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THE HISTOPATHOLOGY OF TYPE B (LEE STRAIN) INFLUENZA IN MICE[1]

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The Lee strain of human influenza virus was isolated in 1940 by Francis (*1*) by inoculation of ferrets with throat washings. The disease in ferrets was found to differ from that usually produced by type A virus strains. The virus was adapted to mice and produced a pneumonia similar to that of type A influenza. No antigenic relation was found between the two types by the usual tests of cross immunity, serum protection, and complement fixation. The infective titer of the lung was also much lower in type B mouse influenza than that of most type A strains. A sample of the type B mouse adapted virus was kindly supplied by Dr. Francis and his report of strain differences was confirmed. A study of the histopathology of the experimental infection in mice was done to determine whether any further differences might be demonstrated.

Method.—Four groups of young white Swiss mice weighing 13 to 16 gm., all of the same strain from a single breeder, were inoculated intranasally on the same day with .05 cc. of one of the following preparations:

1. Type B virus: 1:5,000 suspension of mouse lungs from mice inoculated 2 days previously with 1:10 suspension of B virus infected lung. The lungs showed gross areas of pneumonia. They were ground in a mortar with quartz sand and 50 percent beef infusion broth-saline buffered to pH 7.6, lightly centrifuged, and the supernatant diluted further with broth-saline.
2. Normal mouse lung: 1:5,000 suspension prepared as for group 1.
3. B virus plus PR8 (2) immune rabbit serum: Prepared by adding equal quantities of 1:2,500 lung suspension described in group 1, and 1:2 serum-saline. Final dilution of lung 1:5,000, of serum 1:4. The mixture was allowed to stand for 1 hour at room temperature before use.

[1] From the Division of Infectious Diseases and the Division of Pathology, National Institute of Health.

4. B virus plus B immune rabbit serum: Prepared as described in group 3.

A total of 71 inoculated mice was studied. They were killed, usually four from each group, at intervals from 1 to 25 days after inoculation. Tissues were removed immediately and fixed in Orth's solution. Sections were routinely stained with modified Romanowsky (*3*) and Van Gieson stains.

HISTOPATHOLOGIC FINDINGS

LUNGS

Inoculation with B virus.—One day after inoculation the lungs were negative in three of four mice examined; in the fourth, small patchy peribronchial pneumonic lesions were observed. In the pneumonic areas the bronchi contained a few polymorphonuclear neutrophils, the bronchial epithelial cells were slightly swollen in a few foci, and small numbers of lymphocytes and polymorphonuclears were seen in slightly widened perivascular spaces. The alveolar exudate was scanty and composed of equal numbers of polymorphonuclear and mononuclear cells. About half of the latter were lymphocytes, while the remainder were moderate to large in size and round or polyhedral with fairly abundant amphophilic cytoplasm; nuclei were round or oval and lepto- or trachychromatic.

Two days after inoculation scattered small pneumonic areas similar to those described above were seen in three mice; in the fourth, a few bronchi contained polymorphonuclears and bronchial epithelial cells were slightly swollen focally, but no lesions were seen in the parenchyma.

In mice killed 3 days after inoculation, peribronchial pneumonic lesions were seen in all. The inflammatory process was slightly more extensive than in mice killed prior to the third day, and while the alveolar exudate was still scanty and the cellular components remained the same, a little serum was now present in some foci. In addition, slight thickening of interalveolar septa was observed in pneumonic areas, with small to moderate numbers of lymphocytes and large mononuclear cells and fewer polymorphonuclears found in or on the septa. A small amount of purulent exudate was present in many bronchi, both within and apart from the pneumonic areas. Polymorphonuclears were at times adherent to the surface of the bronchial epithelium, and degenerative changes were noted focally in the latter. These degenerative changes varied in extent and degree; focally there was only slight swelling of the epithelial cells, while in other areas swollen cells were heaped with loss of polarity, and a small number exhibited cytoplasmic oxyphilia and vacuolization and pyknosis or karyorrhexis. A few infiltrating polymorphonuclears were

seen in the epithelium, and occasional epithelial cells contained single small spherical oxyphilic hyaline bodies in the cytoplasm. Slight to moderate peribronchial and perivascular infiltration by lymphocytes and polymorphonuclears was noted in the involved portions of the lungs, and a little serum was occasionally seen in widened perivascular spaces.

Five and seven days after inoculation the pneumonic process was more extensive than that described on the third day; approximately one-fourth to one-half of the sectioned lung tissue was involved. Lymphocytes and large mononuclear cells outnumbered polymorphonuclears in the scanty alveolar exudate. In the bronchi degenerative changes in the epithelium were more prominent, with complete desquamation of lining cells seen in patchy areas. In addition, evidence of proliferation was seen in the heaping of swollen, deeply stained epithelial cells in which occasional mitoses were observed.

By the ninth day after inoculation, macrophages were intermingled with degenerating epithelial cells and polymorphonuclears in the bronchial exudate, and while degenerative changes were still noted in the lining epithelium, proliferative changes were more prominent and a tendency toward squamous metaplasia was noted focally in the heaped-up cells. Occasionally a single layer of flattened cells was observed covering areas in which desquamation appeared to have taken place. There were slight to moderate perivascular and peribronchial infiltration, chiefly by lymphocytes, and slight proliferation of adventitial cells. Mononuclear cells definitely predominated over the polymorphonuclears in the scanty alveolar exudate, and among the mononuclear cells large foamy macrophages and spindle shaped cells of the fibroblast type were not uncommon. In some areas a thick layer of hyaline oxyphil material lined the walls of bronchioles, alveolar ducts, and groups of adjacent alveoli. Small to moderate numbers of lymphocytes and large mononuclear cells were seen in or on the thickened interalveolar septa in pneumonic areas. Focally the pleural mesothelial cells were swollen and heaped, and a small number of lymphocytes were seen among them.

Fifteen days after inoculation there was a striking difference in the bronchial and lung lesions as compared to the findings seen on the ninth day. Degenerative changes were no longer seen in the bronchial epithelium, and the lining cells were either normal or slightly to moderately heaped; in a very few bronchi occasional small groups of sub-epithelial lymphocytes were seen. Peribronchial and perivascular lymphocyte infiltration was moderate to marked. Patchy peribronchial areas showed slight septal thickening in some areas due to lymphocyte infiltration and the presence of elongated mononuclear cells on or within the septa; intra-alveolar macrophages were sometimes present in these areas. In other areas the lung tissues

appeared solid or nearly so, with occasional small spaces containing intact and fragmenting polymorphonuclears, lymphocytes, and macrophages. The solid appearance was due to marked septal thickening and the presence of numerous epithelial cells of the squamous type which completely filled or thickly lined the alveoli. In the thick interalveolar septa proliferating spindle and polyhedral shaped large mononuclear cells were intermingled with moderate numbers of infiltrating lymphocytes.

Twenty-five days after inoculation the type of inflammatory reaction was similar to that observed after 15 days, but the areas of involvement were fewer and smaller.

Inoculation with B virus combined with A serum.—The histopathologic findings in the lungs of mice killed at intervals after inoculation with B virus combined with A serum were indistinguishable from those observed in mice inoculated with B virus alone.

Inoculation with B virus combined with B serum, and with a suspension of normal lung in saline.—Lung lesions were seen in 7 of 29 mice which were inoculated with B virus combined with B serum, or with a suspension of normal lung in saline. However, the lesions were variable and they differed from those produced by the virus alone. Of the 7 mice, there were scattered small bronchopneumonic lesions in 3, a few small peribronchial areas of interalveolar septal thickening in 2, moderate focal parenchymal lymphocyte infiltration in 1, and diffuse consolidation of an entire lobe in 1.

TRACHEA

Tracheitis was observed in mice inoculated with B virus alone, or with B virus combined with A serum, but was not seen in mice inoculated with B virus combined with B serum, or with a suspension of normal lung in saline. The inflammatory process was similar in type to that described in the bronchi, but it was not as marked.

MEDIASTINAL LYMPH NODES

In mice killed 5 days after inoculation or later, the lymph nodes seen in sections from those inoculated with B virus alone or B virus combined with A serum were usually two to three times as large as the lymph nodes seen in mice inoculated with B virus combined with B serum, or a suspension of normal lung in saline. The enlargement was due to a diffuse increase in small and medium sized lymphocytes, and the enlarged nodes showed moderate to marked phagocytosis of nuclear fragments by reticulum cells of the follicles.

THYMUS

Seven and nine days after inoculation with B virus alone or B virus combined with A serum, all thymi examined showed marked phago-

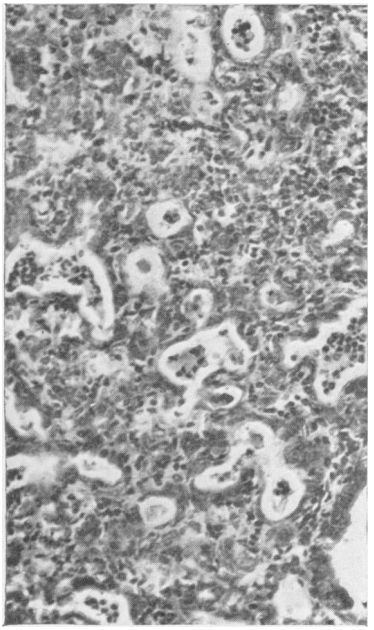

FIGURE 1.—Lung, 15th day. Squamous epithelial cells lining alveoli; interstitial infiltration. ×200.

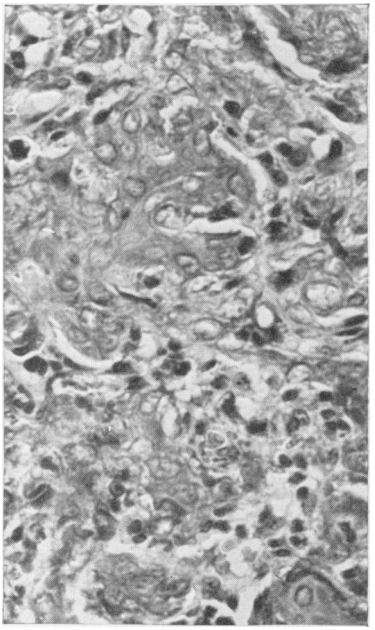

FIGURE 2.—Lung, 15th day. Squamous epithelial cells filling alveoli. ×400.

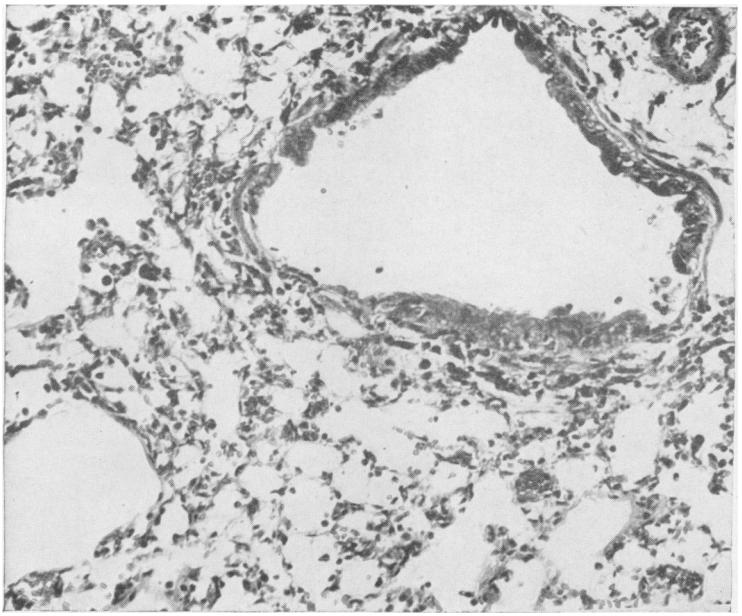

FIGURE 3.—Lung, 9th day. Degenerative and proliferative changes in bronchial epithelium; slight interstitial infiltration. ×200.

cytosis of nuclear fragments by large mononuclear cells in the cortex, and to a lesser extent in the medulla. Small thymic cells of the cortex were considerably replaced by the large mononuclear cells.

Prior to the seventh day similar changes were noted in the thymi from three mice. After the ninth day, a similar process was noted in only one mouse, but most of the thymi seen appeared small in section.

Only one of the 29 mice inoculated with B virus combined with B serum or a suspension of normal lung in saline showed thymic changes similar to those described above.

NOSE

A subacute inflammatory process of slight to moderate degree, involving foci in the respiratory mucosa of the anterior and middle portions of the nose, was found in 19 of the 42 mice inoculated with B virus alone or B virus combined with A serum. However, a similar inflammatory process was found in 7 of the 29 mice inoculated with B virus combined with B serum or a suspension of normal lung in saline, and in 3 of 6 normal (uninoculated) mice of the same age and weight as the test animals.

OTHER ORGANS

No significant lesions attributable to the virus were found in the heart, liver, pancreas, spleen, adrenals, testicles, bone marrow, spinal cord, or brain.

DISCUSSION AND SUMMARY

In this experiment, groups of young white Swiss mice were inoculated intranasally with each of the following: a suspension of type B influenza virus; B influenza virus combined with type A influenza antiserum; B influenza virus combined with type B antiserum; a suspension of normal mouse lung in saline.

Lesions were found in the trachea, bronchi, lungs, thymus, and mediastinal lymph nodes of the mice inoculated with B virus alone. The inflammatory reaction in the trachea, bronchi, and lungs was essentially similar (allowing for differences in the titer of the viruses) to the reaction described by several authors after the intranasal inoculation of the type A influenza virus (*4–8*). In the trachea and bronchi, the prominent changes were seen in the epithelium, with degeneration and exudation seen in the early stages and marked proliferation in the later stages. In the lungs, lesions were patchy and peribronchial and largely interstitial. In late stages the most characteristic feature was the plugging of alveoli by epithelial cells of the squamous type.

The histopathologic changes found in the thymus were involutional in type, and in the mediastinal lymph nodes the reaction was hyper-

plastic. These changes were possibly secondary to the inflammatory process in the trachea, bronchi, and lungs, and not due to a specific action by the virus. Similar changes in the thymi of mice inoculated intranasally with the virus of "Q" fever have been described (*9*). In other experimentally produced pneumonias (unpublished data), similar changes have been noted in both the thymus and the mediastinal lymph nodes.

In mice inoculated with B virus combined with A serum, the findings were indistinguishable from those seen in mice inoculated with the virus alone. There was, therefore, no evidence of cross immunity.

When B virus was combined with B serum, inoculated mice showed very few lesions and the changes did not resemble those produced by the virus alone. The virus was neutralized by the serum. Findings in mice inoculated with the suspension of normal lung in saline were similarly negative.

On the basis of this experiment it is considered impossible to differentiate between experimentally produced type A and type B influenza in mice by histologic examination alone.

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LABORATORY STUDIES OF THE EFFECT OF SULFONAMIDE DRUGS ON *V. CHOLERAE*[1]

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The sulfonamide drugs have had limited clinical trial in the treatment of cholera. In 1939, Pasricha, de Monte, Chatterji, and Mian

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

(*1*) reported a series of human cases in which sulfapyridine in doses of 2 gm. daily caused no favorable response in the disease. Recently, Chopra, de Monte, and Chatterji (*2*) used sulfaguanidine in a number of cases and indicated that, in spite of admittedly inadequate dosage, the drug was effective in the treatment of cholera.

Rao and Ganapathi (*3*) used mice inoculated intraperitoneally with 875,000,000 living cholera vibrios and reported that the subcutaneous injection of sulfanilamide, sulfapyridine, or sulfathiazole into these animals was ineffective in preventing deaths. This finding, as will be shown later, may be explained by the overwhelmingly large number of vibrios used by these workers as a challenge dose. However, they observed that sulfathiazole inhibited the growth of *V. cholerae, in vitro,* to a degree comparable to its action on streptococci.

It is the purpose of this report to describe further the effect of certain drugs of the sulfonamide group on the cholera vibrio, *in vitro*, and in experimental infections in mice.

EXPERIMENTAL STUDIES

In vitro experiments.—Serial dilutions of the drugs were made in sterile beef infusion broth. To each 5 cc. of broth containing the various amounts of drug approximately 5,000 living cholera vibrios were added. The tubes were incubated 24 hours at 37° C. and then held at room temperature (22°–25° C.) and observed for 7 days.

The *in vitro* effects of 5 different drugs of the sulfonamide group on the cholera vibrio were studied. Sulfanilamide, sulfathiazole, and sulfadiazine inhibited the growth of this organism (table 1) whereas sulfaguanidine and succinyl sulfathiazole did not prevent growth in the concentrations used.

TABLE 1.— *The inhibition of growth of Vibrio cholerae (strain No. 35) by sulfonamide drugs, in vitro* [1]

Drug	Duration of inhibitory effect [2] and concentration of drug					
	1:1000	1:2000	1:4000	1:8000	1:16000	Control no drug
Sulfathiazole	7 days	6 days	3 days	1 day	None	None.
Sulfadiazine	5 days	1 day	None	None	do	Do.
Sulfanilamide	2 days	None	do	do	do	Do.
Sulfaguanidine	None	do	do	do	do	Do.
Succinyl sulfathiazole	do	do	do	do	do	Do.

[1] Each tube inoculated with approximately 5,000 vibrios.
[2] All tubes were observed for 7 days.

Sulfathiazole in a 1:8000 concentration inhibited growth for 24 hours but the inhibitory effect of this and lower dilutions of the drug was overcome in the succeeding days. However, at the end of 7 days this drug in a 1:1000 dilution still prevented growth of the vibrio.

Sulfadiazine and sulfanilamide exerted an inhibitory effect on the vibrios which persisted 5 and 2 days, respectively.

The *in vitro* effect of sulfathiazole was the same on the Inaba and Ogawa strains of *V. cholerae*, and its action on these organisms compared favorably with its inhibition of growth of *Streptococcus hemolyticus* (table 2).

TABLE 2.—*Comparison of the inhibitory action of sulfathiazole on Inaba (No. 35) and Ogawa (No. 41) strains of V. cholerae and on Streptococcus hemolyticus (strain No. 1685)*

Organism	Approximate number of organisms inoculated into tubes	Duration of inhibitory effect [1] and concentration of drug				
		1:1000	1:2000	1:4000	1:8000	Control (No drug)
V. cholerae No. 35	5,000	7 days	3 days	1 day	None	None.
V. cholerae No. 41	5,000	do	do	do	do	Do.
Streptococcus hemolyticus No. 1685	10,000	5 days	do	3 days	do	Do.

[1] All tubes were observed for 7 days.

In vivo experiments.—The enhancement of the mouse killing capacity of *V. cholerae* in the presence of mucin has been described (*4*). The intraperitoneal injection of relatively small numbers of vibrios suspended in 5-percent mucin results in the death of mice within 24 to 48 hours. This method has been used to examine the action of the sulfonamide drugs on experimentally infected mice. This infection of mice is characterized by a massive bacteremia and is not, as in man, limited to the intestinal tract. Since mice succumb to the infection within 2 days, it is not possible to delay treatment longer than a few hours.

Test animals.—White Swiss mice of a closely inbred strain, approximately 5 weeks old and weighing 12 to 14 gm, were used.

Infecting organisms.—Cholera strains No. 35 (Inaba) and No. 41 (Ogawa) were used as test organisms. Approximately 50,000 vibrios (10^{-4} dilution of a suspension of vibrios in saline having a turbidity equal to 500 parts per million of silica standard) of strain No. 35 when suspended in mucin are sufficient to kill 70 percent of mice injected intraperitoneally, while ten times this number of vibrios kills 90 to 100 percent of mice. Five thousand organisms of strain No. 41 in mucin when injected intraperitoneally kill 70 to 80 percent of mice while ten times this number kills 90 to 100 percent of the animals injected.

The test doses were prepared by serial dilutions of saline suspensions of vibrios grown 5 hours at 37° C. on beef infusion agar slants. The final dilution, i. e., the dose to be inoculated, was made in 5-percent mucin suspension. The number of organisms injected was estimated

by pour plate colony counts on 1 cc. quantities of the 10^{-7} dilution of the original suspension.

Administration of drugs.—Drugs given subcutaneously were suspended in distilled water, while intragastric doses were prepared in 5-percent acacia and injected into the stomach of the mouse with a blunt 20-gage hypodermic needle. The dosages of the drugs were contained in 0.25 cc. and were given one-half to one hour after the infecting dose had been injected.

Period of observation.—The mice were observed for 7 days following the injection of the test doses. Alternate mice dying in the control groups were examined and the presence of cholera peritonitis was confirmed by finding many vibrios in Gram stained smears of the peritoneal fluid. In the treated groups, cholera vibrios were found in smears from the peritoneal cavity of each mouse dying within 48 hours but in those dying later, vibrios were not found.

Results.—Mice were given approximately 500,000 living vibrios in mucin by intraperitoneal injection as the challenge dose. Ninety percent of the control animals died within 24 hours while of those given a single injection of sulfathiazole or sulfadiazine 80 to 90 percent survived for 24 hours, and 50 percent survived the 7-day test period (table 3). Succinyl sulfathiazole given subcutaneously showed no beneficial effect.

TABLE 3.—*The effect of a single subcutaneous injection of drugs on infections in mice with V. cholerae* [1]

Drug	Dose of drug	Number of mice	Distribution of deaths by days							Number surviving 7 days	Percent surviving
			1	2	3	4	5	6	7		
Sulfathiazole	10 mg	48	9	7	1	5	0	1	1	24	50
Sulfadiazine	10 mg	46	4	10	4	4	1	0	0	23	50
Succinyl sulfathiazole	10 mg	39	28	4	2	1	1	0	0	3	7.7
Normal saline	0.25 cc	40	37	2	0	0	0	0	0	1	2.5

[1] Each mouse was injected intraperitoneally with approximately 500,000 vibrios, strain No. 35, in mucin, one-half to one hour prior to the injection of drugs.

Sulfathiazole acted favorably on mice infected with either Inaba or Ogawa strains of cholera vibrio (table 4). As shown in this table, the effect of injecting this drug into mice, previously inoculated with cholera organisms, depended on the number of vibrios contained in the infecting dose. The number of survivors was greatest in the groups given only 5,000 organisms while fewer survived doses containing ten to one thousand times this number of vibrios.

Drugs of the sulfonamide groups when administered by stomach tube were effective against cholera infections in mice (table 5). Succinyl sulfathiazole and sulfaguanidine protected mice as well as sulfathiazole when given intragastrically, although neither inhibited growth of the vibrio *in vitro*.

TABLE 4.—*The effect of a single subcutaneous injection of 10 mg. of sulfathiazole in mice previously injected with various numbers of V. cholerae (strain Nos. 35 and 41) in mucin*

Strain	Approximate number of vibrios injected intraperitoneally	Test group[1]			Control group[2]		
		Number of mice	Number surviving 7 days	Percent surviving	Number of mice	Number surviving 7 days	Percent surviving
Inaba 35	5,000,000	10	5	50			
	500,000	10	8	80	10	0	0
	50,000	10	10	100	10	3	30
	5,000	10	9	90	10	5	50
Ogawa 41	500,000	10	2	20	10	0	0
	50,000	10	7	70	10	1	10
	5,000	10	9	90	10	3	30

[1] Each mouse received 10 mg. of sulfathiazole suspended in 0.25 cc. of distilled water, one-half to one hour after the infecting dose was given.
[2] Each mouse received 0.25 cc. of normal saline subcutaneously as a control injection.

TABLE 5.—*The effect of drugs, given intragastrically, on* V. cholerae *infections in mice*[1]

Drug	Dose of drug	Number of mice	Distribution of deaths by days							Total surviving 7 days	Percent surviving
			1	2	3	4	5	6	7		
Sulfathiazole	20 mg., then 5 mg. b.i.d. for 4 days.	20	3	3	0	0	0	0	0	14	70
Sulfadiazine	do	10	3	1	0	0	0	0	0	6	60
Sulfaguanidine	do	10	3	0	0	0	0	0	0	7	70
Succinyl sulfathiazole	do	10	3	0	0	0	0	0	0	7	70
Normal saline	0.25 cc	20	16	2	0	0	0	0	0	2	10

[1] Each mouse was injected intraperitoneally with approximately 500,000 vibrios, strain No. 35, in mucin, one-half to one hour prior to the administration of the drug.

SUMMARY

1. Sulfathiazole, sulfadiazine, and sulfanilamide inhibited the growth of *V. cholera, in vitro.*

2. Sulfathiazole and sulfadiazine, given subcutaneously or intragastrically, were effective in the treatment of mice previously inoculated with lethal doses of cholera vibrios in mucin.

3. Succinyl sulfathiazole and sulfaguanidine given intragastrically were effective in the treatment of mice experimentally infected with *V. cholerae.*

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MORBIDITY AND MORTALITY DURING 1941 AND RECENT PRECEDING YEARS

MORBIDITY

The following data concerning the prevalence of eight communicable diseases are based on reports submitted by the health officers of the several States and the District of Columbia (table 1). Although cases of each of these diseases are reportable by law, there is considerable variability in the completeness of the reports. The number of cases reported is somewhat smaller than the number of cases which occur during any given year, but it is believed that the reports are sufficiently accurate to reveal any unusual prevalence arising from an epidemic.

Diseases above the median prevalence.—The number of reported cases of influenza was 2.3 times greater than the median number for the 5-year period 1936–40 and 1.6 times greater than the number reported during 1940 (fig. 1). The epidemic started in November 1940 in Arizona and California and spread rapidly eastward across the southern part of the country. The peak was reached around the middle of January 1941; the number of cases reported for that month was the largest since 1929. Although some increase in the number of cases of influenza occurred in the North Central and Northeastern States, the epidemic was most severe in the Western and Southern States. Fortunately the cases were very mild so that the death rate increased only 8.6 percent compared with the rate for 1940.

TABLE 1.—*Number of reported cases of certain communicable diseases in the United States in 1940 and 1941 and the median number of cases reported, 1936–40*

Disease	1941		1940		Median 1936–40	
	Cases	Number of States reporting [1]	Cases	Number of States reporting [1]	Cases	Number of States reporting [1]
Diphtheria	18,061	48	15,536	48	28,536	48
Influenza [2]	681,969	45	429,837	45	298,384	45
Measles	891,652	48	291,162	48	321,510	48
Meningitis, meningococcus	2,021	48	1,665	48	2,934	48
Poliomyelitis	9,057	48	9,826	48	7,343	48
Scarlet fever	128,490	48	155,464	48	189,631	48
Smallpox	1,374	48	2,795	48	9,877	48
Typhoid and paratyphoid fever	8,562	48	9,809	48	14,903	48

[1] The District of Columbia is included but not counted as a State.
[2] Massachusetts, New York, and Pennsylvania are not included.

Figures for 1941 are preliminary.

Measles was even more prevalent than influenza during 1941. The number of reported cases was 2.8 times greater than the median number for 1936–40 and 3.1 times the number reported in 1940. The epidemic started in November 1940, spread slowly until about the

middle of January 1941, after which the number of cases increased rapidly until the peak of the epidemic was reached during the first

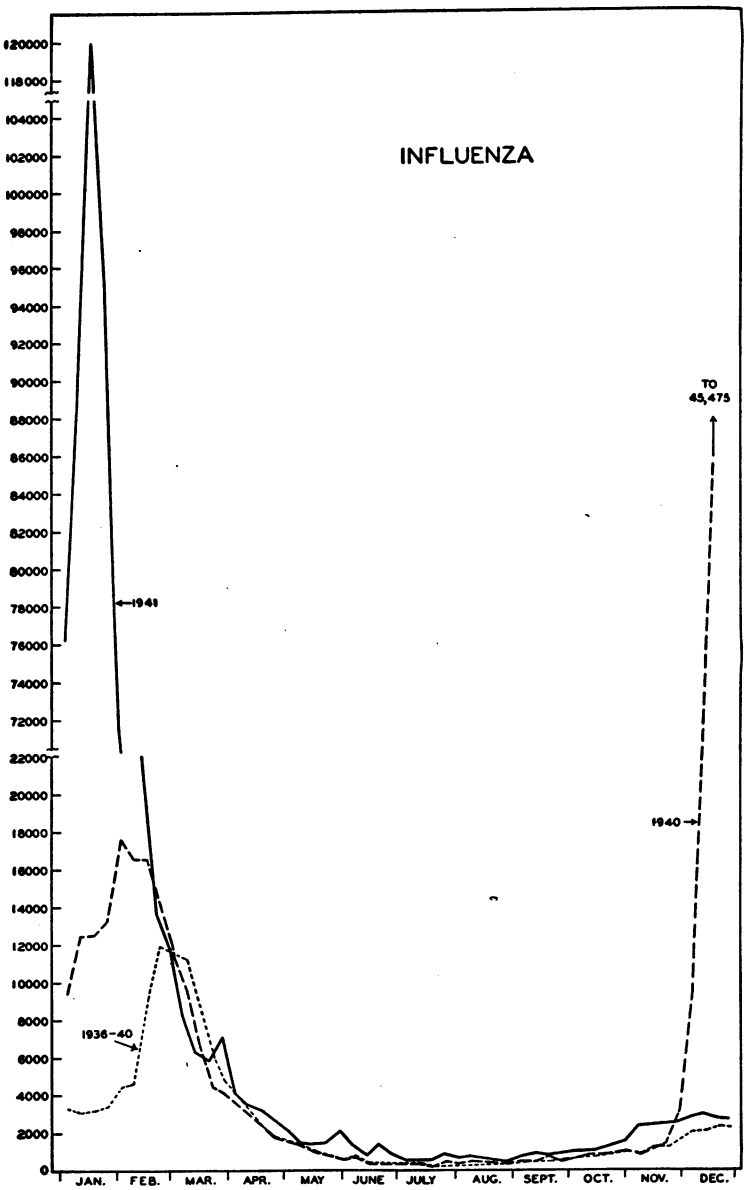

FIGURE 1.—Number of reported cases of influenza by weeks for 1941, 1940, and the median number for 1936–1940.

part of April 1941. At the peak of the epidemic from March 22 to April 19, the number of reported cases was the largest on record for that period; the epidemic was especially severe in the Middle Atlantic,

East North Central, South Atlantic, and East South Central regions; only the New England and Pacific Coast States escaped.

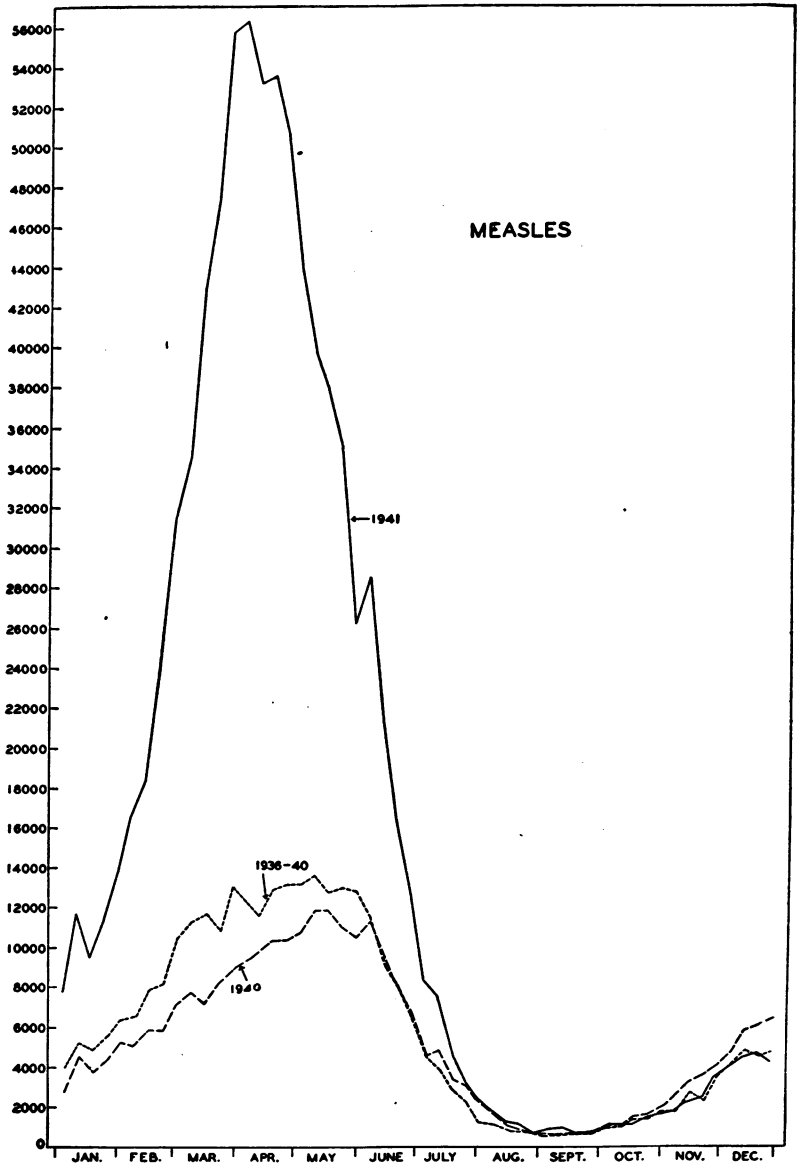

FIGURE 2.—Number of reported cases of measles by weeks for 1941, 1940, and the median number for 1936–1940.

The only other communicable disease more prevalent than normal during 1941 was poliomyelitis. Although the number of reported cases exceeded the median number for 1936–40 by about 23 percent it was nearly 8 percent less than the number reported in 1940. The

outbreak was confined mostly to the Atlantic coast and East South Central States; in the remainder of the country the prevalence was well below the average seasonal number of cases.

Diseases below the median prevalence.—The numbers of reported cases of diphtheria, meningococcus meningitis, scarlet fever, smallpox, typhoid and paratyphoid fever were all less than the respective median number for the previous 5-year period, although diphtheria and meningitis were more prevalent than during 1940. The decline in the number of reported cases of smallpox was especially noteworthy, the number of reported cases being only 14 percent of the median for the previous 5 years.

MORTALITY

The annual mortality rates in table 2 are based on preliminary data for 31 States and the District of Columbia. In addition comparative mortality rates by quarters for the past 3 years are shown in table 3. Death rates for 1941 for 34 States, the District of Columbia, Alaska, and Hawaii are presented in table 4.

This report is made possible through a cooperative arrangement with the respective States which voluntarily furnish provisional tabulations of current birth and death records to the United States Public Health Service which provides for the publication of the data. Because of lack of uniformity in the method of classifying deaths according to cause, and the impossibility of including a certain number of delayed certificates, these data are preliminary and may differ in some instances from the final figures subsequently published by the Bureau of the Census.

Data for preceding years from the same source, collected and tabulated in the same way as the current data, are included for comparative purposes. These figures 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.

In the past these preliminary reports have provided an early accurate index of the trend of mortality for the country as a whole. Some deviation from the final figures for individual States may be expected because of the provisional nature of the reports. It is believed, however, that the trend of mortality within each State is correctly represented. Comparisons of specific causes of death among the States are subject to some error because of differences in tabulation procedure and completeness of reporting. Such comparisons should be made from final figures published by the Bureau of the Census.

Preliminary reports indicate that the death rate from all causes was about 2 percent less in 1941 than in 1940 and also was slightly less than the lowest previous death rate, that for 1938 and 1939. The decrease in the mortality rate was widespread since only 6 of the 34

States for which data are available reported a higher rate in 1941 than in 1940.

Diseases with lower death rates.—With the exception of influenza, cancer, and accidents, the death rate from each of the important causes of death was lower in 1941 than in 1940. For the following causes the rate in 1941 was the lowest for the past 5 years; typhoid fever, scarlet fever, diphtheria, tuberculosis, malaria, pellagra, pneumonia, diseases of the digestive system, and diseases of pregnancy and childbirth.

The maternal mortality rate declined for the twelfth consecutive year; the rate for 1941, 3.0 per 1,000 live births, was only two-thirds of the corresponding rate in 1937. Rivaling the percentage decrease

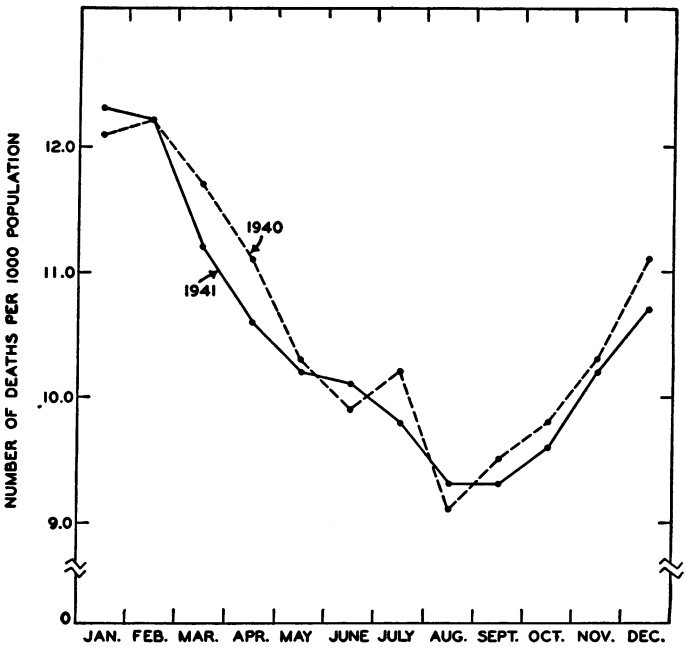

FIGURE 3.—Death rates per 1,000 population, by months, 1941 and 1940.

in the maternal mortality rate has been the decline in the death rate from pneumonia which reached a low of 46.6 per 100,000 population in 1941. This is the lowest death rate from pneumonia on record in this country and represents a decline of 45 percent since 1937. Only 2 of the 34 States reported a higher rate in 1941 than in 1940.

The infant mortality rate showed no change during the past year; in fact, there has been practically no change in this rate since 1939. The present rate, 45 per 1,000 live births, is still far above that which it is possible to achieve with present knowledge. It is possible that the slowing up in the decline in the infant mortality rate may be

caused in part by an improvement in the completeness of registration of infant deaths.

The death rate from tuberculosis continued its decline so that the 1941 rate was about 2 percent less than that for 1940. It will require special efforts to prevent this disease from increasing its toll in the next few years for tuberculosis death rates increase almost universally during a war. In England and Wales the number of deaths from respiratory tuberculosis had increased 10 percent by the middle of 1941 if the period from July 1938 to July 1939 is taken as a base. The number of deaths from nonrespiratory tuberculosis increased about 18 percent during the same period.

Diseases with higher death rates.—The death rates from influenza and measles were both higher in 1941 than in 1940 due primarily to epidemics of these diseases. Fortunately the epidemic of influenza, although widespread, was unusually nonfatal so that the death rate increased only 8.6 percent and was only about one-half the rate in 1937.

The death rate from cancer increased from 120 to 121 per 100,000 population.

TABLE 2.—*Summary of mortality trends from certain causes in a group of 32 States, 1937–41* [1] *(estimated population July 1, 1941, 88,071,800)*

[Rates provisional for all years]

Diseases (numbers in parentheses are from the International List of Causes of Death, revised February 1940 for 1938 International List)	1941	1940	1939	1938	1937
	Rate per 1,000 population				
Deaths, all causes	10.4	10.6	10.5	10.5	11.1
Births, exclusive of stillbirths	18.2	17.4	17.0	17.4	16.9
	Rate per 1,000 live births				
Infant mortality (live births, 1941, 1,604,850)	45	45	46	49	52
Maternal mortality	3.0	3.5	3.8	4.1	4.5
	Rate per 100,000 population				
Typhoid and paratyphoid fever (1, 2)	.6	.8	1.1	1.3	1.6
Cerebrospinal (meningococcus) meningitis (6)	.5	.5	.5	.8	1.6
Scarlet fever (8)	.4	.5	.7	.9	1.4
Whooping cough (9)	2.5	1.9	2.1	3.2	3.4
Diphtheria (10)	.7	.9	1.3	1.7	1.8
Tuberculosis, all forms (13–22)	42.2	43.0	44.4	45.9	50.3
Malaria (28)	.5	.7	.8	1.0	1.2
Influenza (grippe) (33)	15.1	13.9	16.2	11.5	27.4
Measles (35)	1.6	.3	.7	2.3	.9
Acute poliomyelitis and acute polioencephalitis (36)	.6	.7	.5	.3	.8
Acute infectious encephalitis (lethargic) (37)	.7	.6	.5	.6	.6
Cancer and other malignant tumors (45–55)	121.2	120.3	117.2	115.3	112.0
Diabetes mellitus (61)	26.6	27.3	26.5	24.8	24.7
Pellagra (except alcoholic) (69)	1.1	1.2	1.5	1.9	2.0
Cerebral hemorrhage, embolism, and thrombosis (83a, b)	90.1	92.7	88.7	85.9	87.6
Diseases of the heart (90–96)	295.4	297.5	285.1	271.0	268.1
Pneumonia, all forms (107–109)	46.6	58.2	58.6	65.7	84.2
Diseases of the digestive system (115–129)	53.5	54.6	58.0	61.9	64.1
Diarrhea and enteritis under 2 years (119)	7.4	5.8	7.0	9.6	9.4
Nephritis, all forms (130–132)	72.2	77.2	71.6	74.6	77.1
All accidents, including automobile accidents (169–195)	72.7	69.2	69.0	68.8	78.3
Automobile accidents only (170a, b, c)	27.5	23.7	22.3	22.5	27.0

[1] The States included are all of those except Rhode Island and South Dakota listed in tables 4 and 5. The District of Columbia is counted as a State.

As was anticipated, the death rate from automobile accidents increased sharply during 1941, the rate, 27.5 per 100,000 population, being 16 percent higher than the rate for the previous year. This increase nullifies the decrease in the relative number of fatal automobile accidents which had occurred during the past few years. The death rate from all other forms of accidents decreased slightly during the past year.

BIRTH RATE

The birth rate increased nearly 5 percent during 1941 and is now the highest it has been since 1929. The increase is due almost entirely to an increase in first and second births and cannot be expected to continue.

TABLE 3.—*Trends of mortality from certain causes in each quarter of 1941, 1940, and 1939 in the 32 [1] States with available data (estimated population July 1, 1941, 88,071, 800)*

State and 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)	Cerebrospinal (meningococcus) meningitis (6)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Tuberculosis, all forms (13–22)	Influenza (grippe) (33)	Measles (35)	Acute poliomyelitis and polioencephalitis (36)	Acute infectious encephalitis (lethargic) (37)	Cancer, all forms (45–55)	Diabetes mellitus (61)	Cerebral hemorrhage, embolism, and thrombosis (83a, b)	Diseases of the heart (90–96)	Pneumonia, all forms (107–109)	Diseases of the digestive system (115–129)	Diarrhea and enteritis, under 2 years (119)	Nephritis, all forms (130–132)	All accidents, including automobile accidents (160–196)	Automobile accidents (170a, b, c)
January–December:																								
1941	10.4	18.2	45	3.0	0.6	0.5	0.4	2.5	0.7	42.2	15.1	1.6	0.6	0.7	121.2	26.6	90.1	295.4	46.6	53.5	7.4	72.2	72.7	27.5
1940	10.6	17.4	45	3.5	.8	.5	.5	1.9	.9	43.0	13.9	.3	.7	.6	120.3	27.3	92.7	297.5	53.2	54.6	5.8	77.2	69.2	23.7
1939	10.5	17.0	46	3.8	1.1	.5	.7	2.1	1.3	44.4	16.2	.7	.5	.5	117.2	26.5	88.7	285.1	58.6	58.0	7.0	71.6	69.0	22.3
January–March:																								
1941	11.9	17.2	52	3.1	.3	.7	.5	2.9	.7	45.5	43.6	1.6	.3	.5	120.6	31.7	100.8	346.3	81.0	49.6	3.2	83.3	66.8	22.9
1940	12.0	16.2	52	4.1	.4	.7	.8	1.7	1.2	45.2	32.1	.5	.2	.5	121.7	32.1	104.7	341.7	86.3	52.7	3.3	87.5	65.4	18.9
1939	11.8	16.4	54	4.2	.6	.7	1.1	2.3	1.5	46.1	33.7	1.3	.1	.6	117.9	30.8	98.3	326.3	106.0	55.1	4.3	81.9	63.5	18.0
April–June:																								
1941	10.3	17.6	44	3.3	.5	.5	.4	2.9	.3	45.5	8.6	3.8	.2	.5	120.9	26.8	89.9	292.6	40.5	50.9	4.7	74.6	68.9	23.9
1940	10.5	17.0	44	3.9	.6	.5	.5	1.9	.5	46.2	11.0	.5	.2	.7	119.4	26.4	91.4	296.8	47.7	52.5	4.6	78.8	64.4	20.5
1939	10.4	16.5	46	4.0	.8	.5	.7	2.3	.6	47.3	17.1	1.2	.2	.4	116.7	26.2	87.5	280.5	51.8	57.1	6.2	72.9	65.3	18.8
July–September:																								
1941	9.5	19.8	39	3.0	1.0	.4	.2	2.5	.5	39.2	2.5	.7	1.2	1.2	121.1	22.6	80.2	252.1	24.6	61.4	13.3	62.4	78.0	29.5
1940	9.6	18.5	39	3.3	1.4	.3	.3	1.8	.5	41.4	3.1	.2	1.5	.6	120.0	23.7	84.0	257.3	27.7	61.7	9.2	68.4	74.4	24.9
1939	9.3	17.8	41	3.5	1.9	.4	.3	2.0	.8	41.4	3.5	.2	.8	.5	114.9	22.3	77.6	241.8	25.8	64.6	11.3	62.0	72.4	23.7
October–December:																								
1941	10.2	18.3	44	2.7	.7	.5	.4	1.8	1.4	38.6	6.3	.4	.7	.5	122.1	25.3	89.7	291.5	41.0	52.1	8.2	70.0	76.9	33.4
1940	10.5	17.8	46	2.9	.7	.4	.4	2.2	1.3	39.2	9.7	.1	.9	.5	120.2	27.2	90.8	294.8	51.5	51.2	6.1	74.2	72.5	30.3
1939	10.5	17.0	46	3.5	1.1	.4	.6	1.7	2.3	42.5	10.6	.2	.7	.4	119.5	26.7	91.5	292.7	51.7	55.1	6.3	69.8	74.5	28.7
Metropolitan Life Insurance Co., industrial policyholders [2] (January–December):																								
1941	7.4	------	-----	-----	.5	------	.4	1.3	.7	42.8	7.8	.8	-----	------	104.8	27.4	60.6	[3]156.1	30.5	------	5.0	[4]51.9	50.1	20.8
1940	7.6	------	-----	-----	.7	------	.6	1.2	.8	44.6	7.9	.3	-----	------	104.4	29.8	61.0	[3]159.5	35.5	------	4.6	[4]57.3	46.5	18.2
1939	7.6	------	-----	-----	.7	------	.7	1.6	1.3	45.2	9.9	.6	-----	------	101.7	27.7	59.7	[3]161.0	42.8	------	5.4	[4]51.8	46.2	18.3

[1] The States included are all of those except Rhode Island, South Dakota, and Illinois listed in tables 4 and 5. The District of Columbia is counted as a State.

[2] These data are taken from the Statistical Bulletin published by the Metropolitan Life Insurance Co. The figures are subject to correction, since they are based on provisional estimates of lives exposed to risk. Data do not include all diseases reported to the Public Health Service.

[3] Excludes pericarditis, acute endocarditis, and acute myocarditis.

[4] Chronic nephritis only.

TABLE 4.—*Trend of death rates from all causes, of birth rates, and of infant and maternal mortality rates, 1937–41*

[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)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	10.1	10.2	10.2	10.7	11.2	22.4	22.3	22.3	22.5	22.2	60	62	60	61	63	5.2	6.1	5.8	6.2	5.9
Connecticut	9.2	9.5	10.0	10.3	10.5	13.6	11.8	12.5	13.8	13.3	32	38	38	36	41	2.4	3.5	2.9	2.7	2.9
Delaware	11.8	12.1	11.8	12.0	13.9	18.1	16.5	16.3	16.7	16.6	43	51	44	51	66	2.2	5.0	4.7	5.7	4.4
District of Columbia	13.0	13.0	12.7	12.6	14.2	27.1	22.8	21.5	20.6	20.0	50	47	47	48	61	2.6	2.8	4.7	5.4	5.3
Florida	11.7	11.9	11.4	11.6	12.6	18.5	17.2	17.0	16.9	17.7	54	54	57	58	60	6.4	6.3	6.4	7.3	6.8
Georgia	9.7	10.0	9.7	10.5	10.9	20.8	20.2	19.9	20.2	20.1	59	58	59	68	63	4.4	5.2	5.5	6.6	7.4
Idaho	8.4	9.3	9.2	9.0	9.6	22.4	22.4	21.9	22.3	21.2	34	41	45	45	45	2.3	3.2	2.5	3.7	3.9
Illinois	9.4	11.2	11.0	10.8	11.2	16.9	15.6	15.0	15.5	14.8	34	35	38	41	43	2.5	2.9	3.0	3.3	3.8
Indiana	10.9	11.3	11.1	10.9	11.6	17.5	16.9	15.6	16.2	15.0	39	39	41	45	52	2.8	2.7	3.9	3.8	3.7
Iowa	9.4	9.8	9.9	9.6	9.9	16.4	17.9	17.0	16.7	16.9	38	34	39	38	41	2.6	3.1	2.6	3.1	4.0
Kansas	10.2	10.2	10.3	10.2	10.5	17.0	15.9	16.0	16.3	16.0	37	38	39	43	45	2.4	3.6	3.4	4.0	4.1
Kentucky	10.3	10.3	10.4	9.8	10.8	21.2	21.7	20.8	24.6	22.1	58	46	54	49	50	4.0	3.8	4.4	3.8	3.8
Maine	12.4	12.4	12.8	12.3	13.6	18.2	17.5	17.6	18.2	18.6	51	54	51	49	61	2.6	4.2	4.2	4.2	5.4
Maryland	11.9	12.1	11.5	11.7	12.5	18.8	16.7	15.7	16.4	15.6	55	49	50	55	62	2.2	2.7	3.3	3.4	4.1
Massachusetts	11.9	11.8	11.6	11.2	11.6	(1)	15.3	14.7	13.8	13.9	(1)	38	39	40	44	(1)	2.5	3.5	3.9	4.6
Michigan	9.8	9.9	10.1	10.0	10.8	19.8	18.8	18.3	19.1	18.5	39	41	42	45	48	2.7	2.9	2.9	3.5	3.6
Montana	10.0	10.2	10.6	10.2	10.9	20.4	20.4	19.4	19.2	18.5	37	46	50	43	49	1.7	3.5	3.2	3.7	3.4
Nebraska	9.2	9.5	9.1	9.0	9.8	16.7	16.5	16.5	16.5	16.3	34	36	34	36	42	2.3	3.2	3.4	3.4	3.9
Nevada	11.5	11.9	11.3	11.7	12.2	18.2	18.6	17.3	17.2	15.2	41	50	44	45	44	2.9	4.9	4.2	1.6	6.9
New Jersey	10.9	10.8	10.5	10.5	10.7	15.7	14.1	13.6	13.6	13.2	36	36	38	39	39	2.7	2.8	2.9	3.5	3.4
New Mexico	10.3	10.5	10.9	11.0	12.8	26.6	29.8	30.0	29.0	27.6	97	93	96	99	124	3.9	4.4	4.3	4.6	5.0
New York	10.8	11.1	11.1	11.0	11.6	15.5	14.6	14.1	14.2	14.0	33	37	39	40	45	2.3	2.9	3.0	3.8	3.9
North Carolina	8.9	9.0	9.0	9.7	9.9	23.5	23.0	22.7	23.0	23.3	59	56	58	68	65	4.1	5.3	4.8	5.6	5.4
North Dakota	8.1	7.9	8.4	7.9	8.6	21.0	20.9	20.8	20.2	20.0	39	41	48	48	53	1.8	1.6	2.3	2.2	4.8
Ohio	11.2	11.3	11.2	10.9	11.7	17.5	16.3	15.6	16.4	15.6	41	39	45	42	50	2.5	3.3	3.6	3.7	4.6
Oklahoma	8.6	8.7	8.9	8.5	9.2	19.3	19.0	18.8	19.2	17.6	49	50	52	43	59	3.0	3.5	4.2	4.0	6.9
Pennsylvania	10.7	10.9	10.7	10.8	11.5	17.8	16.3	16.3	16.8	16.4	39	44	44	46	50	2.2	2.5	3.2	3.5	4.0
Rhode Island	10.9	11.2	11.0	11.8	12.0	16.0	15.1	14.7	15.0	14.7	36	38	40	44	50	2.1	2.4	3.2	2.5	3.4
South Dakota	8.8	8.7	8.9	7.4	9.3	18.9	19.0	18.0	18.0	17.6	41	39	41	45	52	2.2	3.7	3.0	3.5	4.2
Tennessee	9.7	10.0	9.7	10.0	10.5	19.5	18.2	17.6	17.9	18.0	56	55	54	64	60	3.8	4.8	5.5	5.6	6.2
Utah	8.2	8.9	8.5	8.8	9.1	24.4	24.4	23.1	24.3	23.1	30	40	37	45	41	1.7	2.4	2.8	3.2	3.3
Vermont	11.4	11.6	11.7	11.6	12.2	18.0	18.4	15.9	15.7	17.6	40	36	36	43	45	2.2	3.8	3.3	3.0	4.9
Virginia	11.2	11.0	10.7	10.9	11.1	21.1	20.1	19.4	19.8	19.4	68	60	62	69	64	4.0	4.4	4.9	5.1	5.0
Wisconsin	9.6	10.0	9.9	9.8	10.4	17.4	17.3	17.2	17.4	17.0	36	37	40	42	44	2.5	2.6	2.8	2.9	3.5
Wyoming	8.6	8.5	8.9	9.0	10.2	20.1	19.9	19.7	19.5	18.9	45	47	45	53	53	2.3	4.4	3.5	3.5	3.5
Alaska	18.2	17.4	16.5	17.8	16.6	26.6	23.7	21.2	25.9	19.1	96	110	121	78	131	5.0	2.3	3.3	.5	4.5
Hawaii	7.4	7.3	7.5	7.9	8.8	23.5	22.6	21.7	22.1	22.4	41	44	54	59	69	2.5	2.2	3.5	3.8	4.7

[1] Data not available.

TABLE 5.—*Trends of death rates for various causes per 100,000 population, 1937–41*

[Rates provisional for all years]

State	Typhoid and paratyphoid fever (1, 2)					Cerebrospinal (meningococcus) meningitis (6)					Scarlet fever (8)					Whooping cough (9)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	0.8	1.6	1.7	2.1	2.0	0.7	0.8	.08	2.2	4.1	0.5	0.5	0.5	0.6	0.4	4.7	4.2	5.9	6.0	6.8
Connecticut	.3	.3	.4	.4	.4	.1	.4	.2	.2	.8	.1	(1)	.2	.2	.7	.5	.2	1.3	.7	1.4
Delaware	(1)	.7	2.6	1.5	2.3	(1)	.7	1.5	.4	1.5	.7	1.1	.4	.8	.4	2.2	2.2	3.0	5.4	6.6
District of Columbia	.7	.7	.8	1.0	2.0	.6	.7	.6	1.4	4.9	(1)	.3	.2	.5	.8	1.5	1.6	2.3	1.0	2.8
Florida	1.4	1.3	1.5	2.5	2.9	.8	.4	.5	.8	4.0	.1	.1	.3	.2	.1	1.9	1.7	3.1	3.6	3.5
Georgia	1.7	2.0	2.6	3.9	4.4	.5	.3	.5	.6	1.2	.3	.5	.5	.4	.4	4.3	3.3	4.0	7.3	4.6
Idaho	.9	1.1	3.1	2.9	1.8	.6	.9	1.7	1.8	1.0	.4	1.2	.4	1.0	1.8	3.5	1.3	1.9	2.7	3.2
Illinois	.4	.4	1.4	.8	.7	.2	.2	.2	.3	1.2	.5	.8	.9	1.7	2.0	1.1	.8	2.0	2.2	1.9
Indiana	.6	.8	1.1	.7	1.1	.5	.3	.4	.7	1.6	.7	1.2	1.4	2.0	3.0	1.4	2.2	1.8	1.3	4.7
Iowa	.2	.4	.6	.8	.9	.5	.6	.4	.6	1.0	.3	.7	.9	1.8	3.8	1.5	.9	1.7	2.6	3.4
Kansas	.3	.6	.7	.7	.9	.5	.6	.4	.3	1.4	.3	.5	.7	1.4	3.6	3.2	1.8	.4	2.8	2.5
Kentucky	2.7	2.5	4.3	4.9	5.7	1.1	1.2	1.2	2.2	3.1	.9	1.0	1.1	1.5	1.8	7.9	6.1	2.4	6.6	8.6
Maine	.4	.6	1.1	1.9	1.7	1.2	1.1	.4	.1	1.1	.1	.7	.4	(1)	.5	2.2	2.5	3.6	3.0	3.1
Maryland	.9	.6	.9	1.8	1.8	1.1	.3	.6	.7	2.5	.2	.4	.3	.5	.8	4.2	3.5	1.1	2.9	5.5
Massachusetts	.1	.2	.3	.3	.3	.6	.3	.4	.6	1.5	.3	.3	.3	.6	.9	1.0	.5	1.0	.8	2.2
Michigan	.2	.2	.6	.6	.6	.2	.2	.3	.4	.8	.6	.8	1.3	1.7	3.0	1.6	1.2	1.5	2.3	2.7
Montana	.4	.7	2.2	.9	2.0	.7	1.2	.9	1.8	1.3	1.4	1.6	1.6	1.8	2.0	1.1	.9	2.9	8.6	2.5
Nebraska	.4	.4	.4	.5	1.1	.5	.3	.2	.4	1.1	.3	.9	1.0	1.1	2.6	2.4	.8	1.0	2.6	2.1
Nevada	2.7	.9	.9	2.8	(1)	(1)	.9	.9	(1)	1.0	(1)	(1)	(1)	(1)	1.9	3.5	2.7	(1)	2.8	1.9
New Jersey	.2	.3	.4	.4	.7	.3	.1	.5	.5	1.1	.2	.4	.5	.3	.4	.9	.6	1.1	1.3	1.2
New Mexico	1.8	3.0	3.2	4.1	5.6	.2	.6	1.0	.8	1.0	.4	.6	.4	1.0	1.4	9.7	9.5	7.1	12.3	9.6
New York	.2	.3	.3	.5	.5	.5	.4	.5	.8	1.2	.2	.3	.4	.5	.7	.7	1.0	1.0	1.3	1.3
North Carolina	.9	1.1	1.3	2.0	2.3	.4	.3	.5	.9	1.2	.3	.2	.4	.6	.5	5.5	2.5	6.4	7.6	4.9
North Dakota	.2	.6	.6	.3	.5	.2	.3	.5	1.4	2.0	.3	.8	1.1	2.8	1.8	2.4	2.2	2.0	9.7	1.5
Ohio	.5	.7	.7	.8	1.5	.2	.4	.2	.7	1.4	.4	.6	1.1	1.2	1.9	2.6	1.8	1.2	1.8	4.2
Oklahoma	1.5	2.5	3.4	4.1	5.8	.3	.9	.5	1.0	2.1	.2	.3	.7	.9	1.4	5.0	2.4	1.0	7.9	3.6
Pennsylvania	.5	.6	.6	.9	1.1	.3	.6	.6	.7	1.3	.3	.5	.6	1.2	1.5	1.5	1.3	1.5	1.7	2.7
Rhode Island	.1	1.0	.1	.4	.1	.3	.3	.6	.9	2.2	.3	(1)	(1)	.4	1.6	.6	.3	2.0	1.1	3.0
South Dakota	.3	(1)	1.2	1.2	1.1	.3	.6	.8	.3	1.1	.2	.6	1.2	1.1	3.0	4.2	.6	.9	7.8	3.2
Tennessee	1.5	2.1	3.3	3.7	4.9	1.2	.6	.7	1.7	2.5	.5	.5	.6	.7	.7	5.4	3.9	3.3	7.1	4.8
Utah	.7	.5	.4	.4	.7	.4	.5	.9	1.3	1.7	(1)	1.1	.4	.9	1.7	1.6	1.8	1.1	2.8	2.6
Vermont	.8	.8	.3	.3	1.1	.8	1.4	.6	(1)	2.5	.6	.3	1.1	.3	.3	(1)	1.7	6.7	3.1	.8
Virginia	1.1	1.0	1.8	2.1	2.0	1.5	1.2	.9	1.6	4.1	.3	.4	.3	.3	.3	7.0	4.7	5.8	7.1	8.1
Wisconsin	.2	.1	.2	.2	.4	.1	.2	.2	.3	.7	.6	.7	1.1	1.2	2.2	.9	1.1	1.4	1.8	2.0
Wyoming	1.2	.8	2.8	2.0	1.2	1.6	2.8	.8	.8	2.5	.8	.4	.4	2.4	3.7	1.6	.4	.4	13.4	4.9
Alaska	2.7	(1)	(1)	1.4	1.4	4.0	1.4	(1)	(1)	12.9	(1)	(1)	8.3	1.4	1.4	5.3	21.8	26.3	53.6	31.6
Hawaii	1.2	2.4	1.9	2.4	1.7	(1)	.5	.5	.5	.5	(1)	(1)	(1)	.2	(1)	1.6	1.9	7.2	5.4	2.5

[1] No deaths reported.

State	Diphtheria (10)					Tuberculosis, all forms (13–22)					Malaria (28)					Influenza (grippe) (33)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	2.4	2.1	2.9	3.8	3.5	51.5	52.1	55.2	57.4	63.0	4.2	7.0	7.2	7.9	8.2	34.2	32.7	34.4	26.7	52.0
Connecticut	(1)	.2	.4	.7	1.4	31.6	32.4	34.3	36.8	37.9	(1)	(1)	(1)	(1)	(1)	4.8	4.4	4.7	4.5	12.2
Delaware	.4	(1)	.8	.8	.4	54.4	46.8	57.1	50.1	56.1	(1)	(1)	(1)	(1)	(1)	11.8	10.5	12.9	10.7	22.8
District of Columbia	.3	.4	.8	1.1	2.3	66.6	64.0	66.1	71.7	90.4	.1	.1	.2	(1)	(1)	4.9	6.9	9.2	5.2	16.0
Florida	1.1	1.4	1.9	1.9	3.2	45.7	50.0	49.4	54.5	57.5	4.3	5.2	6.1	8.9	12.2	26.6	28.8	27.7	20.7	39.5
Georgia	1.6	1.8	2.9	3.3	3.4	41.4	47.2	46.4	50.4	49.7	2.3	2.8	3.1	4.9	7.0	31.7	28.7	29.1	24.9	44.9
Idaho	.2	.2	.8	.6	1.2	15.7	17.8	18.7	19.4	20.3	(1)	.8	.2	(1)	(1)	12.0	17.8	17.5	16.3	38.8
Illinois	.7	1.1	1.5	1.5	2.0	43.7	46.2	45.8	47.0	51.1	.1	.2	.4	.4	.5	6.4	8.1	12.3	5.6	17.1
Indiana	.7	1.0	1.6	2.4	1.6	36.3	37.6	41.4	39.4	46.8	(1)	.3	.2	.3	.6	19.8	21.9	26.0	12.7	33.3
Iowa	.3	.5	.6	1.0	.4	13.6	16.0	17.4	18.3	20.5	(1)	(1)	(2)	(2)	.1	13.3	15.9	23.7	12.6	32.7
Kansas	.5	.7	.4	1.0	1.3	22.5	24.7	23.5	23.6	27.2	.2	.3	.1	.2	.2	23.0	18.4	18.9	15.8	34.8
Kentucky	1.9	1.8	3.2	4.0	4.9	66.3	66.4	70.3	69.7	72.4	.6	.6	1.1	1.1	1.4	35.6	28.2	33.8	25.5	50.7
Maine	.4	.7	2.1	2.0	.6	29.3	29.5	35.1	30.2	32.4	(1)	.1	(1)	(1)	(1)	18.0	12.6	20.2	15.3	28.6
Maryland	.4	.4	1.1	1.0	1.2	74.0	78.6	72.1	74.4	79.3	(1)	(1)	(1)	.2	.1	9.8	8.4	9.7	7.4	16.5
Massachusetts	.3	.2	.3	.4	.4	38.6	37.4	37.1	38.1	42.1	(2)	(2)	(2)	(2)	(2)	6.6	3.4	5.4	3.6	9.7
Michigan	.4	.4	.5	.9	1.4	32.0	33.3	36.5	37.0	42.9	.1	(1)	(2)	(1)	.1	8.1	5.1	14.5	6.3	17.3
Montana	2.5	1.1	1.6	1.6	1.4	35.7	40.2	42.7	42.5	42.5	(1)	(1)	(1)	(1)	(1)	16.2	13.7	23.3	19.1	54.1
Nebraska	.3	.8	1.0	1.2	1.1	15.4	17.0	16.5	16.4	19.5	(1)	(1)	(1)	(1)	(1)	23.1	19.9	17.1	11.3	42.2
Nevada	(1)	.9	(1)	2.8	(1)	47.9	67.7	52.4	58.1	82.1	(1)	(1)	(1)	(1)	(1)	6.2	11.7	6.4	.9	8.6
New Jersey	.2	.6	.6	.8	.7	43.0	42.8	43.2	46.2	48.8	(1)	(1)	(2)	(1)	(1)	5.3	4.2	5.8	4.8	10.5
New Mexico	1.6	1.3	2.9	3.3	3.6	64.3	70.7	72.6	76.7	106.3	1.5	.7	.8	.2	(1)	14.7	13.7	19.9	10.7	32.7
New York	.1	.1	.2	.3	.6	45.5	46.2	47.9	48.8	56.0	(2)	.1	.2	.3	.2	4.0	3.1	4.1	3.5	9.9
North Carolina	2.5	3.3	4.9	5.1	4.8	48.8	49.7	51.0	53.6	54.6	.9	1.8	1.7	2.2	2.7	24.9	21.1	17.9	14.2	25.4
North Dakota	.9	1.4	2.0	.9	1.7	18.5	20.0	21.9	21.6	28.1	(1)	(1)	(1)	(1)	(1)	11.0	9.3	17.5	11.7	29.8
Ohio	.4	.4	.9	1.3	1.6	42.1	39.9	42.6	45.1	48.7	.1	.1	(2)	(2)	(1)	14.4	14.7	18.7	11.1	29.7
Oklahoma	2.9	3.2	3.3	5.2	4.1	45.1	47.6	45.7	48.9	52.4	2.2	1.0	2.2	3.5	3.6	23.9	24.4	21.9	17.2	43.5
Pennsylvania	.2	.4	.7	1.0	1.0	38.1	39.5	40.2	42.2	47.0	(1)	(1)	(2)	(2)	.1	10.9	10.8	12.3	10.1	27.6
Rhode Island	.1	.3	.1	.1	.4	37.2	33.0	37.5	39.6	46.1	(1)	(1)	(1)	(1)	(1)	5.3	4.3	5.1	4.7	10.8
South Dakota	1.9	.8	3.2	1.5	.8	28.8	34.3	29.2	36.4	39.0	(1)	(1)	(1)	(1)	(1)	13.6	15.4	21.1	14.7	40.5
Tennessee	1.7	1.6	3.0	3.7	4.8	76.8	72.8	78.5	76.2	84.8	1.8	2.2	3.4	3.6	3.6	32.2	31.0	31.8	26.0	47.9
Utah	.2	(1)	.9	1.1	1.1	11.5	15.8	16.3	18.3	19.7	(1)	(1)	(1)	(1)	(1)	8.8	19.8	12.8	9.4	23.2
Vermont	(1)	(1)	.8	3.6	.6	28.9	36.5	39.0	37.1	50.4	(1)	(1)	(1)	(1)	(1)	17.2	12.8	25.9	14.2	32.1
Virginia	1.6	2.0	3.7	4.4	3.2	60.0	58.5	60.0	66.5	62.8	.1	.2	.3	.1	.3	28.4	25.1	22.2	19.1	40.3
Wisconsin	(2)	.2	.1	.5	.8	24.6	26.0	27.3	29.5	33.1	(1)	(2)	(1)	(1)	(1)	10.3	11.4	17.3	7.6	37.5
Wyoming	2.4	1.6	1.2	2.8	(1)	14.2	15.9	22.9	23.2	18.1	.4	(1)	(1)	(1)	(1)	22.4	10.7	11.3	12.6	44.4
Alaska	1.3	4.1	1.4	2.8	(1)	426.5	365.9	361.5	409.2	365.2	1.3	(1)	(1)	(1)	(1)	62.8	10.9	22.2	36.7	34.5
Hawaii	.5	1.4	1.0	.5	2.7	60.2	61.2	66.9	65.1	79.1	(1)	(1)	(1)	(1)	(1)	2.6	8.5	3.8	5.4	9.2

[1] No deaths reported.
[2] Less than 1/10 of 1 per 100,000 inhabitants.

TABLE 5.—*Trends of death rates for various causes per 100,000 population, 1937–41*—Continued

State	Measles (35)					Acute poliomyelitis and polioencephalitis (36)					Acute infectious encephalitis (lethargic) (37)					Cancer and malignant tumors (45–55)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	3.6	1.2	2.1	6.0	0.1	2.3	0.7	0.5	0.6	0.7	0.3	0.6	0.4	0.6	0.4	63.3	64.4	60.3	59.4	59.6
Connecticut	.1	.2	.5	.1	.7	.1	.1	.1	(1)	.5	.1	.2	.1	.1	.4	132.3	136.0	138.6	143.1	130.5
Delaware	2.2	(1)	(1)	.8	1.5	.7	.7	.4	.4	.4	.7	(1)	1.1	(1)	.4	118.7	138.4	109.4	117.5	120.0
District of Columbia	.6	(1)	.3	.3	2.1	1.3	.4	.2	.5	.7	.1	.7	.2	.5	.8	159.4	151.3	156.4	137.6	142.1
Florida	.9	.3	.7	1.5	.3	1.7	.4	.3	.6	.3	.4	.3	.4	.5	(2)	100.7	93.9	92.6	84.3	97.3
Georgia	4.8	.7	1.6	4.8	.3	1.0	.2	.5	.6	.6	.2	.1	.1	.3	.2	65.1	60.7	61.3	60.6	57.6
Idaho	.2	.9	.8	.8	2.8	.2	.6	1.5	.2	.4	.9	.9	1.5	1.2	.8	86.9	88.6	89.1	83.1	81.9
Illinois	1.1	.2	(2)	2.6	.3	.3	.7	.3	.2	1.2	.3	.3	.2	.4	.5	145.8	143.0	141.9	137.1	132.3
Indiana	1.6	.1	.2	3.1	.4	.4	2.1	.1	.3	.8	.1	.6	.5	.7	.5	121.8	122.3	112.1	113.8	110.0
Iowa	.5	.5	1.1	1.0	.2	.2	2.2	1.1	.4	1.5	.7	.8	.7	1.0	.6	128.4	130.1	124.5	128.5	126.1
Kansas	1.8	.9	.2	1.3	.2	.4	2.2	.3	(1)	1.9	1.6	.8	1.6	1.2	1.3	120.8	122.3	124.4	123.9	118.6
Kentucky	5.5	.6	1.1	3.8	3.0	1.1	1.4	1.2	1.0	1.1	.1	.5	.8	.3	.7	82.6	82.9	81.2	73.8	71.6
Maine	1.3	1.1	.6	2.1	.4	.6	.2	.7	.5	1.8	.4	.4	.6	.1	.2	152.2	151.5	151.7	151.1	147.4
Maryland	.7	.1	.9	.4	2.2	.3	.3	.1	.1	1.0	.8	.4	.4	.9	1.4	141.7	138.1	131.8	128.6	127.8
Massachusetts	.1	.3	.4	.3	.6	.2	(2)	.1	.2	.5	.3	.2	.2	.2	.3	176.8	171.2	160.4	160.4	151.0
Michigan	1.2	.3	.6	2.0	.2	.3	1.3	.8	.2	1.0	.3	.3	1	.2	.2	116.3	117.8	116.7	114.2	111.8
Montana	.2	.9	2.9	2.0	.7	1.8	1.4	(1)	.4	1.3	2.5	1.8	1.4	5.4	.9	111.5	110.7	114.8	98.2	104.6
Nebraska	.3	.5	1.0	.8	.3	.8	1.6	.6	.5	3.3	1.3	.5	.4	.8	.9	125.3	124.8	117.9	122.2	115.0
Nevada	(1)	(1)	1.8	(1)	(1)	(1)	.9	(1)	(1)	(1)	.9	(1)	(1)	(1)	(1)	113.6	114.7	112.2	102.1	67.7
New Jersey	.6	.2	.1	.7	1.3	.4	.1	.7	.2	.5	.4	.6	.5	.7	.6	148.8	146.2	140.3	134.3	131.5
New Mexico	9.2	.9	.8	10.0	8.6	.4	.6	1.5	.8	1.4	.4	(1)	.4	(1)	(1)	54.6	58.4	52.9	52.7	48.1
New York	.3	.1	.4	.7	.4	.4	.1	.4	.2	.4	.8	.9	.4	.7	.6	156.0	158.0	154.4	151.6	147.6
North Carolina	2.7	.3	1.8	7.0	1.2	.4	.3	.3	.3	.6	.3	.3	.2	.4	.4	59.0	57.5	56.2	54.5	54.7
North Dakota	.3	.3	3.4	2.9	(1)	.2	.6	.3	(1)	(1)	20.9	2.0	1.7	4.2	.6	92.4	95.8	98.1	94.8	87.5
Ohio	1.6	(2)	.1	2.6	1.5	.7	.8	.2	.2	.8	.7	.5	.6	.4	1.0	137.2	135.1	132.1	127.5	119.6
Oklahoma	.9	.2	3.2	2.4	1.0	.6	1.2	.4	1.0	2.5	.4	.6	.6	.3	.3	82.9	82.6	78.6	75.3	77.9
Pennsylvania	1.0	.1	.1	2.4	.8	.6	.3	.5	.2	.5	.7	.6	.6	.7	.7	124.4	123.6	123.3	121.0	119.2
Rhode Island	.1	.4	.4	(1)	.4	.4	.3	(1)	.1	(1)	.6	.3	(1)	.6	.3	148.4	157.4	151.1	154.9	153.7
South Dakota	.3	.5	4.3	.8	(1)	.9	.8	.6	.3	1.2	.3	.2	.5	1.1	1.2	99.7	105.3	104.3	91.1	87.9
Tennessee	4.3	.6	1.5	6.9	1.1	1.5	.3	.5	.7	1.2	.5	.6	.7	.5	.8	85.6	73.5	70.9	73.0	68.9
Utah	(1)	.9	.4	2.0	.7	.2	1.1	1.3	(1)	1.3	.9	.4	.9	.2	.9	86.7	90.5	91.8	84.8	88.1
Vermont	.6	(1)	1.7	3.3	(1)	.3	.3	1.4	1.1	.6	(1)	.3	.3	.3	(1)	141.9	137.2	140.4	132.9	146.9
Virginia	6.2	.8	.8	3.4	2.5	.4	1.0	.3	.3	.5	.1	.7	.3	.2	.6	83.7	81.3	80.3	80.5	73.7
Wisconsin	.7	.3	.6	1.2	.2	.6	1.4	.4	1.2	1.2	.6	.8	.3	.3	.5	131.8	132.9	127.3	130.2	126.7
Wyoming	.8	2.4	.4	(1)	.4	(1)	2.8	1.2	1.2	2.9	2.8	1.6	(1)	.8	1.6	81.9	84.7	75.1	83.3	73.9
Alaska	46.8	159.1	54.0	1.4	4.3	2.7	(1)	(1)	1.4	2.9	(1)	(1)	1.4	(1)	1.4	82.9	74.8	70.0	66.3	61.8
Hawaii	1.2	(1)	(1)	.2	46.7	1.4	1.2	1.4	.5	.5	.5	(1)	.2	.5	.2	76.5	67.3	71.2	67.1	74.4

State	Diabetes mellitus (61)					Pellagra (except alcoholic) (69)					Cerebral hemorrhage, embolism, and thrombosis (83a, b)					Diseases of the heart (90–95)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	11.4	12.1	12.2	12.5	10.8	6.1	8.5	10.0	12.4	11.2	83.9	77.9	70.1	71.9	69.9	174.7	178.7	170.6	173.4	168.8
Connecticut	31.6	22.8	29.2	30.1	31.7	.2	.2	.1	.1	.3	79.1	99.1	82.1	88.1	88.5	309.9	299.4	296.1	254.7	243.3
Delaware	27.7	31.8	33.7	33.7	30.2	.4	(1)	(1)	(1)	(1)	99.9	105.5	115.4	98.0	115.0	350.2	355.1	363.3	365.9	367.3
District of Columbia	27.6	32.2	26.8	26.0	29.3	(1)	.1	.2	.6	.8	88.7	92.9	83.8	83.8	97.3	330.5	347.2	344.1	341.7	334.2
Florida	20.2	19.5	20.6	18.2	17.7	3.2	3.8	4.0	5.7	6.2	108.0	111.6	98.5	96.0	113.7	277.6	284.5	243.6	241.9	241.3
Georgia	11.8	10.9	11.4	13.1	12.2	6.2	7.3	8.5	11.6	11.8	93.8	94.4	93.1	85.2	83.8	178.0	190.8	167.0	165.8	168.6
Idaho	18.7	17.8	20.0	13.7	12.3	(1)	.6	.4	(1)	(1)	74.3	61.7	60.9	61.3	68.7	204.9	242.9	241.8	203.2	148.0
Illinois	28.7	33.3	30.0	27.7	27.3	.2	.2	.3	.2	.2	74.9	81.9	75.1	73.6	72.2	340.0	349.6	338.6	316.3	304.1
Indiana	14.5	14.7	16.6	16.1	15.1	(1)	.1	.1	.1	.5	137.1	141.0	132.2	123.2	123.4	269.0	304.4	249.6	238.2	251.4
Iowa	23.7	26.5	24.5	22.0	21.7	(1)	(1)	.2	(2)	.2	100.2	106.1	103.1	99.7	104.9	273.3	279.8	268.2	245.6	223.7
Kansas	24.0	26.0	26.7	24.6	23.9	.4	.4	.3	.3	.4	105.2	101.3	101.1	102.3	100.4	279.2	275.1	259.1	247.1	230.5
Kentucky	15.6	14.3	13.0	13.3	11.1	1.4	1.9	2.8	2.2	2.7	92.2	104.1	106.6	100.1	91.8	220.7	215.9	217.9	188.0	173.6
Maine	31.4	31.1	27.3	27.5	24.0	.2	(1)	.5	.2	.1	124.1	129.4	126.7	115.6	130.9	369.2	361.1	376.9	343.7	369.7
Maryland	31.1	31.3	29.2	27.1	25.0	(2)	.2	.4	.3	.4	89.2	97.0	96.3	96.5	102.8	338.3	346.7	313.7	308.5	298.2
Massachusetts	36.3	36.5	35.1	33.3	34.1	.2	.1	.2	.2	.3	105.3	105.5	103.4	97.9	97.1	430.8	421.9	407.3	372.6	366.9
Michigan	33.0	26.6	26.2	25.3	25.4	.1	.2	(2)	.1	(2)	85.8	89.9	82.6	86.4	85.0	291.0	295.2	287.1	273.7	266.6
Montana	13.7	11.6	17.2	17.7	19.7	.2	(1)	.2	(1)	.2	95.4	96.4	84.7	92.1	83.6	241.0	237.6	231.9	208.5	215.4
Nebraska	25.7	26.8	25.0	25.4	26.7	.1	.1	(1)	.1	.2	100.4	114.0	91.4	85.4	90.5	234.9	234.4	210.2	223.3	225.4
Nevada	17.7	20.8	9.2	12.2	13.4	(1)	.9	.9	(1)	1.0	71.0	65.9	67.2	76.8	71.6	299.0	309.7	264.0	266.9	246.2
New Jersey	35.7	36.4	33.6	30.7	31.9	.2	.3	.1	.2	.2	94.3	90.3	86.6	84.6	80.4	357.2	358.9	356.7	339.3	325.4
New Mexico	10.4	9.4	8.6	7.2	6.8	2.0	3.6	2.9	3.5	3.6	40.3	40.2	38.8	43.0	43.3	115.1	116.2	108.5	113.4	121.9
New York	39.5	40.5	39.1	35.5	36.3	.1	.1	.2	.2	.2	71.3	72.2	66.9	63.3	73.1	383.5	384.4	366.6	355.7	353.9
North Carolina	12.1	13.6	13.8	10.9	11.1	3.8	4.7	5.8	7.3	9.5	79.8	84.7	80.2	81.9	80.1	160.9	152.2	161.5	164.1	161.0
North Dakota	19.3	25.6	21.9	21.0	19.0	(1)	.2	(1)	(1)	(1)	72.3	69.3	77.7	69.0	73.0	202.5	205.6	206.4	160.4	177.4
Ohio	28.9	31.2	29.2	27.0	26.5	.2	.1	.1	(1)	(2)	104.1	111.1	107.9	104.1	106.4	312.2	315.2	298.0	276.6	427.6
Oklahoma	14.7	14.0	14.7	13.8	13.8	2.1	2.2	4.2	4.5	4.3	78.3	80.6	85.9	68.0	67.5	182.9	162.4	152.1	140.1	140.5
Pennsylvania	33.8	35.4	33.8	31.1	32.0	.1	.1	.1	.1	.1	84.4	83.6	83.3	83.1	82.3	333.8	335.0	324.2	313.0	313.2
Rhode Island	37.8	38.7	36.9	40.4	41.5	(1)	(2)	.3	.3	.1	87.0	99.8	87.6	94.3	96.8	374.4	372.9	362.8	352.8	362.0
South Dakota	25.5	23.9	26.7	19.6	20.6	.2	.2	(1)	(1)	(1)	81.5	82.0	76.1	71.1	72.6	207.5	207.4	201.1	172.4	174.9
Tennessee	12.4	14.0	13.4	11.1	11.5	4.8	3.6	5.1	7.1	7.1	78.5	83.2	80.7	81.2	80.6	176.4	186.8	173.5	162.6	161.5
Utah	19.4	19.6	18.3	19.9	18.4	(1)	.4	.2	(1)	.2	60.3	58.4	54.1	52.0	58.2	242.4	245.9	233.4	224.3	220.0
Vermont	29.5	27.6	32.6	30.1	20.1	.3	(1)	(1)	(1)	.3	113.2	119.4	115.9	110.9	103.4	357.7	332.1	359.6	301.5	332.2
Virginia	19.2	20.3	17.5	16.6	16.6	1.7	2.1	2.2	4.2	4.0	102.6	104.3	104.1	97.2	92.3	251.5	248.0	245.6	236.8	227.9
Wisconsin	27.9	28.1	27.0	28.1	25.2	.2	.1	.1	.2	.1	92.2	96.0	85.9	84.4	86.6	290.3	295.6	298.8	274.9	283.5
Wyoming	11.8	14.3	16.5	13.8	10.7	.4	(1)	.4	(1)	(1)	64.1	66.0	57.5	57.3	81.3	216.5	201.3	208.7	206.9	245.2
Alaska	5.3	4.1	4.2	1.4	5.8	1.3	(1)	(1)	(1)	(1)	72.2	76.2	59.6	125.6	61.8	197.9	208.1	227.2	242.7	279.0
Hawaii	20.2	14.4	16.6	16.8	17.5	(1)	(1)	(1)	(1)	.5	52.8	43.7	47.6	54.9	45.4	135.1	128.5	126.3	126.6	119.8

[1] No deaths reported.
[2] Less than 1/10 of 1 per 100,000 inhabitants.

TABLE 5.—*Trends of death rates for various causes per 100,000 population, 1937–41*—Continued

State	Pneumonia, all forms (107–109)					Diseases of the digestive system (115–129)					Diarrhea and enteritis under 2 years (119)					Nephritis, all forms (130–132)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	53.8	58.6	68.9	78.9	94.0	(1)	54.9	58.8	69.0	66.8	12.4	12.5	13.9	18.6	16.2	84.8	93.8	69.6	79.8	81.3
Connecticut	28.1	38.3	42.3	51.0	69.5	45.0	44.7	48.5	49.7	49.3	2.1	1.9	2.1	3.4	3.1	61.8	55.5	76.4	80.7	80.4
Delaware	53.6	58.4	70.4	68.9	97.1	56.6	52.0	52.6	65.5	72.8	10.4	4.9	5.3	12.2	9.7	133.9	134.3	106.7	105.3	137.4
District of Columbia	73.7	80.1	72.4	86.6	124.0	94.3	83.0	81.3	76.6	81.6	24.4	10.2	11.5	11.4	11.9	113.4	110.0	105.2	102.0	100.4
Florida	48.0	56.1	56.2	68.5	73.4	69.6	68.3	76.8	82.8	98.5	9.0	7.6	10.5	12.1	11.0	85.9	89.3	91.2	90.6	100.3
Georgia	48.7	63.0	68.7	85.0	94.5	52.7	50.4	57.5	69.8	67.8	13.5	12.5	13.0	22.0	15.4	103.1	103.7	91.6	110.2	108.6
Idaho	30.4	41.2	56.7	76.2	75.9	44.1	55.0	56.1	54.5	70.5	1.5	6.5	5.8	4.9	9.0	58.1	57.1	53.2	54.9	62.7
Illinois	40.0	47.3	54.0	58.6	70.5	57.3	59.0	62.0	65.0	69.5	3.3	2.5	3.1	5.5	4.6	85.7	91.6	92.3	92.1	96.2
Indiana	49.3	58.6	68.7	70.6	94.5	(1)	46.0	50.2	56.0	58.7	6.2	3.5	5.5	8.6	8.8	67.0	73.9	64.6	64.9	65.8
Iowa	39.7	48.9	50.3	61.2	65.3	44.8	49.8	53.9	55.5	55.6	1.8	2.1	2.3	3.4	3.9	56.9	64.0	54.4	57.1	59.1
Kansas	35.7	35.9	43.8	51.3	61.1	52.8	55.0	60.2	61.9	64.1	2.7	3.8	4.0	5.1	6.2	92.9	95.7	97.1	95.7	89.5
Kentucky	56.8	62.3	73.1	76.3	93.8	66.1	57.8	66.8	77.3	75.6	20.4	13.7	19.0	30.4	23.4	75.6	73.9	65.8	72.1	69.4
Maine	54.2	54.8	74.1	75.7	96.1	56.0	53.4	55.5	59.1	60.7	6.1	5.3	5.6	7.8	14.4	88.6	88.3	81.4	83.8	83.6
Maryland	58.4	61.9	67.5	75.4	103.4	60.0	50.9	53.9	58.5	65.6	17.2	6.7	9.4	11.3	13.1	117.7	127.5	118.9	124.6	131.8
Massachusetts	61.0	61.1	71.3	73.5	94.5	55.0	53.9	55.7	56.2	60.5	4.0	3.0	2.0	2.7	2.8	62.9	70.4	67.2	68.8	70.4
Michigan	41.4	46.8	54.1	56.7	83.0	50.4	52.8	57.7	60.0	64.1	4.9	3.3	5.2	6.2	5.7	52.8	53.9	54.2	54.7	59.3
Montana	45.9	58.7	66.2	74.6	101.5	62.4	69.8	67.8	66.9	71.7	4.8	7.0	5.2	5.8	6.9	55.8	57.0	57.9	56.6	56.6
Nebraska	34.8	46.9	51.7	54.7	62.3	44.2	52.4	55.4	52.4	63.0	1.3	2.4	2.2	2.4	4.1	64.4	64.4	64.4	60.5	64.7
Nevada	52.4	69.5	81.9	103.0	120.2	74.5	69.5	42.3	63.7	69.7	4.4	3.6	3.7	4.7	4.8	51.5	58.7	40.5	72.1	78.2
New Jersey	41.8	44.5	44.2	57.8	70.0	53.1	54.5	56.4	59.2	60.3	3.2	2.3	2.8	3.1	3.3	75.0	77.0	67.7	73.4	74.1
New Mexico	55.1	58.4	83.9	79.1	107.9	85.2	85.9	89.4	96.3	127.3	46.5	41.7	38.0	43.3	74.4	48.2	46.6	44.3	50.8	45.7
New York	42.7	45.5	55.3	61.5	86.0	52.7	57.1	59.2	60.4	66.3	2.7	3.0	4.3	4.6	5.8	58.5	65.6	65.7	69.2	74.0
North Carolina	54.6	57.0	61.4	78.3	85.2	53.3	52.1	63.5	76.6	71.7	19.6	13.1	19.0	29.5	24.9	84.6	95.7	82.4	88.2	85.4
North Dakota	35.5	40.2	54.8	54.5	72.7	44.9	49.1	53.7	53.1	59.4	3.5	5.8	7.0	7.6	10.9	45.2	43.5	41.0	44.0	38.5
Ohio	44.0	56.0	60.0	60.8	84.9	55.1	52.8	55.5	57.8	66.7	7.7	4.4	5.1	6.8	8.0	73.0	77.1	75.6	75.5	77.8
Oklahoma	49.5	57.4	61.3	62.1	78.6	48.3	59.7	64.6	61.0	70.7	4.7	10.4	9.4	10.3	14.1	55.9	61.9	54.7	61.6	67.1
Pennsylvania	42.0	50.8	50.2	60.4	79.4	48.6	52.1	52.5	55.6	57.6	4.6	3.8	4.5	5.4	6.2	82.9	94.4	82.0	83.0	87.6
Rhode Island	43.8	54.0	57.4	79.2	93.2	57.5	55.2	60.3	60.7	59.7	3.0	2.0	4.0	5.1	5.1	97.5	98.0	96.1	102.4	106.8
South Dakota	38.3	36.5	54.8	55.5	73.4	45.6	53.8	60.0	55.0	57.0	2.6	5.1	5.4	5.7	4.8	54.8	48.2	42.8	40.6	46.1
Tennessee	61.5	71.0	70.6	80.6	95.4	56.8	58.8	64.7	75.8	76.9	12.7	10.6	12.8	22.1	18.0	65.4	64.5	59.8	63.8	66.7
Utah	30.8	43.5	45.2	63.1	61.5	43.9	54.8	53.4	63.3	65.5	2.5	3.6	2.2	5.3	3.7	50.4	49.9	53.9	52.2	55.2
Vermont	45.3	70.4	79.1	79.1	103.7	50.3	50.9	51.0	53.5	51.0	4.5	4.7	3.6	2.8	2.8	81.5	76.5	79.7	81.4	77.5
Virginia	59.4	69.5	67.3	71.8	98.3	56.7	48.2	53.1	60.0	53.8	17.2	8.8	11.1	16.2	12.8	98.7	105.0	85.3	83.8	86.8
Wisconsin	37.2	46.5	47.8	54.5	64.4	(1)	(1)	51.0	50.5	51.6	2.4	3.2	4.6	4.8	4.5	53.2	57.7	56.7	59.5	65.5
Wyoming	42.5	39.4	49.9	62.6	111.3	44.9	51.7	63.1	67.5	71.1	2.8	6.0	6.0	8.9	13.6	63.8	52.5	69.6	54.5	39.4
Alaska	121.7	144.2	169.0	186.3	159.6	58.8	28.6	41.6	38.1	56.1	5.3	4.1	(1)	(1)	8.6	38.8	23.1	27.7	16.9	15.8
Hawaii	39.3	45.8	54.1	75.1	93.3	40.2	48.2	53.2	54.9	66.1	8.1	5.7	11.1	12.4	19.0	52.8	66.9	65.2	62.7	72.1

[1] Data not available.

State	All accidents, including automobile accidents (169–195)					Automobile accidents only (170a, b, c)				
	1941	1940	1939	1938	1937	1941	1940	1939	1938	1937
Alabama	75.2	57.2	70.9	69.8	75.8	26.8	20.8	22.0	21.2	24.4
Connecticut	61.5	55.1	61.3	72.2	71.0	21.8	18.0	20.7	19.8	24.9
Delaware	81.7	79.0	71.9	80.4	107.6	34.4	36.3	29.1	26.8	43.3
District of Columbia	77.7	72.2	75.6	64.6	84.1	25.7	22.2	22.8	20.7	28.4
Florida	107.5	96.4	93.1	92.7	105.1	38.6	36.9	36.5	39.4	42.8
Georgia	67.8	63.6	55.9	67.3	75.9	28.8	24.8	19.9	24.9	29.8
Idaho	91.7	100.6	97.4	88.2	102.6	35.5	36.4	33.7	33.5	36.0
Illinois	76.6	73.7	71.3	74.7	81.5	32.2	29.6	28.4	27.7	33.4
Indiana	89.8	82.1	72.3	74.3	89.5	40.4	33.4	29.3	31.6	40.7
Iowa	65.2	63.5	65.8	65.8	76.2	22.9	20.0	19.4	19.1	24.2
Kansas	78.7	75.3	103.5	106.5	117.1	29.6	27.2	23.1	24.6	27.6
Kentucky	78.8	77.7	77.4	65.5	75.2	29.9	26.0	23.0	22.0	27.5
Maine	80.2	75.4	71.8	69.0	76.3	25.5	23.6	22.1	22.2	19.1
Maryland	79.8	79.4	69.8	68.6	87.7	30.9	28.3	22.0	21.7	30.6
Massachusetts	66.6	61.3	63.1	61.4	65.3	18.3	15.2	15.4	15.4	19.3
Michigan	81.8	74.9	72.4	70.8	90.1	39.1	32.6	27.3	27.5	40.0
Montana	100.2	94.1	94.2	101.6	105.3	35.4	27.7	27.1	24.1	32.4
Nebraska	63.9	65.2	69.0	59.0	68.2	20.6	19.9	21.3	17.4	24.6
Nevada	229.8	173.4	190.4	139.8	152.7	101.2	76.8	69.9	56.2	57.3
New Jersey	66.3	64.7	59.1	61.5	76.0	24.4	22.5	20.4	21.3	28.0
New Mexico	98.2	88.1	85.4	80.4	105.7	41.2	39.8	38.6	26.9	41.5
New York	61.6	62.1	61.9	63.4	71.3	19.4	18.0	17.8	18.3	22.2
North Carolina	72.1	65.3	65.2	63.2	72.7	59.4	27.5	26.2	25.1	30.2
North Dakota	62.6	53.5	51.8	55.7	63.8	18.7	18.1	14.4	19.0	20.9
Ohio	88.9	87.3	83.2	80.5	93.3	35.1	29.7	27.7	27.4	36.4
Oklahoma	62.1	56.7	82.3	73.3	66.7	22.0	19.7	22.2	23.8	26.2
Pennsylvania	57.4	57.2	54.7	59.5	68.6	19.4	17.2	16.7	17.6	22.4
Rhode Island	55.4	51.4	51.4	91.4	55.0	12.3	12.2	10.9	11.3	17.8
South Dakota	72.6	64.7	54.8	66.3	63.1	24.5	19.5	21.5	21.4	16.6
Tennessee	65.3	62.2	62.0	62.0	69.9	23.9	18.6	19.4	19.8	25.1
Utah	85.8	83.8	78.6	93.7	95.0	37.8	33.4	29.8	39.8	37.6
Vermont	62.3	61.2	66.3	68.8	70.0	22.3	19.2	22.0	20.6	18.1
Virginia	92.8	82.9	74.4	70.7	73.6	39.3	31.1	30.2	25.2	29.2
Wisconsin	72.6	75.0	76.3	68.4	79.4	27.7	24.2	22.8	22.3	28.4
Wyoming	113.3	106.2	113.4	109.3	124.5	49.2	53.7	47.4	39.4	51.3
Alaska	203.2	142.8	144.1	175.0	178.3	(1)	(1)	(1)	(1)	1.4
Hawaii	68.6	54.8	47.6	58.8	57.1	19.8	13.9	14.2	18.3	16.7

[1] No deaths reported.

NATIONAL HEALTH SURVEY

LIST OF PUBLICATIONS*

The National Health Survey was a project executed by the United States Public Health Service, with the aid of grants from the Work Projects Administration.** The field observations were obtained in 1935–36. The project comprised a number of individual studies, including: (*a*) A house-to-house canvass of sickness and medical care among 2,500,000 persons in 83 cities and certain rural areas; (*b*) a communicable disease survey in 32 cities; (*c*) special studies of health and medical facilities in the counties included in the above house-to-house canvasses; (*d*) a special audiometric study of hearing loss in a sample of the surveyed population; and (*e*) transcripts of records of industrial sick benefit organizations.

There follows a list of publications which have resulted from these studies, arranged by broad subject and alphabetically by title for each subject. Copies of these publications may be obtained as indicated in the footnotes.***

The National Health Survey—Scope and method of the Nation-wide canvass of sickness in relation to its social and economic setting. George St. J. Perrott, Clark Tibbitts, and Rollo H. Britten. Pub. Health Rep., **54**: 1663–1687 (1939). Reprint No. 2098.[2]

General Illness Findings:

A disability table for urban workers. Harold F. Dorn.[6]

An estimate of the amount of disabling illness in the country as a whole. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 1, 1938.[1]

Disability from specific causes in relation to economic status. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 9, 1938.[5]

Health of the Negro. Dorothy F. Holland and George St. J. Perrott. Milbank Memorial Fund Quarterly, **16**: 5–38 (January 1938).[5]

Health problems of low income families. George St. J. Perrott. An address before the American Public Welfare Association, Washington, D. C., December 12, 1937. The Health Officer, **2**: 488–495 (1938). (Article also mimeographed.) [1]

Health status of adults in the productive ages. David E. Hailman. Pub. Health Rep., **56**: 2071–2087 (1941). Reprint No. 2327.[2]

Income and Health. George St. J. Perrott. Plan Age, **4**: 34–38 (1938).[4]

Sickness in a metropolitan community—The results of the National Health Survey in New York City. Dorothy F. Holland.[6]

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*List as of April 1, 1942.

**Work Projects Administration Official Project Nos. 712159-658/9999 and 765-23-3-10.

***Footnotes:

[1] Obtainable from National Institute of Health, Division of Public Health Methods, Bethesda, Maryland.

[2] Obtainable from U. S. Public Health Service, Bethesda, Md., as long as supply is available (order by number where possible).

[3] The stock for free distribution is exhausted but a copy is obtainable by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the price given.

[4] Reprints available in a few cases. Application for them should be made to the author.

[5] No copies available for distribution. May be consulted at leading libraries.

[6] In press.

Medical Care:

A study of dental care in Detroit, Mich. Rollo H. Britten. Pub. Health Rep., **53**: 446–459 (1938). Reprint No. 1919.[2] (Reproduced in J. Am. Dent. Assoc. and Dent. Cosmos, **25**: 821–826, 1938.)

Differences in opportunities for health. Joseph W. Mountin and Hazel O'Hara. Pub. Health Rep., **53**: 485–496 (1938). Reprint No. 1920.[2]

Health as an element in social security. George St. J. Perrott and Dorothy F. Holland. Ann. Am. Acad. of Political and Social Science, **202**: 116–136 (1939). Reprint.[1]

Illness and medical care in relation to economic status. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 2, 1938, revised 1939.[1]

Maternal care in Michigan—A progress note. Alexander M. Campbell. J. Mich. State Med. Soc., **37**: 17–21 (1938).[4]

Maternal care in Michigan—A study of obstetric practices. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 8, 1938.[5]

Maternal services in Michigan with special reference to economic status. Jennie C. Goddard and Carroll E. Palmer. Pub. Health Rep., **54**: 825–840 (1939). Reprint No. 2070.[2]

Medical and nursing services for the maternal cases of the National Health Survey. Jennie C. Goddard. Pub. Health Bull. No. 264, 1941.[2]

Medical care as a public health function. Josephine Roche. Am. J. Pub. Health, **27**: 1221–1226 (1937).[4]

Medical needs revealed by the National Health Survey. George St. J. Perrott. Proceedings of the National Conference of Social Work, Sixty-fifth Annual Session (Seattle, Washington, 1938). Reprint.[1]

The National Health Survey—Receipt of medical services in different urban population groups. Rollo H. Britten. Pub. Health Rep., **55**: 2199–2224 (1940). Reprint No. 2213.[2]

Hospital Facilities:

A study of the variations in reports on hospital facilities and their use. Joseph W. Mountin, Elliott H. Pennell, and Emily Hankla. Pub. Health Rep., **53**: 17–25 (1938). Reprint No. 1897.

Business census of hospitals, 1935—General report. Elliott H. Pennell, Joseph W. Mountin, and Kay Pearson. Supplement No. 154 to Pub. Health Rep., 1939.[2]

Existence and use of hospital facilities among the several States in relation to wealth as expressed by per capita income. Elliott H. Pennell, Joseph W. Mountin, and Kay Pearson. Pub. Health Rep., **55**: 822–846 (1940). Reprint No. 2160.[2]

Factors that influence hospital occupancy. Joseph W. Mountin, Elliott H. Pennel, and Kay Pearson. Hospitals, **15**: 18–25 (March 1941).[5]

Financial support of hospitals controlled by State and local governments. Elliott H. Pennell, Joseph W. Mountin, and Kay Pearson. Pub. Health Rep., **56**: 433–445 (1941). Reprint No. 2243.[2]

Hospitals existing singly in counties have similar financial structure. Joseph W. Mountin, Elliott H. Pennell, and Kay Pearson. Pub. Health Rep., **56**: 498–509 (1941). Reprint No. 2246.[2]

Hospital facilities in the United States. Part I. Selected characteristics of hospital facilities in 1936. Joseph W. Mountin, Elliott H. Pennell, and Evelyn Flook. Part II. Trends in hospital development, 1928–1936. Joseph W. Mountin, Elliott H. Pennell, and Kay Pearson. Pub. Health Bull. No. 243, 1938.[1]

Prevailing ratios of personnel to patients in hospitals offering general care. Elliott H. Pennell, Joseph W. Mountin, and Kay Pearson. Hospitals, 12: 42–47 (November 1938).[1]

Regional differences in hospital facilities for tuberculosis, from the standpoints of accommodations, sources of financial support, and operating costs. Joseph W. Mountin, Elliott H. Pennell, and Kay Pearson. Transactions of the Thirty-fifth Annual Meeting of the National Tuberculosis Association, 1939.[1]

Summary figures on income, expenditures, and personnel of hospitals. Elliott H. Pennell, Joseph W. Mountin, and Emily Hankla. Hospitals, 12: 11–19 (April 1938).[1]

The distribution of hospitals and their financial support in southern States. Joseph W. Mountin, Elliott H. Pennell, and Kay Pearson. Southern Med. J., 33: 402–411 (1940).[1]

The financial support of non-Government hospitals as revealed by the recent Federal Business Census of Hospitals. Elliott H. Pennell and Joseph W. Mountin. Hospitals, 11: 11–19 (December 1937).[1]

Out-Patient Department Facilities:

A count of visits to out-patient departments fails to disclose all ambulatory care by hospitals. Margaret Lovell Plumley. Hospitals, 11: 97–99 (October 1937).[1]

Admission policies for out-patient departments. Margaret Lovell Plumley. Hospital Management, 45: 20–22 (February 1938).[1]

General out-patient departments the important element in organized out-patient care. Margaret Lovell Plumley. Hospitals, 11: 30–32 (September 1937).[1]

How clinic visits are distributed. Margaret Lovell Plumley. The Modern Hospital, 50: 76–78 (January 1938).[1]

Location and characteristics of 769 out-patient departments. Margaret Lovell Plumley. Hospitals, 11: 79–85 (December 1937).[1]

Out-patient operating costs. Margaret Lovell Plumley. The Modern Hospital, 49: 65–67 (December 1937).[1]

Preventive clinic facilities available in 94 selected counties of the United States. Anthony J. Borowski and Margaret Lovell Plumley. Pub. Health Rep., 54: 335–342 (1939). Reprint No. 2040.[2]

Public Health Agencies:

Dental programs sponsored by health agencies in 94 selected counties. Joseph W. Mountin and Evelyn Flook. Pub. Health Rep., 54: 1625–1636 (1939). Reprint No. 2096.[2]

How expenditures for selected public health services are apportioned. Joseph W. Mountin. Pub. Health Rep., 52: 1384–1389 (1937). Reprint No. 1865.[2]

Organized public nursing and variation of field programs in 94 selected counties. Joseph W. Mountin and Evelyn Flook. Pub. Health Rep., 54: 815–825 (1939). Reprint No. 2069.[2]

Positions and rates of pay in public health agencies. Anthony J. Borowski. Am. J. Pub. Health, 28: 1197–1202 (1938).[1]

Variations in the form and services of public health organizations. Joseph W. Mountin, Anthony J. Borowski, and Hazel O'Hara. Pub. Health Rep., 53: 523–536 (1938). Reprint No. 1923.[2]

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Disabling morbidity among male and female employees in mail order stores, 1930–34, inclusive. H. P. Brinton and Elizabeth S. Frasier. Pub. Health Rep., **55**: 1163–1178 (1940). Reprint No. 2174.[3]

Disabling morbidity, and mortality among white and Negro male employees in the slaughter and meat packing industry, 1930–34, inclusive. H. P. Brinton. Pub. Health Rep., **54**: 1965–1977 (1939). Reprint No. 2111. 5 cents per copy.[3]

Disabling sickness among industrial workers with particular reference to time changes in duration. W. M. Gafafer. Am. J. Pub. Health, **31**: 448–451 (1941).[1]

Disabling sickness and nonindustrial injuries among drivers and other employees of certain bus and cab companies, 1930–34, inclusive. H. P. Brinton. Pub. Health Rep., **54**: 459–468 (1939). Reprint No. 2049.[3]

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Regional variation in disabling sickness among a group of Negro male railroad employees. H. P. Brinton. Social Forces, **20**: 264–270 (1941).[1]

The coding of occupations for machine tabulating purposes with reference principally to studies on occupational morbidity. H. E. Seifert. J. Ind. Hyg. and Toxicol., **21**: 246–255 (1939).[1]

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Chronic disease and gross impairments in a northern industrial community. George St. J. Perrott and Dorothy F. Holland. J. Am. Med. Assoc., **108**: 1876–1886 (1937).[4]

Chronic illness in New York City—A report by its citizens. George St. J. Perrott. An address before the New York City Welfare Council, May 5, 1938. (Mimeographed.)[5]

The magnitude of the chronic disease problem in the United States. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 6, 1938.[1]

Accidents:

Accidents as a cause of disability. National Health Survey preliminary reports. Sickness and Medical Care Series Bull. No. 3, 1938.[1]

Accidents in the urban home as recorded in the National Health Survey. Rollo H. Britten, Joan Klebba, and David E. Hailman. Pub. Health Rep., 55: 2061–2086 (1940). Reprint No. 2207.[2]

Industrial injuries among the urban population as recorded in the National Health Survey. Joan Klebba. Pub. Health Rep., 56: 2375–2392 (1941). Reprint No. 2339.[3]

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Characteristics and distribution of impaired hearing in the population of the United States. Willis C. Beasley. J. Acoustical Soc. of America, 12: 114–121 (1940). Reprint.[1]

Correlation between hearing loss measurements by air conduction on eight tones. Willis C. Beasley. J. Acoustical Soc. of America, 12: 104–113 (1940). Reprint.[1]

Generalized age and sex trends in hearing loss. National Health Survey preliminary reports, Hearing Study Series Bull. No. 7, 1938.[5]

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Preliminary analysis of audiometric data in relation to clinical history of impaired hearing. National Health Survey preliminary reports, Hearing Study Series Bull. No. 2, 1938.[5]

Prevalence of aural pathology and clinical history of impaired hearing among males and females of various ages. National Health Survey preliminary reports, Hearing Study Series Bull. No. 3, 1938.[5]

Sex differences and age variations in hearing loss in relation to stage of deafness. National Health Survey preliminary reports, Hearing Study Series Bull. No. 6, 1938.[1]

Significance, scope, and method of a clinical investigation of hearing in the general population. National Health Survey preliminary reports, Hearing Study Series Bull. No. 1, 1938.[5]

The general problem of deafness in the population. Willis C. Beasley. Laryngoscope, 50: 856–905 (1940). Reprint.[1]

Other Specific Diagnosis Groups:

Blindness—Amount, causes, and relation to certain social factors. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 10, 1938.[5]

Blindness, as recorded in the National Health Survey—Amount, causes, and relation to certain social factors. Rollo H. Britten. Pub. Health Rep., 56: 2191–2215 (1941). Reprint No. 2332.[2]

Pneumonia in urban United States: Frequency, severity, and medical care. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 11, 1938.[5]

Some findings concerning the incidence of tuberculosis among persons closely related to the first person in a family to contract the disease. Joan Klebba.[6]

The incidence of pneumonia as recorded in the National Health Survey. Rollo H. Britten.[6]

The occurrence of hay fever and asthma as recorded in the National Health Survey. Rollo H. Britten and David E. Hailman.[6]

The prevalence and causes of orthopedic impairments. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 4, 1938.[5]

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The disabling diseases of childhood—Their characteristics and medical care as observed in 500,000 children in eighty-three cities canvassed in the National Health Survey of 1935–1936. Dorothy F. Holland. Am. J. of Dis. Children, 58: 1157–1185 (1939). Reprint.[1]

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I. Characteristics and leading causes. Dorothy F. Holland. Pub. Health Rep., 55: 135–136 (1940). Reprint No. 2134. 5 cents per copy.[3]

II. Medical and nursing care. Dorothy F. Holland. Pub. Health Rep., 55: 227–244 (1940). Reprint No. 2137. 5 cents per copy.[3]

The occurrence of whooping cough, chickenpox, mumps, measles, and German measles in 200,000 surveyed families in 28 large cities. Selwyn D. Collins, Ralph E. Wheeler, and Robert D. Shannon.[6]

The relationship of maternal and child health to the general health program. Thomas Parran. An address before the Children's Bureau Conference on Better Care for Mothers and Babies, January 17, 1938, Washington, D. C. (Mimeographed.)

Unemployment and Illness:

Illness among employed and unemployed workers. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 7, 1938.[5]

Illness and medical care among the unemployed. Statement by Thomas Parran, and detailed report submitted to the Special Senate Committee to Investigate Unemployment and Relief, March 16, 1938. United States Senate (Hearings pursuant to S. Res. 36).[5]

Housing:

Adequacy of urban housing in the United States as measured by degree of crowding and type of sanitary facilities. National Health Survey preliminary reports, Sickness and Medical Care Series Bull. No. 5, 1938.[1]

An analysis of sanitary facilities in the United States. J. M. DallaValle and Rollo H. Britten.[6]

Certain characteristics of urban housing and their relation to illness and accidents: Summary of findings of the National Health Survey. Rollo H. Britten, J. E. Brown, and Isidore Altman. Milbank Memorial Fund Quarterly, 18: 91–113 (1940). Reprint.[1] (Also reproduced in "Housing for Health," The Science Press Printing Co., Lancaster, Pa., 1941.)

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Illness and accidents among persons living under different housing conditions: Data based on the National Health Survey. Rollo H. Britten and Isidore Altman. Pub. Health Rep., **56**: 609–640 (1941). Reprint No. 2253.[2]

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Urban housing conditions in the United States. Rollo H. Britten. Labor Information Bulletin, **5**: 1–3 (June 1938).[4]

Urban housing and crowding—Relation to certain population characteristics as indicated by National Health Survey data. Rollo H. Britten and J. E. Brown. Pub. Health Bull. No. 261, 1941. 15 cents per copy.[3]

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Birth rates and socio-economic attributes in 1935. Clyde V. Kiser. Milbank Memorial Fund Quarterly, **17**: 128–151 (1939).[4]

Group differences in urban fertility—A study derived from the National Health Survey. Clyde V. Kiser.[6]

Intragroup differences in birth rates of married women. Clyde V. Kiser. Milbank Memorial Fund Quarterly, **19**: 147–170 (1941).[4]

The differential fertility and potential rates of growth of various income and educational classes of urban populations in the United States. Bernard D. Karpinos and Clyde V. Kiser. Milbank Memorial Fund Quarterly, **17**: 367–391 (1939).[4]

Variations in birth rates according to occupational status, family income, and educational attainment. Clyde V. Kiser. Milbank Memorial Fund Quarterly, **16**: 39–56 (1938).[4]

Family Composition:

Children and income in urban single-family households. Barkev S. Sanders. Social Security Bull., **2**: 3–10 (November 1939).[4]

Children in urban and rural families. Barkev S. Sanders and Doris Carlton. Social Security Bull., **2**: 36–46 (October 1939).[4]

Economic status of the aged in urban households. Barkev S. Sanders. Social Security Bull., **3**: 13–21 (October 1940).[4]

Family composition in the United States. Barkev S. Sanders. Social Security Bull., **2**: 9–13 (April 1939).[4]

Gainful workers and income in urban single-family households. Barkev S. Sanders. Social Security Bull., **2**: 29–36 (December 1939).[4]

Income, children, and gainful workers in urban multifamily households. Barkev S. Sanders, Anne G. Kantor, and Doris Carlton. Social Security Bull., **3**: 17–28 (April 1940).[4]

Income, children, and gainful workers in urban single-family households. Barkev S. Sanders and Anne G. Kantor. Social Security Bull., **3**: 21–30 (February 1940).[4]

Income of urban families and individuals in single-family households. Barkev S. Sanders and Anne G. Kantor. Social Security Bull., **2**: 25–36 (September 1939).[4]

Marital and parental status according to age. Robert J. Myers and Eugene A. Rasor. Social Security Bull., **4**: 8–11 (November 1941).[4]

Social characteristics and employment status of urban workers. Anne G. Kantor, Doris Carlton, and Barkev S. Sanders. Social Security Bull., **4**: 26–36 (February 1941).[4]

Statistics of family composition in selected areas of the United States, 1934–36. Vol. 1, Detroit, Michigan; Vol. 2, Boston, Massachusetts; Vol. 3, Buffalo, New York; Vol. 4, Chicago, Illinois; Vol. 5, New York, New York; Vol. 6, Philadelphia, Pennsylvania; Vol. 7, Cleveland, Ohio. Bureau of Research and Statistics, Social Security Board, Bureau Memorandum No. 45. 1941–42. (Application for copies should be made to the Bureau of Research and Statistics, Social Security Board, Washington, D. C.)

The economic status of urban families and children. I. S. Falk and Barkev S. Sanders. Social Security Bull., 2: 25–34 (May 1939).[4]

Other Population Subjects:

Characteristics of the urban unemployed. National Health Survey preliminary reports, Population Series Bull. D, 1938.[5]

Color, sex, and age of the population enumerated. National Health Survey preliminary reports, Population Series Bull. E, 1938.[5]

Educational attainment of urban youth in various income classes. Bernard D. Karpinos and Herbert J. Sommers. Elementary School J., May and June 1942.[1]

Families classified by occupational class of the head. National Health Survey preliminary reports, Population Series Bull. B, 1938.[5]

Families distributed by income during the survey year. National Health Survey preliminary reports, Population Series Bull. A, 1938.[5]

Population trends and problems of public health. George St. J. Perrott and Dorothy F. Holland. Milbank Memorial Fund Quarterly, 18: 359–392 (1940). Reprint.[1]

School attendance as affected by prevailing socio-economic factors. Bernard D. Karpinos.[6]

The collection and use of family income data in the National Health Survey. Clark Tibbits and Howard R. Ogburn. National Bureau of Economic Research.[6]

The relief and income status of the urban population of the United States, 1935. National Health Survey preliminary reports, Population Series Bull. C, 1938.[1]

The socio-economic and employment status of urban youth in the United States, 1935–36. Bernard D. Karpinos. Pub. Health Bull. No. 273, 1941.[3]

Miscellaneous:

Comparison of occupational class and physicians' estimate of economic status. Jennie C. Goddard. Pub. Health Rep., 54: 2159–2165 (1939). Reprint No. 2115.[3]

Milk consumption in Buffalo. Archibald S. Dean and William M. Haenszel. Supplement to Statistical Survey, The University of Buffalo Bureau of Business and Social Research, 13: 1–11 (March 1938).[4]

Selection, training, and performance of the National Health Survey field staff. C. C. Lienau. Am. J. Hyg., 34 (Sec. A): 110–132 (November 1941).[4]

What do we know about health in a depression? Clark Tibbitts. Read before Detroit Regional Conference of Social Work, May 6, 1938. (Mimeographed—not available for distribution.)

INCIDENCE OF HOSPITALIZATION, APRIL 1942

[Reported for nonprofit Blue Cross Hospital Service Plans by the Hospital Service Plan Commission of the American Hospital Association]

The following table inaugurates a new current index of illness. Through the cooperation of the Hospital Service Plan Commission of the American Hospital Association, data on hospital admissions among about 8,000,000 members of Blue Cross Hospital Service Plans will be presented monthly. These plans provide prepaid hospital service and it is believed that the admission rate per 1,000 will reflect rather accurately the prevalence of serious illness among the members. The data cover about 60 hospital service plans scattered throughout the country, mostly in large cities.

Item	April	
	1942	1941
1. Number of plans supplying data	60	45
2. Number of persons eligible for hospital care	7,932,108	4,992,468
3. Number of persons admitted for hospital care	70,444	44,007
4. Incidence per 1,000 persons, annual rate, during current month (daily rate × 365)	107.9	107.2
5. Simple average of annual rates for the 12 months ended April 30	107.0	----

DEATHS DURING WEEK ENDED MAY 16, 1942

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

	Week ended May 16, 1942	Corresponding week, 1941
Data from 87 large cities of the United States:		
Total deaths	8,187	8,047
Average for 3 prior years	8,128	----
Total deaths, first 19 weeks of year	169,522	172,697
Deaths per 1,000 population, first 19 weeks of year, annual rate	12.5	12.7
Deaths under 1 year of age	531	519
Average for 3 prior years	488	----
Deaths under 1 year of age, first 19 weeks of year	10,757	10,006
Data from industrial insurance companies:		
Policies in force	64,979,848	64,507,375
Number of death claims	11,054	10,882
Death claims per 1,000 policies in force, annual rate	8.9	8.8
Death claims per 1,000 policies, first 19 weeks of year, annual rate	10.1	10.6

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 MAY 23, 1942

Summary

The incidence of meningococcus meningitis declined during the week from 86 to 81 cases, but remains higher than for any other year since 1937. Most of the cases, approximately 83 percent, were reported in the New England (11), Atlantic (45), and Pacific (11) areas, with New York (20), Massachusetts (7), Maryland (7), New Jersey (6), Virginia (6), and Washington State (6) reporting the largest numbers.

Measles continues above the 5-year (1937–41) median, and the number of influenza cases for the current week was above the median expectancy, with slightly more than one-fourth of the cases being reported from Texas. An increase in the number of cases of poliomyelitis was reported, with 26 cases, as compared with 14 cases for the preceding week. Not more than 3 cases were reported in any one State.

The incidence of diphtheria, scarlet fever, smallpox and typhoid fever remained below that for any earlier year of record.

Other reports for the current week include 3 cases of anthrax (in Pennsylvania), 162 cases of bacillary, 25 cases of amebic, and 88 cases of unspecified dysentery, 2 cases of leprosy (1 in Louisiana and 1 in California), 14 cases of Rocky Mountain spotted fever (6 in the Eastern States and 8 in the Mountain States), 36 cases of tularemia, and 35 cases of endemic typhus fever (13 in Georgia and 10 in Texas). Seven cases of encephalitis (unspecified) were reported in New Mexico. Several cases of infectious encephalitis and equine encephalomyelitis were reported in the State last fall, but up to the current week only 1 case of infectious and 6 cases of the unspecified form of the disease had been reported during the current year.

The death rate for 88 large cities in the United States for the current week is 11.3 per 1,000 population, as compared with 11.5 for the preceding week and a 3-year (1939–41) average of 11.5. The cumulative rate to date (first 20 weeks of the year) is 12.4 as compared with 12.7 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended May 23, 1942, and comparison with corresponding week of 1941 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis meningococcus		
	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41
	May 23, 1942	May 24, 1941		May 23, 1942	May 24, 1941		May 23, 1942	May 24, 1941		May 23, 1942	May 24, 1941	
NEW ENG.												
Maine	0	0	1	------	------	------	69	97	103	1	0	0
New Hampshire	0	0	0	------	------	------	45	31	31	1	1	0
Vermont	1	1	1	------	------	------	235	88	83	0	0	0
Massachusetts	5	0	3	------	------	------	1,219	958	869	7	1	1
Rhode Island	0	0	0	------	------	------	216	2	80	0	0	0
Connecticut	0	0	2	1	------	3	492	397	189	2	1	1
MID. ATL.												
New York	15	19	25	[1]5	[1]3	[1]7	856	3,596	2,251	20	7	7
New Jersey	4	7	7	2	2	4	819	2,324	990	6	2	0
Pennsylvania	6	6	22	------	------	------	1,591	5,887	1,728	2	9	5
E. NO. CEN.												
Ohio	7	12	9	5	13	7	469	2,994	586	3	3	1
Indiana	2	5	7	------	21	12	58	1,200	462	0	2	2
Illinois	17	13	22	2	22	17	319	1,459	346	0	1	1
Michigan [2]	5	3	8	------	4	2	207	2,232	564	0	3	0
Wisconsin	0	4	4	26	24	48	1,383	1,644	1,162	0	0	1
W. NO. CEN.												
Minnesota	1	8	2	------	2	1	838	21	140	0	1	0
Iowa	3	2	4	------	10	------	278	140	152	1	2	0
Missouri	7	5	5	------	4	6	247	587	48	1	0	0
North Dakota	2	0	0	------	------	3	67	107	56	0	0	0
South Dakota	1	1	0	------	------	------	21	37	5	0	0	0
Nebraska	1	0	1	10	------	------	264	37	37	0	0	0
Kansas	1	3	4	3	7	3	378	557	392	1	2	1
SO. ATL.												
Delaware	1	0	1	------	------	------	10	85	14	0	0	0
Maryland [2]	8	4	4	2	1	3	369	401	318	7	3	1
Dist. of Col	2	0	2	1	1	------	97	248	107	2	0	0
Virginia	4	9	6	106	59	57	155	1,343	502	6	2	2
West Virginia	3	3	4	13	------	20	51	502	78	0	0	2
North Carolina	4	6	6	8	3	3	352	1,597	472	1	3	1
South Carolina	11	5	5	188	138	138	213	272	11	0	1	1
Georgia	3	2	4	8	14	14	90	360	132	1	0	0
Florida	1	0	1	------	29	3	93	475	97	0	0	0
E. SO. CEN.												
Kentucky	2	5	6	2	------	8	75	962	158	0	0	1
Tennessee	1	7	4	15	21	24	150	341	133	2	0	0
Alabama	6	7	7	119	21	34	96	269	176	2	0	0
Mississippi [2]	3	1	2	------	------	------	------	------	------	1	1	1
W. SO. CEN.												
Arkansas	2	2	2	39	258	26	121	317	142	0	0	0
Louisiana	5	0	5	4	1	6	114	27	27	2	2	1
Oklahoma	3	7	5	31	19	34	180	152	152	0	0	0
Texas	21	17	23	302	389	298	733	900	900	1	8	3
MOUNTAIN												
Montana	0	1	1	2	2	9	113	63	63	0	0	0
Idaho	0	0	0	------	------	------	120	6	25	0	0	0
Wyoming	0	6	0	44	------	------	52	277	26	0	0	0
Colorado	5	8	8	42	20	2	248	542	237	0	0	0
New Mexico	0	2	1	------	------	1	41	106	87	0	0	0
Arizona	0	3	1	74	58	47	158	110	46	0	0	0
Utah [2]	0	5	0	8	7	------	1,104	42	151	0	0	0
Nevada	0	0	------	------	------	------	44	0	------	0	0	------
PACIFIC												
Washington	2	1	0	3	2	------	657	15	55	6	0	0
Oregon	1	2	3	6	2	17	100	140	78	1	0	0
California	18	11	26	53	222	44	5,359	734	734	4	1	2
Total	184	203	283	1,124	1,379	876	20,966	34,681	15,205	81	56	50
20 weeks	5,439	5,348	8,751	74,496	478,389	154,422	372,732	689,526	273,815	1,567	998	998

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 23, 1942, and comparison with corresponding week of 1941 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41	Week ended—		Median 1937–41
	May 23, 1942	May 24, 1941		May 23, 1942	May 24, 1941		May 23, 1942	May 24, 1941		May 23, 1942	May 24, 1941	
NEW ENG.												
Maine	0	0	0	16	13	13	0	0	0	0	0	0
New Hampshire	0	0	0	4	0	4	0	0	0	0	0	0
Vermont	0	0	0	15	0	5	0	0	0	0	0	0
Massachusetts	1	0	0	256	197	197	0	0	0	2	1	1
Rhode Island	0	0	0	19	7	7	0	0	0	0	1	1
Connecticut	0	0	0	23	58	75	0	0	0	0	2	1
MID. ATL.												
New York	1	1	1	309	546	714	0	0	0	5	17	5
New Jersey	2	2	0	117	278	229	0	0	0	2	1	1
Pennsylvania	0	0	0	324	384	401	0	0	0	4	6	6
E. NO. CEN.												
Ohio	1	0	0	223	260	213	0	1	1	7	3	5
Indiana	0	1	0	43	87	115	0	0	19	4	2	3
Illinois	1	1	1	145	269	402	0	3	16	1	5	5
Michigan [2]	1	0	2	220	267	384	1	6	6	3	0	3
Wisconsin	0	0	0	98	100	139	3	2	3	0	0	0
W. NO. CEN.												
Minnesota	0	1	0	62	40	76	0	0	8	2	0	0
Iowa	0	0	0	37	26	78	0	4	20	1	2	1
Missouri	1	0	0	48	99	99	0	4	20	0	1	1
North Dakota	0	0	0	6	2	17	0	0	2	0	0	1
South Dakota	0	0	0	22	5	11	0	4	4	0	0	0
Nebraska	0	0	0	11	9	24	0	0	4	2	0	0
Kansas	2	0	0	47	20	60	0	0	4	0	4	1
SO. ATL.												
Delaware	0	0	0	18	19	6	0	0	0	0	0	0
Maryland [2]	0	0	0	71	39	39	0	0	0	1	3	2
Dist. of Col.	1	0	0	12	14	14	0	0	0	0	0	0
Virginia	1	0	0	11	15	17	0	0	0	4	3	5
West Virginia	0	0	0	21	50	35	0	0	0	1	5	4
North Carolina	1	1	0	13	12	12	1	0	0	1	2	4
South Carolina	3	0	0	0	5	3	2	0	0	5	3	3
Georgia	1	0	0	6	13	13	1	0	0	5	13	10
Florida	1	10	1	0	2	4	0	0	0	4	1	3
E. SO. CEN.												
Kentucky	1	0	0	48	85	47	0	0	1	0	5	5
Tennessee	1	0	0	28	51	51	0	3	3	0	8	7
Alabama	0	1	1	10	19	6	0	0	0	2	0	2
Mississippi [2]	1	2	0	2	1	4	0	1	1	1	0	2
W. SO. CEN.												
Arkansas	3	0	0	0	2	5	0	1	1	1	3	2
Louisiana	0	0	1	9	4	7	3	0	0	13	4	14
Oklahoma	0	0	0	10	13	14	0	1	4	2	7	5
Texas	0	1	1	18	21	32	5	0	4	11	13	9
MOUNTAIN												
Montana	0	0	0	9	6	12	0	0	0	0	0	1
Idaho	0	0	0	2	4	5	0	2	2	0	0	0
Wyoming	0	0	0	11	0	2	0	0	0	0	0	0
Colorado	0	0	0	15	18	30	0	0	3	1	0	1
New Mexico	1	0	0	1	5	7	0	0	1	2	0	0
Arizona	0	0	0	8	6	10	0	0	1	2	0	1
Utah [2]	0	0	0	8	13	15	0	1	0	0	0	0
Nevada	0	0	-------	0	0	-------	0	0	-------	0	0	-------
PACIFIC												
Washington	0	0	0	23	17	37	1	0	1	1	0	0
Oregon	0	1	1	6	5	18	1	1	7	0	4	3
California	1	5	2	95	108	164	0	0	12	3	1	6
Total	26	27	27	2,500	3,218	4,272	18	34	237	93	120	146
20 weeks	417	444	412	74,581	74,083	97,895	437	916	6,239	1,600	1,626	2,265

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 23, 1942—Con.

Division and State	Whooping cough		Anthrax	Week ended May 23, 1942								
	Week ended—			Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	May 23, 1942	May 24, 1941		Amebic	Bacillary	Unspecified					
NEW ENG.											
Maine	21	19									
New Hampshire	1	16									
Vermont	23	13									
Massachusetts	193	357			1		3				
Rhode Island	47	23									
Connecticut	74	66			2						
MID. ATL.											
New York	441	270		3	3		2			1	
New Jersey	369	194							1		
Pennsylvania	231	435	3	2			1		2		
E. NO. CEN.											
Ohio	201	370					2				
Indiana	30	32									
Illinois	255	106								1	
Michigan [2]	233	379									
Wisconsin	184	111									
W. NO. CEN.											
Minnesota	41	90		2							
Iowa	20	28								3	
Missouri	12	65								2	
North Dakota	10	20					2				
South Dakota	1	16									
Nebraska	6	6									
Kansas	42	130					1				
SO. ATL.											
Delaware	2	0									
Maryland [2]	65	146				6					
Dist. of Col.	9	10									
Virginia	96	83				22			1		
West Virginia	12	29									
North Carolina	94	345							1	1	1
South Carolina	117	89									
Georgia	43	47		1	6					4	13
Florida	13	24									3
E. SO. CEN.											
Kentucky	72	40							1	1	
Tennessee	33	65		2		1				1	
Alabama	61	68									6
Mississippi [2]											
W. SO. CEN.											
Arkansas	13	70		3	5					5	
Louisiana	36	5		2	2			1		2	2
Oklahoma	15	26									
Texas	118	374		6	141					1	10
MOUNTAIN											
Montana	13	4							1	4	
Idaho	5	6							1	1	
Wyoming	10	3							4	1	
Colorado	23	205							2		
New Mexico	23	40					[3]				
Arizona	13	35				59	1				
Utah [2]	21	34								6	
Nevada	0	0									
PACIFIC											
Washington	58	108			1						
Oregon	10	34									
California	357	811		4	1			1		2	
Total	3,767	5,447	3	25	162	88	12	2	14	36	35
20 weeks	76,786	93,426									

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Seven cases Unspecified Encephalitis reported.

WEEKLY REPORTS FROM CITIES

City reports for week ended May 9, 1942

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								
Atlanta, Ga	0	0	4	0	6	0	7	0	3	0	1	1
Baltimore, Md	3	0	2	2	333	4	9	0	21	0	2	30
Barre, Vt	0	0	----	0	0	0	0	0	0	0	0	10
Billings, Mont	0	0	----	0	6	0	0	0	1	0	0	2
Birmingham, Ala	0	0	4	0	2	1	0	1	2	0	1	8
Boston, Mass	0	0	----	0	327	1	9	0	82	0	0	63
Bridgeport, Conn	0	0	----	0	20	1	4	0	8	0	1	2
Brunswick, Ga	0	0	----	0	18	0	1	0	0	0	0	2
Buffalo, N. Y	0	0	----	0	12	0	12	0	27	0	0	0
Camden, N. J	2	0	----	0	3	0	3	0	12	0	0	1
Charleston, S. C	0	0	11	0	6	0	0	1	0	0	1	6
Charleston, W. Va	0	0	----	0	0	0	0	0	0	0	0	0
Chicago, Ill	4	0	1	1	46	0	25	1	53	0	0	108
Cincinnati, Ohio	1	0	----	1	8	0	3	1	30	0	0	12
Cleveland, Ohio	2	0	2	1	7	0	9	1	56	0	1	35
Columbus, Ohio	0	0	1	1	46	0	4	0	5	0	0	9
Concord, N. H	0	0	----	0	0	0	0	0	0	0	0	0
Cumberland, Md	0	0	----	0	1		0	0	0	0	0	0
Dallas, Tex	2	0	----	0	45	0	0	0	2	0	1	7
Denver, Colo	2	0	12	1	101	0	1	0	6	0	0	3
Detroit, Mich	3	0	----	0	30	2	8	0	113	0	0	56
Duluth, Minn	0	0	----	0	4	0	1	0	8	0	0	0
Fall River, Mass	1	0	----	0	40	0	1	0	30	0	0	0
Fargo, N. Dak	0	0	----	0	1	0	0	0	1	0	0	3
Flint, Mich	0	0	----	0	1	0	0	0	2	0	0	3
Fort Wayne, Ind	0	0	----	0	1	0	2	0	0	0	0	2
Frederick, Md	0	0	----	0	----	0	0	0	0	0	0	0
Galveston, Tex	0	0	----	0	13	1	2	0	0	0	0	4
Grand Rapids, Mich	0	0	----	0	2	0	1	0	2	0	0	4
Great Falls, Mont	0	0	----	0	23	0	1	0	0	0	0	4
Hartford, Conn	0	0	----	0	93	0	0	0	4	0	0	13
Helena, Mon	0	0	----	0	1	0	0	0	0	0	0	1
Houston, Tex	1	0	----	0	33	0	12	0	0	0	0	0
Indianapolis, Ind	0	0	----	0	151	0	7	0	18	0	0	20
Kansas City, Mo	0	0	----	0	124	0	5	0	22	0	0	0
Kenosha, Wis	0	0	----	0	8	0	0	0	1	0	0	9
Little Rock, Ark	0	0	----	0	0	1	1	0	0	0	0	0
Los Angeles, Calif	3	0	13	0	573	0	4	1	16	0	0	22
Lynchburg, Va	0	0	----	0	0	0	1	0	0	0	0	34
Memphis, Tenn	0	0	2	1	37	0	5	0	4	0	0	18
Milwaukee, Wis	0	0	----	0	185	0	4	0	27	0	0	85
Minneapolis, Minn	0	0	----	0	483	0	5	0	11	0	1	7
Missoula, Mont	0	0	----	0	29	0	1	0	3	0	0	0
Mobile, Ala	0	0	1	3	0	0	3	0	1	0	0	0
Nashville, Tenn	0	0	----	0	5	0	3	0	0	0	0	1
Newark, N. J	0	0	2	0	306	4	6	0	21	0	0	41
New Haven, Conn	0	0	----	0	97	0	0	0	1	0	0	3
New Orleans, La	0	0	----	0	0	1	6	0	3	0	1	0
New York, N. Y	14	2	8	1	104	15	55	1	220	0	2	222
Omaha, Nebr	3	0	----	0	175	0	3	0	3	0	0	0
Philadelphia, Pa	1	0	2	2	60	0	21	0	180	0	1	95
Pittsburgh, Pa	2	0	----	0	13	0	12	0	14	0	0	12
Portland, Maine	0	0	----	0	10	2	4	0	0	0	0	1
Providence, R. I	0	0	----	0	174	3	1	0	6	0	0	12
Pueblo, Colo	0	0	----	0	0	0	1	0	2	0	0	0
Racine, Wis	0	0	----	0	308	0	0	0	1	0	0	34
Raleigh, N. C	0	0	----	0	3	0	1	0	0	0	0	0
Reading, Pa	0	0	----	0	8	0	1	0	0	0	0	6
Richmond, Va	1	0	1	1	8	1	1	0	2	0	1	0

City reports for week ended May 9, 1942—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								
Roanoke, Va	0	0	------	0	2	0	0	0	0	0	0	0
Rochester, N. Y	0	0	------	0	18	1	1	0	8	0	0	4
Sacramento, Calif	0	0	------	0	57	0	2	0	3	0	0	23
Saint Joseph, Mo	0	0	------	0	8	0	3	0	0	0	0	0
Saint Louis, Mo	1	0	------	0	142	0	12	0	15	0	0	4
Saint Paul, Minn	0	0	------	0	181	0	5	0	7	0	0	12
Salt Lake City, Utah	0	0	------	0	184	0	2	0	0	0	0	5
San Antonio, Tex	0	0	------	0	17	0	4	2	0	0	0	2
San Francisco, Calif	0	0	2	1	273	1	4	0	14	0	0	10
Savannah, Ga	0	0	3	0	1	0	2	0	0	0	0	1
Seattle, Wash	0	0	------	1	110	0	2	0	1	0	0	25
Shreveport, La	1	0	------	0	10	0	3	0	0	0	0	1
South Bend, Ind	0	0	------	0	0	0	2	0	5	0	0	5
Spokane, Wash	0	0	------	0	50	1	2	0	3	0	0	4
Springfield, Ill	0	0	------	0	89	0	2	0	6	0	0	0
Springfield, Mass	0	0	1	0	76	0	6	0	15	0	0	6
Superior, Wis	0	0	------	0	2	0	0	0	1	0	0	0
Syracuse, N. Y	0	0	------	0	227	0	0	0	1	0	1	46
Tacoma, Wash	0	0	------	0	5	0	1	0	6	0	0	1
Tampa, Fla	0	0	2	0	57	0	0	0	0	0	1	0
Terre Haute, Ind	0	0	------	0	2	0	0	0	0	0	0	0
Topeka, Kans	0	0	------	0	40	0	2	0	1	0	0	1
Trenton, N. J	0	0	------	0	1	0	0	0	8	0	0	4
Washington, D. C	1	0	------	0	121	3	8	0	5	0	0	12
Wheeling, W. Va	0	0	------	0	3	0	0	0	0	0	0	0
Wichita, Kans	0	0	------	0	105	0	4	0	1	0	0	1
Wilmington, Del	0	0	------	0	5	0	1	0	5	0	0	0
Wilmington, N. C	0	0	------	1	10	0	0	0	0	0	0	3
Winston-Salem, N. C	0	0	------	0	9	0	1	0	1	0	0	0
Worcester, Mass	0	0	------	0	2	0	8	0	11	0	0	70

Dysentery, Amebic.—Cases: Boston, 1; Dallas, 1; Detroit, 2; St. Louis, 1; San Francisco, 1; Washington, D. C., 1.
Dysentery, Bacillary.—Cases: Los Angeles, 1; New York, 2.
Typhus fever.—Cases: San Antonio, 1; Tampa, 1.

Rates (annual basis) per 100,000 population, for the group of 89 cities in the preceding table (estimated population, 1942, 34,064,655)

Period	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Typhoid fever cases	Whooping cough cases
		Cases	Deaths						
Week ended May 9, 1942	7.35	11.33	2.76	902.66	52.50	174.65	.0.00	2.45	191.49
Average for week, 1937–41	14.68	17.30	5.56	[1]732.50	73.70	277.18	2.16	3.24	196.53

[1] Median.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended April 25, 1942.—During the week ended April 25, 1942, 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 [1]	British Columbia	Total
Cerebrospinal meningitis		6	2	6	6		1		2	23
Chickenpox		4	1	130	255	32	33		180	635
Diphtheria		28	5	9	2	3				47
Dysentery				3						3
German measles		6	3	26	50	11	5		36	137
Influenza		28							13	41
Measles		7	2	475	155	152	14		25	830
Mumps	2	28	4	332	462	104	149		547	1,628
Pneumonia		12			7	2	1		26	48
Poliomyelitis			2	1		1	1			5
Scarlet fever	2	38	24	119	221	43	20		40	507
Trachoma						1			1	2
Tuberculosis	2	7	4	73	57				21	164
Typhoid and paratyphoid fever				25	4					29
Undulant fever				1						1
Whooping cough		7	4	235	107	1	1		54	409
Other communicable diseases		6		3	192	51	1		6	259

[1] No report was received from Alberta for this period.

FINLAND

Communicable diseases—February 1942.—During the month of February 1942, cases of certain communicable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Diphtheria	183	Poliomyelitis	5
Influenza	2,129	Scarlet fever	475
Paratyphoid fever	67	Typhoid fever	42

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER AND YELLOW FEVER

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

CHOLERA

[C indicates cases]

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place		January-February 1942	March 1942	April 1942—week ended—			
				4	11	18	25
ASIA							
Ceylon	C		31	1			
India	C	8,185	6,369				
Calcutta	C	109	72	67			
Chittagong	C	1	29	4			
Rangoon	C	1					

PLAGUE

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

Place							
AFRICA							
Basutoland	C		[1] 7				
British East Africa:							
Kenya	C	237					
Nairobi	C	61					
Uganda	C	104					
Madagascar	C	41	23				[2] 16
Morocco	C	38	75	5	15	2	4
Union of South Africa	C	16	15				
ASIA							
China:							
Changteh Province	C	P					
Chekiang Province	C	P					
Shensi Province	D	30					
Suiyuan and Ninghsia Provinces	D	139					
India	C	349	40				
Indochina (French)	C	17	37				[2] 13
Palestine: Haifa	C	4					
SOUTH AMERICA							
Argentina: Cordoba Province	C	7					
Chile: Valparaiso	C	1					
Peru:							
Ancash Department	C	6					
Lambayeque Department	C	2	1				
Libertad Department	C	3	3				
Salaverry—Plague infected rats		P					
Lima Department	C	20	8				
Piura Department	C	4	3				
OCEANIA							
Hawaii Territory: Plague-infected rats		12	4			1	

[1] Suspected.
[2] For the month of April.

SMALLPOX

[C indicates cases]

Place		January-February 1942	March 1942	April 1942—week ended— 4	11	18	25
AFRICA							
Algeria	C	245	81				
Belgian Congo	C	32					
Dahomey	C	36	4				
French Guinea	C	58	1				
Ivory Coast	C	50					
Morocco	C	726	173	34	47	30	40
Nigeria	C	323	29				
Niger Territory	C	127	8				
Senegal	C	9					
Tunisia	C		1				
Union of South Africa	C	272	16				
ASIA							
Ceylon	C	2	1	1			
China	C	7					
India	C	5,985	3,833				
Indochina (French)	C	679	613				[1] 615
Iran	C	28					
Iraq	C	138	26				
Palestine	C	7					
EUROPE							
France:							
Seine Department	C	24	17				
Unoccupied zone	C	13					
Portugal	C	17	7	2	1		
Spain	C	27	21	2	2		
NORTH AMERICA							
Canada	C		1	1			
Mexico	C	5	1				
SOUTH AMERICA							
British Guiana	C	1					
Colombia	C	6					
Venezuela (alastrim)	C	45	39				

[1] For the month of April.

TYPHUS FEVER

[C indicates cases]

AFRICA							
Algeria	C	9,196	7,133			[1] 4,174	
Basutoland	C	15					
British East Africa: Kenya	C	4					
China	C	7					
Egypt	C	3,417	4,237				
Ivory Coast	C	4					
Morocco	C	4,384	4,795	1,509	1,512	1,376	1,386
Niger Territory	C	1					
Sierra Leone	C	1					
Tunisia	C	4,165	3,138	800	583	676	
Union of South Africa	C	289					
ASIA							
India	C	5					
Iran	C	49	80	29	29	73	
Iraq	C	3	1				
Palestine	C	12	3				
Syria	C	10	12				

[1] For the period Apr. 1–20, 1942.

TYPHUS FEVER—Continued

[C indicates cases]

Place		January–February 1942	March 1942	April 1942—week ended— 4	11	18	25
EUROPE							
Bulgaria	C	94	197		33	42	
Czechoslovakia	C	5					
France:							
Seine Department	C		1				
Unoccupied zone	C	4		[2] 133	50	17	11
Germany	C	85					
Hungary	C	228	130	36	49	47	11
Irish Free State	C		2		1		
Portugal	C			1			
Rumania	C	1,382	686	74	189		171
Spain	C	1,975	1,374	96	84	51	
Canary Islands	C		1				
Turkey	C	86	107				
Union of Soviet Socialist Republics	C	67					
NORTH AMERICA							
Guatemala	C	28	6				
Jamaica	C	9	1	2	2		
Mexico	C	116	2	1	1		
Panama Canal Zone	C	1					
Puerto Rico	C	3					
SOUTH AMERICA							
Chile	C	12	4				
Ecuador	C	14					
Venezuela	C	2	1				
OCEANIA							
Australia	C	4					
Hawaii Territory	C	14	6			1	

[2] For the period Feb. 27–Apr. 7, 1942.

YELLOW FEVER

[C indicates cases; D, deaths]

AFRICA							
Belgian Congo: Libenge	D			[1] 1			
French West Africa	C	1					
Gold Coast	C		1				
Ivory Coast [3]	C	1					
Senegal.[3]							
Sierra Leone: Freetown	C	2					
Sudan (French)	D	[1] 1					
Togo: Hohoe	C	1					
SOUTH AMERICA [4]							
Colombia:							
Boyaca Department	D	2					
Intendencia of Meta	D	1					
Santander Department	D	1					

[1] Suspected.

[3] During the week ended May 2, 1942, 1 death from suspected yellow fever was reported in Divo Subdivision, Ivory Coast.

[3] According to information dated Feb. 9, 1942, 15 deaths from yellow fever among Europeans have occurred in Senegal.

[4] All yellow fever in South America is of the jungle type unless otherwise specified.