Public Health Reports

Vol. 59 • AUGUST 11, 1944 • *No. 32*

A SIMPLIFIED PROCEDURE FOR DETECTING CROSS REACTIONS IN DIAGNOSTIC ANTIPNEUMOCOCCIC SERUM[1]

By BERNICE E. EDDY, *Bacteriologist, United States Public Health Service*

The purpose of this paper is to present a simplified procedure for detecting cross reactions in diagnostic antipneumococcic serums. Since 1939 commercial diagnostic antiserums have been tested for cross reactions with 29 to 31 of the 74 known heterologous types of pneumococci. Commercial antiserums are prepared for 32 types of pneumococci and the discovery of cross reactions, a necessary prerequisite for making the antiserums specific, is a time-consuming task. Moreover, cross reactions often exist with pneumococci of higher types and these cross reactions cannot be found with the present method of testing without more than doubling the number of slide preparations to be examined.

METHOD

Antigens for each of the 75 types of pneumococci are prepared and standardized so that the turbidity matches a standard containing 200 parts per million of silica according to the method described in an earlier report (*1*), with the following exception: The peptone solution used to dilute the antigen contains 1.43 percent of formaldehyde and is adjusted to a pH of 5.4 to 6.5.

Pneumococci suspended in a slightly acid medium, if kept in the refrigerator when not in use or in an iced container while being used, retain their capsules intact for long periods of time, often for as long as a year. After the antigens are prepared it is only necessary to check for capsular swelling with control antiserums at intervals of 2 to 4 weeks.

Equal parts, usually 2 ml. of standardized antigens for each type, are combined in 14 groups according to the types which show cross

[1] From the Biologics Control Laboratory, National Institute of Health.

reactions or which are similar epidemiologically (*2*). The types which make up these groups are as follows:

Group No.	*Types*
1	1, 2, 5, 6, 7, 26, 51.
2	3, 4, 8, 14, 19, 57.
3	9, 33, 49, 68.
4	10, 13, 21, 34, 69.
5	11, 16, 28, 43, 53, 72.
6	12, 25, 71.
7	15, 18, 23, 30, 44, 46, 54, 55, 56, 64.
8	17, 22, 63.
9	20, 29, 31, 35, 40, 47, 52, 61, 62, 66.
10	24, 45, 48, 50, 58, 59, 60, 65.
11	27, 32, 67.
12	36, 38, 74.
13	39, 42, 70.
14	37, 41, 73, 75.

The group antigens are centrifuged and concentrated by removing all the supernatant fluid except a volume equal to that of any single type antigen used in the group. Thus if 2 ml. of each individual type antigen are combined, all but 2 ml. of the supernatant fluid is removed. The group antigen is very turbid. For instance, a group antigen such as No. 6 is 3 times more turbid than a standardized antigen for a single type, and a group antigen such as No. 7 is 10 times more turbid. A loopful of a group antigen therefore contains approximately the same number of pneumococci of each of the types included in the group that are held by a similar loopful of a standardized antigen for a single type. The only precaution is that the group antigen must be agitated before the loop is introduced.

The details for carrying out tests for cross reactions are the same with individual type antigens or with group antigens. A small loopful (a loop of 28-gage platinum, 1 mm. inside diameter) of antigen, a large loopful (a loop of 26-gage platinum, 3–5 mm. inside diameter) or a drop of antiserum from a capillary pipette, and a small loopful of saturated aqueous methylene blue are mixed on a coverslip and the coverslip is inverted on a flat glass slide. The preparation is incubated in a moist chamber at 37° C. for 30 minutes and the pneumococci are examined under the microscope for capsular swelling.

OBSERVATIONS

In table 1 is an example of tests for cross reactions carried out with a group antigen and with antigens for the types included in the group. The cross reactions could be detected as well with the group antigen as with the antigens for the individual types and in some instances with greater ease because the pneumococci in the preparation which were not swollen served as controls.

In tables 2 and 3 are shown the results of tests carried out on 2 anti-

TABLE 1.—*Data illustrating that cross reactions can be detected with antigens of mixed types of pneumococci as well as with antigens of individual types*

Antipneumococcic serums		Antigens										
Type	Lot	Combined types 20, 29, 31, 35, 40, 47, 52, 61, 62, 66	Type 20	Type 29	Type 31	Type 35	Type 40	Type 47	Type 52	Type 61	Type 62	Type 66
2	B201	P	P	0	0	0	0	0	0	0	0	0
5	E501	T	0	0	0	0	0	0	0	T	T	T
15	E1501	P	T	0	0	0	0	T	T	P	P	T
18	H1802	+	0	0	0	0	0	0	T	P	0	T
19	B1903	+	T	0	+	0	T	T	0	T	P	0
22	B2201	+	0	0	+	0	0	0	0	0	0	0
32	J3202	+	0	0	+	0	P	0	0	0	0	0
34	B3401	P	0	T	0	P	0	0	T	0	0	0

The symbol + indicates that undiluted antiserum causes completely swollen pneumococcic capsules; P that in a clump of pneumococci some organisms have completely swollen capsules whereas others do not; T that there is perceptible swelling but none of the pneumococci have capsules with distinct outlines; and 0 that no capsular swelling occurs.

TABLE 2.—*Tabulation of the results of tests for cross reactions carried out on a type 8 antiserum with group antigens and with separate antigens for each of 74 heterologous types of pneumococci*

Group antigens			Individual type antigens		
Group No.	Capsular swelling	Number of types in group	Types	Capsular swelling	Group No. which contains type
1	0	7	1	0	
2	+	6	2	0	
3	0	4	3	+	2
4	0	5	4–7, inclusive	0	
5	0	6	9–18, inclusive	0	
6	0	3	19	+	2
7	0	10	20–75, inclusive	0	
8	0	3			
9	0	10			
10	0	8			
11	0	3			
12	0	3			
13	0	3			
14	0	4			

TABLE 3.—*Tabulation of the results of tests for cross reactions carried out on a type 22 antiserum with group antigens and with separate antigens for each of 74 heterologous types of pneumococci*

Group antigens			Individual type antigens		
Group No.	Capsular swelling	Number of types in group	Individual types	Capsular swelling	Group No. which contains type
1	0	7	1–20, inclusive	0	
2	0	6	21	P	4
3	0	4	23–30, inclusive	0	
4	P	5	31	+	9
5	0	6	32–35, inclusive	0	
6	0	3	36	+	12
7	0	10	37	0	
8	+	3	38	+	12
9	+	10	39–62, inclusive	0	
10	0	8	63	+	8
11	0	3	64–68, inclusive	0	
12	+	3	69	T	4
13	0	3	70–73, inclusive	0	
14	0	4	74	+	12
			75	0	

serums with antigens for 74 heterologous types of pneumococci and with 14 group antigens which include 75 types. All of the cross reactions discovered by means of separate antigens for each type were also noted with the group antigen which contained the reacting type. When no capsular swelling of any pneumococcus in a group antigen occurred, none was observed in individual antigens of the types included in the group.

DISCUSSION

The successful use of antipneumococcic serums for therapeutic purposes and the accuracy of type incidence reports are dependent upon the specificity of the diagnostic antiserums. It has been shown that cross reactions between certain types occur regularly (*3*). However, there are other cross reactions which occur infrequently but which may cause an error in type diagnosis if not detected.

The simple procedure of combining antigens of the different types of pneumococci in 14 groups makes possible the detection of cross reactions with all the known types, often through the examination of fewer slide preparations than were necessary when separate antigens for only 29 to 31 of the 74 heterologous types of pneumococci were used. For example, all of the cross reactions in the Type 8 antiserum (table 2) could have been discovered by examining 19 slide preparations, 14 prepared with group antigens plus 5 with the heterologous types of pneumococci included in Group No. 2. In the Type 22 antiserum (table 3) all of the cross reactions could have been detected by examining 34 slide preparations, 14 made with group antigens, 5 with the types of pneumococci included in Group No. 4, 2 with the heterologous types in Group No. 8, 10 with the types in Group No. 9, and 3 with the types in Group No. 12.

SUMMARY

By combining standardized antigens of the different pneumococcic types in 14 groups, cross reactions in antipneumococcic serum with any of the 74 heterologous types of pneumococci may be detected. After discovering the group for which a cross is shown, it is only necessary to test the antiserum with the separate types of pneumococci which make up the group. Since most of the types of pneumococci in the different groups show some serologic reactions in common, cross reactions with any of the known heterologous types may be detected by the examination of an antiserum with a minimum number of antigens.

REFERENCES

(*1*) Eddy, B. E.: A study of pneumococcus typing serums for the purpose of standardizing a test for potency. Pub. Health Rep., **55**: 347–361 (1940).

(*2*) Eddy, B. E.: Cross reactions between the several pneumococcic types and their significance in the preparation of polyvalent antiserum. Pub. Health Rep., **59**: 485–499 (1944).

(3) Eddy, B. E.: A study of cross reactions among the pneumococcic types and their application to the identification of types. Pub. Health Rep., 59: 451–468 (1944).

X-RAY EXPOSURE IN MANUFACTURE AND OPERATION OF CERTAIN ELECTRONIC TUBES

By A. F. Bush, *Industrial Hygiene Engineer*, H. T. Castberg, M. D.[1], *Chief*, and D. G. Macpherson, *Medical Officer, Bureau of Industrial Health, California Department of Public Health*

The dangers of X-ray or radium-emanation exposure are well recognized and in most cases controlled in industry when it is known that they exist. When X-ray or radium is utilized for the examination of industrial products or in radium-dial painting, proper controls are used, or at least there is a recognition of the potential dangers.

Recently interest has been aroused in a possible similar hazard in the manufacture and operation of high-vacuum electronic tubes (*1*).

We were confronted with a problem of this type and found on investigation that during the manufacture, testing, and operation of such tubes, measurable amounts of potentially harmful X-rays were produced. These tubes were tested or operated at voltages above 25 kilovolts. The presence of X-rays was detected with fluoroscopic screens and measured by means of the Victoreen minometer and dental X-ray films.

A report by Daily (*1*) concluded that no harmful clinical effects resulted from exposure to a similar type of tube under normal operation. It is understood that since that report was written the voltages at which high-vacuum electronic tubes are operated have been increased, and it is believed that potential hazard now possibly exists, even under normal operating conditions.

Although these tubes are not designed for production of X-rays, they are so constructed that they have the various elements necessary for X-ray emission.

Commercial X-ray tubes are so constructed and shielded that the radiation is confined to a narrow beam. This is not true of the tubes in question and they may emit X-rays in many different directions.

TOLERANCE DOSAGE

The provisional tolerance dose for X-rays should not exceed 0.1 roentgen per day, according to the National Bureau of Standards (*2*). However, considering the long-term genetic effect on experimental animals, some authorities believe that 0.02 roentgen per day may be considered a much safer maximum dose (*3*).

[1] Passed Assistant Surgeon, U. S. Public Health Service.

MEANS OF DETECTION

For detecting and roughly measuring the exposure, dental X-ray films (Eastman Code DF11) were worn in breast pockets by workers for varying lengths of time during their routine work. These showed varying degrees of exposure at different locations. The National Bureau of Standards recommends "that each worker shall be supplied with a dental X-ray film half-covered with lead foil, which shall be worn on the breast continuously, with the film side out, for 15 working days. If, upon development, appreciable darkening of the exposed part of the film is indicated, the cause therefor shall be investigated and eliminated" (*2*).

Appreciable darkening of the films worn by several workers in this study developed within 2 days or less, thus indicating a much higher exposure to X-rays than is recommended. Several films, placed at distances of from 12 to 14 inches from the tubes, showed marked darkening in periods of 8 to 10 minutes. At one location an overexposed roentgenogram of a finger was made with a 3-minute exposure at a distance of 10 to 12 inches from the source.

To explore the source of X-rays and to find leaks after controls had been installed, a length of cardboard mailing tube closed at one end by a diaphragm of fluorescent screen was employed. Upon peering into the light-free chamber formed by this device, the glowing of the fluorescent screen indicated activation by X-rays.

Measurement of the intensities of these exposures was made with a Victoreen minometer equipped with 0.1 roentgen and 0.01 roentgen ionization chambers.

Over a hundred tests were made with ionization chambers at exposure periods varying from 1 minute to 8 hours.

Four different operations showed evidence of X-ray exposure on dental film and were consequently checked with the minometer. The exposures of the operators at these locations were 2.5, 0.1, 0.12, and 0.1 roentgens per day, calculated on the basis of routine continuous operation. Since distance is a factor, spot checks with the minometer were made at distances of 1 to 3 feet from the source. Some of these measurements were as high as 6 to 8 roentgens per day.

At most of the locations the operators were not actually exposed to the radiation indicated by these figures because the tubes were not run continuously. However, with the anticipated increase in production, the operations will become more continuous and consequently the exposure will tend to become more significant.

In order to evaluate the possible clinical effects of these rays on the operators, hemoglobin estimations, white-cell counts, and differential white-cell counts were made on the blood of five employees who had been the most heavily exposed. Fortunately these were found to be

within normal limits. No clinical or laboratory effects from X-ray exposure were discovered.

The exact exposure of the workers in these operations is difficult to estimate, inasmuch as the operations are carried on intermittently and the workers are moved frequently from one operation to another.

A long latent period frequently elapses between the time of exposure and the first appearance of evidence of damage. Consequently, these workers cannot be considered to be free of injury until some years have passed.

CONTROL

Recommendations were made to shield the tubes with sheet lead (2 mm. thick) on the front panels of the cabinets in which the tubes are housed, with ¼-inch-thick lead glass inspection windows. The backs and bottoms of the cabinets were protected by 16-gage sheet steel. The protection afforded by the sheet steel was felt to be ample, inasmuch as it is impossible for operators or passers-by to stand close to the back of the cabinet. After this shielding had been installed, minometer tests proved that the exposure of the operators was reduced to well below the tolerance dosage of 0.1 roentgen per day.

CONCLUSIONS

High vacuum electronic tubes operating at high voltages are capable of producing X-rays well above the provisional tolerance dose of 0.1 roentgen per day.

In one industrial situation studied extensively the exposure of operators was found to be as high as 2.5 roentgens per day.

Once this hazard was recognized it was possible to reduce the intensities below the provisional tolerance dose by the use of sheet lead, sheet steel, and lead glass.

REFERENCES

(1) Daily, L. Eugene: Clinical study of results of exposure of laboratory personnel to radar and high frequency radio. U. S. Naval Med. Bull., 41: 1052–56 (July 1943).

(2) U. S. National Bureau of Standards: X-ray protection. National Bureau of Standards Handbook HB20, July 24, 1936. Govt. Print. Office, Washington, D. C. (1936).

(3) Personal communication from Dr. R. T. Newell.

MORBIDITY AND MORTALITY FROM SPECIFIC CAUSES DURING 1943 AND RECENT PRECEDING YEARS

I. Morbidity

The following data concerning the prevalence of nine communicable diseases are based on weekly telegraphic reports from the health officers of the various States and the District of Columbia (table 1).

599556—44——2

Although cases of these diseases are reportable by law, there is considerable variability in the completeness of the reports. While the number of cases is smaller than the number which actually occur during any given year, it is believed that the data indicate reasonably accurate trends and reveal any unusual prevalence of a disease.

DISEASES ABOVE MEDIAN PREVALENCE

Influenza.—The number of reported cases (421,005) of influenza was about 4 times the number reported in 1942 and 2.2 times the median for the years 1938–42. An epidemic of this disease started in the Great Lakes region about the middle of November and spread rapidly into all regions of the country. With the exception of the year 1941, the reported incidence in 1943 was the highest in the 15 years for which these data are available. In 1941 there were approximately 634,000 cases reported. While the North Central and Northeastern States reported some increase in the number of cases in 1941, the epidemic of that year was most severe in the Western and Southern States. Other major epidemic years with 300,000 or more cases reported were 1940, 1937, 1932, and 1929.

Meningococcus meningitis.—This disease has been increasing since the beginning of 1941; there were 17,922 cases reported during the year 1943, as compared with 3,774 in 1942 and a 5-year median of 2,048 cases. Prior to the present epidemic of 1943–44 the country has experienced 3 Nation-wide epidemics of meningococcus meningitis in the last 30 years; the peaks for the country as a whole occurred in 1917–18, 1929–30, and 1935–37, respectively. For the country as a whole the epidemics of 1917–18 and 1929–30 were of about the same magnitude, that of 1935–37 was somewhat smaller, while the present epidemic exceeds all three in the reported number of cases. In the epidemic of 1917–18 the highest incidence rates were reported from the West North Central and South Central regions; with comparatively low rates for the Mountain and Pacific regions. In the sections where the 1917–18 epidemic was most acute (West North Central and South Central) the reported incidence in that epidemic was higher than in 1943–44. In the epidemic of 1929–30 the highest incidence rates occurred in the Mountain and Pacific sections, relatively high rates were reported in the South Central and East North Central sections, and comparatively low rates in the New England and South Atlantic sections. In the East North Central, South Central, and Mountain and Pacific sections higher case rates were reported during the peak of the 1929–30 epidemic than in 1943–44. The epidemic of 1935–37 was most severe in the South Atlantic sections; in all sections, however, fewer cases were reported during that epidemic than in the 1943–44 epidemic.

TABLE 1.—*Number of reported cases of 9 communicable diseases in the United States during the year 1943, the number for the year 1942, and the median number of cases reported for the years 1938–42*

Division	1943	1942	5-year median, 1938–42	1943	1942	5-year median, 1938–42	1943	1942	5-year median, 1938–42
	Diphtheria			Influenza [1]			Measles [2]		
United States	13,744	15,559	17,325	421,055	109,245	189,162	602,811	505,867	505,867
New England	271	295	296	2,750	232	457	59,461	50,828	39,353
Middle Atlantic	1,369	1,508	1,973	3,019	916	1,178	173,517	71,576	71,576
East North Central	1,921	2,048	2,433	31,283	3,677	5,212	157,668	53,712	53,712
West North Central	1,152	1,062	1,186	37,956	1,468	10,870	48,640	47,908	38,737
South Atlantic	2,873	4,128	4,783	107,611	34,373	65,481	36,921	58,865	58,865
East South Central	1,542	1,800	2,090	82,567	9,494	18,835	21,705	8,667	9,696
West South Central	2,419	3,059	3,059	97,049	43,383	43,383	22,412	51,683	21,706
Mountain	688	693	917	35,631	10,724	16,507	35,427	35,786	22,025
Pacific	1,509	966	1,134	23,199	4,978	4,978	47,060	126,842	38,398
	Meningococcus meningitis			Poliomyelitis			Scarlet fever		
United States	17,922	3,774	2,048	12,401	4,193	7,299	140,475	126,853	155,059
New England	2,013	482	102	861	185	151	20,399	14,654	10,373
Middle Atlantic	4,427	1,068	499	982	700	700	30,044	30,356	37,295
East North Central	2,543	292	236	2,416	979	1,382	35,710	35,981	52,861
West North Central	1,149	158	132	1,547	502	502	13,666	13,531	13,531
South Atlantic	3,064	748	449	240	377	893	12,363	11,796	10,851
East South Central	1,312	253	278	253	440	380	5,188	6,706	6,706
West South Central	916	291	186	1,972	478	346	3,979	3,275	3,609
Mountain	536	94	94	965	166	166	8,483	4,147	4,457
Pacific	1,962	388	117	3,165	366	366	10,643	6,407	7,808
	Smallpox			Typhoid and paratyphoid fever			Whooping cough [2]		
United States	733	863	2,461	5,546	6,703	9,575	176,415	178,116	178,116
New England	0	1	0	290	276	276	12,653	21,320	16,378
Middle Atlantic	18	48	0	738	851	1,232	34,317	47,825	47,825
East North Central	320	204	546	763	798	1,046	41,024	45,670	45,688
West North Central	100	154	951	277	371	654	10,971	7,391	8,915
South Atlantic	46	39	46	1,130	1,587	1,949	27,596	17,845	22,553
East South Central	52	105	127	758	907	1,245	7,376	6,586	6,623
West South Central	138	245	342	1,025	1,350	2,402	19,179	9,070	12,498
Mountain	34	39	309	287	308	464	6,950	6,849	8,859
Pacific	25	28	140	278	255	484	16,349	15,560	18,390

[1] Mississippi and New York excluded; New York City included.
[2] Mississippi excluded.

The present epidemic has been severe in all sections of the country. The largest excesses over the 1938–42 median were reported from the New England and Pacific sections. In the former region the number of cases was almost 20 times the preceding 5-year median and in the Pacific region the number was almost 17 times the median. Other sections reported smaller excesses ranging from 5 times the median in the West South Central section to almost 11 times the median in the East South Central region. Preliminary reports of cases indicate that in the Central sections and possibly in the country as a whole, the peak of the current epidemic did not occur until early in 1944.

Measles.—The incidence of measles was relatively high in 1943. The number of reported cases (602,811) was about 20 percent above the number reported in 1942, which figure (505,867) also represents the 1938–42 median. The disease was most prevalent in the Middle

Atlantic and East North Central regions, but all regions except the South Atlantic showed increases over the 1938–42 medians; in the South Atlantic region the number of cases was only about 60 percent of the 5-year median.

Poliomyelitis.—The only other communicable disease more prevalent than usual during 1943 was poliomyelitis. The number of cases (12,401) was about 3 times the number reported in 1942 and 1.7 times the 1938–42 median. After a year of comparatively low incidence the number of cases of this disease began to increase early in 1943; by the middle of the year an epidemic of significant proportions was in progress, affecting practically every section of the country except the South Atlantic and East South Central. For the country as a whole the incidence was the highest since 1931, when almost 16,000 cases were reported; the epidemic of 1931 was confined largely to the New England and Middle Atlantic regions. Less severe epidemics of this disease occurred in 1927 and 1935, with the highest incidence in 1927 being reported from the Pacific region, while both the North and South Atlantic regions reported a relatively high incidence in 1935. In 1916, the only other year in which the reported cases of poliomyelitis exceeded those of 1943, there were approximately 27,000 cases in 27 States, as compared with 12,401 in all of the States in 1943.

DISEASES BELOW MEDIAN PREVALENCE

Diphtheria.—The reported cases of diphtheria (13,744) dropped considerably below even the year 1942, during which 15,559 cases were reported. Prior to 1936 there had been no less than 30,000 cases of diphtheria reported, with incidence peaks of 204,133 cases in 1921, 166,031 cases in 1922, and 106,191 cases in 1927. With two slight interruptions, one in 1938 and the other in 1941, the disease has declined steadily since 1927 and the incidence in 1943 was about 60 percent of the average annual incidence (approximately 22,000 cases) since 1936, the first year in which fewer than 30,000 cases were reported. While the incidence has fluctuated from year to year in the various sections of the country, the general trend has been downward in all sections, the 1943 incidence in some sections being the lowest on record.

Scarlet fever.—During the year 1943 there were 140,475 cases of scarlet fever reported, as compared with 126,583 in 1942 and a 1938–42 median of about 155,000 cases. Six of the nine geographic regions reported a relatively high incidence and the other three reported fewer cases than normally occur during the year. The greatest excesses over the median were reported from the New England and Mountain regions (about 50 percent), with smaller excesses in the West North Central, South Atlantic, West South Central, and Pacific

regions. In the East North Central region where this disease has been unusually prevalent for several years, the number of cases reported during 1943 was less than 70 percent of the 5-year median and the Middle Atlantic and East South Central regions also reported a comparatively low incidence.

Smallpox.—The incidence of smallpox reached a new low level during 1943. The number of reported cases (733) was about 85 percent of the number reported in 1942 and about 30 percent of the 1938–42 median. Relative to prior years, the situation was favorable in all sections of the country except the Middle Atlantic. Sixteen of the 18 cases of smallpox reported in the Middle Atlantic region occurred in Pennsylvania and were the result of an outbreak that started in Pennsylvania in December 1942. Sixteen cases occurred in the first two weeks of January but no more were reported during the year. In the South Atlantic region the disease stood at about the normal level, but other regions, even those in which the disease is normally high, reported a low incidence. For the country as a whole the incidence of smallpox during 1943 was the lowest on record.

Typhoid and paratyphoid fever.—For the year 1943, 5,546 cases of typhoid fever were reported, as compared with 6,703 in 1942 and 9,575 for the preceding 5-year median. The incidence in the New England region was slightly above the normal level, but very significant decreases from the 1938–42 medians were reported from all other regions. For the country as a whole the incidence in 1943 was the lowest in the 15 years for which these data are available.

Whooping cough.—The number of cases (176,415) of whooping cough reported in 1943 was about 1,700 below the normal expectancy of approximately 178,000 cases. Of the various geographic regions, the West North Central, South Atlantic, and South Central reported excesses over the 1938–42 median, but in the other five sections the numbers of cases were lower than the medians.

II. Mortality

The annual mortality rates for specific causes for the past five years as shown in table 2 are based on preliminary data for 38 States and the District of Columbia. Similar mortality rates by quarters for the past three years are shown in table 3. Death rates for 40 States, the District of Columbia, Alaska, Hawaii, and the Canal Zone are presented in tables 4 and 5.

These data are made available through a cooperative arrangement with the respective States which furnish provisional tabulations of current birth and death records to the United States Public Health Service. Because of lack of uniformity in the method of classifying deaths according to cause, and the impossibility of including a certain num-

TABLE 2.—*Summary of mortality trends from certain causes in a group of 39 States,*[1] *1939–43 (estimated population July 1, 1943, 109,718,200)*

[Rates provisional for all years]

Diseases (numbers in parentheses are from the International List of Causes of Death, 1938 revision)	1943	1942	1941	1940	1939
	Rate per 1,000 population				
Deaths, all causes	10.9	10.3	10.4	10.7	10.6
Births, exclusive of stillbirths	21.3	20.6	18.5	17.5	17.1
	Rate per 1,000 live births				
Infant mortality (live births, 1943, 2,331,789)	40	40	45	46	47
Maternal mortality	2.3	2.5	3.0	3.6	3.8
	Rate per 100,000 population				
Typhoid and paratyphoid fever (1–2)	.50	.52	.79	1.03	1.54
Dysentery (27)	1.28	1.29	2.08	2.04	1.82
Diarrhea and enteritis under 2 years (119)	7.00	6.49	7.50	7.10	7.94
Appendicitis (121)	5.89	6.44	8.27	9.87	10.91
Scarlet fever (8)	.34	.33	.35	.51	.67
Diphtheria (10)	.77	.84	.90	1.02	1.52
Whooping cough (9)	2.43	1.79	2.65	1.99	2.22
Measles (35)	.94	.81	1.59	.48	.75
Cerebrospinal (meningococcus) meningitis (6)	2.15	.65	.48	.44	.47
Acute poliomyelitis and acute polioencephalitis (36)	.76	.38	.54	.70	.52
Acute infectious encephalitis (lethargic) (37)	.48	.42	.67	.52	.44
Malaria (28)	.34	.47	.64	.76	.96
Pellagra (69)	.90	.96	1.20	1.31	1.56
Tuberculosis, all forms (13–22)	41.4	41.7	43.2	44.3	45.8
Syphilis (30)	11.1	11.3	13.2	14.0	14.6
Influenza (grippe) (33)	12.8	8.0	15.9	14.7	16.4
Pneumonia, all forms (107–109)	52.5	46.3	47.8	54.3	59.7
Cancer, all forms (45–55)	125.1	122.9	120.5	119.6	117.4
Diabetes mellitus (61)	27.9	25.7	25.8	26.8	26.0
Intracranial lesions of vascular origin (83)	95.7	90.8	87.5	90.5	89.5
Diseases of the heart (90–95)	324.1	298.3	292.2	294.5	283.8
Nephritis, all forms (130–132)	74.7	72.3	74.2	78.2	74.9
All accidents, including automobile accidents (169–195)	68.9	67.3	73.0	70.2	69.3
Automobile accidents (170 a, b, c)	16.1	19.6	28.1	24.4	23.1

[1] Includes all States listed in table 5, except Minnesota and Washington. The District of Columbia is counted as a State.

ber of delayed certificates, the rates are preliminary and will differ from final figures subsequently published by the Bureau of the Census. Data for preceding years from the same source, collected and tabulated in the same manner as the current data, are included for comparative purposes. These provisional rates for preceding years are used in preference to the final figures published by the Bureau of the Census, because it is believed that they are more comparable with current provisional information.

These reports provide an early index of the trend of mortality from certain causes for the country as a whole. It is believed, also, that the trend of mortality from given causes within a State is reasonably accurate, even though the comparison of the causes of death for different States is subject to the errors mentioned above.

The populations of the different States used in computing these rates are estimates as of July 1 of each year which are published by the Bureau of the Census. The estimates include members of the armed forces stationed in each State; they are based partly on ration book registrations and partly on births and deaths since the 1940

TABLE 3.—*Mortality from certain causes in each quarter of 1943, 1942, and 1941, in the 39 States [1] with available data*

[Rates provisional for all years]

Period	All causes, rate per 1,000 population (annual basis)	Births (exclusive of stillbirths) per 1,000 population (annual basis)	Rate per 1,000 live births		Death rate per 100,000 population (annual basis)																			
			Total infant mortality	Maternal mortality	Typhoid and paratyphoid fever (1–2)	Dysentery (27)	Diarrhea and enteritis under 2 years (119)	Scarlet fever (8)	Diphtheria (10)	Whooping cough (9)	Measles (35)	Cerebrospinal (meningococcus) meningitis (6)	Acute poliomyelitis and polioencephalitis (36)	Acute infectious encephalitis (lethargic) (37)	Tuberculosis, all forms (13–22)	Syphilis (30)	Influenza (grippe) (33)	Pneumonia, all forms (107–109)	Cancer, all forms (45–55)	Diabetes mellitus (61)	Intracranial lesions of vascular origin (83)	Diseases of the heart (90–95)	Nephritis, all forms (130–132)	All accidents, including automobile accidents (160–195)	Automobile accidents (170 a, b, c)
January–December:																									
1943	10.9	21.3	40	2.3	0.5	1.3	7.0	0.3	0.8	2.4	0.9	2.1	0.8	0.5	41.4	11.1	12.8	52	125	27.9	96	324	75	69	16.1
1942	10.3	20.6	40	2.5	.5	1.3	6.5	.3	.8	1.8	.8	.7	.4	.4	41.7	11.3	8.0	46	123	25.7	91	298	72	67	19.6
1941	10.4	18.5	45	3.0	.8	[2]	7.5	.3	.9	2.7	1.6	.5	.5	.7	43.2	[2]	15.9	48	121	25.8	88	292	74	73	28.1
January–March:																									
1943	11.5	21.1	44	2.3	.3	.5	4.2	.5	1.0	2.4	1.2	2.5	.2	.5	41.9	11.9	15.5	72	123	29.8	103	353	80	66	13.8
1942	11.2	19.0	46	2.7	.3	.8	3.3	.5	.9	1.9	1.5	.6	.2	.4	43.7	11.9	15.4	69	123	29.0	95	329	80	67	22.6
1941	11.8	17.2	53	3.1	.5	[2]	3.4	.5	.8	2.9	1.6	.6	.3	.5	46.9	[2]	45.4	82	120	30.9	97	341	85	67	23.3
April–June:																									
1943	10.8	20.6	40	2.4	.4	1.1	6.2	.4	.5	2.8	1.8	2.6	.3	.5	45.1	11.1	8.4	48	124	27.8	95	321	77	68	13.2
1942	10.0	18.7	41	2.5	.5	1.1	5.6	.3	.3	1.8	1.3	.7	.1	.4	44.5	11.2	6.4	40	121	25.1	87	287	71	65	18.0
1941	10.3	17.7	45	3.3	.6	[2]	5.5	.4	.4	3.1	3.7	.5	.2	.5	46.7	[2]	9.1	41	120	25.9	87	290	75	70	24.5
July–September:																									
1943	9.7	22.3	37	2.4	.9	2.3	10.9	.2	.5	2.6	.4	1.3	1.9	.5	39.4	9.9	2.8	26	124	23.6	84	267	64	69	15.8
1942	9.4	21.4	38	2.6	.7	2.1	10.1	.2	.5	1.7	.2	.5	.7	.4	38.7	10.3	2.4	27	122	22.1	80	257	64	68	18.7
1941	9.5	20.0	40	3.1	1.3	[2]	12.9	.2	.7	2.7	.7	.4	1.0	1.2	40.1	[2]	2.7	26	120	22.0	78	251	65	79	30.2
October–December:																									
1943	11.6	21.1	40	2.1	.5	1.2	6.6	.3	1.1	2.0	.4	2.3	.7	.4	39.3	11.5	24.4	65	129	30.6	101	355	78	73	21.3
1942	10.8	23.4	36	2.2	.5	1.3	6.9	.3	1.7	1.7	.2	.8	.5	.5	40.0	11.7	7.9	50	126	26.8	97	321	75	69	19.0
1941	10.2	19.2	43	2.7	.8	[2]	8.1	.3	1.7	1.9	.3	.5	.6	.5	39.3	[2]	7.0	43	122	24.6	88	288	72	77	34.2
Industrial policyholders: [3]																									
1943	7.8	------	-----	-----	.3	----	[4] 4.5	.4	.7	1.2	.6	------	------	------	40.0	9.7	6.0	35	106	28.4	[5] 66	[6] 229	[7] 51	52	13.2
1942	7.3	------	-----	-----	.4	----	[4] 4.4	.4	.6	1.0	.5	------	------	------	41.7	10.6	4.3	29	106	28.0	[5] 60	[6] 214	[7] 49	49	16.7
1941	7.4	------	-----	-----	.5	----	[4] 5.0	.4	.7	1.3	.8	------	------	------	42.8	11.5	7.8	31	105	27.4	[5] 61	[6] 211	[7] 52	50	20.8

[1] States included are those listed in table 5, except Minnesota and Washington. The District of Columbia is counted as a State.
[2] Data not available.
[3] These data are taken from the January 1944 Monthly Statistical Bulletin published by the Metropolitan Life Insurance Co. The figures are subject to revision since they are based on provisional estimates of lives exposed to risk.
[4] Classified as diarrhea and enteritis, age not given.
[5] Cerebral hemorrhage.
[6] International List (1940) titles 92, 93 c, d, e, 94 a, b, and 95 only.
[7] Chronic nephritis (Bright's disease) only.

TABLE 4.—*Trend of death rates from all causes, of birth rates, and of infant and maternal mortality rates, 1939–43*

[Rates provisional for all years]

State	Deaths, all causes (rate per 1,000 population)					Births, exclusive of stillbirths (rate per 1,000 population)					Infant mortality (rate per 1,000 live births)					Maternal mortality (rate per 1,000 live births)				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	11.1	11.2	10.7	11.1	11.2	21.4	21.6	19.0	18.9	18.3	50	47	51	60	53	1.9	1.7	3.3	4.4	5.1
Connecticut	9.5	9.1	9.2	9.5	10.0	17.3	16.9	13.6	11.8	12.5	29	30	32	38	38	1.6	2.1	2.4	3.5	2.9
Delaware	11.8	11.6	11.8	12.2	11.8	21.0	19.2	18.1	16.5	16.3	46	47	43	51	44	2.4	1.7	2.2	5.0	4.7
District of Columbia	10.8	10.4	11.5	12.6	12.7	26.2	24.6	24.0	22.2	21.5	41	44	50	47	47	1.9	2.2	2.6	2.8	4.7
Florida	10.2	10.4	11.5	11.9	11.4	19.4	18.7	19.0	17.3	17.0	45	47	54	54	57	3.7	4.2	6.4	6.3	6.4
Georgia	9.1	8.9	9.6	10.0	9.7	24.2	22.4	20.6	20.1	19.9	46	49	59	58	59	3.9	4.1	4.4	5.2	5.5
Idaho	8.7	9.5	8.7	9.3	9.2	25.4	24.1	23.3	22.4	21.9	27	35	34	41	45	2.6	2.7	2.3	3.2	2.5
Illinois	11.8	11.0	10.6	11.2	11.0	19.8	19.3	16.9	15.6	15.0	33	33	34	35	38	1.9	1.9	2.5	2.9	3.0
Indiana	11.6	11.4	10.9	11.3	11.1	20.6	21.3	17.5	16.5	15.6	41	37	39	39	41	2.3	2.7	2.8	2.7	3.9
Iowa	11.4	10.2	9.6	9.8	9.9	20.8	19.7	16.7	17.9	17.0	34	34	38	34	39	1.7	2.7	2.6	3.1	2.6
Kansas	10.8	10.5	10.4	10.2	10.3	20.1	19.0	17.4	16.0	16.0	33	35	37	38	39	2.1	2.4	2.4	3.6	3.4
Kentucky	9.9	9.7	10.4	10.3	10.4	22.9	22.5	21.6	21.7	20.8	50	49	58	46	54	2.0	2.8	4.0	3.8	4.4
Louisiana	9.4	9.2	9.7	10.9	10.4	23.2	22.4	21.9	21.0	20.5	46	49	58	65	61	2.9	3.1	4.1	5.3	6.0
Maine	13.4	12.5	12.6	12.4	12.8	23.0	20.9	18.5	17.5	17.6	50	43	51	54	51	2.1	2.0	2.6	4.2	4.2
Maryland	11.5	11.1	11.6	12.1	11.5	21.0	20.2	18.3	16.7	15.7	45	46	55	49	50	1.6	1.9	2.2	2.7	3.3
Massachusetts	12.9	11.5	11.4	11.8	11.6	(1)	19.0	15.9	15.2	14.5	(1)	32	35	38	37	(1)	2.1	2.9	2.8	3.5
Michigan	10.5	9.5	9.7	9.9	10.1	23.2	22.1	19.8	18.8	18.3	38	37	39	41	42	1.8	2.1	2.7	2.9	2.9
Minnesota	10.6	9.8	9.5	9.5	9.5	22.5	21.9	19.5	18.5	17.6	31	30	34	33	36	1.5	1.5	1.9	2.3	2.5
Missouri	11.8	11.1	11.5	11.5	11.5	22.1	19.8	20.4	17.1	17.2	36	38	40	43	43	2.0	2.5	2.6	3.5	3.4
Montana	11.5	10.5	10.3	10.2	10.6	23.2	22.6	21.2	20.4	19.4	40	35	37	46	50	1.7	2.1	1.7	3.5	3.2
Nebraska	10.5	9.8	9.5	9.5	9.1	20.1	18.9	17.1	16.5	16.5	35	33	34	36	34	1.7	1.7	2.3	3.2	3.4
Nevada	11.5	12.5	11.9	12.0	11.3	21.6	19.1	17.5	18.7	17.3	49	59	41	50	44	2.3	.8	2.9	4.9	4.2
New Jersey	11.7	10.8	10.7	10.8	10.5	19.0	18.9	15.5	14.1	13.6	34	31	36	36	38	1.8	1.9	2.7	2.8	2.9
New Mexico	10.7	9.7	10.5	10.5	10.9	30.0	26.7	27.1	29.8	30.0	89	91	97	93	96	4.5	4.1	3.9	4.4	4.3
New York	12.6	11.5	11.1	11.1	11.1	19.4	18.9	15.9	14.7	14.1	33	32	33	37	39	2.1	2.2	2.3	2.9	3.0
North Carolina	8.3	8.3	8.9	9.0	9.0	26.3	25.2	23.6	23.0	22.7	46	48	59	56	58	3.3	3.4	4.1	5.3	4.8
North Dakota	9.0	7.8	8.3	7.9	8.4	25.6	22.2	21.5	20.9	20.8	30	37	39	41	48	2.7	2.5	2.2	1.6	2.3
Ohio	11.8	11.1	11.2	11.3	11.2	20.4	20.3	17.6	16.3	15.6	40	38	41	39	42	2.1	2.0	2.5	3.3	3.6
Oklahoma	9.0	9.3	8.8	8.8	8.9	20.9	21.3	19.6	19.0	18.8	46	40	49	50	52	2.4	3.5	3.0	3.5	4.2
Pennsylvania	12.0	11.1	10.8	10.9	10.7	21.0	20.9	18.0	16.3	16.3	34	36	39	44	44	1.8	1.9	2.2	2.5	3.2
Rhode Island	11.9	11.0	10.9	11.2	11.0	19.5	19.0	15.9	15.0	14.7	43	40	36	38	40	2.1	1.9	2.1	2.4	3.2
South Carolina	7.5	8.0	10.3	10.6	10.0	24.0	22.5	23.2	22.6	21.7	50	56	77	70	68	4.1	5.0	5.9	6.3	5.9
South Dakota	9.6	9.3	9.1	8.7	8.9	23.3	21.0	19.5	18.9	18.0	34	38	41	39	41	1.3	2.3	2.2	3.7	3.0
Tennessee	9.3	9.1	9.7	10.0	9.7	23.4	21.4	19.5	18.2	17.6	45	48	56	55	54	3.0	3.3	3.8	4.8	5.5
Texas	8.6	8.5	9.0	9.3	8.7	(1)	21.6	20.8	19.8	19.1	(1)	52	57	68	67	(1)	3.0	3.6	4.5	4.9
Utah	7.6	8.5	8.2	8.9	8.5	28.1	27.8	24.4	24.3	23.1	30	33	30	40	37	1.5	1.8	1.7	2.4	2.8
Vermont	13.4	11.4	11.5	11.6	11.7	20.3	19.3	18.1	18.4	15.9	41	44	44	46	46	2.3	1.8	2.2	3.8	3.3
Virginia	9.2	9.5	10.8	11.0	10.7	21.6	20.9	20.3	20.0	19.4	49	55	68	60	62	2.8	3.2	4.0	4.4	4.9
Washington	11.1	10.7	10.6	11.4	10.8	21.8	20.5	17.2	16.1	15.3	35	32	35	35	38	1.8	2.0	2.1	3.2	3.8
Wisconsin	10.6	9.8	9.7	10.0	9.9	21.2	20.2	17.5	17.3	17.2	35	32	36	37	40	2.2	2.0	2.5	2.6	2.8
Wyoming	8.7	8.5	8.8	8.6	8.9	22.4	21.6	20.4	20.1	19.7	37	46	45	47	45	1.2	2.4	2.3	4.4	3.5
Alaska	18.6	18.1	18.2	17.4	16.5	21.4	19.4	26.6	23.7	21.2	122	109	96	132	121	1.8	3.2	5.0	2.3	3.3
Hawaii	7.6	7.6	7.4	7.3	7.5	26.7	23.8	23.5	22.6	21.7	38	39	40	44	54	1.4	2.8	2.5	2.2	3.5
Canal Zone	10.5					21.0					38					3.7				

Data not available.

TABLE 5.—*Trend of death rates for various causes per 100,000 population, 1939–43*

[Rates provisional for all years]

State	Typhoid and paratyphoid fever (1–2)					Dysentery (27)					Diarrhea and enteritis under 2 years (119)					Appendicitis (121)				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	0.2	0.7	0.8	0.6	1.9	1.1	1.4	1.2	1.2	1.8	12.2	13.1	11.5	14.8	12.1	8.3	9.1	12.8	14.2	15.3
Connecticut	.1	.1	.3	.3	.4	.2	.1	.2	.1	1.1	2.9	2.5	2.3	1.9	2.1	4.9	5.0	7.3	8.8	9.2
Delaware	.4	.4	(1)	.7	2.6	.4	.4	.7	.8	.4	14.2	14.7	10.3	4.9	5.3	3.9	3.9	8.0	10.1	12.2
District of Columbia	.2	.3	.7	.7	.8	.4	.3	1.1	1.5	.5	12.8	19.9	21.5	14.3	11.5	6.4	6.9	7.9	11.8	12.5
Florida	.8	1.3	.8	1.3	1.5	1.6	1.8	1.9	1.6	2.4	7.0	7.3	6.4	7.6	10.5	3.2	5.8	7.9	10.3	10.8
Georgia	.7	.7	1.7	2.0	2.6	2.4	2.7	3.3	3.9	4.3	9.1	8.8	13.8	12.5	13.0	5.9	5.4	7.1	9.0	9.4
Idaho	.6	1.0	1.0	1.1	3.1	.6	(1)	.6	1.5	.6	.2	.6	1.6	6.5	5.8	5.4	6.9	11.8	16.0	16.7
Illinois	.2	.2	.4	.4	1.4	.4	.7	.5	.7	.9	3.4	2.0	3.3	2.5	3.1	6.6	6.7	9.2	10.7	11.6
Indiana	.4	.3	.6	.8	1.1	.4	.6	1.0	.8	.9	7.9	7.2	6.2	3.5	5.5	6.7	7.8	7.8	10.7	10.8
Iowa	.1	(1)	.2	.4	.6	.2	.2	.4	.4	1.0	2.3	2.3	1.8	2.1	2.3	6.6	7.2	8.9	10.1	12.8
Kansas	.2	.4	.3	.6	.7	.3	.5	.3	.6	1.3	2.5	3.8	2.8	3.8	4.0	7.0	8.1	10.6	11.7	14.0
Kentucky	1.6	1.5	2.8	2.5	4.3	5.6	4.8	9.0	4.1	6.8	13.8	12.8	20.7	13.7	19.0	6.3	6.3	9.2	10.7	10.8
Louisiana	1.5	1.7	2.5	3.7	5.8	1.4	1.8	2.3	3.0	2.8	6.4	7.7	9.4	14.9	12.4	6.3	6.0	6.0	9.7	12.5
Maine	.5	.5	.4	.6	1.1	(1)	.2	.2	.1	.1	9.7	7.7	6.2	5.3	5.6	5.0	8.0	9.9	12.7	11.6
Maryland	.3	.5	.9	.6	.9	1.1	1.2	2.1	1.0	2.1	11.8	12.4	16.1	6.7	9.4	3.7	4.3	5.9	6.4	8.0
Massachusetts	.2	.0	.1	.2	.3	.1	.1	.2	.1	.3	4.6	2.7	3.9	3.0	2.0	5.9	5.2	7.2	9.8	9.9
Michigan	.2	.1	.2	.2	.6	.4	.6	.8	.3	.5	4.8	4.3	4.7	3.3	5.2	6.0	5.7	8.2	9.8	11.1
Minnesota	(1)	.2	.1	.2	.1	(2)	.3	.0	.3	.5	1.9	2.5	2.6	2.5	3.3	(2)	5.9	7.6	10.6	11.2
Missouri	.9	.8	1.1	1.9	2.6	1.3	1.1	1.9	2.0	2.6	6.5	5.2	6.8	8.2	9.0	7.0	6.6	10.0	11.9	12.2
Montana	.6	(1)	.4	.7	2.2	2.1	.6	1.1	1.6	1.3	4.3	3.7	4.9	7.0	5.2	7.8	7.4	11.5	14.7	15.8
Nebraska	.1	.2	.4	.4	.4	.2	.2	.2	.5	.5	1.7	2.3	1.3	2.4	2.2	5.4	6.2	8.5	12.6	12.3
Nevada	.7	1.5	2.5	.9	.9	1.4	5.9	1.6	.9	(1)	6.3	12.5	4.2	3.6	3.7	13.3	11.8	14.8	13.6	7.4
New Jersey	.2	.1	.2	.3	.4	.2	.4	.3	.2	.2	4.2	3.0	3.2	2.3	2.8	5.9	6.3	7.9	10.3	11.2
New Mexico	1.7	1.1	1.9	3.0	3.2	15.2	9.8	20.4	14.1	11.3	49.6	35.7	47.4	41.7	38.0	6.2	6.6	11.2	12.2	11.5
New York	.2	.2	.2	.3	.3	.2	.3	.5	.2	.3	3.6	3.2	2.8	3.0	4.3	6.3	6.2	8.2	9.6	10.6
North Carolina	.5	.6	.9	1.1	1.3	1.5	1.6	2.5	1.7	2.3	12.0	13.0	20.3	13.1	19.0	5.0	5.4	6.4	6.3	7.8
North Dakota	.6	.2	.2	.6	.6	.4	.5	.2	.8	.3	3.3	6.2	3.5	5.8	7.0	5.2	7.5	7.3	11.1	13.1
Ohio	.6	.3	.5	.7	.7	.3	.3	.5	.2	.6	7.3	6.6	7.7	4.4	5.1	5.6	5.9	8.5	9.9	11.4
Oklahoma	1.1	1.6	1.5	2.5	3.9	2.6	3.7	2.7	3.4	4.1	6.5	5.6	7.5	10.4	9.4	7.2	8.3	11.9	12.0	14.7
Pennsylvania	.3	.4	.5	.6	.6	.4	.2	.4	.2	.3	4.3	3.7	4.6	3.8	4.5	5.2	5.9	7.2	8.9	9.8
Rhode Island	(1)	.1	.1	1.0	.1	.1	(1)	.1	.1	(1)	7.9	9.4	3.0	2.0	4.0	4.4	4.3	5.9	11.8	12.7
South Carolina	1.3	1.9	2.7	4.1	5.1	2.4	1.5	4.6	3.5	2.8	6.7	6.8	9.5	6.5	7.0	3.4	4.2	5.8	6.7	7.0
South Dakota	.2	.9	.3	(1)	1.2	.3	.2	.5	.2	.8	2.4	3.2	2.7	5.1	5.4	7.6	7.7	10.4	10.6	11.5
Tennessee	1.0	.7	1.5	2.1	3.3	3.0	2.4	3.7	5.7	4.8	9.4	9.3	12.7	10.6	12.8	6.2	6.5	6.9	8.6	9.8
Texas	1.1	1.2	2.1	3.1	4.5	5.6	5.4	6.2	10.1	6.5	19.7	17.1	15.8	29.1	25.7	5.9	6.6	8.2	9.8	11.8
Utah	.3	.5	.7	.5	.4	.5	.7	.4	.5	.9	2.7	3.1	2.5	3.6	2.2	6.6	8.8	9.7	12.4	16.6
Vermont	(1)	.3	.8	.8	.3	.3	.6	.3	.8	1.4	3.1	3.5	4.5	4.7	3.6	9.2	7.6	9.6	13.9	15.1
Virginia	.6	.9	1.1	1.0	1.8	2.4	3.1	5.0	2.9	3.9	8.0	10.5	16.6	8.7	11.1	4.3	5.0	5.5	7.3	7.5
Washington	.2	.2	.2	.7	1.0	.8	.3	.8	1.8	1.2	3.0	2.4	1.9	2.2	2.2	4.8	4.8	7.5	9.8	10.7
Wisconsin	.2	.0	.2	.1	.2	.3	.2	.3	.3	.4	2.9	2.2	2.4	3.2	4.6	6.4	6.3	7.7	11.1	10.5
Wyoming	.4	(1)	1.2	.8	2.8	.4	.4	(1)	1.6	.8	2.4	3.2	2.8	6.0	6.0	8.3	10.4	9.5	14.8	19.4
Alaska	1.3	(1)	2.7	(1)	(1)	(1)	(1)	----	----	----	1.3	6.6	5.3	4.1	(1)	5.2	5.3	----	----	----
Hawaii	.2	1.0	1.2	2.4	1.9	.7	.5	.5	.2	.2	5.7	6.4	8.1	5.7	11.1	3.2	4.6	4.5	8.0	7.0
Canal Zone	(1)	----	----	----	----	(1)	----	----	----	----	3.9	----	----	----	----	7.7	----	----	----	----

(1) No deaths reported. (2) Data not available.

TABLE 5.—*Trend of death rates for various causes per 100,000 population, 1939–43*—Continued

State	Scarlet fever (8)					Diphtheria (10)					Whooping cough (9)					Measles (35)				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	0.7	1.0	0.6	0.5	1.0	1.8	2.1	2.1	1.2	2.9	1.8	2.4	5.4	2.9	4.6	3.0	1.4	1.8	1.3	1.3
Connecticut	.1	(1)	.1	(1)	.2	(1)	(1)	(1)	.2	.4	.3	.3	.5	.2	1.3	.3	.2	.1	.2	.5
Delaware	(1)	1.4	.7	1.1	.4	(1)	(1)	.4	(1)	.8	4.6	4.3	2.2	2.2	3.0	.4	(1)	2.2	(1)	(1)
District of Columbia	.9	.2	(1)	.3	.2	.1	.3	.3	.4	.8	4.6	2.0	1.3	1.6	2.3	.7	(1)	.5	(1)	.3
Florida	.2	.1	.1	.1	.3	1.1	1.4	1.1	1.4	1.9	2.7	2.2	1.9	1.7	3.1	.3	2.5	.9	.3	.7
Georgia	.2	.1	.3	.5	.5	1.5	1.7	1.6	1.8	2.9	5.3	3.1	4.3	3.3	4.0	.9	1.9	4.7	.7	1.6
Idaho	.6	.2	.4	1.3	.4	1.0	.8	.2	.2	.8	1.2	.8	3.7	1.3	1.9	2.6	.6	.2	.9	.8
Illinois	.3	.4	.5	.8	.9	1.0	.8	.7	1.1	1.5	1.3	1.2	1.1	.8	2.0	.7	.4	1.1	.2	.0
Indiana	.5	.4	.7	1.2	1.4	.7	.5	.7	1.0	1.6	3.2	1.9	1.4	2.2	1.8	2.1	.3	1.6	.1	.2
Iowa	.7	.3	.3	.7	.9	.5	.4	.3	.5	.6	1.7	1.3	1.5	.9	1.7	.8	.6	.6	.5	1.1
Kansas	.9	.3	.3	.5	.7	.8	.3	.5	.7	.4	1.9	1.0	3.3	1.8	.4	.4	1.2	1.9	.9	.2
Kentucky	.4	.8	.9	1.0	1.1	1.4	2.0	1.9	1.8	3.2	4.3	4.1	8.1	6.1	2.4	3.6	.9	5.6	.6	1.1
Louisiana	(1)	.1	.2	.0	.2	1.0	1.8	1.6	2.1	2.9	4.6	2.6	1.7	6.4	4.8	.5	1.1	.1	.5	4.1
Maine	.5	.7	.1	.7	.4	.7	.4	.4	.7	2.1	2.9	3.0	2.3	2.5	3.6	.5	1.4	1.3	1.1	.6
Maryland	.2	.2	.2	.4	.3	.4	.3	.4	.4	1.1	2.7	1.2	4.1	3.5	1.1	.3	.7	.7	.1	.9
Massachusetts	.5	.2	.3	.3	.3	.2	.2	.3	.2	.3	.9	.6	1.0	.5	1.0	.5	.4	.1	.3	.4
Michigan	.2	.4	.6	.8	1.3	.4	.4	.4	.4	.5	1.9	1.2	1.6	1.2	1.5	1.6	.1	1.2	.3	.6
Minnesota	.4	.3	.3	.5	.6	1.3	.7	.4	.2	.4	1.1	.3	1.1	1.1	.6	2.3	.5	.1	.2	2.3
Missouri	.6	.3	.6	.6	.8	1.1	1.1	1.1	1.7	2.0	2.5	1.0	4.7	2.1	1.8	1.5	1.2	2.9	.5	.3
Montana	.6	.6	1.5	1.6	1.6	1.0	1.0	2.6	1.1	1.6	3.5	2.3	1.1	.9	2.9	1.7	(1)	.2	.9	2.9
Nebraska	.7	.3	.3	.9	1.0	.8	.6	.3	.8	1.0	2.0	1.0	2.4	.8	1.0	1.1	.6	.3	.5	1.0
Nevada	(1)	1.5	(1)	(1)	(1)	(1)	(1)	(1)	.1	(1)	2.1	5.9	3.4	.3	(1)	(1)	1.5	(1)	(1)	1.8
New Jersey	.3	.2	.2	.4	.5	.3	.1	.2	.6	.6	.9	1.1	.9	.6	1.1	.5	.2	.6	.2	.1
New Mexico	.4	.2	.4	.6	.4	1.9	2.6	1.7	1.3	2.9	6.9	6.8	9.9	9.5	7.1	2.8	5.0	9.3	.9	.8
New York	.3	.2	.2	.3	.4	.2	.1	.1	.1	.2	1.1	1.1	.7	1.0	1.0	.7	.1	.4	.1	.4
North Carolina	.1	.3	.3	.3	.4	1.5	2.0	2.5	3.3	4.9	2.9	2.8	5.5	2.5	6.4	.5	1.5	2.7	.3	1.8
North Dakota	(1)	.5	.3	.8	1.1	1.5	.7	1.0	1.4	2.0	.9	2.1	2.4	2.2	2.0	2.4	3.4	.3	.3	3.4
Ohio	.5	.5	.4	.6	1.1	.6	.4	.4	.4	.9	1.9	1.8	2.6	1.8	1.2	.8	1.6	.0	.0	.1
Oklahoma	.2	.1	.2	.3	.7	1.1	2.3	3.0	3.2	3.3	3.9	2.2	5.1	2.4	1.0	.2	4.5	1.0	.2	3.2
Pennsylvania	.3	.4	.3	.5	.6	.3	.2	.2	.4	.7	2.0	1.5	1.5	1.3	1.5	.6	.4	1.0	.1	.1
Rhode Island	.5	.4	.3	(1)	(1)	.4	.8	.1	.3	.1	1.9	1.2	.6	.3	2.0	.1	.5	.1	.4	.4
South Carolina	.1	(1)	.3	.1	.2	1.6	2.7	3.7	2.9	4.3	3.3	3.5	10.4	2.6	6.5	.5	1.6	7.0	.7	.5
South Dakota	.7	.2	.2	.6	1.2	1.0	3.6	2.0	.8	3.2	2.3	4.9	4.4	.6	.9	4.7	(1)	1.0	.5	4.3
Tennessee	.4	.4	.5	.5	.6	1.3	1.4	1.7	1.6	3.0	6.1	2.3	5.4	3.9	3.3	1.3	1.2	4.3	.6	1.5
Texas	.1	.2	.1	.2	.3	2.0	2.3	2.5	2.3	2.6	3.8	2.5	3.4	3.7	3.3	.5	1.5	1.2	3.1	1.3
Utah	(1)	.7	(1)	1.1	.4	(1)	.5	.2	(1)	.9	.9	.7	1.6	1.8	1.1	2.1	2.3	(1)	.9	.4
Vermont	(1)	.3	.6	.3	1.1	(1)	.3	(1)	(1)	.8	3.1	3.8	(1)	1.7	6.7	4.3	.9	.6	(1)	1.7
Virginia	.3	.4	.3	.4	.3	.8	1.4	1.5	2.0	3.7	4.0	3.3	8.7	4.6	5.8	.4	.5	5.9	.8	.8
Washington	.4	.4	.1	.4	.7	1.2	1.0	.4	.6	.7	1.1	1.4	2.3	1.1	.2	2.3	.6	.2	1.0	.9
Wisconsin	.6	.8	.6	.7	1.1	.2	.2	.0	.2	.1	1.6	1.2	1.0	1.1	1.4	1.2	.3	.7	.3	.6
Wyoming	.8	1.6	.8	.4	.4	.8	.4	2.4	1.6	1.2	.8	2.4	1.6	.4	.4	2.0	1.2	.8	2.4	.4
Alaska	1.3	(1)	(1)	(1)	8.3	5.2	3.9	1.3	4.1	1.4	5.9	11.8	5.3	21.8	26.3	20.7	56.5	46.8	159.2	54.0
Hawaii	(1)	.2	(1)	(1)	(1)	.2	.2	.5	1.4	1.0	3.2	3.0	1.6	1.9	7.2	(1)	.2	1.2	(1)	(1)
Canal Zone	(1)					(1)					(1)					(1)				

[1] No deaths reported.

State	Cerebrospinal (meningococcus) meningitis (6)					Acute poliomyelitis and polioencephalitis (36)					Acute infectious encephalitis (lethargic) (37)					Malaria (38)				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	2.7	1.5	0.5	0.4	0.7	2.6	0.5	0.5	1.2	1.1	0.3	0.6	2.1	0.7	0.5	0.1	0.1	0.1	------	------
Connecticut	1.4	.7	.1	.4	.2	.9	.1	.1	.1	.1	.4	.2	.1	.2	.1	------	------	------	------	------
Delaware	7.8	(1)	(1)	.7	1.5	(1)	(1)	.7	.7	.4	1.4	1.4	.7	(1)	1.1	------	------	------	------	------
District of Columbia	3.8	1.5	.5	.7	.6	.2	.1	1.2	.4	.2	(1)	.0	.1	.7	.2	------	------	.1	0.1	0.2
Florida	1.9	.6	.1	.4	.5	.2	.2	1.1	.4	.3	.3	.2	.2	.3	.4	1.7	2.3	4.3	5.2	6.1
Georgia	1.3	.7	.5	.3	.5	.1	.3	1.0	.2	.5	.2	.2	.2	.1	.1	1.1	2.4	2.3	2.8	3.1
Idaho	4.6	.4	.6	.9	1.7	2.4	(1)	.2	.6	1.5	.4	.4	1.0	.9	1.5	.2	------	------	.2	.2
Illinois	2.0	.3	.2	.2	.2	2.0	.4	.3	.7	.3	.4	.3	.3	.3	.2	.1	.2	.1	.2	.4
Indiana	1.8	.1	.5	.3	.4	.6	.7	.4	2.1	.1	.4	.4	.1	.6	.5	.2	.3	------	.3	.2
Iowa	.9	.1	.5	.6	.4	.6	.1	.2	2.2	1.1	.3	.2	.7	.8	.7	.0	------	------	------	------
Kansas	1.3	.2	.5	.6	.4	3.6	1.1	.5	2.2	.3	1.2	1.0	1.6	.8	1.6	.2	------	.2	.3	.1
Kentucky	2.8	1.0	1.1	1.2	1.2	.5	.9	1.2	1.4	1.2	.6	.4	.1	.5	.8	.5	.4	.6	.6	1.1
Louisiana	1.0	.7	.7	.6	.6	.4	.4	.3	.8	.4	.2	.2	.1	.2	.3	1.1	1.7	2.9	3.7	5.0
Maine	6.1	3.0	1.2	1.1	.4	.4	.4	.6	.2	.7	.5	.7	.4	.4	.6	------	.1	------	.1	------
Maryland	4.3	2.3	1.1	.3	.6	.0	(1)	.3	.3	.1	.5	.4	.7	.4	.4	------	.1	------	------	------
Massachusetts	2.9	.8	.6	.3	.4	.4	.1	.2	.1	.1	.2	.3	.3	.2	.2	.0	.1	.0	------	.0
Michigan	2.3	.4	.2	.2	.3	.5	.2	.3	1.3	.8	.3	.3	.3	.3	.1	.1	.1	.1	.0	.0
Minnesota	2.4	.3	.3	.2	.1	1.4	.3	1.4	.9	1.9	1.6	.6	2.5	.5	.3	------	------	------	------	------
Missouri	2.6	.5	.4	.3	.5	1.0	.4	.4	1.0	.5	.7	.6	.7	.3	.4	.7	.4	.6	1.2	1.8
Montana	1.2	1.4	.7	1.2	.9	1.0	(1)	1.8	1.4	(1)	.8	1.6	2.6	1.8	1.4	------	------	------	------	------
Nebraska	1.3	.2	.5	.3	.2	1.7	2.2	.9	1.6	.6	.3	.2	1.3	.5	.4	.1	------	------	------	------
Nevada	2.8	2.2	(1)	.9	.9	2.1	.7	(1)	.9	(1)	(1)	1.5	.9	(1)	(1)	------	------	------	------	------
New Jersey	3.0	.7	.3	.1	.5	.2	.6	.4	.1	.7	.6	.6	.4	.6	.5	.0	.1	------	------	.0
New Mexico	1.7	.6	.2	.6	1.0	1.7	1.3	.4	.6	1.5	.2	.9	.4	(1)	.4	.2	------	1.5	.7	.8
New York	2.8	.9	.5	.4	.5	.3	.2	.4	.1	.4	1.1	.9	.8	.9	.4	.0	.0	.0	.1	.2
North Carolina	1.3	.5	.4	.3	.5	.4	.3	.4	.3	.3	.1	.1	.3	.3	.2	.7	1.1	.9	1.8	1.7
North Dakota	1.7	.2	.2	.3	.5	.4	.3	.2	.6	.3	2.0	1.9	21.4	2.0	1.7	.2	------	------	------	------
Ohio	1.4	.2	.2	.4	.2	.2	.3	.7	.8	.2	.5	.2	.7	.5	.6	.1	.1	.1	.1	.1
Oklahoma	1.7	.5	.3	.9	.5	1.5	.7	.6	1.2	.4	.4	.5	.4	.6	.6	1.4	1.0	2.3	1.0	2.2
Pennsylvania	2.1	.7	.3	.6	.6	.2	.2	.6	.3	.5	.0	.2	.7	.6	.6	.0	.0	------	------	------
Rhode Island	6.5	.9	.3	.3	.6	1.1	.1	.4	.3	(1)	.8	.7	.6	.3	(1)	.1	------	------	------	------
South Carolina	1.6	.7	1.3	.4	.4	.3	.3	.6	.5	2.2	.1	.1	.1	.3	.2	2.6	4.5	6.3	6.8	9.0
South Dakota	1.7	1.5	.3	.6	.8	.2	.2	.3	.8	.6	1.2	.3	.8	.2	.5	------	------	------	------	------
Tennessee	1.9	.6	1.2	.6	.7	.2	.9	1.5	.3	.5	.3	.6	.5	.6	.7	.8	1.2	1.8	2.2	3.4
Texas	.8	.5	.4	.5	.3	2.3	.7	.8	.6	1.1	.2	.2	.3	.4	.3	.8	1.3	2.1	2.4	2.2
Utah	3.5	.2	.4	.5	.9	3.9	(1)	.2	1.1	1.3	.8	.5	.9	.4	.9	.2	------	------	------	------
Vermont	1.8	.3	.8	1.4	.6	.6	1.2	.3	.3	1.4	(1)	.3	(1)	.3	.3	------	------	------	------	------
Virginia	3.3	1.8	1.4	1.2	.9	.2	.2	.4	1.0	.3	.5	.5	.1	.7	.3	.0	.2	.1	.2	.3
Washington	2.4	.5	.3	.5	.5	1.4	.6	.9	2.0	.4	1.6	1.0	1.2	2.2	1.5	------	------	------	------	------
Wisconsin	1.3	.4	.1	.2	.2	.6	.3	.6	1.4	.4	.8	.5	.6	.8	.3	.0	------	.0	.1	------
Wyoming	.8	.8	1.6	2.8	.8	2.4	.8	(1)	2.8	1.2	1.6	(1)	2.8	1.6	(1)	.4	------	.4	------	------
Alaska	1.3	2.6	4.0	1.4	(1)	(1)	(1)	2.7	(1)	(1)	(1)	(1)	(1)	(1)	1.4	------	------	1.3	------	------
Hawaii	.7	.9	(1)	.5	.5	(1)	(1)	1.4	1.2	1.4	.5	(1)	.5	(1)	.2	.2	------	------	------	------
Canal Zone	1.9	------	------	------	------	(1)	------	------	------	------	(1)	------	------	------	------	5.8	------	------	------	------

1 No deaths reported.

TABLE 5.—*Trend of death rates for various causes per 100,000 population, 1939–43*—Continued

State	Pellagra (69)					Tuberculosis, all forms (13–22)					Syphilis (30)					Influenza (grippe) (33)				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	0.1	0.2	0.1	0.1	0.1	50.2	51.3	47.7	52.9	55.5	9.0	12.6	12.9	11.5	14.6	16.3	9.6	18.3	13.7	22.8
Connecticut	.1	.2	.2	.2	.1	30.0	32.1	31.4	32.4	34.3	6.3	8.4	9.0	9.1	10.9	5.6	2.3	4.8	4.4	4.7
Delaware	------	------	.4	------	------	36.6	48.7	54.1	46.8	57.1	13.2	14.7	19.7	22.1	17.1	13.2	9.0	11.8	10.5	12.9
District of Columbia	.2	.2	.5	.1	.2	52.5	56.6	59.0	62.3	66.1	15.6	21.7	24.5	27.4	27.4	5.6	2.8	4.4	6.7	9.2
Florida	1.5	2.3	3.3	3.8	4.0	34.7	40.0	45.1	50.1	49.4	14.2	16.9	25.1	26.5	28.1	20.6	13.2	26.3	28.8	27.7
Georgia	6.1	5.6	6.1	7.3	8.5	40.7	39.3	41.0	47.2	46.4	13.4	14.4	16.2	20.8	20.2	19.3	15.0	31.3	28.7	29.1
Idaho	.2	------	------	.6	.4	16.9	14.8	16.4	17.8	18.7	5.0	6.9	5.8	8.0	9.5	17.1	9.0	12.5	17.8	17.5
Illinois	.1	.1	.2	.2	.3	42.0	40.6	43.6	46.2	45.8	11.0	10.4	12.6	13.6	12.8	8.1	4.7	6.4	8.1	12.3
Indiana	.1	.1	------	.1	.1	34.1	36.6	36.3	37.6	41.4	9.2	10.0	13.7	14.6	14.0	27.6	16.0	19.8	21.9	26.0
Iowa	------	.1	.1	.1	.1	16.4	16.4	13.9	15.9	17.4	7.0	8.0	8.9	6.9	8.0	17.2	9.1	13.6	16.0	23.7
Kansas	.3	.6	.5	.4	.3	20.6	25.1	22.9	24.9	23.5	10.1	11.3	11.4	10.9	12.8	16.1	13.1	23.5	18.5	18.9
Kentucky	1.3	1.6	1.4	1.9	2.8	60.4	62.9	67.5	66.4	70.3	9.4	9.6	10.8	11.2	11.9	20.6	14.7	36.2	28.2	33.8
Louisiana	1.6	2.2	2.5	2.7	3.5	50.8	48.2	53.5	58.8	58.8	17.7	21.0	22.8	29.0	27.3	15.6	12.1	25.3	32.7	23.1
Maine	------	.6	.2	------	.5	33.3	31.2	29.3	29.5	35.1	7.5	8.0	9.9	12.5	8.7	19.2	10.6	18.3	12.6	20.2
Maryland	.0	.1	------	.2	.4	63.9	68.3	71.9	78.6	72.1	14.2	17.4	19.1	20.6	26.9	9.9	5.3	9.5	8.4	9.7
Massachusetts	.1	.1	.2	.1	.2	42.8	37.9	38.2	37.4	37.1	7.1	6.2	7.3	8.5	9.4	4.7	2.3	6.6	3.4	5.4
Michigan	.1	.1	.1	.2	.0	33.3	33.0	31.9	33.3	36.5	10.7	10.1	10.3	11.5	13.1	9.8	4.0	8.1	5.1	14.5
Minnesota	.1	.0	.0	.1	------	29.0	26.4	27.2	26.5	28.8	(1)	7.1	9.0	8.5	8.3	11.2	7.3	9.5	8.4	11.7
Missouri	.3	.4	.3	.3	.8	43.9	43.1	46.4	45.1	47.4	13.5	13.4	15.7	18.7	16.8	14.0	9.6	30.0	20.5	20.0
Montana	------	------	.2	------	.2	40.5	37.9	36.8	40.2	42.7	9.1	10.9	11.5	12.2	13.2	12.2	6.0	16.7	13.8	23.3
Nebraska	------	.3	.1	.1	------	16.2	14.0	15.8	17.0	16.5	7.7	7.6	7.5	7.8	6.8	17.8	11.6	23.6	19.9	17.1
Nevada	------	------	------	.9	.9	46.1	53.7	46.0	68.3	52.4	16.7	13.2	28.8	19.0	13.0	7.0	5.2	6.0	11.8	6.4
New Jersey	.0	.0	.2	.3	.1	43.7	43.3	42.5	42.8	43.2	8.7	9.9	11.0	12.4	13.0	9.8	3.6	5.2	4.2	5.8
New Mexico	1.3	.8	2.1	3.6	2.9	73.8	59.9	65.6	70.7	72.6	12.2	10.0	11.7	14.9	17.2	15.9	12.9	14.9	13.7	19.9
New York	.1	.1	.1	.1	.2	49.9	46.1	46.6	46.3	47.9	14.5	14.4	15.3	15.7	16.3	5.6	2.2	4.1	3.1	4.1
North Carolina	2.9	3.1	3.8	4.7	5.8	39.1	44.3	48.8	49.7	51.0	7.3	8.4	10.6	12.4	12.4	12.0	8.3	24.9	12.2	17.9
North Dakota	------	------	------	.2	------	22.7	20.0	19.0	20.0	21.9	3.9	3.9	5.9	4.2	5.6	10.9	4.4	11.3	9.2	17.5
Ohio	.2	.1	.2	.1	.1	40.1	40.7	42.2	39.9	42.6	12.8	11.6	13.1	14.6	15.7	15.8	9.2	14.4	14.7	18.7
Oklahoma	2.2	2.7	2.2	2.2	4.2	40.7	46.3	54.9	47.6	45.7	9.7	7.4	10.7	12.2	11.8	12.6	12.3	24.3	24.4	21.9
Pennsylvania	.1	.1	.1	.1	.1	39.6	39.3	38.4	39.5	40.2	11.0	11.3	13.2	13.4	14.6	14.6	6.4	11.0	10.8	12.3
Rhode Island	------	.1	.1	.1	.3	37.7	36.0	37.2	33.0	37.5	8.5	10.0	9.3	9.3	11.0	5.5	2.6	5.2	4.3	5.1
South Carolina	3.3	3.6	6.3	8.5	7.8	31.0	36.0	42.3	46.8	44.2	13.0	12.2	17.9	19.8	19.0	15.2	13.0	32.7	33.6	29.6
South Dakota	------	------	.2	.2	------	26.7	28.7	29.8	34.3	29.2	4.2	5.8	6.7	5.8	6.2	13.5	7.7	14.0	15.4	21.1
Tennessee	2.9	3.6	4.8	3.6	5.1	63.6	68.7	77.6	72.8	78.5	11.9	13.1	14.4	13.9	15.4	19.2	16.3	32.2	31.0	31.8
Texas	3.9	3.7	4.8	5.1	5.7	45.9	51.9	55.1	56.4	57.0	11.3	11.6	12.2	14.7	13.1	12.8	12.7	30.2	26.4	20.7
Utah	------	------	------	.4	.2	10.3	11.8	11.5	15.7	16.3	4.7	6.9	5.6	5.1	5.3	9.6	8.1	8.8	19.7	12.8
Vermont	.3	------	.3	------	------	31.2	30.4	37.6	36.5	39.0	6.7	4.7	7.9	7.8	7.3	24.7	7.9	17.4	12.8	25.9
Virginia	1.2	1.8	1.7	2.1	2.2	45.0	52.1	57.7	58.3	60.0	12.5	14.1	15.1	18.1	17.6	14.2	12.9	27.3	25.1	22.2
Washington	.1	------	.1	.2	.1	35.4	35.3	39.3	40.8	41.6	10.4	10.9	13.1	13.8	15.1	11.2	7.9	8.1	17.2	8.5
Wisconsin	.0	.1	.2	.1	.1	25.7	24.5	24.8	26.0	27.3	6.2	5.5	6.8	7.2	7.4	12.5	6.3	10.4	11.4	17.3
Wyoming	------	------	.4	.4	.4	17.3	15.1	14.4	16.0	22.9	14.5	10.3	16.6	15.6	14.1	13.4	9.9	22.7	10.8	11.3
Alaska	------	------	1.3	------	------	346.3	340.3	426.5	367.3	361.5	6.5	2.6	------	------	------	38.8	18.4	62.8	10.9	22.2
Hawaii	.2	------	------	------	------	57.2	62.5	60.2	61.2	66.9	12.9	13.5	12.5	11.1	16.8	5.4	3.7	2.6	8.5	5.4
Canal Zone	------	------	------	------	------	48.2	------	------	------	------	27.0	------	------	------	------	(1)	------	------	------	------

[1] No deaths reported.

[2] Data not available.

State	Pneumonia, all forms (107-109)					Cancer, all forms (45-55)					Diabetes mellitus (61)					Intracranial lesions of vascular origin				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	76	76	65	78	88	123	121	109	119	113	18.1	18.2	15.7	18.2	18.2	86	95	83	86	87
Connecticut	34	25	28	38	42	132	130	132	136	139	29.1	27.7	31.4	22.8	29.2	83	79	79	99	82
Delaware	75	52	53	58	70	116	120	118	131	109	39.1	32.6	27.6	31.8	33.7	111	103	99	106	115
District of Columbia	60	69	65	78	72	134	128	141	147	156	28.1	26.9	24.5	31.4	26.8	62	67	79	91	84
Florida	47	46	47	56	56	86	90	99	94	93	18.4	18.1	20.0	19.5	20.6	95	110	107	112	99
Georgia	54	50	48	63	69	66	66	64	61	61	13.4	11.5	11.6	10.9	11.4	96	89	93	94	93
Idaho	55	53	32	41	57	96	92	91	89	89	13.3	16.1	19.5	17.8	20.0	75	92	78	62	61
Illinois	41	40	40	47	54	157	147	145	143	142	33.2	30.5	28.6	33.3	30.0	93	84	80	82	75
Indiana	63	51	49	59	69	124	130	122	122	112	15.7	14.5	14.5	14.7	16.6	146	143	137	141	132
Iowa	44	45	40	49	50	156	147	131	130	125	30.9	26.0	24.2	26.5	24.5	124	115	102	106	103
Kansas	35	33	36	50	44	129	130	123	123	124	28.5	26.3	24.5	26.2	26.7	114	117	107	102	101
Kentucky	61	60	57	62	73	85	85	84	83	81	14.8	15.3	15.9	14.3	13.0	97	90	94	104	107
Louisiana	52	50	59	77	80	83	83	82	88	77	16.2	15.5	15.0	18.1	16.3	72	67	65	68	68
Maine	67	55	55	55	74	158	150	155	151	152	29.1	29.2	31.9	31.2	27.3	141	126	126	130	127
Maryland	63	58	57	62	68	127	126	138	138	132	29.7	28.0	30.2	31.3	29.2	88	87	87	97	96
Massachusetts	75	57	60	61	71	177	174	175	171	160	39.4	34.4	35.9	36.5	35.1	116	109	104	105	103
Michigan	54	42	41	47	54	126	115	116	118	117	28.3	26.1	33.0	26.6	26.2	98	87	86	90	83
Minnesota	55	50	46	56	59	154	148	141	133	134	30.0	26.7	24.3	25.9	25.9	105	96	82	91	92
Missouri	75	72	75	74	77	139	138	133	135	134	26.3	22.8	25.8	25.6	25.0	103	99	82	98	94
Montana	52	49	47	59	66	123	125	115	111	115	19.0	13.4	14.1	11.6	17.2	93	104	98	97	90
Nebraska	43	37	36	53	52	135	136	128	125	118	31.3	28.3	26.2	26.8	25.0	100	97	103	114	91
Nevada	80	63	50	70	82	85	96	109	116	112	14.7	11.8	17.1	20.9	16.6	64	90	68	67	67
New Jersey	51	40	41	44	44	147	150	147	146	140	37.3	34.3	35.3	36.4	33.6	102	91	93	90	87
New Mexico	61	61	56	58	84	71	52	56	58	53	9.2	8.7	10.6	9.4	8.6	43	40	41	40	39
New York	55	42	44	46	55	174	172	160	158	154	43.6	41.3	40.4	40.6	39.1	84	78	73	72	67
North Carolina	46	47	55	57	61	64	62	59	58	56	12.6	12.5	12.1	13.6	13.8	86	86	80	85	80
North Dakota	39	36	36	40	55	112	100	95	96	98	26.3	21.9	19.8	25.6	21.9	85	81	74	69	78
Ohio	54	46	44	56	60	140	137	137	135	132	34.5	30.9	28.9	31.2	29.2	122	112	104	111	108
Oklahoma	45	48	50	57	61	87	94	84	83	79	16.9	16.0	15.0	14.0	14.7	92	93	80	81	86
Pennsylvania	55	43	42	51	50	136	129	126	124	123	37.4	33.9	34.1	35.4	33.8	97	90	85	84	83
Rhode Island	58	49	44	54	57	150	147	148	158	151	43.0	37.8	37.7	38.8	36.9	94	100	87	100	88
South Carolina	44	49	66	68	64	46	50	57	56	54	11.0	11.3	13.3	12.7	13.4	76	81	94	105	96
South Dakota	44	43	40	37	55	116	114	103	105	104	21.3	22.7	26.4	23.9	26.7	88	90	84	82	76
Tennessee	54	55	62	71	71	81	78	86	74	71	13.4	12.8	12.4	14.0	13.4	90	86	79	83	81
Texas	46	40	47	53	53	78	78	80	76	68	13.7	12.3	13.1	13.7	11.8	68	62	61	62	61
Utah	32	31	31	44	45	87	92	87	90	92	18.5	13.3	19.4	19.5	18.3	58	64	60	58	54
Vermont	65	55	46	70	79	153	147	143	137	140	34.2	27.5	29.7	27.6	32.6	127	128	114	119	116
Virginia	51	53	57	69	67	75	77	81	81	80	16.1	16.9	18.5	20.3	17.5	94	94	99	104	104
Washington	54	46	39	48	51	127	130	135	143	139	24.3	25.0	24.2	26.4	25.3	102	110	99	107	106
Wisconsin	44	38	37	47	48	144	139	133	133	127	34.1	27.3	28.1	28.1	27.0	106	100	93	96	86
Wyoming	46	38	43	40	50	94	79	83	85	75	16.1	14.3	12.0	14.3	16.5	57	56	65	67	58
Alaska	147	104	122	144	169	76	75	83	75	79	5.2	10.5	5.3	4.1	4.2	75	66	72	76	60
Hawaii	37	44	39	46	54	77	65	77	67	71	18.3	16.5	20.2	14.4	16.6	45	46	53	44	48
Canal Zone	21					52					15.4					37				

TABLE 5.—*Trend of death rates for various causes per 100,000 population, 1939–43*—Continued

State	Diseases of the heart (90–95)					Nephritis, all forms (130–132)					All accidents, including automobile accidents (169–195)					Automobile accidents (170 a, b, c)				
	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939	1943	1942	1941	1940	1939
Colorado	278	271	273	250	255	73	76	78	71	73	93	91	82	91	87	17.1	25.7	30.5	32.7	28.6
Connecticut	330	304	308	299	296	51	58	62	56	76	53	56	61	55	61	11.7	14.3	21.7	18.0	20.7
Delaware	362	363	349	355	363	129	123	133	134	107	65	77	81	79	72	19.6	23.7	34.3	36.3	36.3
District of Columbia	292	269	292	338	344	94	86	100	107	105	53	62	69	70	76	9.7	14.2	22.7	21.6	22.8
Florida	228	245	274	285	244	71	74	85	90	91	118	95	106	97	93	21.4	24.0	38.0	36.9	36.5
Georgia	176	164	176	191	167	98	99	102	103	92	64	64	67	64	56	19.1	20.9	28.5	24.8	19.9
Idaho	228	268	214	243	242	49	62	70	57	53	100	97	96	101	97	23.3	23.0	37.1	36.4	33.7
Illinois	406	364	339	350	339	89	81	85	92	92	63	64	76	74	71	16.1	20.2	32.1	29.6	28.4
Indiana	270	266	269	304	250	87	82	67	74	65	72	81	90	82	72	18.8	28.0	40.5	33.4	29.3
Iowa	354	301	278	280	268	68	64	58	64	54	76	69	66	64	66	13.7	16.8	23.3	20.0	19.4
Kansas	304	296	285	278	259	87	87	94	96	97	89	78	80	76	104	15.9	20.9	30.2	27.4	28.1
Kentucky	247	229	225	216	218	73	78	78	74	66	59	68	80	78	77	13.1	17.7	30.4	26.0	23.0
Louisiana	236	220	238	251	215	66	67	82	87	91	59	45	68	68	64	16.8	17.2	27.0	23.2	20.3
Maine	395	365	375	361	377	94	87	90	89	81	82	83	82	76	72	15.2	18.8	25.9	23.6	22.1
Maryland	349	329	329	347	314	109	104	114	128	119	73	75	78	79	70	18.9	21.9	30.0	28.3	22.0
Massachusetts	468	414	426	421	407	65	61	54	70	67	70	75	66	61	63	11.8	13.3	18.1	15.2	15.4
Michigan	328	288	291	295	287	54	49	53	54	54	64	66	82	75	72	18.6	24.2	39.1	32.6	27.3
Minnesota	313	284	262	273	254	42	42	40	37	39	66	68	76	68	68	12.0	17.5	23.5	21.9	21.6
Missouri	345	302	290	300	278	109	108	104	110	113	71	71	77	73	73	13.8	18.7	28.1	21.5	21.6
Montana	306	295	248	238	232	64	62	58	57	58	126	92	103	94	94	20.2	21.2	36.4	27.7	27.1
Nebraska	295	277	240	235	210	75	68	66	65	66	74	69	65	65	69	16.2	17.7	21.1	20.0	21.3
Nevada	292	319	287	312	264	50	53	49	59	41	186	199	220	175	200	45.4	79.5	97.2	77.4	69.9
New Jersey	411	368	353	359	357	73	69	74	77	68	64	63	66	65	59	16.6	17.5	24.1	22.5	20.4
New Mexico	131	125	117	116	109	46	47	49	47	44	127	86	100	88	85	23.0	30.8	42.0	39.8	38.6
New York	470	415	393	385	367	62	58	60	66	66	61	62	64	62	62	14.4	16.2	19.8	18.0	17.8
North Carolina	171	165	161	152	162	79	82	85	96	82	63	67	72	65	65	19.0	24.1	36.9	27.5	26.2
North Dakota	240	190	208	206	206	54	45	46	44	41	62	49	64	54	52	12.7	16.3	19.2	18.1	14.4
Ohio	356	323	313	315	298	75	77	73	77	76	77	80	89	87	83	19.1	26.1	35.2	29.7	27.7
Oklahoma	198	200	186	163	152	57	56	57	62	55	67	72	63	57	82	13.2	16.8	22.4	19.7	22.2
Pennsylvania	385	352	337	335	324	92	86	84	94	82	55	52	58	57	55	12.6	15.4	19.5	17.2	16.7
Rhode Island	409	374	374	372	363	93	82	97	98	96	67	57	55	51	51	10.5	10.7	12.3	13.2	10.9
South Carolina	137	151	181	203	186	80	89	93	92	89	59	58	79	77	69	16.1	18.0	35.1	31.5	27.9
South Dakota	239	231	215	207	201	54	52	57	48	43	87	68	75	65	55	13.0	15.2	26.3	19.5	21.5
Tennessee	191	182	177	187	174	64	60	65	64	60	68	60	65	62	62	17.1	17.2	23.9	18.6	19.4
Texas	186	183	189	179	166	57	58	63	58	53	78	68	71	69	62	17.8	20.5	30.7	27.0	23.3
Utah	245	244	242	245	233	46	52	50	50	54	92	89	86	84	79	19.6	28.6	37.7	33.2	29.8
Vermont	380	375	361	332	360	84	78	82	77	80	71	52	63	61	66	11.9	12.9	22.4	19.2	22.0
Virginia	221	219	242	247	246	80	78	95	105	85	71	73	89	83	74	19.2	22.7	37.8	31.1	30.2
Washington	339	328	327	345	289	59	62	66	71	64	96	91	102	94	88	20.6	24.7	35.8	30.6	27.3
Wisconsin	327	303	292	296	299	63	53	54	58	57	67	64	73	75	76	13.6	19.0	27.9	24.2	22.8
Wyoming	232	221	219	203	209	70	61	65	53	70	103	105	115	107	113	18.9	30.2	49.9	54.2	47.4
Alaska	193	175	198	208	227	22	29	39	23	28	308	314	203	143	144	6.5	11.8	(1)	(1)	(1)
Hawaii	130	134	135	129	126	50	59	53	67	65	122	107	69	55	48	24.6	21.8	19.8	13.9	14.2
Canal Zone	104					42					403					54.0				

[1] No deaths reported.

census. Deaths of soldiers within the States are reported to the registrars and are, therefore, included with civilian deaths.

MORTALITY AND CHANGES IN AGE DISTRIBUTION

For many years there has been discussion of the effect of the changing age distribution of the population upon the crude death rate. The percentage of the total population that is in the older age brackets has been increasing for many years and because these older ages have a general death rate that is five or six times the average for all ages, an increase in their numbers results in a larger crude death rate even when there is no change in age-specific death rates. Such an increase in mortality is obviously spurious.

Since 1940 there has been a large withdrawal from the civilian population of men in the young age groups where the death rate is much below the average for all ages. By 1943 larger numbers of these men had been sent overseas, leaving a population (including those in camps in the United States) with a considerably larger percentage of persons in the older age brackets. Thus, the trend in age distribution which has been in progress in our population for many years was suddenly accelerated by the transfer to foreign countries of large numbers of young adult males in the armed forces. So many young men are involved in this overseas transfer that the sudden acceleration in the trend toward an older population in the continental United States has become an important factor in the crude death rate for 1943.

Considering first the mortality from all causes, the crude death rate for 1943 was 10.87 per 1,000 population, as compared with 10.32 in 1942, 10.43 in 1941, and 10.65 in 1940. Thus the apparent showing is a 2.1-percent excess in mortality in 1943 over 1940. Deaths by age are not available for 1943, but the United States Census Bureau has estimated the populations by age for 1943 and death rates for specific ages are available for 1940. These data are sufficient for making an adjustment in the 1943 rate for the effects of age changes since 1940; the details of the process are explained in a footnote.[1]

[1] The adjustment of the rate for age changes since 1940 is done as follows: Death rates for each specific age group in 1940 are multiplied by the 1943 estimated population for that age group to obtain an expected number of deaths at the 1940 age-specific rates. These expected deaths for specific ages are added to get a figure for all ages which is divided by the 1943 estimated population for all ages to obtain an expected death rate in 1943. This expected rate represents the crude death rate that would occur in 1943 if the age-specific death rates were identical with those in 1940. Any difference between this expected rate for all ages for 1943 and the actual rate for all ages in 1940, therefore, represents the result of changes in the age composition of the population since 1940. For example, if the actual 1940 rate for all ages is 95 percent of the expected rate for 1943, it means that the actual observed rate in 1943 can be corrected for age changes by multiplying by 0.95. This multiplier, which is called the "adjustment factor," is obtained as follows:

$$\text{Adjustment factor} = \frac{\text{Actual death rate in 1940 (all ages)}}{\text{Expected death rate in 1943 (all ages)}}$$

Thus if age changes will increase the 1943 crude rate for all ages by 5 percent without any change in the age-specific death rates, the actual crude rate for 1943 must be reduced by approximately that percentage to make it comparable with the 1940 rate. This process eliminates the change in the crude death rate that is due to age changes and indicates what the trend has been when the effects of age changes are eliminated.

When this adjustment is made, it is found that the changes in the age distribution of the population between 1940 and 1943 have been sufficient to account for an increase of about 5.4 percent in the crude death rate. The rate for 1943, adjusted to the age distribution of 1940, amounts to 10.32. Thus the increase in the death rate from 10.65 in 1940 to 10.87 in 1943 is more than accounted for by the changes in the age distribution of the population, and the resulting corrected death rate shows a decrease of 3.1 percent in 1943 from the 1940 rate, instead of an increase of 2.1 percent which was indicated by the crude rate.

It is of interest similarly to adjust a few of the major causes of death to see what has been the trend aside from changes that may have occurred because of shifts in age distribution. The crude death rate for heart diseases in 1943 was 324 per 100,000 as compared with 294 in the same States in 1940, an increase of 10.1 percent in the 3-year period. However, adjustment of the 1943 rate for changes in the age distribution since 1940 gives a corrected rate of 307 per 100,000. Thus the increase in the crude death rate of 10.1 percent is cut to an increase of 4.4 percent when adjustment is made for change in age distribution; about half of the increase in the crude death rate from heart diseases since 1940 was due to changes in age distribution.

A similar process applied to cancer indicates that the crude death rate of 125 per 100,000 is reduced to 119 when correction for age is made, which is approximately the rate in these 39 States for 1940. Thus all of the increase in the cancer death rate in these States since 1940 is accounted for by changes in age distribution.

Heart disease and cancer death rates are extremely high in the old age brackets and quite low among young adults. For example, the heart disease death rate among persons over 75 years of age is 155 times the rate at 35–44 years and nearly 350 times the rate at 15–24 years. Thus, the type of change that has been taking place in the age distribution of the population is such as to produce the maximum effect on the crude death rate from heart diseases. In tuberculosis, however, the death rate in the older ages is not so much above that in the young adult ages. The tuberculosis rate above 75 years is only 1.4 times the rate at 25–34 and twice the rate at 15–24. Thus, changes in age distribution would have relatively less effect upon the tuberculosis death rate. The adjustment of the tuberculosis death rate in 1943 by the process outlined above changes only the decimal part of the rate, from 41.4 to 41.1 per 100,000 population; therefore, the death rate of 41 per 100,000 from tuberculosis in 1943 may be compared directly with the rate of 44 in 1940, and presumably the rates for the intervening years also. The rate for 1943 is practically the same as that for 1942; however, since the death rate from tuberculosis

has for many years showed a steady decline, the absence of a decrease in 1943 represents an unfavorable change in the trend of the rate.

Inasmuch as the death rates in this report are provisional, it does not seem worth while to adjust all of them; the above examples are given to indicate that small increases in the rates cannot be interpreted as necessarily indicating any real deterioration in the health of the nation.

INFANT AND MATERNAL MORTALITY

The infant mortality rate, which is based on births and on deaths under 1 year of age, is relatively free from age changes. During 1943 the rate was 40 per 1,000 live births; this was the same as in 1942, but it represented a decline of about 10 percent from the preceding 5-year average. For the first time since 1935 the downward trend of infant mortality was interrupted. The rate in 1935, at that time the low record, was 56 per 1,000 live births, or about 35 percent in excess of the 1942 and 1943 rates. The first three quarters of 1943 showed slight drops from corresponding periods of 1942, but the last quarter increased considerably. For the year as a whole 22 of the 37 reporting States had a lower infant mortality rate in 1943 than in 1942.

The maternal mortality rate declined in each quarter of 1943. The rate of 2.3 per 1,000 live births for a group of 37 States was the lowest recorded in the 14 years of this series of records. Twenty-five of the reporting States had lower maternal mortality rates in 1943 than in 1942, 2 States had the same rate in both years, and in 10 States the rates were higher in 1943 than in 1942.

DISEASES WITH HIGHER RATES IN 1943 THAN IN 1942

The principal diseases having a higher mortality rate in 1943 than in 1942 were cancer, diabetes, heart diseases, intracranial lesions of vascular origin, and nephritis—all diseases of the older ages and subject to some error because of age changes in the population; however, all are diseases which were on the increase in prewar years. In addition, there was a sharp rise in influenza and pneumonia death rates. The influenza rates were higher during each quarter of the year than they were in 1942, but the sharpest rise occurred during the last quarter when the rate for the group of reporting States was 24.4 per 100,000 inhabitants, as compared with 7.9 and 7.0 for corresponding quarters of 1942 and 1941, respectively. Pneumonia death rates in the first and third quarters were not appreciably above preceding years, but in the second and particularly the fourth quarter the rates were considerably above those quarters of 1942 and 1941. The influenza epidemic of December–January 1943–44 has been discussed in other issues of the Public Health Reports.

As already noted, the incidence of meningococcus meningitis reached a new high peak in 1943–44; the death rates were higher during each quarter of 1943 than for corresponding quarters of 1942 and 1941. Although the number of cases was unusually high the death rate was low as compared with rates during previous epidemics of this disease. The average annual death rate in the years 1917–18 was 3.6 per 100,000 population, 4.1 in 1929–30, and 2.1 in 1935–37, which was about the same as the rate for 1943.

The severe outbreak of poliomyelitis that occurred in 1943 was responsible for probably the highest death rate from that disease since 1937, when the rate was slightly more than 1 per 100,000 population. The annual death rate for 1943 was twice that of 1942 and about 60 percent above the average annual rates since 1937. The sharpest increase in the death rate occurred during the third quarter of the year when the seasonal peak of this disease is normally reached; the rate for that quarter was 1.9 as compared with 0.7 and 1.0 for corresponding quarters in 1942 and 1941, respectively. For the years 1916 and 1931, the only years covered by this series of reports in which the cases of poliomyelitis exceeded the reported incidence in 1943, the annual death rates from poliomyelitis were 10.5 and 1.8, respectively.

The whooping cough death rate (2.4 per 100,000 population) was higher in 1943 than in 1942 but slightly lower than in 1941, and compared very favorably with the average rate for the preceding 5 years. Of the 39 reporting States, 28 had a higher death rate from whooping cough in 1943 than in 1942. The declining death rate from this disease during the past 15 years is in contrast with an average annual death rate of 10 per 100,000 persons in the 2 preceding decades.

DISEASES WITH LITTLE OR NO CHANGE IN THE RATES

The death rates from typhoid and paratyphoid fever, dysentery, infectious encephalitis, and syphilis for the 39 reporting States were about the same in 1943 as in 1942, and were all lower than the rates for the three preceding years.

The tuberculosis death rate was approximately the same in 1943 and 1942, 41.4 as compared with 41.7. As already noted, changes in the age distribution of the population since 1940 have had little effect upon the tuberculosis death rate. Considered by quarters, the first and fourth decreased slightly and the second and third increased slightly in 1943 from 1942. Only in the first quarter was the change in the rate as much as 1 per 100,000. For the year as a whole, 19 of the 39 reporting States had a higher death rate from tuberculosis in 1943 than in 1942, 19 had a lower rate, and in 1 State the rate was the same in both years. More than one-half of the States reporting a decline in the death rate are in the South Atlantic and South Central sections,

while about 70 percent of the States showing increases were in the North Atlantic and North Central sections of the country.

DISEASES WITH RATES LOWER IN 1943 THAN IN 1942

The only diseases for which an appreciable decrease in the crude death rate occurred during 1943 were malaria and appendicitis; for each of these the 1943 rate was the lowest on record. For appendicitis 26 of the group of 39 States reported lower rates in 1943 than in 1942, 11 had higher rates, and in 2 States the rate was the same in both years. There was a tendency toward an increase in the malaria death rates in the West North Central and Mountain regions, but the numbers of deaths in these States were too few to be of any statistical significance. In the South Atlantic region there were general decreases in malaria death rates.

ACCIDENT DEATH RATES

The mortality from all accidents, including automobile accidents, was about 3 percent higher in 1943 than in 1942, but for automobile accidents alone the death rate declined about 15 percent. Only 17 of the 39 reporting States showed a decline in the death rate from all accidents, but every State reported a decrease in the automobile accident death rate. While the mortality rate from all accidents was higher in 1943 than in 1942, it was below any of the 3 years preceding 1942. The death rate (52.9) from accidents other than automobile was 10.8 percent above that for 1942 and was the highest in the 5 years included in the table.

DEATHS DURING WEEK ENDED JULY 29, 1944

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended July 29, 1944	Corresponding week, 1943
Data for 93 large cities of the United States:		
Total deaths	7,695	8,414
Average for 3 prior years	8,207	
Total deaths, first 30 weeks of year	279,877	286,651
Deaths under 1 year of age	573	725
Average for 3 prior years	632	
Deaths under 1 year of age, first 30 weeks of year	18,564	20,288
Data from industrial insurance companies:		
Policies in force	66,672,880	65,668,828
Number of death claims	12,833	11,594
Death claims per 1,000 policies in force, annual rate	10.1	9.2
Death claims per 1,000 policies, first 30 weeks of year, annual rate	10.3	10.2

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

REPORTS FROM STATES FOR WEEK ENDED AUGUST 5, 1944

Summary

Increases in the incidence of poliomyelitis occurred during the week in all of the 9 geographic divisions of the country except the East South Central and Mountain areas. Of the total of 932 cases, 807, or 87 percent (approximately the same proportion as that of last week's figures), occurred in the Middle Atlantic, South Atlantic, and East Central sections. With slightly less than 10 percent of the total population, New York reported one-third of the cases. Eleven States with more than 20 cases each reported an aggregate of 760 cases, as follows (last week's figures in parentheses): *Increases*—Massachusetts 23 (8), New York 311 (237), Pennsylvania 86 (64), Ohio 48 (40), Indiana 36 (20), Michigan 40 (30), Maryland 27 (17), Virginia 63 (39), Louisiana 21 (11); *decreases*—North Carolina 40 (57), Kentucky 65 (79).

The total for the past 6 weeks is 3,210, as compared with 1,872 and 2,185, respectively, for the same periods last year and in 1931, the largest numbers previously recorded for the corresponding 6-week period. The peak of weekly incidence of poliomyelitis for the country as a whole has not frequently been reached earlier than the second or third week of September.

A total of 222 cases of typhus fever was reported, as compared with 251 last week, 155 for the corresponding week last year, and a 5-year median of 115. States reporting the largest numbers are Georgia, 58; Texas, 54; Alabama, 41; and Florida, 25.

A decrease occurred in the incidence of meningococcus meningitis from 191 last week to 177. The largest numbers of cases were reported in New York, 24; California, 21; Massachusetts, 12; and Texas, 10. The total cases reported to date this year is 12,786, as compared with 13,183 for the same period last year and a 5-year median of 1,359.

Of a total of 180 cases of typhoid fever, as compared with 163 last week and 291 for the 5-year median, 18 occurred in Texas, 13 in Mississippi, 9 in Michigan, and 8 each in Massachusetts, Illinois, West Virginia, Georgia, and Oklahoma.

In 93 large cities of the United States, a total of 8,125 deaths was registered, as compared with 7,971 last week, and a 3-year (1941–43) average of 7,801. The total to date is 288,008, as compared with 294,930 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended August 5, 1944, and comparison with corresponding week of 1943 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43
	Aug. 5, 1944	Aug. 7, 1943		Aug. 5, 1944	Aug. 7, 1943		Aug. 5, 1944	Aug. 7, 1943		Aug. 5, 1944	Aug. 7, 1943	
NEW ENGLAND												
Maine	0	0	0	1			5	37	37	0	1	1
New Hampshire	0	0	0				4	3	3	0	1	0
Vermont	0	0	0				7	17	17	0	0	0
Massachusetts	3	2	2				87	114	125	12	12	3
Rhode Island	1	0	0				0	62	18	1	1	0
Connecticut	0	0	0	1	1	1	6	40	22	3	3	1
MIDDLE ATLANTIC												
New York	6	5	7	(1)	[1] 2	[1] 2	94	401	234	24	27	6
New Jersey	0	1	1	3	5	2	36	166	117	8	7	0
Pennsylvania	7	7	6				57	55	55	6	19	3
EAST NORTH CENTRAL												
Ohio	4	1	4	1	3	3	12	135	46	6	2	0
Indiana	8	3	4		8	2	5	21	10	4	3	0
Illinois	3	7	11		7	4	20	129	50	9	18	2
Michigan [2]	10	1	3			4	57	162	122	6	9	1
Wisconsin	0	4	1	5		8	101	239	188	3	5	1
WEST NORTH CENTRAL												
Minnesota	2	2	1				9	32	15	5	0	0
Iowa	3	4	1				13	16	25	0	2	1
Missouri	3	2	2				18	11	8	5	5	2
North Dakota	3	0	1		4	2	3	32	2	0	3	0
South Dakota	1	1	1				1	12	3	0	0	0
Nebraska	1	1	0	2			2	6	3	0	0	0
Kansas	1	2	2		1	1	13	15	15	2	3	1
SOUTH ATLANTIC												
Delaware	0	0	0				0	4	1	0	0	0
Maryland [2]	3	3	1	1	2	1	4	31	31	4	4	2
District of Columbia	0	1	1				7	22	5	1	0	0
Virginia	10	7	7	35	75	33	10	48	43	8	7	1
West Virginia	0	2	2			2	13	9	8	5	1	1
North Carolina	5	9	9	1	3		16	11	23	5	3	1
South Carolina	7	4	3	94	207	70	17	21	19	2	2	1
Georgia	5	12	9	6	9	9	5	13	13	3	3	1
Florida	3	3	3	1	4	4	5	3	6	2	2	0
EAST SOUTH CENTRAL												
Kentucky	2	0	5	44	1	1	12	5	5	4	6	2
Tennessee	5	1	2	6	1	6	3	6	9	2	4	2
Alabama	7	12	9	8	17	9	1	7	10	5	3	1
Mississippi [2]	10	1	3							2	1	1
WEST SOUTH CENTRAL												
Arkansas	2	4	4	13	3	3	3	9	7	0	0	0
Louisiana	5	0	3	23	1	2	8	1	2	3	1	0
Oklahoma	4	2	2	6	2	7	3	5	4	0	1	0
Texas	31	18	19	166	190	137	120	54	54	10	5	1
MOUNTAIN												
Montana	2	1	1	3			2	28	17	0	1	0
Idaho	0	0	0				1	21	4	0	0	0
Wyoming	0	0	1		2	2	1	5	5	0	1	0
Colorado	9	1	7	1	7	7	12	13	13	1	0	0
New Mexico	3	1	0				1	4	4	0	0	0
Arizona	3	1	1	14	28	14	10	6	13	0	1	0
Utah [2]	0	0	0				21	22	19	1	0	0
Nevada	0	0	0	5			14	11	0	0	0	0
PACIFIC												
Washington	5	7	1	1			46	15	15	3	9	0
Oregon	2	2	1			2	18	21	21	1	1	0
California	11	10	10	4	22	20	335	151	151	21	24	1
Total	190	145	164	445	605	369	1,238	2,251	2,246	177	201	33
31 weks	6,362	6,888	7,280	337,734	80,678	151,020	589,042	533,746	464,760	12,786	13,183	1,359

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended August 5, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever[2]		
	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43
	Aug. 5, 1944	Aug. 7, 1943		Aug. 5, 1944	Aug. 7, 1943		Aug. 5, 1944	Aug. 7, 1943		Aug. 5, 1944	Aug. 7, 1943	
NEW ENGLAND												
Maine	1	6	1	10	8	8	0	0	0	1	0	2
New Hampshire	1	0	0	2	1	1	0	0	0	0	0	0
Vermont	1	2	0	8	2	2	0	0	0	0	0	0
Massachusetts	23	0	1	54	53	49	0	0	0	8	5	4
Rhode Island	0	6	0	0	3	2	0	0	0	2	1	0
Connecticut	10	24	2	12	11	7	0	0	0	0	1	3
MIDDLE ATLANTIC												
New York	311	18	12	83	79	73	0	0	0	4	9	11
New Jersey	16	1	3	24	7	20	0	0	0	2	3	4
Pennsylvania	86	1	3	59	47	48	0	0	0	3	10	13
EAST NORTH CENTRAL												
Ohio	48	6	9	58	55	50	0	0	0	7	22	17
Indiana	36	1	2	19	11	9	0	0	0	6	1	1
Illinois	14	34	13	38	25	41	0	2	2	8	7	20
Michigan[3]	40	4	8	42	12	44	0	0	1	9	6	4
Wisconsin	5	1	0	62	27	37	0	0	0	0	2	1
WEST NORTH CENTRAL												
Minnesota	14	6	3	18	10	11	0	0	0	0	1	1
Iowa	1	1	1	16	18	11	0	0	1	1	1	3
Missouri	4	7	4	11	14	14	0	0	0	2	17	13
North Dakota	0	0	0	1	0	3	0	0	0	0	1	0
South Dakota	0	1	1	5	6	6	0	0	1	1	1	0
Nebraska	4	3	3	6	6	3	0	0	0	0	1	0
Kansas	5	43	4	11	10	10	0	0	0	4	3	5
SOUTH ATLANTIC												
Delaware	3	0	0	3	2	1	0	0	0	0	0	0
Maryland[3]	27	0	0	12	14	11	0	0	0	2	0	8
District of Columbia	9	0	0	4	4	4	0	0	0	0	0	0
Virginia	63	2	2	19	6	6	0	0	0	3	7	10
West Virginia	7	0	1	21	17	13	0	0	0	8	6	6
North Carolina	40	2	2	21	17	17	0	0	0	7	6	10
South Carolina	4	0	2	3	8	2	0	0	0	3	10	10
Georgia	7	1	1	9	11	10	0	0	0	8	19	19
Florida	7	0	1	2	4	2	0	0	0	2	2	3
EAST SOUTH CENTRAL												
Kentucky	65	8	7	10	11	16	0	0	0	8	16	14
Tennessee	4	0	3	14	9	9	0	0	0	6	6	11
Alabama	5	1	1	7	9	13	0	0	0	6	5	7
Mississippi[3]	10	2	1	1	3	5	0	0	0	13	9	13
WEST SOUTH CENTRAL												
Arkansas	0	4	4	2	6	4	0	0	0	5	4	20
Louisiana	21	4	4	5	1	5	0	0	0	6	6	10
Oklahoma	1	52	0	2	2	8	0	0	0	8	11	11
Texas	5	62	7	19	18	14	0	0	0	18	17	32
MOUNTAIN												
Montana	0	0	0	14	4	3	0	0	0	0	0	1
Idaho	0	0	0	1	33	1	1	0	0	1	0	0
Wyoming	0	0	0	2	9	1	0	0	0	0	1	1
Colorado	0	15	1	17	10	8	0	0	0	3	1	1
New Mexico	2	5	1	6	0	1	0	0	0	3	3	3
Arizona	1	1	1	2	3	2	0	0	0	0	2	2
Utah[3]	1	6	1	14	7	3	0	0	0	0	0	2
Nevada	0	2	0	0	1	0	0	0	0	1	0	0
PACIFIC												
Washington	5	5	1	22	24	8	0	0	0	2	2	2
Oregon	16	8	1	6	7	7	0	0	0	4	2	2
California	9	11	20	66	99	40	0	0	0	5	5	10
Total	932	450	210	843	744	705	1	2	6	180	232	291
31 weeks	3,992	2,766	1,535	146,231	96,206	96,206	288	600	1,170	2,928	2,893	3,840

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended August 5, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Whooping cough			Week ended August 5, 1944								
	Week ended—		Median 1939–43	Anthrax	Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	Aug. 5, 1944	Aug. 7, 1943			Amebic	Bacillary	Unspecified					
NEW ENGLAND												
Maine	15	16	23	0	0	0	0	0	0	0	0	0
New Hampshire	0	2	2	0	0	0	0	0	0	0	0	0
Vermont	25	19	19	0	0	0	0	0	0	0	0	0
Massachusetts	58	53	115	0	0	0	0	0	0	0	0	0
Rhode Island	2	35	15	0	0	0	0	0	0	0	0	0
Connecticut	45	33	49	0	0	0	0	1	0	0	0	0
MIDDLE ATLANTIC												
New York	160	249	311	0	4	9	0	3	0	2	0	1
New Jersey	79	149	149	0	0	0	0	0	0	3	0	0
Pennsylvania	91	228	257	1	0	0	0	0	0	2	0	0
EAST NORTH CENTRAL												
Ohio	166	252	260	0	0	0	0	1	0	0	0	0
Indiana	24	42	42	0	0	0	0	1	0	0	0	0
Illinois	109	195	195	0	0	0	0	3	0	1	0	0
Michigan [2]	99	257	257	0	3	4	0	0	0	0	0	0
Wisconsin	151	322	225	0	1	0	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota	15	110	53	0	0	0	0	1	0	0	0	0
Iowa	8	41	36	0	0	0	0	0	0	0	0	0
Missouri	19	40	36	0	0	0	2	0	0	0	1	0
North Dakota	3	21	11	0	0	0	0	6	0	0	0	0
South Dakota	22	3	3	0	0	0	0	0	0	0	0	0
Nebraska	9	7	7	0	0	0	0	0	0	0	0	0
Kansas	23	59	57	0	0	1	0	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	1	0	2	0	0	0	0	0	0	2	0	0
Maryland [2]	112	108	84	0	0	0	6	0	0	1	0	0
District of Columbia	0	28	24	0	0	0	0	1	0	0	0	0
Virginia	70	72	56	0	0	0	273	0	0	10	0	0
West Virginia	41	84	27	0	0	0	0	0	0	3	0	0
North Carolina	203	199	111	0	0	0	0	0	0	7	0	16
South Carolina	84	115	52	0	0	24	0	0	0	0	2	11
Georgia	20	20	20	0	0	6	0	0	0	2	0	58
Florida	5	11	11	0	1	1	0	0	0	0	0	25
EAST SOUTH CENTRAL												
Kentucky	106	33	61	0	0	0	0	0	0	0	2	0
Tennessee	28	50	50	1	0	0	8	0	0	3	0	2
Alabama	22	35	22	0	1	0	0	1	0	0	0	41
Mississippi [2]	----	----	----	0	0	0	0	0	0	0	0	4
WEST SOUTH CENTRAL												
Arkansas	10	39	8	0	0	47	0	0	0	0	2	0
Louisiana	2	5	7	0	3	5	0	0	1	1	0	8
Oklahoma	3	5	7	0	0	0	0	0	0	1	0	0
Texas	178	245	134	0	31	530	0	1	0	0	1	54
MOUNTAIN												
Montana	35	17	17	0	0	0	0	0	0	0	1	0
Idaho	2	6	7	0	0	0	0	0	0	0	0	0
Wyoming	14	6	6	0	0	0	0	0	0	1	3	0
Colorado	21	72	30	0	0	0	0	0	0	0	0	0
New Mexico	3	0	15	0	0	6	4	0	0	0	0	0
Arizona	14	15	15	0	0	2	28	0	0	0	0	0
Utah [3]	63	84	53	0	0	0	0	0	0	0	0	0
Nevada	1	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	22	35	59	0	0	0	0	0	0	0	0	0
Oregon	12	44	19	0	0	0	0	0	0	0	0	0
California	75	182	185	0	2	9	0	0	0	0	0	2
Total	2,270	3,643	3,673	2	46	644	321	19	1	39	12	222
Same week, 1943	3,643	----	----	2	44	568	356	22	1	21	16	155
Same week, 1942	3,413	----	----	1	27	259	428	14	2	41	22	115
31 weeks, 1944	58,834	----	----	26	1,000	12,724	4,585	350	18	323	367	2,301
31 weeks, 1943	125,517	----	----	39	1,269	9,254	3,882	376	18	298	564	1,923
31 weeks, 1942	116,280	----	[4] 120,862	55	652	4,928	3,749	280	34	[4] 331	613	[4] 1,307

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Including paratyphoid fever cases reported separately as follows: Maine, 1; Massachusetts, 7; New York, 1; Illinois, 1; Michigan, 4; South Carolina, 1; Georgia, 2; Florida, 1; Tennessee, 1; Arkansas, 1; California, 1.
[4] 5-year median 1939–43.

WEEKLY REPORTS FROM CITIES

City reports for week ended July 22, 1944

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	-----	0	0	0	0	0	1	0	0	0
New Hampshire:												
Concord	0	0	-----	0	1	0	0	0	0	0	1	0
Massachusetts:												
Boston	1	0	-----	0	57	4	8	2	9	0	1	25
Fall River	0	0	-----	0	0	0	1	0	0	0	0	1
Springfield	0	0	-----	0	6	1	0	3	2	0	0	14
Worcester	0	0	-----	0	1	0	7	0	2	0	0	11
Rhode Island:												
Providence	0	0	-----	0	8	0	2	0	0	0	0	4
Connecticut:												
Bridgeport	0	0	-----	0	0	2	1	0	0	0	0	0
Hartford	0	0	-----	0	1	0	1	0	1	0	0	0
New Haven	0	0	1	0	3	0	1	0	0	0	0	1
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	-----	0	1	4	6	30	2	0	0	0
New York	6	0	-----	0	36	15	31	25	22	0	4	62
Rochester	0	0	-----	0	25	3	1	5	4	0	0	0
Syracuse	0	0	-----	0	2	0	1	1	1	0	0	14
New Jersey:												
Camden	0	0	-----	0	0	0	0	0	0	0	0	1
Newark	0	0	-----	0	19	0	1	0	1	0	0	10
Trenton	0	0	-----	0	0	0	2	0	0	0	0	1
Pennsylvania:												
Philadelphia	1	0	1	1	5	3	17	3	17	0	1	11
Pittsburgh	1	0	-----	0	2	3	7	10	2	0	0	5
Reading	0	0	-----	0	1	0	0	1	0	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	-----	0	2	1	3	6	7	0	0	11
Cleveland	0	0	-----	0	6	3	8	10	8	0	0	13
Columbus	0	0	-----	0	1	0	1	2	2	0	3	35
Indiana:												
Fort Wayne	0	0	-----	0	0	0	2	0	0	0	0	0
Indianapolis	5	0	-----	0	1	1	0	1	1	0	0	11
South Bend	0	0	-----	0	0	0	0	0	0	0	0	0
Terre Haute	0	0	-----	0	0	0	0	0	0	0	0	0
Illinois:												
Chicago	1	0	1	2	28	2	13	4	14	0	0	34
Springfield	0	0	-----	0	0	0	0	0	0	0	0	0
Michigan:												
Detroit	3	0	-----	0	26	5	10	7	14	0	0	44
Flint	0	0	-----	0	0	0	0	1	0	0	0	7
Grand Rapids	0	0	-----	0	0	0	1	0	1	0	0	0
Wisconsin:												
Kenosha	0	0	-----	0	6	0	0	0	1	0	0	45
Milwaukee	1	0	1	1	25	1	2	1	10	0	0	36
Racine	0	0	-----	0	29	0	0	0	2	0	0	8
Superior	0	0	-----	0	1	0	0	0	1	0	0	0
WEST NORTH CENTRAL												
Minnesota:												
Duluth	1	0	-----	0	21	1	0	0	5	0	0	0
Minneapolis	0	0	-----	0	4	1	0	1	7	0	0	6
St. Paul	0	0	-----	0	3	0	3	1	1	0	0	27
Missouri:												
Kansas City	3	0	-----	0	0	0	6	0	1	0	0	0
St. Joseph	0	0	-----	0	0	0	0	0	0	0	0	0
St. Louis	0	1	-----	0	1	2	10	2	3	0	1	29

City reports for week ended July 22, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo	0	0		0	0	0	0	3	0	0	0	0
Nebraska:												
Omaha	0	0		0	3	1	1	1	3	0	0	0
Kansas:												
Topeka	0	0		0	5	0	2	0	0	0	0	10
Wichita	0	0		0	0	0	0	0	0	0	0	12
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0		0	0	0	1	0	0	0	0	1
Maryland:												
Baltimore	1	0		0	2	2	4	1	11	0	1	108
Cumberland	0	0		0	0	1	0	0	1	0	0	1
Frederick	1	0		0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington	0	0		0	9	1	3	8	3	0	0	2
Virginia:												
Lynchburg	0	0		0	0	0	1	4	1	0	0	0
Richmond	0	0		0		0	1	2	2	0	1	0
Roanoke	0	0		0	1	0	0	1	1	0	1	5
West Virginia:												
Charleston	0	0		0	0	0	0	0	0	0	0	0
Wheeling	0	0		0	0	0	0	0	0	0	0	0
North Carolina:												
Raleigh	0	0		0	0	0	0	0	0	0	2	1
Wilmington	0	0		0	2	0	0	1	0	0	0	18
Winston-Salem	0	0		0	0	0	3	0	4	0	0	9
South Carolina:												
Charleston	0	0		0	1	1	0	1	2	0	0	0
Georgia:												
Atlanta	0	0		0	0	0	2	0	1	0	0	0
Brunswick	0	0		0	1	0	0	0	0	0	1	0
Savannah	0	0		0	0	0	0	0	1	0	0	0
Florida:												
Tampa	1	0		0	1	0	2	1	1	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0		0	0	2	8	0	1	0	0	20
Nashville	0	0		0	2	0	1	0	0	0	0	0
Alabama:												
Birmingham	0	0	1	0	0	0	1	0	0	0	0	1
Mobile	0	0		0	0	0	1	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0		0	0	0	1	0	0	0	0	8
Louisiana:												
New Orleans	1	0		1	3	0	5	9	0	0	1	0
Shreveport	0	0		0	2	0	6	1	0	0	11	0
Texas:												
Dallas	1	0		0	0	0	0	0	2	0	0	12
Galveston	0	0		0	0	0	0	0	0	0	0	0
Houston	1	0		0	0	0	5	2	0	0	1	0
San Antonio	0	0		1	0	0	6	0	2	0	1	3
MOUNTAIN												
Montana:												
Billings	0	0		0	1	0	2	0	0	0	0	2
Great Falls	0	0		0	0	0	0	0	1	0	0	0
Helena	0	0		0	0	0	0	1	1	0	0	0
Missoula	0	0		0	0	1	0	0	0	0	0	5
Idaho:												
Boise	0	0		0	0	0	1	0	0	0	0	0
Colorado:												
Denver	2	0		0	1	0	2	0	1	0	0	15
Pueblo	0	0		0	0	0	1	0	1	0	0	2
Utah:												
Salt Lake City	0	0		0	4	0	2	0	5	0	0	9

City reports for week ended July 22, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	0	0	------	1	13	0	2	0	4	0	0	0
Spokane	1	0	------	0	1	0	0	0	2	0	0	0
Tacoma	1	0	------	0	1	0	1	0	9	0	1	4
California:												
Los Angeles	8	0	------	0	45	3	2	1	16	0	1	10
Sacramento	0	1	------	0	12	1	1	2	6	0	0	------
San Francisco	1	0	------	0	44	0	14	0	9	0	0	7
Total	42	2	5	7	476	65	228	155	233	0	33	730
Corresponding week, 1943	37	------	29	8	1,183	------	247	------	246	2	28	1,277
Average, 1939–43	45	------	29	[1] 6	[2] 1,021	------	[3] 237	------	266	1	36	1,281

[1] 3-year average, 1941–43.
[2] 5-year median.

Dysentery, amebic.—Cases: New York, 1; Los Angeles, 2.
Dysentery, bacillary.—Cases: Worcester, 4; Buffalo, 2; New York, 1; Baltimore, 2; Richmond, 1; Charleston, S. C., 33; Atlanta, 1; Memphis, 1; Nashville, 2; Dallas, 1; Los Angeles, 3.
Dysentery, unspecified.—Cases: Chicago, 1; Baltimore, 2.
Leprosy.—Cases: Cleveland, 1.
Rocky Mountain spotted fever, infectious.—Cases: New York, 1.
Tularemia.—Cases: Richmond, 1; Memphis, 1.
Typhus fever, endemic.—Cases: Brunswick, 2; Savannah, 2; Tampa, 6; Birmingham, 3; Mobile, 7; New Orleans, 2; Shreveport, 1; Galveston, 1; Houston, 3; San Antonio, 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,385,900)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	2.6	0.0	2.6	0.0	202	18.4	55.1	13.1	39	0.0	5.3	147
Middle Atlantic	3.7	0.0	0.5	0.5	42	13.0	30.5	34.7	23	0.0	2.3	48
East North Central	6.1	0.0	1.2	1.8	76	7.9	24.3	19.5	37	0.0	1.8	148
West North Central	8.0	2.0	0.0	0.0	74	9.9	43.8	15.9	40	0.0	2.0	167
South Atlantic	4.9	0.0	0.0	0.0	28	8.2	27.8	31.1	46	0.0	9.8	235
East South Central	0.0	0.0	5.9	0.0	12	11.8	64.9	0.0	6	0.0	0.0	124
West South Central	8.6	0.0	0.0	5.7	14	0.0	65.9	34.4	11	0.0	40.2	66
Mountain	15.9	0.0	0.0	0.0	48	7.9	63.5	7.9	71	0.0	0.0	262
Pacific	17.4	1.6	0.0	1.6	183	6.3	31.6	4.7	73	0.0	3.2	33
Total	6.4	0.3	0.8	1.1	72	9.9	34.7	23.6	35	0.0	5.0	111

PLAGUE INFECTION IN SAN LUIS OBISPO COUNTY, CALIF.

Plague infection has been reported proved in a pool of 615 fleas from 32 ground squirrels, *C. beecheyi*, taken June 22 from a ranch 3 miles north and 10 miles east of Santa Maria, San Luis Obispo County, Calif.

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (rodent).—Two rats found in the Paauhau area, Honokaa, Hamakua District, Island of Hawaii, T. H., were proved positive for plague on July 3, 1944.

Puerto Rico

Notifiable diseases—4 weeks ended July 15, 1944.—During the 4 weeks ended July 15, 1944, cases of certain notifiable diseases were reported in Puerto Rico as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	2	Ophthalmia neonatorum	4
Chickenpox	80	Poliomyelitis	1
Diphtheria	45	Syphilis	1,063
Dysentery	15	Tetanus	3
Filariasis	4	Tetanus, infantile	1
German measles	1	Tuberculosis (all forms)	849
Gonorrhea	529	Typhoid fever	38
Influenza	42	Typhus fever (endemic)	55
Malaria	639	Undulant fever	2
Measles	36	Whooping cough	89

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended July 8, 1944.—During the week ended July 8, 1944, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		24	2	30	204	36	16	68	51	431
Diphtheria		2	1	40	1	7				51
Dysentery (bacillary)				4		2				6
Encephalitis, infectious				1						1
German measles		2		23	45	2	16	5	27	120
Influenza		12			4		1		1	18
Measles		5	12	283	197	66	52	38	24	677
Meningitis, meningococcus		1		3	1				1	6
Mumps				31	66	11	7	36	12	163
Poliomyelitis				1	4			2		7
Scarlet fever		3	3	31	86	16	9	23	35	206
Tuberculosis (all forms)		4	6	113	55	27	1	15	26	247
Typhoid and paratyphoid fever				29						29
Undulant fever				12	1					13
Whooping cough		10		75	19	2	7	14	18	145

PERU

Infectious diseases—1939–43—Comparative.—For the years 1939 to 1943, inclusive, the following numbers of cases of certain infectious diseases were reported in Peru:

Disease	1939	1940	1941	1942	1943
Cerebrospinal meningitis	12	48	57	27	43
Diphtheria	350	797	715	621	842
Dysentery (unspecified)	5,259	6,143	6,852	6,289	6,221
Encephalitis	6	13	3	2	7
Influenza	15,083	40,205	23,226	19,753	24,343
Leprosy	24	44	11	4	3
Malaria	57,066	46,289	56,778	37,331	42,267
Measles	3,649	3,074	3,375	6,830	2,568
Plague	130	182	67	98	66
Poliomyelitis	29	78	24	22	116
Recurrent fever	508	48	274	389	81
Scarlet fever	264	282	422	341	413
Smallpox	173	371	3,131	2,499	1,826
Typhoid fever	3,547	3,233	4,063	4,148	3,350
Typhus fever	1,659	1,255	1,921	2,010	1,408
Undulant fever	140	108	136	583	667
Whooping cough	9,916	17,625	15,016	12,219	12,391
Yellow fever	1				

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-mentioned diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

Cholera

India—Calcutta.—Cholera has been reported in Calcutta, India, as follows: Week ended July 8, 1944, 41 cases, 20 deaths; week ended July 15, 1944, 49 cases, 25 deaths.

Plague

Egypt.—For the week ended July 15, 1944, 1 case of plague was reported in Ismailiya, and 1 case of plague was reported in Serapeum, Egypt.

French West Africa—Dakar.—Presumably from the beginning of the outbreak in April up to July 25, 1944, 102 cases of plague with 84 deaths were reported in Dakar, French West Africa.

Indochina.—For the period June 21–30, 1944, 3 cases of plague were reported in Indochina.

Madagascar.—For the period May 11–31, 1944, 2 cases of plague were reported in Madagascar.

Morocco—Rabat region.—From the beginning of the outbreak in May 1944 up to June 30, 1944, a total of 70 cases of plague with 40 deaths were reported in Rabat region, Morocco.

Peru.—For the month of May 1944, plague has been reported in Peru by Departments, as follows: Ancash—20 confirmed cases and 24 suspected cases; Lambayeque—1 case; Piura—1 case.

Smallpox

India—Calcutta.—For the week ended July 8, 1944, 103 cases of smallpox with 82 deaths were reported in Calcutta, India, and for the week ended July 15, 1944, 108 cases of smallpox and 88 deaths were reported in the same place.

Indochina.—For the period June 21–30, 1944, 35 cases of smallpox were reported in Indochina.

Italy—Palermo.—For the month of June 1944, 133 cases of smallpox were reported in Palermo, Italy.

Mexico—Torreon.—According to a report dated July 20, 1944, smallpox is said to have reappeared in the vicinity of Torreon, Mexico, with 7 cases and 1 death reported in a collective farming community.

Peru.—During the month of May 1944, 48 cases of smallpox were reported in Peru. Departments reporting the highest incidence of the disease are Huancavelica 15, Junin 12, and Puno 20.

Venezuela.—During the month of June 1944, 47 cases of smallpox with 3 deaths were reported in Venezuela, including 36 cases with 3 deaths reported in Caracas.

Typhus Fever

Algeria.—For the period June 21–30, 1944, 30 cases of typhus fever were reported in Algeria.

Ecuador.—For the period May 1–15, 1944, 16 cases of typhus fever with 2 deaths were reported in Ecuador, including 12 cases and 2 deaths reported in Quito.

Egypt.—For the week ended July 1, 1944, 485 cases of typhus fever with 80 deaths were reported in all of Egypt.

Guatemala.—For the month of June 1944, 176 cases of typhus fever with 41 deaths were reported in Guatemala. The Departments reporting the highest incidence of the disease are; Alta Verapaz, 66 cases, 4 deaths; Huehuetenango, 28 cases, 11 deaths; Quezaltenango, 37 cases, 7 deaths.

Hungary.—For the period June 18–30, 1944, 201 cases of typhus fever (124 cases in Subcarpathia) were reported in Hungary.

Indochina.—For the period June 21–30, 1944, 25 cases of typhus fever were reported in Indochina.

Peru.—For the month of May 1944, 129 cases of typhus fever were reported in Peru. Departments reporting the highest incidence are as follows: Apurimac, 21; Cuzco, 33; and Junin, 38.

Slovakia.—For the period June 18–30, 1944, 7 cases of typhus fever were reported in Slovakia.

Venezuela.—During the month of June 1944, 12 cases of typhus fever with 1 death were reported in Venezuela.

Yugoslavia.—For the period May 22–June 7, 1944, 1,290 cases of typhus fever were reported in Yugoslavia.

×