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PREVALENCE OF UNDULANT FEVER IN THE UNITED STATES

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The purpose of this note is to give information concerning the prevalence of undulant fever in the United States for the years 1929 and 1930. Reports received from State health authorities showing the number of cases reported each month are published in the Public Health Reports. These published figures have been tabulated by States and by months and then submitted to the State health department of each State for verification and correction. Replies were received from 46 States for each year. This is the beginning of an attempt to determine the seasonal prevalence of undulant fever in the United States. The first suggestion of seasonal prevalence was noted in 1929, and a similar rise and fall was noted in 1930, though not following closely the 1929 curve.

It should be pointed out that in the vast majority of instances these figures represent the month of *reporting* the case, instead of the month of onset. The onset is not always easy to determine, for it is so gradual that the patient frequently is unable to determine the exact date on which his illness began. In some instances the diagnosis is long delayed, and so it is possible that cases reported in a given year may have begun one or two years prior to date of report.

The accompanying table shows the reported cases of undulant fever by States for the years 1929 and 1930.

South Dakota.....																								4		
Tennessee.....	1	1	1	1	2					1														11		
Texas.....	1	1				2															1			11		
Utah.....																								0		
Vermont.....																								0		
Virginia.....					2																			19		
Washington.....	1			1	2					4														24		
West Virginia.....					3					2														24		
Wisconsin.....						3				2														33		
Wisconsin.....	2	7	2	5	6					1														1		
Wyoming.....						1																		28		
Wyoming.....						1				1														2		
Total.....	27	35	50	67	69	74	107	93	158	121	83	68	962	91	90	90	104	138	184	163	114	129	125	126	101	1,383

* Cases in the District of Columbia included from personal knowledge of author; no cases reported through health department.
 * Wisconsin State Department of Health states that 82 cases were brought to their attention in 1930, but only 28 (taken from Public Health Reports) showed the month of their occurrence.



CHART 1.—Undulant fever, by months, in the United States, 1929 and 1930

Though the table shows but 952 cases officially reported in 1929, Simpson¹ collected information from both official and unofficial sources and obtained a total of 1,305 cases for the year 1929.

Undulant fever is a reportable disease in 32 States, not reportable in 7, and no information on this question was received from 9.

The prevalence by months for the two years is shown graphically in the chart.

¹ Simpson, W. M.: Undulant fever (Brucellosis). A clinopathologic study of 90 cases occurring in and about Dayton, Ohio. *Annals of Internal Medicine*, vol. 4, No. 3, September, 1930, pp. 228-250.

While the curves for the two years show a general resemblance, it will be noted that the curve for 1930 is less sharp and the peak was reached two months earlier. This warns us that observations should be made for several years before we can draw any conclusions as to seasonal prevalence.

STUDIES IN ASPHYXIA

I. NEUROPATHOLOGY RESULTING FROM COMPARATIVELY RAPID CARBON-MONOXIDE ASPHYXIA ¹

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INTRODUCTION

The chemical and pathological reaction of dogs to asphyxia by carbon monoxide and by atmospheres which are deficient in oxygen has been studied during the past two years by the United States Bureau of Mines. These studies have been conducted for the purpose of obtaining fundamental information on the response of the organism to asphyxial environment, with the particular viewpoint of devising a procedure for treating moribund cases of carbon-monoxide poisoning. It has been repeatedly observed that many of these cases have a fatal termination, even though respiration has been induced and the carbon monoxide removed from the blood.

WORK OF PREVIOUS INVESTIGATORS

A review of the work of previous investigators has recently been published by one of the writers ² and therefore will not be included in this report.

OUTLINE OF INVESTIGATION

The scope of this series of investigations includes the reactions attending comparatively rapid asphyxia resulting from exposure to conditions which cause death in dogs in 20 to 30 minutes, and comparatively slow, prolonged asphyxia resulting from exposure to conditions which maintain a serious state of asphyxia during 8 to 16 hours with possible death at the end of that period. Experience has shown that this latter condition is the most unresponsive to present methods of treatment. In some of the experiments the exposure was continuous until death occurred, in others it was terminated when the first indication of terminal symptoms was observed. In the

¹ Published by permission of the Director, U. S. Bureau of Mines.

² Sayers R. R., and Davenport, S. J.: *Review of Carbon-Monoxide Poisoning*. Public Health Bulletin No. 195 (1930), U. S. Public Health Service.

latter instance some of the animals recovered from the acute effects while others died within periods of time varying from a few hours up to three days. Those that recovered were kept for observation for periods varying from a week to five months.

As previously stated, the investigations included asphyxia produced by carbon monoxide and that produced by atmospheres deficient in oxygen. The information obtained from a study of the latter not only is important in the treatment of accidents resulting from oxygen-depleted atmospheres, but it also gives fundamental information on simple asphyxia. It likewise, through a comparison of findings, yields information on whether or not the reaction to carbon monoxide is wholly or in part due to a specific action, or merely to a type of asphyxia.

The blood of the animals was examined, both during and following exposure, for sugar, nonprotein nitrogen, urea, uric acid, total and preformed creatinine, lactic acid, calcium, phosphates, hydrogen-ion concentration, carbon dioxide, oxygen, carbon monoxide, carbon-dioxide capacity, hemoglobin, red-cell and white-cell counts, and differential counts. All animals were autopsied immediately after death or killed for autopsy at the end of the observation period. Observations were made for gross pathological changes, and specimens of tissue were taken for microscopic examination.

SCOPE OF PRESENT REPORT

This is the first of a series of reports in which the results of the investigations as previously outlined will be given. It deals specifically with the neuropathology found in four dogs after continuous exposures of 20 to 30 minutes to 0.6 per cent carbon monoxide in air by volume. These conditions produced 75 to 85 per cent carbon-monoxide hemoglobin and resulted in death at the end of the period of exposure.

APPARATUS AND EXPERIMENTAL PROCEDURE

A detailed description of the apparatus and technique for making the animal exposures will be given in a succeeding report. Briefly, the carbon monoxide-air mixture was circulated from a large reservoir through a mask over the head of the animal. This procedure, rather than that of placing the animals in a test chamber, was followed in order to facilitate making observations and obtaining blood specimens during the exposure period. Care was taken to arrange the mask so that it would be under about one inch of water positive pressure and also to have sufficient circulation to remove expired air and prevent

rebreathing. The atmosphere supplied to the animal was continuously analyzed with a carbon-monoxide recording apparatus.³

The animals were autopsied immediately after death and the brain was removed. The brain tissue was fixed in Carnoy's solution and in Zenker's solution. Blocks of tissue of 2 millimeters or less in thickness were taken from the motor cortex, corpus striatum, mesencephalon, middle of pons, medulla oblongata, and spinal cord. These were embedded in paraffin and sections made 5 to 7 microns in thickness. The Zenker-fixed material was stained with hematoxylin and eosin. In this investigation, practically all the study was made on the Carnoy-fixed material that was stained for Nissl granules by toluidin and erythrosin, because this preparation afforded more detail.

MICROSCOPIC PATHOLOGY

CORTEX

There was both a perineuronal and perivascular edema in the cortex. With the exception of some of the large motor cells, which showed relatively little change, practically the entire cortex was severely damaged. In many regions of the cortex the deeper layers of cells showed more severe degenerative changes than the superficial or outermost layer. Most of the cells showed central chromatolysis with swollen and distorted nuclei. Many of the pyramidal cells were stained uniformly a dark blue. (See figs. 2 to 5, inclusive.) The capillaries were dilated. Stasis was marked. Occasionally, the perivascular space was infiltrated with leucocytes. Occasional areas of hemorrhage were found. These were no larger than would occur by diapedesis. (See figs. 6 to 10, inclusive.)

The olfactory cortex showed particularly severe damage. The nerve cells were fragmented. Their nuclei were greatly swollen, vacuolated, and distorted. There was marked perineuronal and perivascular edema.

THALAMUS

Edema of the thalamus was very marked, both perivascular and perineuronal. Some of the neurons appeared shrunken. There was a slight central chromatolysis. The nuclei were eccentric and distorted. Some of the cells were fragmented.

CORPUS STRIATUM

The corpus striatum presented severe degenerative changes. There was very marked perivascular and perineuronal edema. Many neurons seem to have been ruptured. The cytoplasm was fragmented and vacuolated. There was a marked chromatolysis. The

³ Katz, S. H., Reynolds, D. A., Frevert, H. W., and Bloomfield, J. J.: A carbon-monoxide recorder and alarm. U. S. Bureau of Mines Tech. Paper 355 (1926).

nuclei were swollen, distorted, and vacuolated. In many instances nothing appeared to be left except the nucleus around which was a little Nissl material; then a clear space marking the site of the original cytoplasm of the neuron. Some of the nerve cells were uniformly, darkly stained and others appeared to be invaded by satellite cells. There was marked stasis and the vessels were dilated. (See figs. 11 and 12.)

MESENCEPHALON

The section through the colliculi of the mesencephalon showed dilation of the vessels, stasis and marked perivascular and perineuronal edema. The large polygonal-shaped cells with large Nissl granules (cells of the tecto-spinal tract) showed relatively little change as compared with the small cells. The latter showed a chromatolysis and swelling of the nuclei. (See figs. 13 and 14.)

Oculomotor nucleus.—Most of the cells of the oculomotor nucleus showed very little chromatolysis. A few were shrunken and stained uniformly a dark blue. There was practically no perineuronal edema. The vessel in the nucleus was dilated and showed stasis with perivascular edema. The nucleus as a whole did not show much damage. (See fig. 15.)

Trochlear nucleus.—Most of the cells of the trochlear nucleus showed no degenerative changes. A few of the cells were shrunken and stained uniformly a dark blue. The nucleus showed about the same damage as the oculomotor nucleus. The section appeared very similar to the nucleus of the oculomotor, shown in Figure 15.

Nucleus ruber.—The nucleus ruber, as a whole, appeared to be quite normal. In some of the cells the Nissl granules were dustlike between the nucleus and periphery of the cell. There was no perineuronal edema. The nuclei of the cells appeared normal. (See fig. 16.)

Substantia nigra.—Most of the cells of the substantia nigra showed a central chromatolysis. The Nissl granules in the periphery of the cell were large. Some of the neurons were shrunken. There was a slight edema throughout the substantia nigra. Many of the cells were stained homogeneously a dark blue. (See fig. 17.)

Mesencephalic nucleus of the trigeminal nerve.—The cells were shrunken and stained homogeneously dark blue. The perineuronal edema was marked. (See fig. 14.)

Interpeduncular ganglion.—The interpeduncular ganglion showed marked perivascular and perineuronal edema, and chromatolysis.

PONS

Nuclei pontis.—The neurons of the nuclei pontis showed marked central chromatolysis throughout the nucleus. The nuclei were eccentric and distorted. There was a slight perineuronal edema.

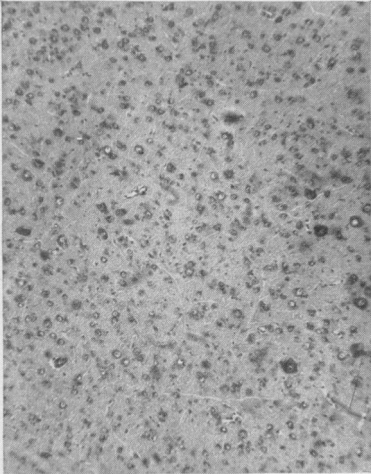


FIGURE 1.—Section through the cortex of a control brain. (Reduced one-third from photomicrograph of 81-diameter magnification)

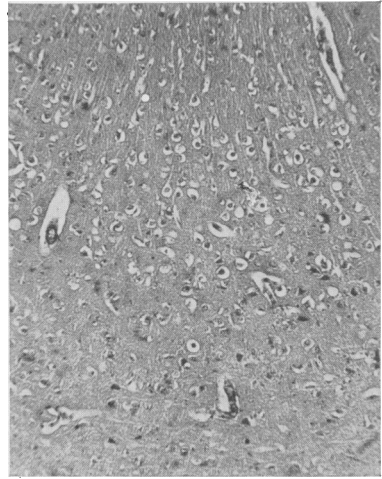


FIGURE 2.—Section through the cortex showing perineuronal and perivascular edema and degenerative changes in the nerve cells. (Magnification 81 X, reduced one-third)

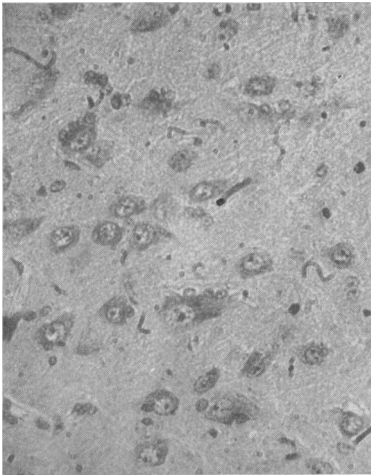


FIGURE 3.—Same section as in Figure 1. (Magnification 353 X, reduced one-third)

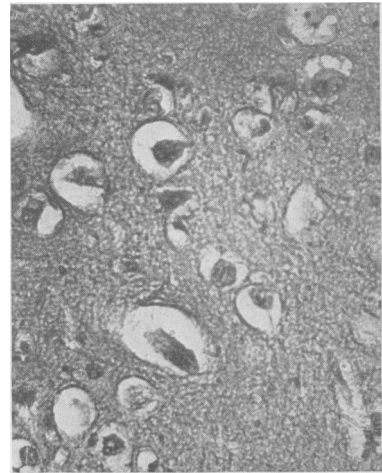


FIGURE 4.—Same section as in Figure 2. (Magnification 353 X, reduced one-third)

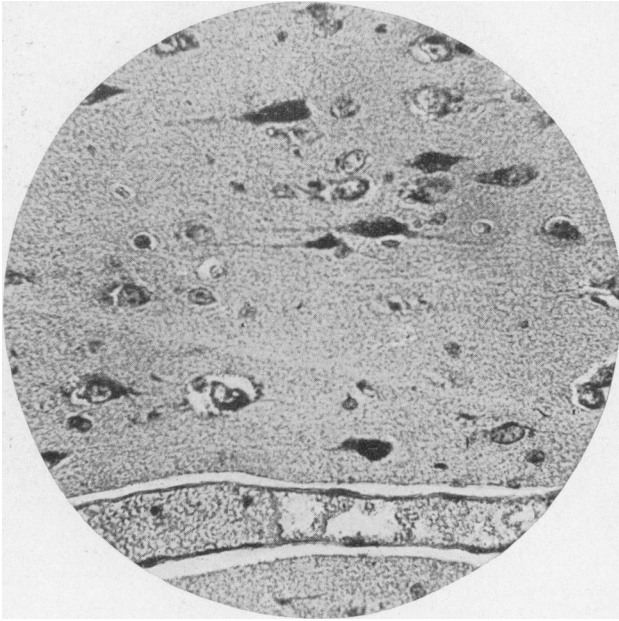
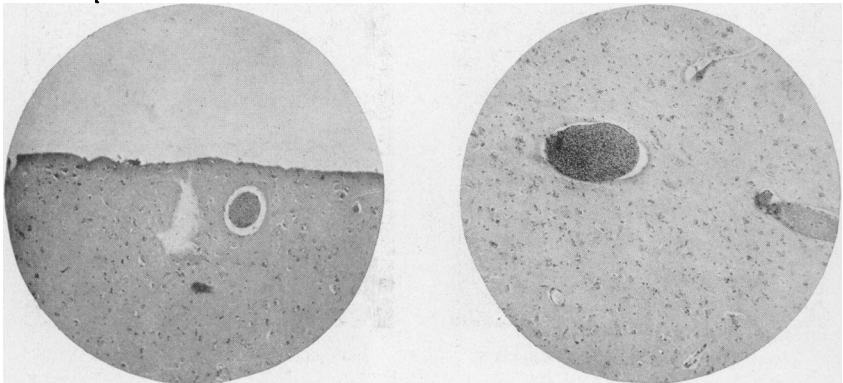
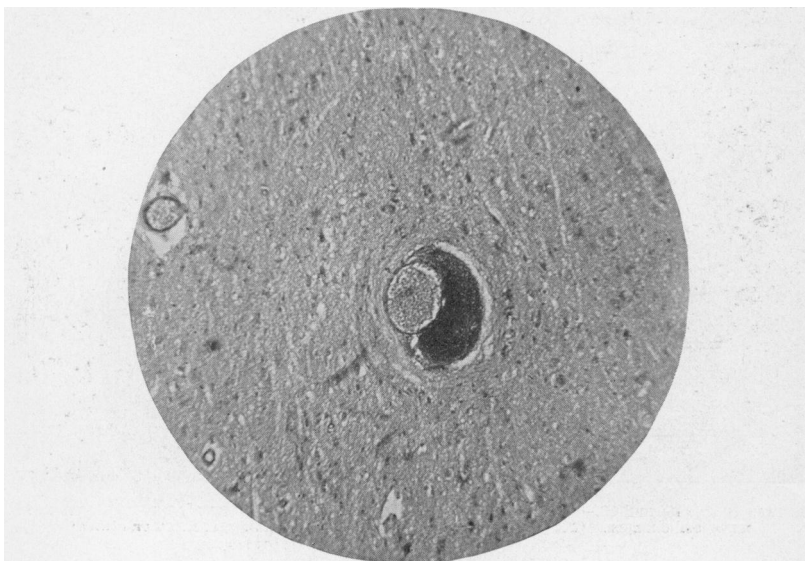


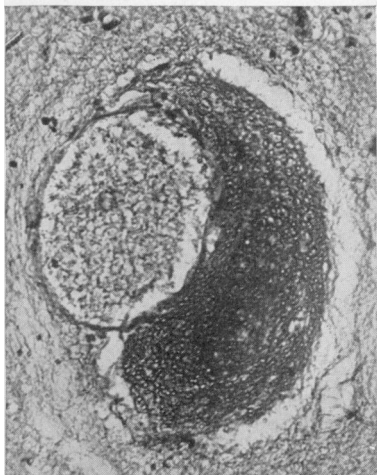
FIGURE 5.—Section through the cortex showing the two types of neuron reactions, i. e., shrinkage, with diffuse dark staining, and chromatolysis; also the vascular reaction of dilatation, stasis, and perivascular edema. (Magnification 600 X)



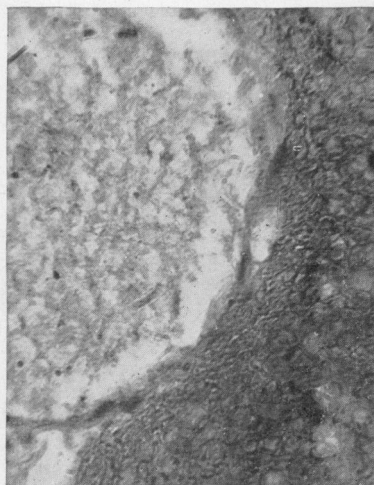
FIGURES 6 (right) and 7.—Section through the cortex showing dilatation, perivascular edema, and stasis. (Magnification 100 X, reduced one-third)



(Magnification 81 X)

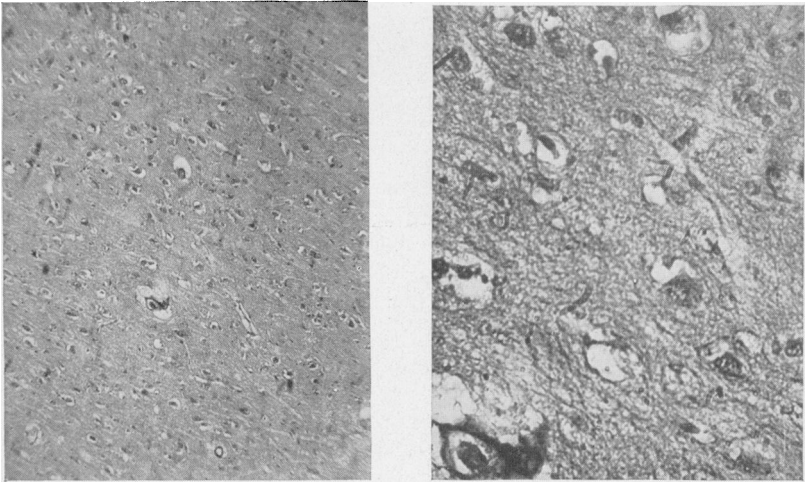


(Magnification 353 X, reduced one-third)



(Magnification 750 X, reduced one-third)

FIGURES 8 (above), 9 (right), and 10.—Section through medullary substance of cortex showing dilatation, stasis, perivascular edema, and hemorrhage, under magnifications stated



FIGURES 11 (right) and 12.—Section through the corpus striatum showing edema and degenerative nerve cell changes. (Magnifications 81 X and 353 X, respectively, reduced one-third)

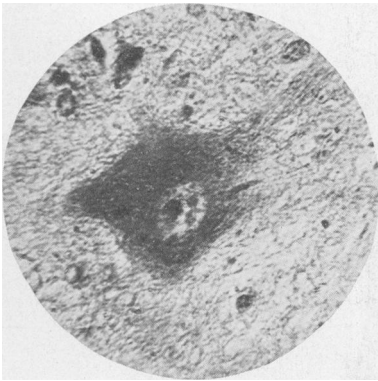


FIGURE 13.—Section through the mesencephalon showing a normal cell in the colliculus. It is a cell in the nucleus of the tectospinal tract. (Magnification 750 X, reduced one-third)

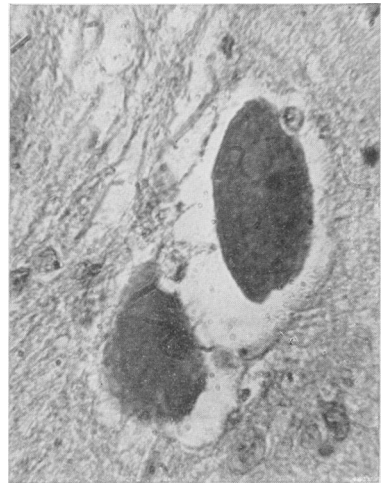


FIGURE 14.—Section through the mesencephalon showing marked perineuronal edema and diffuse staining of the cells in the mesencephalic nucleus of the trigeminal nerve. (Magnification 750 X, reduced one-third)

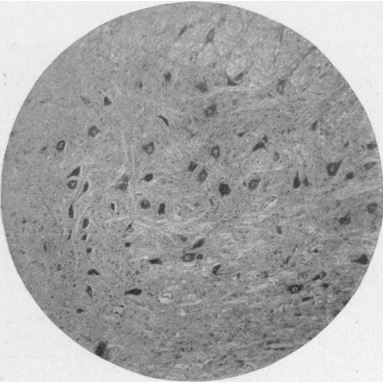


FIGURE 15.—Section through the oculomotor nucleus showing diffuse staining and slight perineuronal edema of a few nerve cells, most of them being relatively normal. (Magnification 100 X, reduced one-third)

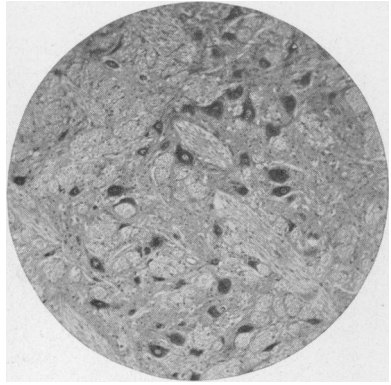
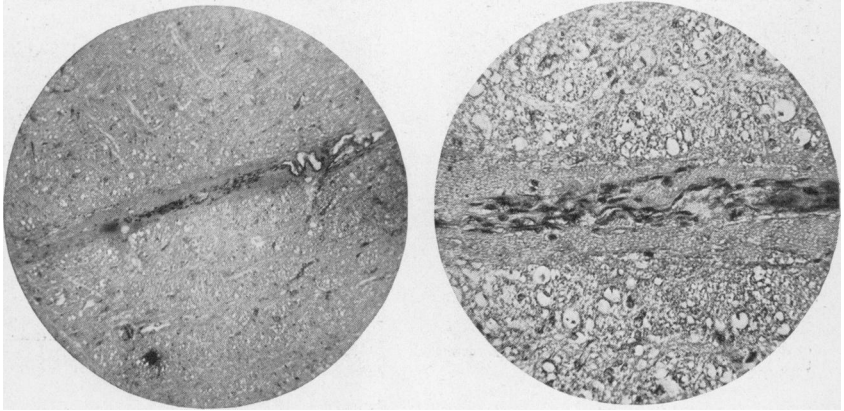


FIGURE 16.—Section through the nucleus ruber showing most of the nerve cells to be normal and the absence of edema. (Magnification 100 X, reduced one-third)



FIGURE 17.—Section through the substantia nigra showing slight edema and central chromatolysis. (Magnification 750 X)



FIGURES 18 (right) and 19.—Section through the reticular formation showing perivascular hemorrhage with occlusion of vessel. (Magnifications 100 \times and 300 \times , respectively, reduced one-third)

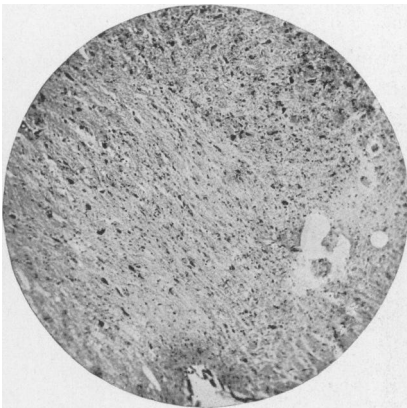


FIGURE 20.—Section through the medulla oblongata in the region of the decussation of the pyramidal tracts showing edema and dark diffuse staining of the nerve cells in the dorsal sensory area. (Magnification 100 \times , reduced one-third)



FIGURE 21.—Section showing practically no perineuronal edema and relatively normal nerve cells in the motor area of the same slide as reproduced in Figure 20. (Magnification 100 \times , reduced one-third)

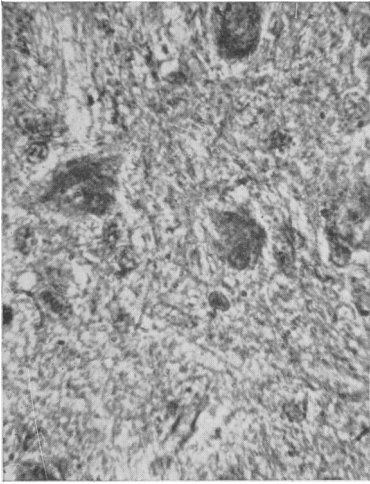


FIGURE 22.—Section through the inferior olive showing slight edema and central chroma-lysis. (Magnification 750 X, reduced one-third)

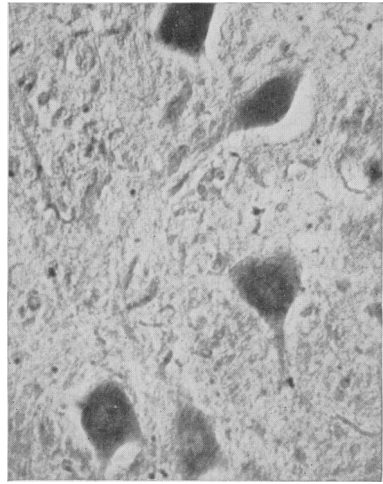


FIGURE 23.—Section through the hypoglossal nucleus showing slight perineuronal edema and diffuse staining of few of the nerve cells. (Magnification 750 X, reduced one-third)

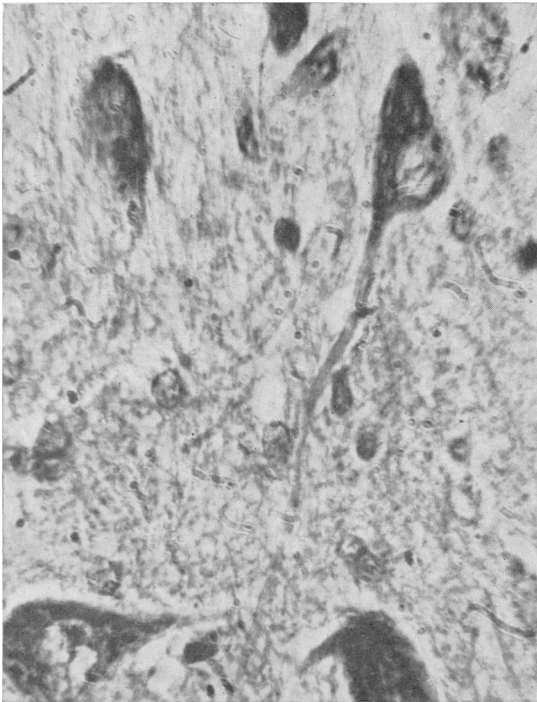
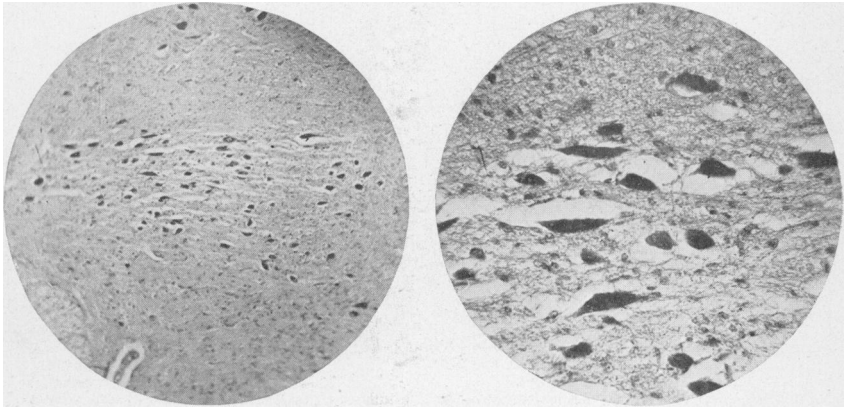
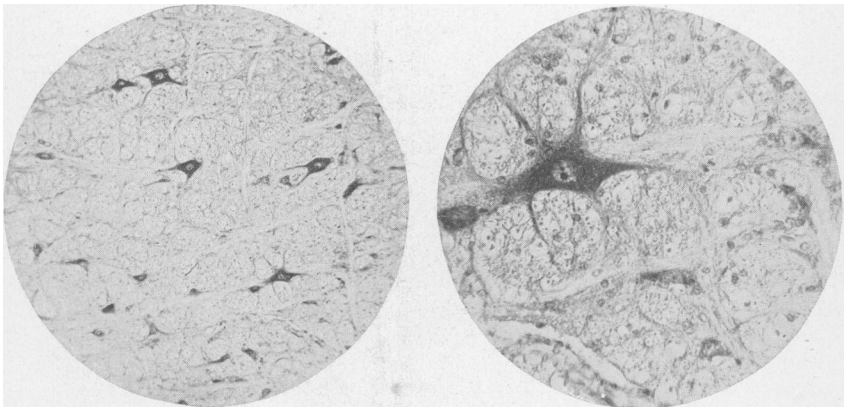


FIGURE 24.—Section through the dorsal motor nucleus of the vagus nerve in a control brain. (Magnification 750 X)



FIGURES 25 (right) and 26.—Section through the dorsal motor nucleus of the vagus nerve showing severe perineuronal edema, shrinkage, and diffuse, dark staining of the nerve cells. (Magnifications 100 \times and 600 \times , reduced one-third)



FIGURES 27 (right) and 28.—Section through the reticular formation of the medulla oblongata showing normal neurons. (Magnifications 100 \times and 600 \times , respectively, reduced one-third)

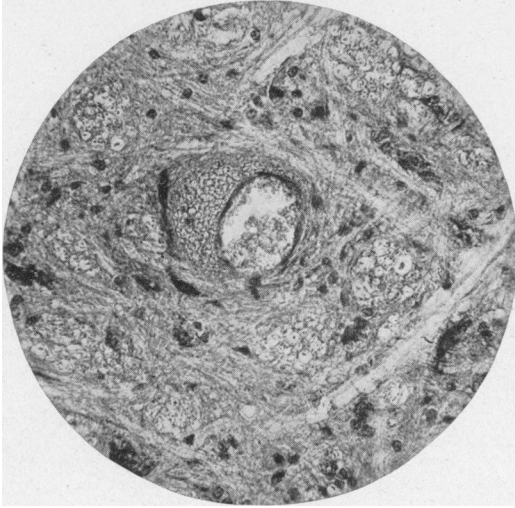


FIGURE 29.—Section through the medulla oblongata showing dilatation and perivascular hemorrhage in the reticular formation. (Magnification 300 X, reduced about one-fourth)

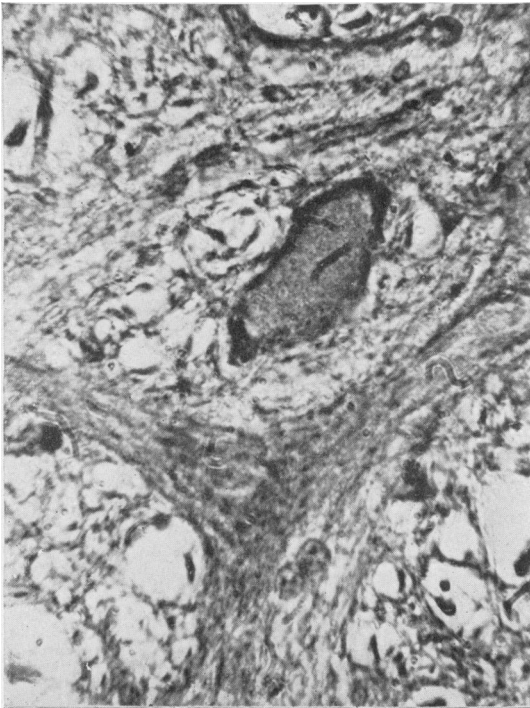


FIGURE 30.—Section through the reticular formation of the medulla oblongata showing marked degenerative changes in cell of an unidentified nucleus. (Magnification 750 X)

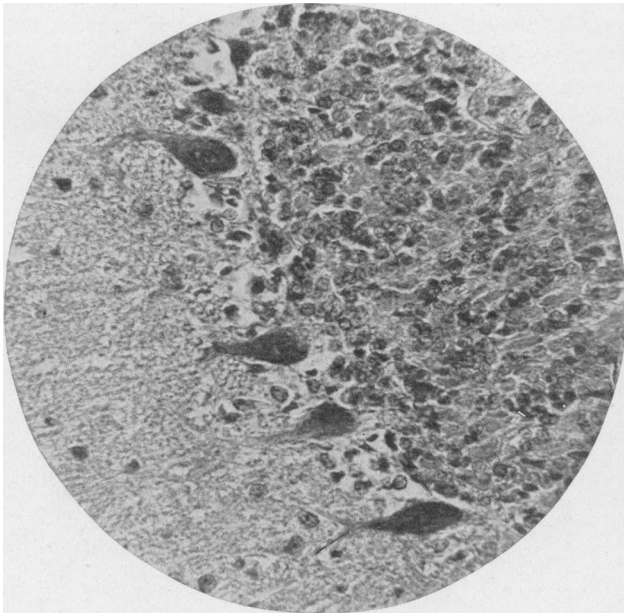


FIGURE 31.—Section through the cerebellum showing perineuronal edema and central chromatolysis in the Purkinje cells. (Magnification 300 ×)

This was very similar to the findings in the substantia nigra as shown in Figure 17.

Nucleus of the abducens nerve.—Most of the neurons of the abducens nerve showed practically no degenerative change. Some of the cells were shrunken. The perineuronal edema was slight. This was very similar to the findings in the oculomotor nucleus as shown in Figure 15.

Nucleus of the facial nerve.—Most of the neurons of the facial nerve showed no damage. A few were shrunken. Some of the nerve cells showed a slight perineuronal edema. This was similar to the findings in the oculomotor nucleus as shown in Figure 15.

Nucleus of trigeminal nerve.—Most of the small cells of the trigeminal nerve showed severe degenerative changes. Many showed central chromatolysis. Some of the cytoplasm was fragmented. Nuclei were swollen and distorted. The large polygonal-shaped cells of the motor nucleus showed relatively little change.

Cochlear nuclei.—Most of the neurons of the cochlear nuclei showed practically no damage. Some of the cells showed central chromatolysis with a slight perineuronal edema.

Nucleus of trapezoid body.—The nucleus of the trapezoid body showed relatively little change excepting a slight perineuronal edema.

Superior olivary nucleus.—Most of the cells of the superior olivary nucleus appeared normal, except for a slight perineuronal edema.

Reticular formation.—Throughout the reticular formation of the pons the vessels were dilated. There was stasis, perivascular edema, and a few small petechial hemorrhages. (See figs. 18 and 19.)

MEDULLA OBLONGATA

Nucleus cuneatus and nucleus gracilis.—The nucleus cuneatus and nucleus gracilis showed a severe edema. Many of the cells were shrunken. Some were stained homogeneously a dark blue. Many showed chromatolysis with large swollen nuclei. There was stasis and perivascular edema with a few small hemorrhages. (See figs. 20 and 21.)

Inferior olive.—Most of the cells of the inferior olive showed a central chromatolysis with slight perineuronal edema. (See fig. 22.)

Nucleus of hypoglossal nerve.—A few of the cells of the nucleus of the hypoglossal nerve showed chromatolysis. Their Nissl granules were large. Many of the cells were shrunken and there was a marked perineuronal edema. (See fig. 23.)

The dorsal motor nucleus of the vagus nerve.—The dorsal motor nucleus of the vagus nerve showed severe degenerative changes. The nerve cells were shrunken and stained homogeneously a dark blue. No nuclei were seen in these cells. The perineuronal edema was very severe. The degenerative changes in this nucleus were the most severe found in any center of the brain stem. (See figs. 24, 25, and 26.)

Nucleus of the tractus solitarius.—The nucleus of the tractus solitarius also showed severe degenerative changes. Most of the cells showed chromatolysis. Many were fragmented. The nuclei were swollen and distorted and there was a marked edema.

Nucleus ambiguus.—The nucleus ambiguus showed perineuronal edema. Most of the cells showed relatively no change, but some were shrunken and stained uniformly a dark blue.

Vestibular nucleus.—The large cells giving rise to the vestibulospinal tract showed relatively very little change. The smaller cells showed slight central chromatolysis, swollen distorted nuclei, and perineuronal edema.

Reticular formation.—Throughout the reticular formation of the entire brain stem many of the large polygonal-shaped cells showed no change. Also, the motor cells of the anterior horn in the area of pyramidal decussation appeared normal. (See figs. 27 and 28.) Occasional petechial hemorrhage was found. (See fig. 29.)

Unidentified nucleus.—A group of cells lying between the nucleus ambiguus and just dorsal to the lateral end of the inferior olive showed very marked chromatolysis with eccentric and distorted nuclei, and in some no nucleus was seen. (See fig. 30). Nerve cells of the reticular formation immediately around these cells showed no degenerative changes. (See figs. 27 and 28.)

In the region of the raphé between the two inferior olivary nuclei, there was another group of large cells showing marked central chromatolysis.

CEREBELLUM

The vessels of the cerebellum were dilated and packed with red blood cells. There was perivascular and perineuronal edema. Occasional petechial hemorrhages were found. Practically all the Purkinje cells (fig. 31) showed a severe central chromatolysis with distortion of the nucleus. In some instances only "shadows" of these cells were left. Occasionally the nucleus stained pink. Some of the Purkinje cells were shrunken and stained homogeneously a dark blue. Some cells in the granular layer appeared to be fused.

Some of the cells in the efferent nuclei showed relatively little change. Many showed central chromatolysis with distortion of the nucleus. A few were shrunken and uniformly stained a dark blue.

SUMMARY AND CONCLUSIONS

The neuropathology produced in dogs by fatal exposures of 20 to 30 minutes to 0.6 per cent carbon monoxide in air by volume was studied.

The brain, as a whole, showed a severe perivascular and perineuronal edema. This was most marked in the corpus striatum, the cortex, and the dorsal motor nucleus of the vagus nerve. The

vessels were greatly dilated and tightly packed with red blood cells. Stasis was marked throughout. There were a few petechial hemorrhages, especially in the corpus striatum and cortex. Most of these were not larger than would occur by diapedesis through the dilated vessels. Occasionally a few leucocytes, both lymphocytes and polymorphonuclear leucocytes, were found in the perivascular spaces. The endothelium of the capillaries appeared to be swollen in some areas.

The neurons were extensively damaged. Many of the nerve cells seem to have been ruptured. In some areas all that appeared to be left of the nerve cell was a swollen, distorted, and vacuolated nucleus with a little Nissl material around it. A clear space marked the site of the original cytoplasm of the neuron. In others there was a marked central chromatolysis with distorted nuclei. This was most pronounced in the cells of the nuclei pontis. The Nissl material was dust-like in some of the very large cells, as in some of the neurons of the nucleus ruber. In others the Nissl granules were abnormally large and decreased in number. Some of the cells, especially the small pyramidal cells in the cortex and the cells of the dorsal nucleus of the vagus, were shrunken and stained homogeneously a dark blue. The nuclei were swollen, distorted in shape, and frequently eccentric. They contained very little chromatin material. Many of the nerve cells were shrunken.

Many of the large polygonal-shaped cells containing well-developed Nissl granules, located throughout the reticular formation of the brain stem, showed practically no change. Likewise, the nuclei of the hypoglossal, abducens, trochlear, oculomotor nuclei, and nucleus ruber showed relatively little damage. The dorsal motor nucleus of the vagus nerve, dorsal sensory areas of the brain stem, the corpus striatum, and the cortex showed severe injury.

There was a variation in the degree of damage with different animals. With three of the four dogs studied the variation was not marked, but the fourth showed distinctly less damage. The foregoing findings were, however, present to some degree in all of the animals.

The following conclusions may be drawn:

1. The circulatory changes are characterized by dilatation, stasis, perivascular hemorrhage, and edema.
2. Edema is diffuse and severe. It is both perineuronal and perivascular.
3. There is a marked difference in the susceptibility of the nerve cells to oxygen deprivation. The cells of the cortex, corpus striatum, dorsal motor nucleus of the vagus, and the dorsal sensory areas of the medulla, are the most sensitive. The nucleus ruber, nuclei of the oculomotor, trochlear, abducens, and facial nerve, and the large polygonal cells in the reticular formation of the medulla are the least susceptible.

4. There are two general types of degenerative changes in the nerve cells following asphyxia: (a) Some become shrunken and stain diffusely; (b) others show varying degrees of chromatolysis.

5. Carbon monoxide produces a diffuse degenerative change throughout the entire brain.

6. In this type of asphyxia the most serious effect appears to be edema of the dorsal motor nucleus of the vagus and the adjacent area in the medulla oblongata.

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DEATH RATES IN A GROUP OF INSURED PERSONS

Rates for Principal Causes of Death for April, 1931

The accompanying table, taken from the Statistical Bulletin for May, 1931, issued by the Metropolitan Life Insurance Co., presents the mortality record of the industrial insurance department of the company for April, 1931, as compared with that for the preceding month and for the corresponding month of last year. It also gives the cumulative rates for the period January-April for the years 1930 and 1931. The rates are based on a strength of approximately 19,000,000 insured persons in the United States and Canada. In recent years the general death rate in this selected group of persons has averaged about 72 per cent of the rate for the registration area of the United States.

With regard to health conditions in this group during April the Bulletin states:

Despite a bad beginning, due to widespread prevalence of influenza, 1931 is developing into a good health year. At the end of April the cumulative mortality rate was only 3.4 per cent above the figure for the like period of 1930, which was the record health year of all time.

Among approximately one and one-quarter millions of Canadian industrial policyholders the year-to-date death rate was over 8 per cent below the figure registered last year; while among the insured residing in the far western States the improvement this year was 5 per cent. In the remainder of the United States, however, where 87 per cent of the industrial policyholders live, the mortality rate for the January-April period rose 4.8 per cent as compared with last year.

Among the favorable health developments of 1931 to date, the two outstanding items relate to tuberculosis and diphtheria. For the former, a decline of 4.9 per cent has been recorded, despite the widespread prevalence of influenza, which always tends to increase the mortality from tuberculosis. The tuberculosis death rate for the month of April showed an improvement of more than 12 per cent as compared with the same month a year ago. It is probable that the decline in the tuberculosis death rate in 1931 will be well above the average year-to-year decrease which has been observed for about a decade. For diphtheria the outlook is that the largest decline ever experienced will be witnessed this year. At any rate, for the first four months the drop has amounted to 39 per cent as compared with the corresponding period of 1930.

The death rate for diseases incidental to pregnancy and childbirth is running lower than ever before, and declines, as compared with last year, are also in evidence for typhoid fever, whooping cough, diarrheal complaints, homicides, and accidents.

There are, nevertheless, a few decidedly unfavorable items in the health record of the year, apart from the considerable increase in the mortality from influenza-pneumonia. The most serious development relates to cancer. While the death rate for this disease has been steadily increasing for years, no marked rise has been recorded heretofore between any one year and its successor—such as will obtain this year if the increase of 9.1 per cent, recorded during the first four months, persists throughout the year. Such data as are available for the general population for the early months of 1931 also point strongly to an unusually large increase in mortality from cancer.

The situation with respect to diabetes is also distinctly unfavorable, with a much larger increase thus far in 1931 than has been shown for recent years. The influenza outbreak has doubtless been responsible for a part of this increase and has also been a factor in bringing about higher death rates for the principal "degenerative" conditions.

The suicide death rate has increased slightly, and the homicide rate shows a small decline. Automobile fatalities have been more frequent than during the corresponding period of any preceding year.

Death rates (annual basis) per 100,000 for principal causes of death

[Industrial department, Metropolitan Life Insurance Co.]

Cause of death	Rate per 100,000 lives exposed ¹				
	April, 1931	March, 1931	April, 1930	Cumulative, January-April	
				1931	1930
Total, all causes.....	975.1	1,016.4	991.1	1,004.3	971.3
Typhoid fever.....	.9	.9	1.1	1.1	1.2
Measles.....	5.9	5.5	6.6	4.3	4.0
Scarlet fever.....	4.2	4.3	4.1	4.1	3.9
Whooping cough.....	2.8	3.8	4.5	2.8	4.8
Diphtheria.....	3.0	4.9	6.3	5.1	8.4
Influenza.....	33.0	52.2	20.1	44.0	25.9
Tuberculosis (all forms).....	80.5	87.1	91.9	82.3	86.5
Tuberculosis of respiratory system.....	70.0	79.1	78.7	73.2	75.2
Cancer.....	82.8	83.6	79.8	83.9	76.9
Diabetes mellitus.....	22.9	23.8	19.9	24.1	20.9
Cerebral hemorrhage.....	68.8	64.5	66.5	68.0	64.6
Organic diseases of heart.....	168.4	170.3	166.9	171.6	168.1
Pneumonia (all forms).....	111.0	126.0	120.7	125.9	117.2
Other respiratory diseases.....	13.3	13.2	13.7	13.9	13.5
Diarrhea and enteritis.....	9.4	9.5	11.9	10.1	11.7
Bright's disease (chronic nephritis).....	73.7	73.6	77.6	74.5	73.3
Puerperal state.....	13.3	12.3	11.0	12.2	13.1
Suicides.....	11.2	9.5	10.5	9.6	9.4
Homicides.....	6.0	6.9	5.8	6.4	6.7
Other external causes (excluding suicides and homicides).....	53.4	47.0	53.2	52.7	56.6
Traumatism by automobiles.....	18.5	16.3	18.2	18.3	17.6
All other causes.....	210.7	217.3	219.0	206.7	206.7

¹ All figures in this table include insured infants under one year of age. The rates for 1931 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

COURT DECISION RELATING TO PUBLIC HEALTH

Conviction for forgery of narcotic drug prescription and unlawful possession of narcotic drug.—(California District Court of Appeal; *People v. Brown*, 298 P. 503; decided Apr. 17, 1931.) A State law provided a penalty for “Any person who shall forge or alter any prescription for any narcotic drugs specified in section 8 of this act, or who obtains any such drugs by any forged or altered prescription, or who has in possession any such drugs secured by such forged or altered prescription.” The defendant was convicted of possessing a preparation of morphine containing more than one-fourth grain of morphine to the avoirdupois ounce and of forging a prescription by which the preparation was obtained. On appeal the district court of appeal, in disposing of the contentions made by the defendant with respect to a narcotic drug prescription not being the subject of forgery and with respect to the failure to allege an intent to defraud, said:

The argument of appellant proceeds upon the assumption that there is no one to be defrauded by the prescription, and that, in the absence of an intent to defraud, there can be no forgery. The assumption, however, is false. We are all cognizant of the fearful consequences which would attend the unregulated sale of poisons and narcotics, and conscious of the vital interest of the State in a strict supervision thereof. Contemplating, as we may and ought to do, the crimes committed with diabolical cunning and sometimes with fiendish cruelty, partly to satisfy the depraved appetite and partly to satiate or excite a disordered mind, we must conclude that any illegitimate and unlawful use of the habit-forming drugs is an injury to and a fraud upon the public as a whole—the State. * * * We entertain no doubt whatever that a prescription for a poisonous or narcotic drug is the subject of forgery. The intent to defraud is unmistakably made manifest by the act of obtaining the narcotic by means of the false writing. It is alleged that the forged prescription was made use of for that purpose and the drug obtained thereby.

The court also rejected the defendant’s claim that the portion of the law which purported to make it a crime to forge or alter a prescription was unconstitutional because not embraced by the title of the act.

DEATHS DURING WEEK ENDED JUNE 6, 1931

Summary of information received by telegraph from industrial insurance companies for the week ended June 6, 1931, and corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce.)

	Week ended June 6, 1931	Corresponding week, 1930
Policies in force.....	75, 158, 847	75, 759, 190
Number of death claims.....	13, 200	13, 685
Death claims per 1,000 policies in force, annual rate.....	9. 2	9. 4

Deaths¹ from all causes in certain large cities of the United States during the week ended June 6, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census]

City	Week ended June 6, 1931				Corresponding week, 1930		Death rate ² for the first 23 weeks	
	Total deaths	Death rate ²	Deaths under 1 year	Infant mortality rate ²	Death rate ²	Deaths under 1 year	1931	1930
Total (81 cities).....	7, 868	11.5	664	4 51	12.6	751	13.2	13.0
Akron.....	39	7.9	1	10	8.4	4	8.3	8.4
Albany ¹	45	18.2	2	40	15.5	2	15.3	16.2
Atlanta.....	76	14.3	8	82	20.5	19	16.2	16.8
White.....	38		4	63		9		
Colored.....	38	(⁹)	4	115	(⁹)	10	(⁹)	(⁹)
Baltimore ¹	223	14.3	22	75	14.4	17	16.2	15.3
White.....	165		12	52		14		
Colored.....	58	(⁹)	10	156	(⁹)	3	(⁹)	(⁹)
Birmingham.....	71	13.7	4	49	13.6	7	14.9	14.1
White.....	36		2	34		2		
Colored.....	35	(⁹)	2	49	(⁹)	5	(⁹)	(⁹)
Boston.....	210	13.9	23	66	13.3	24	15.9	15.9
Bridgeport.....	35	12.4	3	50	7.8	1	12.3	12.8
Buffalo.....	148	13.3	15	61	14.0	11	14.5	14.4
Cambridge.....	28	12.8	3	60	14.2	3	13.9	13.5
Camden.....	20	8.8	4	70	16.2	1	16.3	14.8
Canton.....	34	16.6	1	23	14.9	6	11.4	11.3
Chicago ¹	780	11.0	47	42	11.1	44	11.5	11.4
Cincinnati.....	136	15.5	13	78	19.4	16	17.1	16.7
Cleveland.....	209	12.0	9	26	12.7	16	12.2	12.3
Columbus.....	85	15.0	6	59	15.6	7	15.0	17.8
Dallas.....	57	10.9	8	11.1		2	12.2	12.1
White.....	41		6			1		
Colored.....	16	(⁹)	2		(⁹)	1	(⁹)	(⁹)
Dayton.....	41	10.3	6	84	15.0	6	13.0	10.5
Denver.....	82	14.7	6	58	14.8	11	15.2	15.3
Des Moines.....	27	9.7	2	35	13.9	5	11.7	12.6
Detroit.....	251	7.9	41	65	10.5	45	9.3	10.4
Duluth.....	16	8.2	1	25	13.9	1	11.3	11.6
El Paso.....	24	11.9	4		17.7	6	17.2	18.6
Eric.....	23	10.2	3	56	13.0	0	11.5	11.5
Fall River ¹	21	9.5	1	23	10.9	4	13.5	13.8
Flint.....	23	7.3	3	38	13.2	7	8.0	10.2
Fort Worth.....	20	9.3	0		12.7	6	12.1	11.7
White.....	27		0			2		
Colored.....	3	(⁹)	0		(⁹)	4	(⁹)	(⁹)
Grand Rapids.....	46	14.0	3	44	12.0	4	9.9	11.5
Houston.....	66	11.1	7		9.7	3	11.6	12.7
White.....	44		6			1		
Colored.....	22	(⁹)	1		(⁹)	2	(⁹)	(⁹)
Indianapolis.....	106	14.9	5	41	15.1	8	14.7	15.5
White.....	90		4	35		4		
Colored.....	16	(⁹)	1	67	(⁹)	4	(⁹)	(⁹)
Jersey City.....	83	13.6	15	133	11.3	9	13.0	12.7
Kansas City, Kans.....	31	13.1	8	62	9.4	1	14.4	11.9
White.....	23		3	74		0		
Colored.....	8	(⁹)	0	0	(⁹)	1	(⁹)	(⁹)
Kansas City, Mo.....	106	13.8	10	76	12.2	10	14.6	13.8
Knoxville.....	28	13.4	4	85	12.2	5	12.8	15.0
White.....	18		1	24		5		
Colored.....	10	(⁹)	3	611	(⁹)	0	(⁹)	(⁹)
Long Beach.....	27	9.2	1	24	8.3	2	10.5	10.3
Los Angeles.....	233	9.2	11	32	13.7	28	11.4	11.6
Louisville.....	65	11.0	4	34	16.3	6	15.7	14.4
White.....	48		2	20		6		
Colored.....	17	(⁹)	2	133	(⁹)	0	(⁹)	(⁹)
Lowell ¹	19	9.8	3	76	21.2	7	13.4	15.1
Lynn.....	26	13.2	6	155	12.2	6	11.5	12.0
Memphis.....	77	15.5	6	63	16.8	6	17.5	18.0
White.....	40		3	50		3		
Colored.....	37	(⁹)	3	87	(⁹)	3	(⁹)	(⁹)
Miami.....	17	7.9	1	25	13.2	10	13.4	12.3
White.....	11		0	0		6		
Colored.....	6	(⁹)	1	88	(⁹)	4	(⁹)	(⁹)

See footnotes at end of table

Deaths¹ from all causes in certain large cities of the United States during the week ended June 6, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

City	Week ended June 6, 1931				Corresponding week, 1930		Death rate ² for the first 23 weeks	
	Total deaths	Death rate ³	Deaths under 1 year	Infant mortality rate ⁴	Death rate ³	Deaths under 1 year	1931	1930
Milwaukee	105	9.3	8	35	9.7	18	10.2	10.5
Minneapolis	116	12.8	13	84	10.4	2	12.0	11.2
Nashville	43	14.4	7	104	18.3	6	17.5	16.7
White	32		5	100		3		
Colored	11	(⁵)	2	118	(⁵)	3	(⁵)	(⁵)
New Bedford ⁷	32	14.8	3	80	16.2	1	13.7	12.3
New Haven	21	6.7	0	0	9.9	0	12.9	14.6
New Orleans	154	17.2	16	88	18.5	14	18.2	18.9
White	83		9	74		8		
Colored	71	(⁵)	7	114		6	(⁵)	(⁵)
New York	1,380	10.1	108	45	11.1	119	12.7	12.0
Bronx Borough	180	7.1	15	34	8.1	10	9.1	8.6
Brooklyn Borough	462	9.2	45	48	9.6	49	11.7	11.1
Manhattan Borough	527	14.9	37	63	16.9	51	19.4	18.0
Queens Borough	163	7.4	9	25	7.2	6	8.1	7.8
Richmond Borough	55	17.5	2	36	18.0	3	14.4	15.2
Newark, N. J.	109	12.3	5	26	12.4	11	13.1	13.7
Oakland	55	9.8	1	13	9.7	2	11.3	11.7
Oklahoma City	34	9.0	4	55	16.4	12	12.1	10.4
Omaha	51	12.3	8	90	13.1	4	14.7	14.0
Paterson	38	14.3	1	17	12.0	2	15.0	13.6
Philadelphia	464	12.3	41	60	11.1	30	15.1	13.7
Pittsburgh	175	13.5	20	69	13.6	16	16.7	15.3
Portland, Oreg.	68	11.5	5	61	14.1	3	12.5	13.2
Providence	48	9.8	9	74	11.1	8	14.5	14.9
Richmond	60	17.0	5	73	14.2	8	17.1	16.0
White	39		3	66		6		
Colored	21	(⁵)	2	87	(⁵)	2	(⁵)	(⁵)
Rochester	72	11.3	5	48	14.3	6	13.3	12.7
St. Louis	232	14.6	6	20	14.5	10	16.8	14.7
St. Paul	53	10.0	0	0	9.9	4	11.4	10.9
Salt Lake City ⁴	17	6.2	1	15	14.4	2	13.0	13.8
San Antonio	81	17.6	18		21.7	26	16.2	18.6
San Diego	42	14.0	3	61	13.3	2	14.9	14.9
San Francisco	170	13.6	12	80	13.3	5	13.9	13.7
Schenectady	11	6.0	1	29	9.3	1	11.2	12.4
Seattle	78	10.9	5	47	10.8	4	12.5	11.6
Somerville	12	5.9	3	112	8.6	0	10.7	11.6
South Bend	15	7.2	1	25	7.5	1	8.9	9.5
Spokane	25	11.2	2	52	13.5	3	12.9	13.4
Springfield, Mass.	29	9.9	3	46	14.2	5	13.6	13.8
Syracuse	46	11.3	4	47	14.1	5	12.6	13.2
Tacoma	18	8.7	2	51	10.2	0	13.8	13.1
Toledo	91	16.1	4	37	13.8	9	13.0	13.8
Trenton	37	15.6	2	35	27.5	6	19.1	18.1
Utica	28	14.3	1	26	11.3	0	15.7	16.7
Washington, D. C.	118	12.5	11	61	16.1	12	17.3	16.0
White	74		6	49		6		
Colored	44	(⁵)	5	86	(⁵)	6	(⁵)	(⁵)
Waterbury	12	6.2	2	60	11.5	4	10.6	10.4
Wilmington, Del. ⁷	26	12.7	2	43	17.1	4	15.8	15.7
Worcester	36	9.5	3	41	12.0	6	14.1	14.7
Yonkers	25	9.4	4	105	5.8	2	9.5	8.7
Youngstown	25	7.5	1	14	9.2	2	11.0	11.0

¹ Deaths of nonresidents are included. Stillbirths are excluded.

² These rates represent annual rates per 1,000 population, as estimated for 1931 and 1930 by the arithmetical method.

³ Deaths under 1 year of age per 1,000 live births. Cities left blank are not in the registration area for births.

⁴ Data for 76 cities.

⁵ Deaths for week ended Friday.

⁶ For the cities for which deaths are shown by color, the percentage of colored population in 1920 was as follows: 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; Miami, 31; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

⁷ Population Apr. 1, 1930; decreased 1920 to 1930, no estimate made.

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 June 13, 1931, and June 14, 1930

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 13, 1931, and June 14, 1930

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930
New England States:								
Maine.....	7	23	1	2	24	77	1	1
New Hampshire.....		1			14	27	0	0
Vermont.....					54	25	0	0
Massachusetts.....	36	39		4	586	1,224	1	5
Rhode Island.....	6			1	137	29	0	0
Connecticut.....	1	20	2	1	241	41	0	3
Middle Atlantic States:								
New York.....	105	128	17	14	2,441	2,425	6	11
New Jersey.....	42	89	7	5	860	1,260	4	3
Pennsylvania.....	67	87			2,405	1,106	6	16
East North Central States:								
Ohio.....	45	46	28	12	1,474	651	4	6
Indiana.....	18	4	2		380	129	5	1
Illinois.....	105	153	11	33	1,556	404	14	8
Michigan.....	28	51	4		298	728	4	22
Wisconsin.....	4	6	13	7	1,062	448	3	1
West North Central States:								
Minnesota.....	12	7	1	3	127	106	6	2
Iowa.....	3	4			26	87	0	1
Missouri.....	17	27			162	40	1	3
North Dakota.....	1	3			15	17	1	1
South Dakota.....	3	3			12	228	0	1
Nebraska.....	5	6	1		8	49	1	1
Kansas.....	14	14	2	2	116	333	0	2
South Atlantic States:								
Delaware.....	2	1			65	6	0	0
Maryland ¹	11	19	7	9	477	26	0	0
District of Columbia.....	13	4			83	56	0	1
West Virginia.....	11	6	7	2	164	34	1	0
North Carolina ²	14	12	1	2	542	74	4	0
South Carolina.....	10	9	176	174	164	79	1	1
Georgia ³	3	4	13	10	70	92	0	2
Florida.....	6	5		1	60	82	0	0

¹ New York City only.

² Week ended Friday.

³ Typhus fever: 1931, 9 cases; 1 case in Maryland; 1 case in North Carolina; 2 cases in Georgia; and 5 cases in Texas.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 13, 1931, and June 14, 1930—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930
East South Central States:								
Kentucky.....	7	—	—	—	90	24	3	0
Tennessee.....	5	6	9	11	60	77	0	2
Alabama.....	5	5	12	11	40	107	0	0
Mississippi.....	1	8	—	—	—	—	1	3
West South Central States:								
Arkansas.....	1	—	4	4	25	18	0	5
Louisiana.....	11	25	3	5	5	19	2	0
Oklahoma ¹	12	8	17	25	32	82	0	3
Texas ²	21	13	4	23	77	103	2	0
Mountain States:								
Montana.....	—	—	—	—	12	25	0	0
Idaho.....	—	—	—	—	1	4	1	0
Wyoming.....	—	—	—	—	13	51	0	0
Colorado.....	5	7	—	—	96	320	0	3
New Mexico.....	4	8	—	—	47	43	0	1
Arizona.....	—	—	1	—	23	75	1	0
Utah ³	1	—	—	—	4	192	0	1
Pacific States:								
Washington.....	5	1	—	—	74	516	0	4
Oregon.....	2	4	12	6	47	95	0	0
California.....	60	44	32	13	730	1,470	1	4

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930
New England States:								
Maine.....	0	0	22	10	0	0	7	6
New Hampshire.....	0	0	1	8	0	0	0	0
Vermont.....	0	0	4	8	8	0	0	0
Massachusetts.....	2	0	195	150	0	0	2	2
Rhode Island.....	0	0	31	11	—	0	0	1
Connecticut.....	0	2	26	43	0	0	2	0
Middle Atlantic States:								
New York.....	5	2	610	287	3	5	18	18
New Jersey.....	0	0	219	144	0	0	2	5
Pennsylvania.....	1	2	430	270	0	0	11	13
East North Central States:								
Ohio.....	1	3	352	252	20	119	7	11
Indiana.....	0	0	99	75	101	106	0	3
Illinois.....	1	1	401	325	60	90	6	10
Michigan.....	3	1	384	215	30	41	5	4
Wisconsin.....	1	1	99	123	6	17	3	2
West North Central States:								
Minnesota.....	2	2	67	61	5	8	0	1
Iowa.....	0	0	42	35	61	147	2	1
Missouri.....	1	0	68	94	37	44	5	10
North Dakota.....	2	0	12	20	7	20	0	1
South Dakota.....	1	1	4	5	2	21	1	0
Nebraska.....	0	0	32	13	20	39	0	1
Kansas.....	0	1	25	52	64	98	4	8
South Atlantic States:								
Delaware.....	0	0	9	5	0	0	0	0
Maryland ⁴	0	0	28	65	0	0	6	7
District of Columbia.....	0	0	10	16	0	0	0	0
West Virginia.....	0	0	26	24	3	10	8	25
North Carolina ⁵	0	2	25	21	1	13	18	27
South Carolina.....	3	1	1	4	2	0	24	73
Georgia ⁶	1	0	28	10	0	0	23	17
Florida.....	0	0	1	3	0	1	1	7

¹ Week ended Friday

² Typhus fever: 1931, 9 cases; 1 case in Maryland; 1 case in North Carolina; 2 cases in Georgia; and 5 cases in Texas.

⁴ Figures for 1931 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended June 13, 1931, and June 14, 1930—Continued

Division and State	Pollomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930	Week ended June 13, 1930	Week ended June 14, 1930	Week ended June 13, 1931	Week ended June 14, 1930
East South Central States:								
Kentucky.....	0	0	28	27	24	5	5	4
Tennessee.....	1	0	12	15	4	11	12	21
Alabama.....	1	0	13	6	3	2	20	12
Mississippi.....	0	0	7	1	17	2	13	23
West South Central States:								
Arkansas.....	1	0	3	1	40	5	4	4
Louisiana.....	1	11	24	6	17	3	17	43
Oklahoma ⁴	1	3	11	28	56	122	10	10
Texas ⁴	0	1	45	13	135	32	11	5
Mountain States:								
Montana.....	1	0	13	15	7	3	2	0
Idaho.....	1	0	1	3	1	0	0	0
Wyoming.....	0	0	11	4	0	20	0	1
Colorado.....	2	0	14	10	0	8	1	2
New Mexico.....	0	0	7	3	0	2	1	2
Arizona.....	0	0	2	1	0	1	7	4
Utah ⁴	0	0	3	0	1	1	1	0
Pacific States:								
Washington.....	1	0	20	26	26	30	6	3
Oregon.....	0	0	13	15	12	16	2	6
California.....	5	36	96	112	17	31	18	16

¹ Week ended Friday.

² Typhus fever: 1931, 9 cases: 1 case in Maryland; 1 case in North Carolina; 2 cases in Georgia; and 5 cases in Texas.

⁴ Figures for 1931 are exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pel- lagra	Polio- myelitis	Scarlet fever	Small- pox	Ty- phoid fever
<i>May, 1931</i>										
Arkansas.....	2	10	65	42	212	330	1	50	166	24
Maine.....	3	23	18	—	68	—	0	145	0	5
Massachusetts.....	8	152	23	1	2,299	1	3	1,542	0	21
Nebraska.....	9	26	12	—	49	—	0	198	233	3
New Hampshire.....	—	6	—	—	—	—	—	11	—	—
North Dakota.....	8	30	8	—	302	—	0	145	22	5
Ohio.....	15	134	104	1	5,027	1	5	1,824	192	38
Tennessee.....	34	42	336	97	1,704	73	4	414	100	32
Vermont.....	—	2	—	—	69	—	0	22	18	2

<i>May, 1931</i>		Cases	Dysentery:	Cases
Anthrax:			Massachusetts.....	2
Massachusetts.....	1		Ohio.....	2
Chicken pox:			Tennessee.....	7
Arkansas.....	109		Food poisoning:	
Maine.....	166		Ohio.....	8
Massachusetts.....	1,138		German measles:	
Nebraska.....	329		Maine.....	10
North Dakota.....	131		Massachusetts.....	602
Ohio.....	1,916		Ohio.....	268
Tennessee.....	188		Tennessee.....	37
Vermont.....	127		Hookworm disease:	
Conjunctivitis:			Arkansas.....	1
Maine.....	5		Lead poisoning:	
Diarrhea and enteritis (under 2 years):			Massachusetts.....	2
Ohio.....	9		Ohio.....	7

	Cases	Tetanus:	Cases
Lethargic encephalitis:		Ohio:	
Maine.....	1	Ohio.....	4
North Dakota.....	3	Tennessee.....	1
Ohio.....	3	Trachoma:	
Tennessee.....	1	Arkansas.....	3
Mumps:		Maine.....	5
Arkansas.....	67	Massachusetts.....	3
Maine.....	246	Ohio.....	1
Massachusetts.....	644	Tennessee.....	1
Nebraska.....	655	Trichinosis:	
North Dakota.....	113	Massachusetts.....	5
Ohio.....	2,511	Ohio.....	1
Tennessee.....	164	Tularæmia:	
Vermont.....	95	Tennessee.....	4
Ophthalmia neonatorum:		Undulant fever:	
Arkansas.....	2	Arkansas.....	1
Massachusetts.....	123	North Dakota.....	2
Ohio.....	79	Ohio.....	10
Tennessee.....	3	Vermont.....	2
Paratyphoid fever:		Vincent's angina:	
Arkansas.....	3	Maine.....	2
Maine.....	1	North Dakota.....	22
Ohio.....	1	Tennessee.....	3
Puerperal septicæmia:		Whooping cough:	
Ohio.....	5	Arkansas.....	68
Tennessee.....	1	Maine.....	103
Septic sore throat:		Massachusetts.....	626
Massachusetts.....	15	Nebraska.....	111
Ohio.....	86	North Dakota.....	51
Tennessee.....	10	Ohio.....	481
		Tennessee.....	291
		Vermont.....	42

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 33,480,000. The estimated population of the 91 cities reporting deaths is more than 31,935,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended June 6, 1931, and June 7, 1930

	1931	1930	Estimated expectancy
<i>Cases reported</i>			
Diphtheria:			
46 States.....	636	950	
98 cities.....	427	471	712
Measles:			
44 States.....	18,417	15,290	
98 cities.....	7,037	5,893	
Meningococcus meningitis:			
46 States.....	92	126	
98 cities.....	40	64	
Poliomyelitis:			
46 States.....	26	52	
Scarlet fever:			
46 States.....	4,207	2,882	
98 cities.....	1,990	1,314	1,135
Smallpox:			
46 States.....	872	1,054	
98 cities.....	93	125	50
Typhoid fever:			
46 States.....	242	343	
98 cities.....	40	51	45
<i>Deaths reported</i>			
Influenza and pneumonia:			
91 cities.....	566	534	
Smallpox:			
91 cities.....	0	0	

City reports for week ended June 6, 1931

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrences 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 expectancy 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 1922 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.....	10	0	0	-----	0	1	6	2
New Hampshire:								
Concord.....	0	0	0	-----	0	20	0	0
Vermont:								
Barre.....	0	0	0	-----	0	0	0	0
Burlington.....	2	0	1	-----	0	0	0	0
Massachusetts:								
Boston.....	95	29	6	-----	1	0	64	10
Fall River.....	6	2	2	-----	0	0	28	1
Springfield.....	0	2	0	-----	0	0	18	14
Worcester.....	23	3	5	-----	0	0	4	37
Rhode Island:								
Pawtucket.....	0	1	0	-----	0	0	0	0
Providence.....	7	5	4	-----	0	105	25	2
Connecticut:								
Bridgeport.....	0	4	2	-----	1	7	2	3
Hartford.....	1	4	0	-----	1	0	8	2
New Haven.....	30	1	0	-----	0	133	10	2
MIDDLE ATLANTIC								
New York:								
Buffalo.....	27	8	2	-----	2	215	35	23
New York.....	407	231	144	-----	8	4	1,446	87
Rochester.....	16	5	0	-----	0	0	177	13
Syracuse.....	15	2	0	-----	0	0	32	0
New Jersey:								
Camden.....	8	6	0	-----	0	2	1	1
Newark.....	79	12	6	-----	2	0	27	11
Trenton.....	2	2	1	-----	0	0	10	7
Pennsylvania:								
Philadelphia.....	83	52	5	-----	4	5	439	47
Pittsburgh.....	51	15	7	-----	2	0	101	90
Reading.....	12	1	1	-----	0	0	14	3
EAST NORTH CENTRAL								
Ohio:								
Cincinnati.....	12	5	1	-----	0	0	92	15
Cleveland.....	186	22	13	-----	1	1	390	336
Columbus.....	20	3	1	-----	1	1	10	5
Toledo.....	57	4	1	-----	2	2	6	28
Indiana:								
Fort Wayne.....	3	1	3	-----	0	0	8	0
Indianapolis.....	32	2	0	-----	0	0	213	27
South Bend.....	2	1	0	-----	0	1	12	0
Terre Haute.....	1	0	0	-----	0	0	10	0
Illinois:								
Chicago.....	155	84	81	-----	3	1	1,041	79
Springfield.....	17	0	0	-----	0	0	16	7
Michigan:								
Detroit.....	134	41	22	-----	3	0	46	61
Flint.....	36	1	0	-----	0	0	2	13
Grand Rapids.....	0	1	0	-----	0	0	70	0

City reports for week ended June 6, 1931—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.....	1	0	0	0	0	1	91	1
Madison.....	22	0	3	0	0	1	45	0
Milwaukee.....	107	11	2	0	0	466	348	2
Racine.....	16	1	1	0	0	3	25	1
Superior.....	2	0	0	0	0	1	1	2
WEST NORTH CENTRAL								
Minnesota:								
Duluth.....	18	0	0	0	0	0	2	0
Minneapolis.....	160	11	5	2	2	194	199	12
St. Paul.....	74	7	3	0	0	45	5	7
Iowa:								
Davenport.....	0	0	0	0	0	0	1	0
Des Moines.....	0	1	1	0	0	0	0	0
Sioux City.....	7	0	0	0	0	2	16	0
Waterloo.....	2	0	0	0	0	2	0	0
Missouri:								
Kansas City.....	12	2	0	0	0	162	0	4
St. Joseph.....	0	0	0	0	0	7	0	2
St. Louis.....	34	26	16	0	0	8	15	9
North Dakota:								
Fargo.....	2	0	0	0	0	0	4	0
Grand Forks.....	0	0	0	0	0	0	0	0
South Dakota:								
Aberdeen.....	8	0	0	0	0	6	0	0
Sioux Falls.....	0	0	0	0	0	0	0	0
Nebraska:								
Omaha.....	10	2	4	0	0	1	22	8
Kansas:								
Topeka.....	10	1	0	0	0	1	50	1
Wichita.....	7	1	1	0	0	5	1	4
SOUTH ATLANTIC								
Delaware:								
Wilmington.....	0	1	0	0	0	10	2	1
Maryland:								
Baltimore.....	64	18	12	1	2	393	31	12
Cumberland.....	0	0	0	0	0	1	0	1
Frederick.....	0	0	0	0	0	2	0	0
District of Columbia:								
Washington.....	19	9	5	0	0	107	0	4
Virginia:								
Lynchburg.....	5	0	0	0	0	3	0	0
Richmond.....	2	1	0	0	0	79	0	3
Roanoke.....	1	1	0	0	0	9	0	3
West Virginia:								
Charleston.....	1	0	1	1	1	1	0	1
Wheeling.....	2	0	0	0	0	0	1	1
North Carolina:								
Raleigh.....	0	0	0	0	0	52	0	1
Wilmington.....	0	0	0	0	0	0	0	1
Winston-Salem.....	5	0	0	0	1	64	3	0
South Carolina:								
Charleston.....	0	0	1	37	1	1	0	1
Columbia.....	0	0	0	0	0	0	1	5
Georgia:								
Atlanta.....	2	1	0	4	1	14	0	2
Brunswick.....	0	0	0	0	0	0	6	1
Savannah.....	1	0	0	2	0	3	1	2
Florida:								
Miami.....	3	2	0	0	0	95	0	1
Tampa.....	0	0	1	1	1	7	0	0

City reports for week ended June 6, 1931—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.....	1	0	1		0	10	0	2
Tennessee:								
Memphis.....	9	0	0		1	107	4	1
Nashville.....	0	0	0		0	64	0	3
Alabama:								
Birmingham.....	7	1	0	2	4	14	1	6
Mobile.....	0	0	1		1	1	0	0
Montgomery.....	0	0	0			0	0	
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith.....	0	0	0			0	0	
Little Rock.....	2	0	0		0	17	0	0
Louisiana:								
New Orleans.....	3	7	10		0	1	0	9
Shreveport.....	0	0	1		0	0	1	3
Oklahoma:								
Muskogee.....	4	0	0	1		0	0	
Texas:								
Dallas.....	18	3	2	2	2	12	11	4
Fort Worth.....	7	1	2		1	2	0	1
Galveston.....	0	0	0		0	0	0	1
Houston.....	1	2	3		0	21	1	4
San Antonio.....	0	2	4		1	24	0	4
MOUNTAIN								
Montana:								
Billings.....	0	0	15		0	14	0	0
Great Falls.....	6	0	0		0	0	0	0
Helena.....	0	0	0		0	7	1	0
Missoula.....	0	0	0		0	0	0	1
Idaho:								
Boise.....	0	0	0		0	1	1	0
Colorado:								
Denver.....	35	8	7		0	62	23	4
Pueblo.....	0	0	0		0	9	0	0
New Mexico:								
Albuquerque.....	10	0	0		0	5	2	1
Arizona:								
Phoenix.....	0	0	0		0	1	0	1
Utah:								
Salt Lake City...	24	2	0		0	1	10	2
Nevada:								
Reno.....	0	0	0		0	6	0	3
PACIFIC								
Washington:								
Seattle.....	74	2	0			6	43	
Spokane.....	8	2	0			5	0	
Tacoma.....	9	1	1		0	0	3	1
Oregon:								
Portland.....	15	4	1		0	30	10	0
Salem.....	2	0	0		0	0	7	0
California:								
Los Angeles.....	29	28	15	14	1	107	16	10
Sacramento.....	4	2	4	4	0	39	0	2
San Francisco.....	54	13	5	3	2	104	4	7

City reports for week ended June 6, 1931—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- culosis, deaths reported	Typhoid fever			Whoop- ing cough, cases reported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
NEW ENGLAND											
Maine:											
Portland.....	2	7	0	0	0	1	0	0	0	6	31
New Hampshire:											
Concord.....	0	0	0	0	0	0	0	0	0	0	4
Vermont:											
Barre.....	1	0	0	0	0	1	0	0	0	3	4
Burlington.....	0	0	0	1	0	0	0	0	0	8	17
Massachusetts:											
Boston.....	62	83	0	0	0	11	1	0	0	21	210
Fall River.....	4	2	0	0	0	3	1	0	0	0	21
Springfield.....	6	10	0	0	0	1	0	0	0	3	23
Worcester.....	8	25	0	0	0	6	0	0	0	9	36
Rhode Island:											
Pawtucket.....	2	1	0	0	0	1	0	0	0	0	19
Providence.....	8	29	0	0	0	1	0	0	0	1	48
Connecticut:											
Bridgeport.....	7	11	0	0	0	2	0	0	0	1	35
Hartford.....	3	1	0	0	0	2	0	0	0	3	56
New Haven.....	4	3	0	0	0	1	1	1	0	8	21
MIDDLE ATLANTIC											
New York:											
Buffalo.....	21	32	0	1	0	10	0	0	0	18	146
New York.....	249	334	0	0	0	112	9	9	1	238	1,423
Rochester.....	9	54	0	0	0	1	0	0	0	14	68
Syracuse.....	7	21	0	0	0	1	0	0	0	24	46
New Jersey:											
Camden.....	6	7	0	0	0	0	0	0	0	3	20
Newark.....	22	34	0	0	0	8	0	0	0	131	115
Trenton.....	3	2	0	0	0	3	0	1	0	0	37
Pennsylvania:											
Philadelphia.....	85	144	0	0	0	36	1	1	1	69	464
Pittsburgh.....	27	114	0	0	0	7	1	1	0	43	175
Reading.....	4	2	0	0	0	2	0	0	0	1	33
EAST NORTH CENTRAL											
Ohio:											
Cincinnati.....	14	38	2	0	0	13	1	0	0	6	136
Cleveland.....	35	57	0	1	0	20	0	0	0	33	209
Columbus.....	7	5	0	0	0	1	0	0	0	1	85
Toledo.....	11	12	1	1	0	10	0	0	0	20	91
Indiana:											
Fort Wayne.....	3	1	2	0	0	0	0	0	0	0	24
Indianapolis.....	12	36	7	20	0	2	0	0	0	48	244
South Bend.....	3	3	0	0	0	0	0	0	0	4	14
Terre Haute.....	1	6	0	0	0	0	0	0	0	1	20
Illinois:											
Chicago.....	105	285	1	0	0	45	2	0	0	102	730
Springfield.....	3	3	0	1	0	1	1	0	0	0	20
Michigan:											
Detroit.....	100	188	1	1	0	9	1	2	0	164	251
Flint.....	11	19	2	0	0	2	0	0	0	19	23
Grand Rapids.....	9	14	0	3	0	4	0	0	0	13	48
Wisconsin:											
Kenosha.....	1	6	0	0	0	1	0	0	0	6	8
Madison.....	3	6	0	0	0	0	0	0	0	5	15
Milwaukee.....	28	19	0	0	0	6	0	0	0	41	105
Racine.....	3	15	0	0	0	2	0	0	0	19	18
Superior.....	2	0	0	0	0	0	0	0	0	0	7
WEST NORTH CENTRAL											
Minnesota:											
Duluth.....	7	0	0	0	0	0	0	0	0	0	16
Minneapolis.....	28	16	1	1	0	1	0	3	0	31	116
St. Paul.....	13	8	0	0	0	2	0	0	0	14	26

City reports for week ended June 6, 1931—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—CON.											
Iowa:											
Davenport.....	0	1	1	9			0	0		0	
Des Moines.....	6	4	2	15			0	0		0	27
Sioux City.....	1	10	1	0			0	0		0	
Waterloo.....	2	1	0	0			1	0		6	
Missouri:											
Kansas City....	10	8	0	0	0	10	0	1	0	10	108
St. Joseph.....	1	5	0	0	0	0	0	0	0	0	16
St. Louis.....	23	74	2	2	0	13	1	1	2	44	232
North Dakota:											
Fargo.....	0	3	0	0	0	0	0	0	0	0	8
Grand Forks....	0	0	0	0			0	0		0	
South Dakota:											
Aberdeen.....	1	0	0	0			0	0		0	
Sioux Falls....	1	0	0	0			0	0		0	8
Nebraska:											
Omaha.....	3	9	3	5	0	3	0	0	0	2	51
Kansas:											
Topeka.....	2	0	0	1	0	0	0	0	0	0	6
Wichita.....	2	4	1	13	0	1	0	0	0	6	38
SOUTH ATLANTIC											
Delaware:											
Wilmington....	3	5	0	0	0	0	0	0	0	2	26
Maryland:											
Baltimore.....	31	35	0	0	0	26	0	1	0	43	223
Cumberland....	0	0	0	0	0	0	0	0	0	0	11
Frederick.....	0	0	0	0	0	0	0	0	0	0	
District of Columbia:											
Washington....	18	16	1	0	0	6	3	0	0	15	118
Virginia:											
Lynchburg....	1	0	0	0	0	1	0	0	0	0	10
Richmond.....	2	8	0	0	0	2	1	0	0	1	60
Roanoke.....	0	0	0	0	0	2	0	0	0	0	20
West Virginia:											
Charleston....	0	0	0	0	0	2	0	0	0	3	21
Wheeling.....	1	1	0	0	0	0	0	0	0	0	23
North Carolina:											
Raleigh.....	0	1	0	0	0	2	0	1	0	15	19
Wilmington....	0	0	0	0	0	0	0	0	0	0	5
Winston-Salem..	0	0	0	0	0	1	1	0	0	15	17
South Carolina:											
Charleston....	0	0	0	0	0	0	0	0	0	0	22
Columbia.....	0	0	0	0	0	1	1	0	0	0	23
Georgia:											
Atlanta.....	4	31	3	9	0	6	0	4	0	13	76
Brunswick....	0	0	0	0	0	0	1	0	0	0	5
Savannah....	0	0	0	0	0	3	1	3	1	8	24
Florida:											
Miami.....	0	0	0	0	0	2	1	0	0	1	17
Tampa.....	0	3	0	0	0	2	0	1	0	0	27
EAST SOUTH CENTRAL											
Kentucky:											
Covington....	1	7	0	0	0	0	0	0	0	0	24
Tennessee:											
Memphis.....	3	8	0	1	0	8	3	1	0	33	77
Nashville....	1	6	1	2	0	1	2	0	0	3	43
Alabama:											
Birmingham..	0	5	2	0	0	4	1	0	0	12	71
Mobile.....	0	0	0	0	0	0	1	1	0	0	18
Montgomery...	0	0	0	0			0	1		0	

City reports for week ended June 6, 1931—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	1	0	2	1	0	0	2	2
Little Rock.....	0	0	0	0	0	0	1	1	0	0	0
Louisiana:											
New Orleans.....	6	5	0	5	0	16	3	0	0	2	154
Shreveport.....	0	0	0	0	0	4	0	0	2	6	28
Oklahoma:											
Muskogee.....	0	0	2	1	0	0	0	0	0	0	0
Texas:											
Dallas.....	2	4	2	1	0	6	1	0	0	23	57
Forth Worth.....	2	6	2	5	0	2	0	0	0	0	30
Galveston.....	0	0	0	0	0	1	0	1	0	0	21
Houston.....	1	2	1	5	0	5	0	1	0	1	66
San Antonio.....	1	1	0	0	0	5	1	0	0	0	81
MOUNTAIN											
Montana:											
Billings.....	1	0	0	0	0	0	0	0	0	1	10
Great Falls.....	1	1	0	0	0	1	0	0	0	7	10
Helena.....	0	0	0	0	0	0	0	0	0	0	6
Missoula.....	0	1	0	0	0	0	0	0	0	0	9
Idaho:											
Boise.....	0	0	0	2	0	0	0	0	0	1	1
Colorado:											
Denver.....	10	7	0	1	0	6	0	2	0	48	77
Pueblo.....	1	1	1	0	0	1	0	0	0	2	11
New Mexico:											
Albuquerque.....	1	0	0	0	0	3	0	0	0	0	12
Arizona:											
Phoenix.....	1	0	0	0	0	2	0	0	0	0	0
Utah:											
Salt Lake City.....	2	2	0	0	0	0	0	0	0	8	17
Nevada:											
Reno.....	0	0	0	0	0	1	0	0	0	0	10
PACIFIC											
Washington:											
Seattle.....	7	7	1	0	0	0	2	0	0	93	0
Spokane.....	4	1	5	8	0	0	0	0	0	0	0
Tacoma.....	3	1	3	1	0	1	0	0	0	2	18
Oregon:											
Portland.....	3	2	9	8	0	3	0	0	0	0	68
Salem.....	0	0	0	0	0	0	0	0	0	0	0
California:											
Los Angeles.....	27	22	5	8	0	14	1	0	0	0	233
Sacramento.....	2	2	1	0	0	3	0	0	0	6	30
San Francisco.....	28	11	1	0	0	12	1	1	0	0	147

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Pollomyelitis (infantile paralysis)			
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases estimated expectancy	Cases	Deaths	
NEW ENGLAND										
Massachusetts:										
Boston.....	2	1	0	0	1	0	0	0	0	1
Worcester.....	1	0	1	1	0	0	0	0	0	0
MIDDLE ATLANTIC										
New York:										
Buffalo.....	0	0	0	1	0	0	0	0	0	0
New York.....	7	6	2	2	0	0	1	1	1	0
New Jersey:										
Newark.....	1	0	0	0	0	0	0	0	0	0
Pennsylvania:										
Philadelphia.....	5	3	0	0	1	1	0	1	0	0
Pittsburgh.....	1	1	0	1	0	0	0	0	0	0

City reports for week ended June 6, 1931—Continued

Division, State, and city	Meningo- cocci meningitis		Lethargic en- cephalitis		Pellagra		Poliomyelitis (infan- tile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases esti- mated expect- ancy	Cases	Deaths
EAST NORTH CENTRAL									
Ohio:									
Cleveland.....	0	0	0	0	0	1	0	0	0
Toledo.....	0	0	2	0	0	0	0	0	0
Indiana:									
Indianapolis.....	0	1	0	0	0	0	0	0	0
Illinois:									
Chicago.....	10	6	1	0	0	0	0	0	0
Michigan:									
Detroit.....	0	0	1	0	0	0	0	0	0
Flint.....	1	1	0	1	0	0	0	0	0
Grand Rapids.....	0	0	0	1	0	0	0	0	0
Wisconsin:									
Racine.....	0	0	0	1	0	0	0	0	0
WEST NORTH CENTRAL									
Missouri:									
St. Louis.....	2	0	0	0	0	0	0	0	0
Nebraska:									
Omaha.....	1	0	0	0	0	0	0	0	0
Kansas:									
Topeka.....	0	0	0	0	1	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	3	0	0	0	0	0	0	0	0
District of Columbia:									
Washington.....	1	1	0	0	0	0	0	0	0
North Carolina:									
Wilmington.....	0	0	0	0	0	1	0	0	0
Winston-Salem.....	0	1	0	0	0	1	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	1	0	0	0	0
Columbia.....	0	2	0	0	0	0	0	0	0
Georgia:									
Atlanta.....	0	0	0	1	0	0	0	0	0
Brunswick.....	0	0	0	0	0	2	0	0	0
Savannah ¹	0	0	0	0	8	1	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	0	0	0	0	0	1	0	0	0
Alabama: ²									
Mobile.....	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL									
Louisiana:									
New Orleans.....	1	0	0	0	2	2	0	0	0
Shreveport.....	0	0	0	0	0	1	0	0	0
Texas:									
Dallas.....	1	0	0	0	0	0	0	0	0
Fort Worth ¹	0	0	0	0	0	1	0	0	0
San Antonio.....	2	0	0	0	0	0	0	0	0
MOUNTAIN									
Utah:									
Salt Lake City.....	1	1	0	0	0	0	0	1	1
PACIFIC									
Washington:									
Tacoma.....	0	0	0	0	0	0	0	1	0
California:									
Los Angeles.....	0	0	0	0	0	0	1	2	3
San Francisco.....	0	0	1	1	0	1	1	0	0

¹ Typhus fever: 3 cases; 2 cases at Savannah, Ga., and 1 case at Fort Worth, Tex.² Rabies (in man): 1 death at Birmingham, Ala.

The following tables give the rates per 100,000 population for 98 cities for the 5-week period ended June 6, 1931, compared with those for a like period ended June 7, 1930. The population figures used in computing the rates are estimated midyear populations for 1930 and 1931, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 33,000,000. The 91 cities reporting deaths have more than 31,500,000 estimated population.

*Summary of weekly reports from cities, May 3 to June 6, 1931—Annual rates per 100,000 population, compared with rates for the corresponding period of 1930*¹

DIPHTHERIA CASE RATES

	Week ended—									
	May 9, 1931	May 10, 1930	May 16, 1931	May 17, 1930	May 23, 1931	May 24, 1930	May 30, 1931	May 31, 1930	June 6, 1931	June 7, 1930
98 cities	67	77	63	74	62	79	59	76	67	75
New England.....	38	65	38	106	48	68	50	56	46	94
Middle Atlantic.....	61	85	58	74	63	76	58	67	74	68
East North Central.....	82	103	72	91	67	115	81	110	75	112
West North Central.....	71	45	71	74	75	72	54	77	55	52
South Atlantic.....	63	62	55	54	38	54	41	60	39	54
East South Central.....	41	6	17	36	12	24	17	36	12	12
West South Central.....	108	73	81	66	81	52	54	49	68	38
Mountain.....	27	70	61	35	61	53	52	44	101	18
Pacific.....	61	49	74	43	72	59	37	67	49	65

MEASLES CASE RATES

98 cities	1,304	1,411	1,403	1,255	1,372	1,159	1,114	911	1,096	934
New England.....	1,063	2,303	1,166	1,843	1,190	1,877	935	1,558	933	1,596
Middle Atlantic.....	1,433	1,295	1,486	1,337	1,478	1,091	1,187	940	1,101	1,021
East North Central.....	1,102	627	1,313	814	1,458	685	1,304	524	1,446	512
West North Central.....	1,016	1,269	1,396	831	1,098	794	641	525	817	420
South Atlantic.....	3,553	1,298	3,365	1,228	2,840	957	2,089	793	1,473	523
East South Central.....	1,263	442	1,234	359	1,234	568	1,047	335	1,140	371
West South Central.....	1,152	711	1,166	735	271	547	294	453	254	115
Mountain.....	555	9,128	531	6,652	618	7,119	461	5,674	870	5,665
Pacific.....	501	1,992	554	1,670	456	2,180	492	1,397	511	1,903

SCARLET FEVER CASE RATES

98 cities	390	253	389	226	367	206	306	182	310	208
New England.....	630	310	666	261	536	314	351	307	414	252
Middle Atlantic.....	448	266	439	222	442	204	304	162	355	186
East North Central.....	439	313	454	308	412	227	438	264	422	293
West North Central.....	440	238	383	262	340	306	291	213	258	265
South Atlantic.....	276	242	243	172	241	164	239	126	197	170
East South Central.....	250	138	337	24	300	102	297	72	151	96
West South Central.....	105	94	108	73	85	49	51	14	41	73
Mountain.....	170	370	157	229	270	300	165	97	104	194
Pacific.....	106	130	123	128	88	97	110	71	86	93

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, 1931 and 1930, respectively.

² Billings, Mont., not included.

Summary of weekly reports from cities, May 3 to June 6, 1931—Annual rates per 100,000 population, compared with rates for the corresponding period of 1930—Continued

SMALLPOX CASE RATES

	Week ended—									
	May 9, 1931	May 10, 1930	May 16, 1931	May 17, 1930	May 23, 1931	May 24, 1930	May 30, 1931	May 31, 1930	June 6, 1931	June 7, 1930
98 cities.....	15	24	17	22	16	20	15	15	14	20
New England.....	0	2	0	0	0	0	0	0	0	0
Middle Atlantic.....	3	0	1	0	4	0	1	1	0	1
East North Central.....	6	22	23	16	15	10	11	12	16	8
West North Central.....	78	101	75	126	67	110	88	56	42	118
South Atlantic.....	8	0	6	4	6	2	24	10	18	4
East South Central.....	41	6	12	72	41	30	6	30	17	30
West South Central.....	64	38	41	21	47	10	37	14	41	21
Mountain.....	9	79	17	62	9	70	26	62	26	62
Pacific.....	12	83	25	47	12	71	12	49	33	59

TYPHOID FEVER CASE RATES

	5		6		7		7		8	
	5	6	5	8	6	7	7	7	6	8
98 cities.....	5	0	5	10	2	19	2	12	2	5
New England.....	5	4	5	7	5	4	8	3	5	6
Middle Atlantic.....	2	2	2	2	5	5	2	2	1	4
East North Central.....	2	8	6	8	10	8	4	10	10	10
West North Central.....	8	16	12	14	12	12	22	14	20	22
South Atlantic.....	6	18	17	42	17	24	12	35	17	12
East South Central.....	7	3	7	35	7	10	7	21	10	35
West South Central.....	0	18	0	0	0	0	17	9	17	0
Mountain.....	8	20	0	2	8	0	2	8	4	2
Pacific.....										

INFLUENZA DEATH RATES

	12		9		8		8		7		6		5	
	12	9	8	8	7	6	7	4	6	5	4	3	2	1
91 cities.....	5	10	2	0	5	5	10	0	2	0	2	2	0	0
New England.....	11	10	7	7	5	7	3	4	5	4	5	4	4	4
Middle Atlantic.....	11	9	5	4	5	5	5	4	2	4	2	2	4	4
East North Central.....	6	3	9	3	3	0	9	3	6	3	6	12	12	12
West North Central.....	22	6	16	20	4	6	18	4	14	4	14	10	10	10
South Atlantic.....	50	13	50	39	19	19	19	32	38	13	38	13	13	13
East South Central.....	14	28	7	4	28	7	14	4	10	11	10	11	11	11
West South Central.....	27	0	9	9	26	9	17	18	0	9	18	0	9	9
Mountain.....	7	7	7	12	0	5	5	2	7	2	7	7	2	2
Pacific.....														

PNEUMONIA DEATH RATES

	117		133		102		102		95		101		101		78		86		83	
	117	133	102	102	95	101	101	78	86	83	101	78	86	83	101	78	86	83	101	78
91 cities.....	130	131	113	111	72	109	111	97	120	80	111	97	120	80	111	97	120	80	111	97
New England.....	144	176	121	124	121	130	109	89	102	100	109	89	102	100	109	89	102	100	109	89
Middle Atlantic.....	87	92	74	67	68	79	75	53	59	58	75	53	59	58	75	53	59	58	75	53
East North Central.....	121	126	103	108	97	84	133	69	138	132	133	69	138	132	133	69	138	132	133	69
West North Central.....	130	132	126	170	111	110	132	90	77	102	132	90	77	102	132	90	77	102	132	90
South Atlantic.....	120	142	126	84	120	78	183	97	76	71	183	97	76	71	183	97	76	71	183	97
East South Central.....	114	164	114	78	97	82	128	121	86	78	128	121	86	78	128	121	86	78	128	121
West South Central.....	98	123	78	79	70	123	70	79	87	115	70	79	87	115	70	79	87	115	70	79
Mountain.....	70	52	55	47	55	35	43	52	48	32	43	52	48	32	43	52	48	32	43	52
Pacific.....																				

¹ Billings, Mont., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended May 30, 1931.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended May 30, 1931, as follows:

Province	Cerebro-spinal fever	Influenza	Poliomyelitis	Smallpox	Typhoid fever
Prince Edward Island ¹					
Nova Scotia.....		7			1
Quebec.....					2
Ontario.....			1	3	12
Manitoba.....	1				
Saskatchewan.....	2			8	1
Alberta.....					3
British Columbia.....					2
Total.....	3	7	1	11	21

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

Quebec Province—Communicable diseases—Week ended June 6, 1931.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended June 6, 1931, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	1	Mumps.....	13
Chicken pox.....	78	Scarlet fever.....	71
Diphtheria.....	37	Tuberculosis.....	62
Erysipelas.....	4	Typhoid fever.....	6
German measles.....	13	Whooping cough.....	9
Measles.....	458		

Ontario—Communicable diseases—Five weeks ended May 30, 1931.—During the five weeks ended May 30, 1931, and the corresponding period of 1930, certain diseases were reported in the Province of Ontario, Canada, as follows:

Disease	5 weeks, 1930		5 weeks, 1931	
	Cases	Deaths	Cases	Deaths
Cerebrospinal meningitis.....	14	7	3	1
Chancroid.....	1			
Chicken pox.....	821	1	1,081	
Conjunctivitis.....			1	
Diphtheria.....	237	18	157	10
Dysentery.....				1
Erysipelas.....	3			
German measles.....	994		195	
Goiter.....	3	2	1	
Gonorrhoea.....	194		255	
Influenza.....	30	10	12	5
Lethargic encephalitis.....	4	1		
Measles.....	1,883	2	1,222	1
Mumps.....	169		454	
Paratyphoid fever.....			18	1
Pneumonia.....		236		165
Poliomylitis.....	2		3	1
Puerperal septicemia.....		1		
Scarlet fever.....	881	11	831	3
Septic sore throat.....	8			
Smallpox.....	94		32	
Syphilis.....	240		248	
Tuberculosis.....	194	75	175	77
Typhoid fever.....	36	1	34	3
Undulant fever.....	5		7	
Whooping cough.....	231	1	437	6

CHINA

Manchuria—Plague.—The epidemic of bubonic plague which occurred during the months of August and September, 1930, in the Ssuningkai Railroad and Nungan areas of Manchuria, was brought to an end in the middle of October. The total number of deaths reported from plague during this period was 270. The epidemic started in several villages in a locality which borders on inner Mongolia, involving mainly small villages at short distances from the railway. The mortality was reported to have been high.

Harbin—Communicable diseases—December, 1930—February, 1931.—During the months of December, 1930, and January and February, 1931, cases of certain communicable diseases were reported in Harbin, Manchuria, as follows:

Disease	December, 1930	January, 1931	February, 1931
Diphtheria.....	27	12	17
Dysentery.....	15	8	11
Meningitis.....			1
Scarlet fever.....	35	32	43
Smallpox.....	4	7	11
Typhoid fever.....	20	18	28
Typhus fever.....	13	7	7

Meningitis.—Meningitis has been reported in China as follows:

	Cases	Deaths
Shanghai:		
Week ended—		
Apr. 18, 1931.....	5	9
Apr. 25, 1931.....	9	15
May 2, 1931.....	5	12
May 9, 1931.....	16	14
May 16, 1931.....	7	9
May 23, 1931.....	3	9
Hong Kong:		
Week ended—		
May 16, 1931.....	1	-----
May 30, 1931.....	3	2
Canton:		
Week ended—		
May 16, 1931.....	12	-----
May 30, 1931.....	2	-----
Amoy: Week ended May 16, 1931.....		
	1	-----

MEXICO

Tampico—Communicable diseases—May, 1931.—During the month of May, 1931, certain communicable diseases were reported in Tampico, Mexico, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chicken pox.....	5	-----	Measles.....	9	1
Diphtheria.....	2	-----	Tuberculosis.....	43	33
Enteritis, various.....	17	51	Typhoid fever.....	3	5
Influenza.....	17	1	Whooping cough.....	53	1
Malaria.....	121	10			

Vera Cruz—Deaths during year ended June 1, 1931.—During the year ended June 1, 1931, 1,938 deaths were reported in Vera Cruz, Mexico. Deaths from certain diseases were reported as follows:

Disease	Deaths	Disease	Deaths
Cancer.....	18	Puerperal fever.....	1
Diphtheria.....	4	Rabies.....	1
Dysentery.....	6	Smallpox.....	1
Erysipelas.....	2	Tetanus.....	13
Influenza.....	7	Tuberculosis, all forms.....	237
Leprosy.....	2	Typhoid and paratyphoid fever.....	21
Malaria.....	38	Typhus fever.....	2
Measles.....	6	Whooping cough.....	3

The population of Vera Cruz, according to the 1930 census, was 71,983.

Vera Cruz—Deaths—May 4 to 31, 1931.—During the four weeks ended May 31, 1931, deaths from certain causes were reported in Vera Cruz, Mexico, as follows:

Disease	Deaths	Disease	Deaths
Bronchitis.....	1	Septicemia.....	1
Cancer.....	4	Syphilis.....	4
Gastro-intestinal disorders.....	40	Tetanus.....	2
Malaria.....	2	Tuberculosis.....	14
Meningitis.....	1	All other causes.....	52
Pneumonia.....	10		
Pyemia.....	1	Total.....	132

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

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

Place	Week ended—																				
	Dec. 14, 1930— Jan. 10, 1931		Jan. 11— Feb. 7, 1931		Feb. 8— Mar. 7, 1931		March, 1931			April, 1931			May, 1931			June, 1931					
							14	21	28	4	11	18	25	2	9	16	23	30	6	13	
Ceylon: Colombo.....																					
China: Canton.....																					
India.....	10,687	15,334	11,544	2,471	857	2,551	2,980	3,161	3,067	2,668											
Bombay.....	5,689	8,123	6,131	1,252	473	1,314	1,811	1,871	1,650	1,360											
Calcutta.....	28	121	170	80	102	129	125	95	82	62				71	72	89	49				
Karikal.....	20	86	112	49	68	69	70	50	51	26				44	39	44	34				
Madras.....	201	90	72	2	1	7	2	10	8	1				15	10	1	1				
Nagapatam.....	67	47	26	4	5	7	4	3	3	1				18	18	23	11				
Rangoon.....		3	3	5	3	2								3	5	6	2				
Tuticorin.....		1	1																		
India (French): Chanderagor.....		1	1																		
Pondicherry.....	2	1	5	2	2	2	1	3	2	1					3	3	1				
India (Portuguese): Indo-China (see also table below): Pnompennh.....	31	19	100	29	25	26	20	6	3	6				11	3	8	2				
Salgon and Choison.....	9	6	4	1	1	1	1	3	2	3				15	25	23	34				
Persia: Rafsandjan.....	4	3	4	2	1	1	1	1	3	6				13	20	18	25				
														31	31						
														12	12						

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

CHOLERA—Continued

[C Indicates cases; D, deaths; F, present]

Place	Dec. 14, 1930, Jan. 10, 1931	Jan. 11- Feb. 7, 1931	Feb. 8- Mar. 7, 1931	Week ended—													
				March, 1931			April, 1931				May, 1931				June, 1931		
				14	21	28	4	11	18	25	2	9	16	23	30	6	13
Philippine Islands: ¹																	
Iloilo.....	1	2															
Provinces—																	
Capiz.....		59	186														
Iloilo.....	28	47	146														
Masabata.....	22	145	95														
		110	65														
Negros, Occidental.....	120	90	4														
Negros, Oriental.....	97	66	4														
Pampanga.....		1															
Samat.....	17																
Siam.....																	
Ayudhaya District.....	2	3	1														
Bangkok.....	2	1	4														
Bismulok Province.....	2	3	2														
On vessel: S. S. Arankola, at Rangoon from Calcutta.....	2	1	1														

¹ Figures for cholera in the Philippine Islands are subject to correction.

Place	Octo-ber, 1930	No-ven-ber, 1930	December, 1930		January, 1931		February, 1931		March, 1931	
			1-10	11-20	21-31	1-10	11-20	21-28	1-10	11-20
Indo-China (French) (see also table above):										
Cambodia ¹	22	26	28			7	19	36	71	35
Cochin-China ¹	28	13	8			7	4	13	6	5
									14	19
									39	33

PLAGUE

Place	Dec. 14, 1930	Jan. 11-10, 1931	Jan. 11-7, 1931	Feb. 8-7, 1931	Feb. 8-7, 1931	Week ended—														
						March, 1931			April, 1931			May, 1931			June, 1931					
						14	21	28	4	11	18	25	2	9	16	23	30	6	13	
Algeria:																				
Algiers.....	1			2	1															
Bone.....						1			1											
Constantine, vicinity of.....	50			1	1															
Philippeville.....	1																			
Argentina:																				
Cordoba Province.....				1	2															
Entre Rios Province—Diamante.....				2																
Juliy Province—Palpala.....				1																
Sanja Fe.....				2																
Belgian Congo:																				
British East Africa (see also table below):																				
Tanganyika.....	2			22	4										3	15				
Uganda.....	67			25	15										10	11				
	67			24	15										8	10				
															8	8				

¹ Reports incomplete.

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

PLAGUE—Continued

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

Place	Nov., 1930	Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931	Place	Nov., 1930	Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931
British East Africa (see also table above):													
Kenya.....	62	80	66	21	7	12	Perru.....	34	41	29	12		
Indo-China (see also table above).....	5	1			4	2	Senegal:	14	13	8	6		
Madagascar (see also table above):							Baol ¹	4					
Amboisitra Province.....	44	95	100	92	70		Dakar ¹						
Antistrabe Province.....	44	87	96	88	66		Louga ¹						
Miarinarivo Province.....	18	27	66	84	83		Rufisque ¹	10				14	
Moramanga Province.....	12	18	57	79	74		Thies ¹	3			2	6	
Moramanga Province.....	12	18	28	31	19		Tivaouane ¹	27	2				
Tananarive Province.....	19	13	7	7	1			23	1				
Tananarive Province.....	170	178	92	145	90			21	2				
	164	172	89	139	81			26	1				

¹ Reports incomplete.

SMALLPOX

Place	Nov. 10-14, 1930	Dec. 14, 1930- Jan. 10, 1931	Jan. 11-15, 1931	Feb. 1, 1931	Mar. 1, 1931	Week ended—																	
						March, 1931			April, 1931					May, 1931									
						14	21	28	4	11	18	25	2	9	16	23	30						
Algeria:																							
Algiers.....		1	1	1					2			2											1
Bone.....			1					1													1		
Constantine.....																							
Oran.....	3			1																			
Arabia: Aden.....		79	50																				
Belgian Congo.....		36	3					1															
Belgium.....		365	84	70	91			7	12	10	14	20	19	8									
Brasil: Porto Alegre (alastrim).....			4	5	13			1	2		1												
British East Africa (see also table below): Tanganyika.....		36	18	13																			
British South Africa: Southern Rhodesia.....		3																					
Canada:																							
Alberta.....	1	19	7	1																			
British Columbia.....	1	3	2	8																			
Manitoba.....			1	1																			
Winnipeg.....		1		1																			
Nova Scotia.....			1							1													
Ontario:										2	3	3	1	4	6	7	17	6					8
Kingston.....	23	17	49	1	29																		
North Bay.....		6	1																				
Ottawa.....		2	2	3																			
Sault Ste. Marie.....	12	2	2																				
Toronto.....	4	1	30	2	2					1	1	3	1	4	3	1	4				1		1
Quebec.....	2	2																					
Saskatchewan.....	18		38		63			40	10	8	5	16	3	22	7	15	18						8
Regina.....			1		1					2	2	2	2	2	2	2							
Canary Islands: Las Palmas.....										1													
China:																							
Amoy.....										1								2	2				
Canton.....										1								1	1				
Chungking.....										2		1	2	1	2	1		1	1				2
Foochow.....																							
Hong Kong.....	P	P	P	P	P			P	P	P	P	P	P	P	P			P	P				
		1	1	1	1			1	1	1	1	1	1	1	1			1	1				1
		3	3	3	3			3	3	3	3	3	3	3	3			3	3				3

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

SMALLPOX—Continued

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

Place	Week ended—											
	March, 1931			April, 1931				May, 1931				
	14	21	28	4	11	18	25	2	9	16	23	30
China—Continued.												
Manchuria—												
Harbin.....	C	1	4									
Kwantung—Dairen.....	C	1	2									
Nanking.....	D											
Shanghai.....	C											
Foreigners only.....	C											
Including natives.....	C	8	14	10	1	1	2	1	2	2	1	4
Swatow.....	C	11	14	6	2	2	7	4	6	1	4	1
Tientsin.....	C	3	6	7	3	6	9	2	2			3
Tientsin.....	C	2	1	1								3
Chosen (see table below).												2
Colombia: Cali.....	D	1	4	2								1
Dutch East Indies: Java—Batavia and West Java.....	D	6	2	2								
France (see table below).	D	2	2	1								
Great Britain:												
England and Wales.....	C	508	665	998	745	171	219	226	179	177	163	212
Bradford.....	C	1	1	4	1	1	1	1	1	1	1	1
Leeds.....	C	2	2	1	1	1	1	1	1	1	1	1
London.....	C	184	161	149	98	26	64	32	35	61	39	84
London and Great Towns.....	C	433	560	668	683	117	164	166	117	142	126	162
Sheffield.....	D	1	1	1	1	1	1	1	1	1	1	1
Stoke-on-Trent.....	C			3	32	2	1	6	1	4	2	1
Greece (see table below).	C			1	1							
Honduras:												
Amapala.....	C											
Ocoatoque and Gracias districts.....	C											
Puerto Castilla.....	C											
Tegucigalpa.....	C											
Tela.....	C											
India:												
Coimbatore.....	C	3,627	5,623	9,623	13,222	3,440	1,695	3,395	3,261	3,980	3,749	3,458
Bombay.....	C	874	1,381	2,245	2,660	655	303	658	688	807	684	680
Bassein.....	C	1	2	2	7	4	1	4	1	2	2	1
Bombay.....	C	1	2	1	1	1	1	2	1	1	1	1

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

TYPHUS FEVER—Continued

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

Place	Week ended—											
	March, 1931			April, 1931			May, 1931					
	14	21	28	4	11	18	25	2	9	16	23	30
China:												
Canton.....												
Manchuria—Harbin.....			1									
Shanghai.....			3			8						
Tientsin.....					1	1						
Chosen (see table below).....												
Czechoslovakia (see table below).....												
Egypt:												
Alexandria.....	2					1						
Behelra Province.....					3	1						
Cairo.....		1										
Port Said.....	1				2							
Eritrea: Asmara.....				1								
Great Britain: Scotland.....				1								
Glasgow.....				2								
Glasgow.....				1								
Greece (see table below).....												
Guatemala: ¹												
Iraq: Baghdad.....			5	1						2		
Iraq: Baghdad.....			1							2		
Irish Free State:												
Kerry County—Dingle.....												
Mayo County—Belmullet.....							1			1		
Latvia (see table below).....												
Lithuania (see table below).....												
Mexico (see also table below):												
Durango.....												
Mexico City, including municipalities in Federal District.....	14	12	35	39	31	67	34	38	31	16	27	
San Luis Potosi.....	7	10	16	20	13	20	18	17	14	9	7	
Morocco.....	2	6	1	1	1	2						1
Morocco.....	1	8	2	2	2	3						1
Palestine.....			1	2								2
Panama Canal Zone—Balboa.....	7	4	2	2	1	1	2	2	2	2	1	1

Paraguay: Asuncion.....	D	42	63	4	1	1	62	88	55	82	68	176	140	129	92	81	48
Poland.....	O	7	8	8	19	4	108	62	7	4	8	7	6	7	0	4	8
Portugal: Oporto.....	O	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rumania.....	O	34	113	193	152	55	53	53	52	54	70	8	4	8			
Spain.....	O	3	6	10	24	4	6	6	3	4	8						
Syria.....	O	1														1	3
Tunisia:	O																
Sbeitla, vicinity of.....	O									20	2			10			
Stax.....	O									7							
Tunis.....	O	28		16	18	6	2	2	2	7			1	10	12	9	8
Turkey (see table below).	O																
Union of South Africa:	O																
Cape Province.....	O	P	P	P	P	1			P	P	P	P	P	P	P		
Municipality of East London.....	O	1	8	3					P	P	P	P	P	P	P		
Natal.....	O																
Orange Free State.....	O																
Transvaal.....	O	P	P	P	P	P			P	P	P	P	P	P	P		
Yugoslavia (see table below).	O																

Place	Nov., 1930	Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931	Place	Nov., 1930	Dec., 1930	Jan., 1931	Feb., 1931	Mar., 1931	Apr., 1931
Chosen: Seoul.....	O	1	1	1	3		Lithuania.....	C	5	6	26	8	22
Czechoslovakia.....	O	16	24	60	26		Mexico (see also table above).....	D	1	3	3	1	2
Greece.....	O	4	10	10	17	8	Turkey.....	D	47	47	18	1	3
Latvia.....	O		2	2	2	1	Yugoslavia.....	C	3	3	20	12	17
				12					2	1	2	1	5

¹ On Feb. 27, 1931, the Director General of Public Health of Guatemala reports an unusual outbreak of typhus fever in a small village in Guatemala.

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

YELLOW FEVER

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

Place	Nov. 16-18, 1930- Dec. 13, 1930	Jan. 11- Feb. 7, 1931	Feb. 8- Mar. 7, 1931	Week ended—															
				March, 1931		April, 1931				May, 1931									
				14	21	28	4	11	18	25	2	9	16	23	30				
Brazil:																			
Bahia State.....		1			1														
Ceara State.....		1			2														
Minas Geraes State.....					2				1										
Rio de Janeiro State.....					1														
Cambucy.....					1														
Friburgo (imported).....		3			2														
Parana.....		1																	
Pedras.....		2																	
British Cameroon: Mamfe.....																			