		31	36	29	28		13	5	13	21	7	33	25	20	28	25	35		
Madras Presidency	C	152	236	336	27	11	13	88	119	56	67	14	6	5					
	D	130	108	174	13	10	10	52	68	34	32	6	4	3					
Rangoon	C	2	1	3	3	1	3	1	2		1	2			3		2		
	D	2	1	4	2		3	1	2		1	2			2	1	1		
Plague-infected rats		6	2		1		5	1	1			2	1	1	2		1		
Indo-China (see also table below):																			
Pnompenh	C	2	5		1									2			1		
	D	2	5		2	1	7		5	7	2	2	2	2	1	1			
Saigon and Cholon	C			1	2							1							
	D			1	2							1							
Iraq:																			
Baghdad	C	4	3	2	6		2	2	2	2	1	1	3				4	7	
	D	2	1	1	2				1	1			3				2	3	
Basra	C			1															
Naudham	C	1		1															
Japan: Osaka (vicinity of)—Plague-infected rats				1	7		1	3	2	2		1	1	1	1				
Kwang-Chow-Wan	C				25		11	6	8				7						
Madagascar (see also table below):																			
Tamatave	C	3		4											1				
	D	3		3															
Morocco	C	3	9	12	4	19	6	14	9	8	5	26	16	14	41	34	32		
	D							7	6	4	1	7	6	6	26	12	11		
Nigeria: Lagos	C	58	10	15	6	3	1	2	1	4	1	7	1						
	D	49	10	15	6	3	1	2	1	4			1						
Plague-infected rats		33	21	18	44	15	8	8	13	7	12	3							
Peru (see table below).																			
Senegal (see table below).																			

[1] 21 cases of plague with 8 deaths were reported Jan. 29, 1930, in the State of Sao Paulo, Brazil; 15 of these cases were in the city of Sao Paulo.

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

PLAGUE—Continued

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

Place		Oct. 20–Nov. 16, 1929	Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May, 1930	
						15	22	1	8	15	22	29	5	12	19	26	3	10
Siam	C	1	3	11	8	4	5	5	3	1	4	8						
	D	1	3	9	6	4	4	3	2	1	3	8						
Bangkok	C			1					1	1	1	2	1					
	D			1					1	1	1	2						
Nagara Pathom	C		1	6	7	3	1		1				1	4	3	2	1	
	D		1	5	7	4	1		1				1	4	3	1	1	
Nagara Rajsima	C			2	2	1	1						1		1			
	D			1									1		1			
Syria: Beirut	C		1															
Tunisia:																		
Sfax district	C	34	20	14	18	19		3								1		
Tunis	C	41		42	6			5		1								
	D			21														
Union of Socialist Soviet Republics: Kazaks	C			P														
Union of South Africa:																		
Cape Province	C	13	4		1		2				1							
	D	5		7			1				1							
Orange Free State	C	7	6	5	15	4	2	3	2	3	1		1					
	D	4	3	1	9	1	1		1	2	1							
Transvaal	C				8		1	1			1							
	D				3						1							
On vessel:																		
At Rio de Janeiro, Brazil, from Argentina	C				1													

Place		October, 1929	November, 1929	December, 1929	January, 1930	February, 1930	March, 1930
British East Africa (see also table above):							
Kenya	C	146	157	54	34	------	--------
Uganda	C	384	179	216	87	------	--------
	D	351	164	199	75	------	--------
Ecuador: Guayaquil	C	12	14	17	8	2	2
	D	4	3	6	4	2	--------
Plague-infected rats		------	9	13	4	2	2
Greece (see also table above)	C	5	2	1	------	------	--------
	D	2	1	------	------	------	--------
Indo-China (see also table above)	C	------	------	10	10	30	27
Madagascar (see also table above)	C	203	182	264	282	------	--------
	D	193	163	248	258	------	--------
Ambositra Province	C	2	42	111	128	------	--------
	D	2	33	96	111	------	--------
Antisirabe Province	C	17	5	16	26	------	--------
	D	17	5	16	25	------	--------
Itasy Province	C	------	10	19	31	------	--------
	D	------	10	16	31	------	--------
Miarinarivo	C	12	5	3	------	------	--------
	D	11	5	3	------	------	--------

Place		October, 1929	November, 1929	December, 1929	January, 1930	February, 1930	March, 1930
Madagascar (see also table above)—Contd.							
Moramanga Province	C	27	4	12	7	------	--------
	D	27	3	12	7	------	--------
Tamatave Province	C	5	------	2	3	------	--------
	D	4	------	2	1	------	--------
Tananarive Province	C	141	103	97	88	------	--------
	D	132	93	98	83	------	--------
Peru	C	1	------	------	------	------	--------
Senegal:							
Baol [1]	C	45	23	5	------	------	18
	D	13	16	2	------	------	8
Dakar [1]	C	3	17	8	------	------	--------
	D	2	5	1	------	------	--------
Louga [1]	C	41	------	------	------	2	--------
	D	24	1	------	------	------	--------
Thies [1]	C	3	------	------	3	------	3
	D	3	------	------	------	------	2
Tivaouane [1]	C	41	8	------	1	------	11
	D	21	4	------	------	------	8

[1] Incomplete reports.

SMALLPOX

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

Place		Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May, 1930	
					15	22	1	8	15	22	29	5	12	19	26	3	10
Algeria:																	
Algiers	C	3	------	6	------	------	1	------	2	2	1	------	1	------	------	------	------
Constantine	C	------	------	1	------	------	------	------	------	------	------	------	------	------	------	------	------
Oran	C	3	------	5	------	------	------	------	1	------	------	------	------	------	------	------	------
Arabia: Aden	C	4	1	1	1	------	1	------	------	1	1	1	------	------	1	------	------
	D	1	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------
Bolivia: La Paz (see table below).																	

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

SMALLPOX—Continued

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

Place		Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May, 1930	
					15	22	1	8	15	22	29	5	12	19	26	3	10
Brazil: Rio de Janeiro	C		1														
British Borneo: Sarawak	C			4	2	15	2										
British East Africa (see also table below):																	
Tanganyika	C	50	27	5			13	36	17	32	53	1					
	D	10	5				1	7	3	1	3						
British South Africa:																	
Northern Rhodesia	C	54															
Southern Rhodesia	C	58	33	1	6												
	D	4	6														
Canada:																	
Alberta	C	22	16	22		1	3		2	5	2	1	3	1			
Edmonton	C	11	15	19		1			1		1	2	3				
British Columbia—Vancouver	C	14	17	16	5	4	1	6	1	7	3	9	8	1	5	3	
Manitoba	C	6	8	6	2				2	1	1		2			2	
Ontario	C	63	51	63		28	8	50	38	27	26	9	17	30	18	12	
Fort William	C			4													
North Bay	C	2		2			1										1
Ottawa	C	4	7	10	1	2	2	6	9		6	4	8	4	7	2	3
Toronto	C			2													
Quebec	C	10	3	11													
Montreal	C			1													
Saskatchewan	C	40	61	86	2	64		10	9	11	15	12	3	10	7	21	
Regina	C		31														1
Ceylon:																	
Angoda, Western Province	C					10										6	
	D					1										2	
Colombo	C		1	1	2	1											
	D				2												
China:																	
Canton	C	4	5	7	4	4	1	2	1	1	4			2	1		
	D			2	2	1				1		1	1	1		1	
Chungking	C	P	P	P	P		P	P	P	P	P	P	P				
Foochow	C	P	P	P	P		P		P			P					
Hong Kong	C	62	102	118	18	18	16	10	12	10	5	11	20	7		1	5
	D	55	73	109	15	15	11	10	6	10	4	5	11	9	3		4

Manchuria—																	
Harbin	C	2	1	3													
Kwangtung—Dairen	C		1	6		4		1						1			
Nanking	C		P	P	P				P				P				
Shanghai—																	
Foreigners only	C	5	7	5				2	1		1		2	1			
Including natives	D	2	6	8	1	3	2	1	4	1	3	2	4	3	2	1	
Swatow	D		2	3	3	1	2			3	2	1	2				
Tientsin	C	4	2	1		1				2			1				
Chosen (see table below).																	
Colombia:																	
Barranquilla	C		1		100	1	1						1				
Buenaventura	C	56	13		1				1	1			7	5	2	1	
	D	1															
Costa Rica:																	
Port Limon	C																
San Jose [1]	C														1	2	
Curacao (alastrim)	C										10		7				
Dutch East Indies:									10	3		1			1		
Belawan Deli	C	1	1														
Borneo	C			1						25	98	62	17				
	D			1						1	5	6	6				
Java—																	
Batavia and West Java	C	37	17	14	2	3	4	3			1		2		1	1	
	D	8	10	7	1	1	2	3					2			1	
East Java and Madura	C	13															
Sanggi Islands	C	105	17	25	12					5							
	D	6	3							1							
Sumatra	C	1	1	2					48								
	D								5								
Egypt:																	
Alexandria	C	5															
Port Said	C			2									1				
Great Britain:																	
England and Wales	C	994	1,005	1,455	322	376	439	393	433	361	449	457	423	345	353		
Aston under Lyne	C	6	3	4	3	8	7	11	5	4	2	4	9	3	4		
Bradford	C	20	8	5	2								1			2	
Cardiff	C	1									2		1	2			
Leeds	C			6	2	1		8	6	3	4	3	1	1			
London	C	321	480	597	138	193	183	185	210	124	195	181	169	169	129		
London and Great Towns	C	783	799	1,101	255	312	292	297	323	243	350	332	308	264	265		
	D	1		2	1		4		1		1	1	2	1	1		
Newcastle on Tyne	C	1															
Sheffield	C										5	3	1	1			
Stoke-on-Trent	C	1	12	12	2	10	20	9	18	23	40	41	17	23	33		
Greece: Patras	C		1														
Hedjaz	C	6	11	11													
India	C	7,644	12,789	26,524	9,100	9,061	8,084	9,791	9,269	10,122							
	D	1,963	3,730	6,186	1,922	2,068	1,762	1,958	1,826	2,128							
Bombay	C	42	119	342	112	155	173	198	233	187	114				89	84	
	D	14	57	164	57	74	95	117	123	114	78				64	44	

[1] 5 cases of smallpox were reported Apr. 14 in Costa Rica outside of city of San Jose.

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

SMALLPOX—Continued

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

Place		Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May, 1930	
					15	22	1	8	15	22	29	5	12	19	26	3	10
India—Continued.																	
Calcutta	C	54	88	185	96	73	70	160	106	155	.....	100	153	.....	122	.....	.....
	D	39	62	130	63	52	56	116	77	138	.....	90	124	.....	103	.....	.....
Cochin	C	387	234	234	62	17	31	74	87	71	72	61	56	49	58	20	.....
	D	72	20	27	8	5	8	8	14	11	3	7	3	4	6	2	.....
Karachi	C	7	17	30	5	11	.....	22	14	13	12	8	10	9	7	4	.....
	D	2	11	9	4	4	.....	8	5	3	3	4	10	3	2	2	.....
Madras	C	64	85	105	39	47	25	48	38	53	43	39	55	.....	27	25	.....
	D	11	16	16	5	4	12	8	8	9	12	7	6	.....	5	10	.....
Moulmein	C	6	18	65	26	37	51	29	39	43	40	25	10	.....	33	.....	.....
	D	3	9	18	10	7	11	12	15	9	8	9	4	.....	3	.....	.....
Negapatam	C	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rangoon	C	1	2	7	1	1	4	1	5	1	3	1	.....	1	1	2	.....
	D	.....	.....	4	1	1	.....	.....	2	1	2	.....	.....	.....	.....	.....	.....
Tuticorin	C	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vizagapatam	C	.....	2	5	5	2	.....	2	4	8	53	4	1	.....	2	3	.....
	D	.....	.....	.....	1	.....	.....	.....	1	1	14	2	1	.....	.....	1	.....
India (French):																	
Chandernagor	C	.....	.....	3	5	.....	2	4	.....	4	2	.....	4	.....	2	.....	.....
	D	.....	.....	.....	2	2	.....	1	.....	.....	2	.....	.....	.....	.....	.....	.....
Karikal	C	1	.....	3	4	.....	4	4	.....	10	12	2	8	9	2	.....	.....
	D	1	.....	3	2	.....	4	2	.....	5	2	.....	3	3	2	.....	.....
Pondicherry Province	C	7	20	22	9	17	12	14	.....	9	12	.....	12	1	11	.....	.....
	D	7	19	19	9	14	11	5	.....	7	6	.....	11	1	8	.....	.....
India (Portuguese)	C	1	.....	16	10	12	17	11	5	21	3	9	5	.....	.....	.....	.....
	D	.....	.....	.....	.....	2	1	3	.....	1	.....	1	.....	.....	.....	.....	.....
Indo-China (see also table below):																	
Pnompenh	D	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Saigon and Cholon	C	.....	4	3	2	1	1	.....	.....	2	.....	1	.....	.....	4	.....	.....
	D	.....	2	3	1	.....	1	.....	.....	1	.....	.....	.....	1	3	1	.....
Iraq:																	
Baghdad	C	20	16	7	2	1	.....	.....	.....	.....	.....	.....	1	2	.....	2	.....
	D	10	5	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Basra	C	5	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Diyalah Liwa	C	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	D	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kirkuk Liwa	C	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	D	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mossoul	C	48	80	26	.....	8	4	.....	.....	.....	.....	.....	.....	22	.....	.....	.....
	D	17	3	7	.....	1	1	.....	.....	.....	.....	.....	.....	3	.....	.....	.....

Ivory Coast (see table below).																	
Macao	D							2	1	2			1			1	
Mexico (see also table below):																	
Jalisco (State): Guadalajara	D	6	9	9	1	3	6	4	3	7	5	7	6	4	8	2	
Juarez	C	11	3	2			3				2						
	D	2	2	1			1										
Mexico City and surrounding territory [1]	C	19	25	30	16	13	9		26	13	21	46	36	19			
	D	9	4	7	5	2	14		3	9	6	13	14	8			
Morelos State.[2]																	
San Luis Potosi	C						1										
	D						1										
Morocco (see table below).																	
Netherlands: Rotterdam	C	5	1														
	D	1															
Nigeria: Lagos	C		2	5	2												
	D		1	2													
Persia (see table below).																	
Philippine Islands: Sarangani and Balut Islands [3]	D		40	18	3												
Poland	C	4	2		2										2		
Portugal:																	
Lisbon	C	3	0	4	7					4	1	2	2	3	3		
Oporto	C	1															
Rumania	C			1				1									
Siam	C	3	42					2					2	2			
	D	1	9	1										2			
Somaliland, British: Boales	C	24	5	35		12	7			2							
	D	9	9	8		2			2	3	1						
Straits Settlements	C			2							2	3	1	1			
	D			1							1						
Sudan (Anglo-Egyptian)	C	284	290	230	19	1	59		8	5	22	25	2	9	31		
	D	45	65	34	2		4			2		3	1		3		
Sudan (French) (see table below).																	
Syria (see table below).																	
Tunisia: Tunis	C	47	20	7			3				3	1			1		
Turkey (see table below).																	
Union of South Africa:																	
Cape Province	C	P	P	P	P	P	P	P	P								
Natal	C	P															
Orange Free State	C	P	P	P	P	P	P	P	P	P							
Transvaal	C	P	P	P	P	P	P	P	P								
Upper Volta	C				17			9	1	1	2						
Zanzibar	C								9	2		2					
On vessel:																	
S. S. Tairoa, at Liverpool, from London	C						1										
S. S. Karagola, at Zanzibar, from India	C			4													
S. S. Karagola, at Lorenzo Marques, from India	C					1											

[1] During the month of March, 1930, 100 cases of smallpox were reported in Mexico City, Mexico, and surrounding territory.
[2] Newspaper reports of Feb. 4 show an epidemic of smallpox in Ionacatepec, Morelos State, Mexico, and vicinity, giving 600 deaths in preceding 2 weeks.
[3] On Feb. 1, 1930, 317 cases of smallpox with 162 deaths were reported to that date in the Sarangani and Balut Islands.

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

SMALLPOX—Continued

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

Place		October, 1929	November, 1929	December, 1929	January, 1930			February, 1930			March, 1930			Apr. 1-10, 1930
					1-10	11-20	21-31	1-10	11-20	21-28	1-10	11-20	21-31	
Belgian Congo	C		42	74										
	D		2	4										
Dahomey	C	4	19	19										
Indo-China (see also table above)	C	128	245	142	136	140	184	148	286				26	261
Ivory Coast	C											7		
Sudan (French)	C		P	17		4	225	12	P	201		200	409	371
	D						25	1		10		18	31	30
Syria: Beirut	C	28	60	25	18	6	46	4	7	7	4	8	5	10
	D	1	6											
Taiwan: Taihoku	C								31	12	31			

Place		October, 1929	November, 1929	December, 1929	January, 1930	February, 1930	March, 1930
Bolivia: La Paz	C	120	22				
British East Africa (see also table above):							
Kenya	C		278	168	12	12	6
Chosen	C		2		1	4	
Mexico: Durango (see also table above)	D	2	2	4	12	6	5
Morocco	C	12	41	84	29	74	

Place		October, 1929	November, 1929	December, 1929	January, 1930	February, 1930	March, 1930
Nigeria	C	233	228	293			
	D	47	45	70			
Persia	C	57		P			
	D	188	37				
Turkey	C	100	136	883	215	114	
	D	29	12	457	66	42	

TYPHUS FEVER

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

Place		Oct. 20–Nov. 16, 1929	Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May 3, 1930
						15	22	1	8	15	22	29	5	12	19	26	
Algeria:																	
Algiers	C	2	1	14	3	3		1		2	1		3	2	3	2	
Constantine Department	C	1	3	2	4	3	2			2	3			4	9	2	
Oran	C		1		2												
Bolivia: La Paz	C	13	14														
Brazil: Sao Paulo.[1]																	
Bulgaria	C		9	41					13	9				15			
	D		1	2					1					1			
Sofia	C	1			1												
	D	1															
Chile:																	
Talcahuano	D				1												
Valparaiso	C				1												
China: Tientsin	C			1	1												
Chosen (see table below).																	
Czechoslovakia (see table below).																	
Egypt:																	
Assuan	C			9													
	D			1													
Beheira Province	C	2		7	14	5	13					2					
	D	1					5										
Cairo	C		1				5										
	D		1														
Dakahlieh	C			11													
	D			2													
Port Said	C				2			1									
Suez	C	1			1												
Greece (see table below).																	
Iraq: Baghdad Liwa	C			1									2				
	D			1													
Ireland:																	
Irish Free State	C			1													
Dingle—Kerry County	C															3	
Northern Ireland—Cookstown	C								3								
Latvia (see table below).																	
Lithuania (see table below).																	

[1] Press reports show that 10 deaths from typhus fever occurred in Sao Paulo, Brazil, from Nov. 3 to 30, 1929.

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

TYPHUS FEVER—Continued

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

Place		Oct. 20–Nov. 16, 1929	Nov. 17–Dec. 14, 1929	Dec. 15, 1929–Jan. 11, 1930	Jan. 12–Feb. 8, 1930	Week ended— February, 1930		March, 1930					April, 1930				May 3, 1930
						15	22	1	8	15	22	29	5	12	19	26	
Mexico: Mexico City, including municipalities in Federal District	C	3	5	6	12	4	2	3			2	1	1	2	1		
	D	1		2	4							1		2	1		
Morocco	C	4	2	6	23		2	8	11	4	7	14	13	6	5	3	1
	D											4	3	2	1		
Palestine	C	2	1	1			1			1	1	2	2		1		
Peru: Arequipa (see table below).																	
Poland	C	62	74	61	296		72	55	56	69	54	43	61	59	64		67
	D		10	4	21		3	2	3	5	2	2	4	4	2		6
Portugal: Oporto	C	3	3					1			2			1			
Rumania	C	19	103	82	241	88	58	54	93	90							
	D	2	10	5	25	11	2	5	5	7							
Tunisia	C	1	3	2			3										
Turkey (see table below).																	
Union of South Africa:																	
Cape Province	C	P	P	P	P	P	P	P	P	P	P		P				
Natal	C	P	P	P	1	P			3				P				
Orange Free State	C	P	P	P	P	P	P	P	P	P	P		P				
Transvaal	C	P															
Yugoslavia (see table below).																	

Place		October, 1929	November, 1929	December, 1929	January, 1930	February, 1930	March, 1930
Chosen: Seoul	C			1		17	
Czechoslovakia	C		3		10		
France	C			1			
Greece: Athens	C	7		6	12	6	3
Latvia	C			2	18		
Lithuania	C	6	4	5	2	70	62
	D	1	1	1		5	4
Peru: Arequipa	D	1					
Turkey	C	10	2	4	2	3	1
Yugoslavia	C	1		6	26	33	46
	D			1	3	5	2

YELLOW FEVER

On April 22, 1930, 2 cases of yellow fever were reported at Mage, Brazil. Mage is on the Leopoldina Railway, between Rio de Janeiro and Nichtheroy.