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THE COMPARATIVE POTENCIES OF SEVERAL TYPHUS VACCINES¹

By RICHARD DONOVICK and RALPH W. G. WYCKOFF

In a recent note (1) we compared three typhus vaccines by determining the minimal amount of each vaccine required to protect guinea pigs and by titrating the complement fixing antibody content of the blood of vaccinated animals. These results indicated that the vaccine which had the greatest protective power likewise induced the highest complement fixing antibody titre. The experiments recorded in the present paper are an extension of the earlier ones. They were carried out with the following objects in view: (1) To compare the potencies of vaccines made by three different procedures, (2) to gain information concerning the degree to which complement fixing antibody titre can be taken as a measure of vaccine potency in the guinea pig, and (3) to see how long it takes for antibodies to appear and how long they persist in vaccinated guinea pigs.

EXPERIMENTAL

Two sets of vaccines have been used in the present work. Some results have already been reported (1) upon the first, labeled IA, IIA, and IIIA. The second, designated as T-IA, T-IIA, and T-IIIA, was made by the same procedures employed in preparing the first set. A common pool of crude infectious material served as the starting point for each set; it must be emphasized that satisfactory comparisons of methods of typhus vaccine preparation and refinement must be based on products having such a common origin.

The two pools used in these experiments each consisted of Breinl typhus diseased yolk sacs which were ground in a Waring blender and diluted with sufficient formalin-saline solution to yield an 8 percent

¹ From the Lederle Laboratories, Pearl River, N. Y. This paper was approved for publication October 22, 1942, and scheduled for publication in PUBLIC HEALTH REPORTS in the issue of November 27, 1942. Because of the subject matter the paper was withheld from publication at that time.

tissue suspension containing 0.5 percent formalin. Each finished pool had a volume of about 8 liters.

The first pool was divided into four parts, each of which was processed differently. The first portion was refined by a procedure which is substantially that described by Cox (2). It was first centrifuged for an hour at 5,000 r. p. m. in the conical head of a No. 1 International centrifuge. The supernatant from this operation, containing soluble chick proteins and much lipoidal material, was discarded; the sediment, consisting largely of tissue fragments and rickettsial masses, was resuspended to one-quarter the original (crude) volume using the Waring blender and a saline diluent containing 1.8 percent phenol and 0.4 percent formalin. This concentrate was stored for several days at room temperature, and shaken frequently to facilitate the denaturation and precipitation of proteins. It was then diluted with an equal volume of saline and, after standing for 2 more days, was centrifuged for 15 minutes at 1,000 to 1,500 r. p. m. in a No. 3 International machine. The sediment was discarded; the clarified supernatant after further dilution with an equal volume of saline was the finished vaccine IA.

The next portion of crude material was centrifuged like the first at 5,000 r. p. m. and the supernatant discarded. Following the suggestion of Craigie (3) and others that ether offers an especially good means of refining rickettsial vaccines, this reagent was employed to extract the sediment from high-speed centrifugation. To do this it was resuspended in the blender with physiological saline containing 0.45 percent phenol and 0.4 percent formalin, enough of this diluent then being added to give a volume one-fourth that of the original (crude) vaccine. This resuspended material was cautiously shaken in a separatory funnel with two volumes of anaesthetic ether and allowed to stand undisturbed overnight. The water layer was withdrawn, freed from ether by partial evacuation, and diluted with three volumes of saline containing 0.45 percent phenol to yield finished vaccine IIA.

The third portion of vaccine was refined according to the method described by Topping (4). In this case the crude vaccine was directly extracted with ether. As before, two volumes of ether were used and the mixture was allowed to stand overnight after cautious shaking before withdrawing the water layer. Dissolved ether was removed from this layer by evacuation and it was made up to its original (8 percent) volume to give the finished IIIA vaccine.

The fourth portion of the original crude suspension was refined by first extracting with ether, as in making IIIA, and then subjecting the water layer of this extract to a high-speed centrifugation such as that used in preparing vaccines IA and IIA. The sediment from this centrifugation, consisting largely of purified rickettsial bodies, was finally resuspended in the original (8 percent) volume with saline con-

taining 0.45 percent phenol and 0.1 percent formalin. From preliminary tests it was obvious that this method of combining centrifugation and ether extraction was inferior to that used in making IIA; more extensive tests with IVA were therefore not carried out and further reference will not be made to it.

The second pool of crude formalinized 8-percent membrane suspension was divided into portions, three of which were refined by exactly the same procedures which had been used in making IA, IIA, and IIIA. The three duplicate vaccines, obtained from this second pool, have been designated as T-IA, T-IIA, and T-IIIA.

Compared with the crude formalinized membrane suspension vaccines I, II, and III were all highly clarified and refined products. Vaccines IA and T-IA were colorless and only very slightly turbid. In contrast to II and III, very few rickettsiae could be seen on microscopic examination, but this seems to be characteristic of phenol-purified vaccines. According to our experience it is impossible to relate the immunizing potency of epidemic typhus vaccines made in different ways to the number of formed rickettsiae seen in their stained preparations. Vaccines II were likewise colorless, but definitely more turbid than either I or III. Vaccines III were about as clear as vaccines I but were reddish-brown in color, presumably due to hemoglobin and other soluble substances from the embryonic tissues. Microscopic preparations from freshly made vaccines II and III were always very rich in formed rickettsial bodies.

Finished vaccines were tested for potency by determining their abilities to protect guinea pigs against massive injections of infectious guinea pig brain. In some experiments the animals were given a single subcutaneous injection of from 0.1 cc. to 1.0 cc. of vaccine and then tested for immunity 3 weeks later. In other experiments a second vaccination of equal amount was injected about 5 days after the first. Immunity was always challenged by the intraperitoneal injection of 1 cc. of a freshly prepared 10-percent suspension in saline of the brain of a guinea pig infected with the classical guinea pig passage Breinl strain² of epidemic typhus. This brain was always taken from an infected animal which had shown not less than 3 nor more than 5 days of fever after the usual incubation period of about a week. Bacterial sterility of the brain suspension was assured by tests using both blood agar and nutrient broth. All the animals involved in a comparison of several vaccines or vaccine doses were challenged at the same time with the same brain suspension. The infectiousness of this suspension was established by its injection into a suitable number of normal control guinea pigs. After virus injection daily temperatures were taken on all vaccinated and control animals for a

² This strain of epidemic typhus was obtained from the National Institute of Health.

period of 18 days. Temperatures of 39.7° C. or higher developing 5 or more days after challenge inoculation were taken as evidence of typhus infection. Guinea pigs weighing not less than 450 gm. at the time of first vaccination were used throughout this work.

Vaccines were compared with one another not only by their abilities to protect vaccinated guinea pigs but also by the titre of complement fixing antibodies they could elicit. Serums for such titrations were obtained from blood drawn intracardially at various intervals after vaccination but always before challenge injection. The complement fixation titrations have been carried out by a method which differs in only minor details from that described by Bengtson and Topping (5, 6, 7). We have used two units of complement throughout our work and have obtained fixation by incubation at 37° C. for from one-half to 1 hour. After adding amboceptor and sheep cells (as a 5 percent suspension not more than 3 days old) the experimental and control tubes were returned to the 37° C. bath. The test was read as soon as clearing occurred in the appropriate control tubes. This usually required about 15 minutes. It has been our experience that with weak serums the end points thus obtained are often fleeting; on the other hand strong serums, as produced by potent vaccines, give more solid and lasting end points. Substantially the same titres were obtained, whether these were read immediately or after standing overnight in the icebox.

RESULTS

The temperature charts reproduced in our previous note (1) indicate the kind of data that are furnished by comparative protection tests. Too many animals have been used in the present work to allow the recording of each chart. Some method of averaging the results of an experiment must accordingly be adopted. The degree of typhus infection has been expressed (8) as the total area of the temperature vs. time curve lying above the fever line of 39.7° C. or as a summation of the total number of day-degrees of fever (9). Another approximate method was employed to handle the present data. It consisted in determining the average number of days of fever for the animals in each group (column 4 of table 1). Experience has shown that with both normal and partially protected guinea pigs this duration of infection depends, as would naturally be expected, on the magnitude of the infecting dose. This magnitude is reflected in the duration of the infection in the control animals and expressed in column 5 of table 1 as the average number of days of fever in the corresponding control group. The ratio of the averages of columns 4 and 5, e. g., 3.6/8.6, expressed in column 6 as 42 percent infection, can be taken as an approximate statement of the severity of the infection in a vaccinated group compared to that in its control group. Data on

protection experiments carried out with both the original and the T series of vaccines are summarized in this fashion in table 1.

TABLE 1.—Results^a of protection tests

Vaccine	Vaccinations		Average days of fever		Percent infection
	Dose	Number	Experimental ¹	Control	
IA.....	0.1	2	3.6	8.6	42
	.25	2	3.6	8.6	42
IIA.....	.1	2	4.6	8.6	53
	.25	2	3.3	8.6	38
IIIA.....	.1	2	2.7	8.6	31
	.25	2	1.6	8.6	19
	.1	1	4.7	6.7	70
	.25	1	3.7	6.7	55
T-IA.....	1.00	1	3.5	6.7	52
	.1	2	3.9	4.7	83
	.25	2	6.0	4.7	100
	.1	1	4.6	6.7	69
	.25	1	4.2	6.7	63
T-IIA.....	1.00	1	1.2	6.7	18
	.1	2	3.4	4.7	72
	.25	2	1.0	4.7	21
	.1	1	2.6	6.7	39
	.25	1	1.8	6.7	27
T-IIIA.....	1.00	1	0.3	6.7	4
	.1	2	2.2	4.7	47
	.25	2	1.1	4.7	23

¹ The "experimental average days of fever" are frequently high because all days of fever have been counted even though some were clearly due to intercurrent infections, rather than typhus. The calculated "percent infection" is therefore often higher, and the "percent protection" of table 2 lower than is really the case.

² This low average infectiousness in controls is due partly to the inclusion of the data on one animal which showed no fever and probably was missed during inoculation.

It is of both theoretical and practical value to know whether or not complement fixing antibodies and protection develop in parallel fashion in vaccinated guinea pigs. To throw light upon this question all vaccinated guinea pigs were bled from the heart 2 days before challenge virus injection and complement fixing antibody titrations were made of the serums thus obtained. An average titre for each group of vaccinated animals was computed from these titrations by averaging the dilutions corresponding to the titration end point of each serum, e. g., a 1/4-end point is a twofold, a 1/32 is a fivefold, and a $\frac{1}{2^n}$ is an n-fold, dilution, and converting this average back to its nearest whole dilution end point, e. g., an average dilution of 5.3 is taken as $\frac{1}{32}$ while a 5.8 dilution is taken as $\frac{1}{64}$. This approximation corresponds to the average that would be found by titrating an actual admixture of the several serums. It is natural to compare titration end points with degree of protection rather than infection; for the present purposes this protection has been taken as 100 percent minus the infection calculated in the last column of table 1. Percent protection computed in this way is compared with average titration end points in table 2.

TABLE 2.—*A comparison between protection and complement fixing antibodies*

Vaccine	Vaccinations		Percent protection	Antibody end points
	Dose	Number		
IA	0.1	2	58	1/2
IIA	.1	2	47	1/16
IIIA	.1	2	69	1/64
IA	.25	2	58	1/32
IIA	.25	2	62	1/32
IIIA	.25	2	81	1/128
T-IA	.1	1	30	1/8
T-IIA	.1	1	31	1/8
T-IIIA	.1	1	61	1/64
T-IA	.25	1	45	1/32
T-IIA	.25	1	37	1/8
T-IIIA	.25	1	73	1/128
T-IA	.1	2	28	1/16
T-IIA	.1	2	37	1/32
T-IIIA	.1	2	59	1/64
T-IA	.25	2	0	1/32
T-IIA	.25	2	81	1/128
T-IIIA	.25	2	80	1/256
T-IA	1.00	2	48	1/32
T-IIA	1.00	2	82	1/128
T-IIIA	1.00	2	96	1/256

A study of the data summarized in these two tables leads to the following conclusions: (1) In all instances the III vaccines gave better protection, and higher titres of complement fixing antibodies, than either the I or the II vaccines. It is therefore difficult to avoid the conclusion that ether extraction of the crude tissue suspension leads to a more potent product than does high-speed centrifugation followed by either a phenol or an ether refinement of the sediment. (2) Vaccines II were usually superior, both in potency and antibody titre, to vaccines I. (3) Increase in either the dose of vaccine or in the number of vaccinations improved protection and raised antibody titres. It is natural that this should be so but the way the quantitative data demonstrate it shows that valid comparisons result from the method employed in computing potencies.

These data and many other observations made in connection with the routine testing of typhus vaccines support the conclusion that the most potent vaccines produce the highest titres of complement fixing antibodies in guinea pigs. To get further evidence upon this point it has seemed desirable to see how fast the maximum antibody titre develops after vaccination and how long these antibodies persist. With this in mind we have vaccinated groups of guinea pigs with single doses of IA, IIA, and IIIA vaccines and, without challenging their immunity by the injection of live virus, have bled them repeatedly from the heart at 2-week intervals. The results of antibody titrations expressed as end points averaged from determinations on individual serums are recorded in table 3. These data confirm those of table 2 in showing that vaccine III is better than either I or II as judged by the amount of complement fixing antibody it can induce, and that the antibody content increases with the dose of vaccine. They also

indicate that, irrespective of the amount and quality of vaccine used, the antibody titre reaches a maximum at about the time of our second bleeding, i. e., about 4 weeks after vaccination. When a small dose of a weak vaccine was used, as was the case when 0.1 cc. of IA was injected, antibody in measurable amount soon disappeared from the blood of a guinea pig, but it persisted for many weeks following the injection of a potent product.

TABLE 3.—Persistence of antibodies after a single vaccination

Vaccine	Dose (cc.)	Antibody end point after X weeks						
		2	4	6	8	10	12	14
IA.....	0.1	1/4	1/64	1/2	-----	1/2	-----	-----
	.25	1/64	1/128	1/4	-----	1/16	-----	-----
	.50	1/16	1/256	1/8	-----	1/8	-----	-----
	1.00	1/128	1/256	1/64	-----	1/16	1/8	-----
IIA.....	.1	1/16	1/128	1/16	-----	1/16	-----	-----
	.25	1/32	1/256	1/4	-----	1/2	-----	-----
	.50	1/32	1/128	1/16	-----	0	-----	-----
	1.00	1/64	1/256	1/64	1/128	-----	1/16	-----
IIIA.....	.1	1/64	1/128	1/32	-----	1/64	-----	-----
	.25	1/128	1/256	1/256	-----	1/32	-----	-----
	.50	1/128	1/1024	1/256	-----	1/16	-----	-----
	1.00	1/32	1/512	1/128	1/128	-----	1/32	-----

Topping (4) has suggested that an alum-precipitated typhus vaccine might have certain advantages over one of the fluid type. We have prepared 15 batches of precipitated vaccines starting with 8-percent tissue fluid vaccines of the III type. In each instance the finished vaccine contained the washed alum precipitate suspended in a volume of 0.45 percent phenol-0.1 percent formalin-saline equal to that of the fluid vaccine before precipitation. These vaccines without exception gave complete protection against the usual challenge inoculation when injected in two 1-cc. amounts into guinea pigs. The serums of such pigs, from blood taken 2 days before challenge and 3 weeks after the first vaccination had complement fixing antibody contents which averaged for the individual batches between a minimum of $\frac{1}{64}$ and a maximum of $\frac{1}{1,024}$, with an average of $\frac{1}{256}$. Few direct comparisons involving fluid vaccines and alum precipitates from them are yet available, but available data indicate that this average is neither better nor worse than would be expected from a similar series of 8-percent fluid III-type vaccines.

Some studies have been made to see how long circulating antibodies persist in guinea pigs receiving alum vaccines. Five early alum vaccines were injected in single 1-cc. doses into five groups of guinea pigs. Each animal was bled repeatedly from the heart and antibody end points were determined on the serums thus obtained. The first bleedings were made 10 to 14 days after vaccination; subsequent bleedings were taken at biweekly intervals. Average end points were

calculated from the individual animal results by the procedure already outlined. These data are summarized in table 4. In this table are also listed data obtained on successive bleedings of a weaker phenolized vaccine No. 130, part of which was used as fluid, the rest being converted into alum-vaccine of the same final dilution. It is evident that alum precipitation does not impair the ability of a typhus vaccine to elicit complement fixing antibodies in guinea pigs. At the same time there is no evidence from either table 3 or table 4 to indicate that alum precipitation enhances either the antibody titre or the persistence of antibodies in guinea pigs receiving one dose of vaccine.

TABLE 4.—*Persistence of antibodies using alum vaccines*

Vaccine	Vaccinations		Antibody end point after X weeks						
	Dose (cc.)	Number	2	4	6	8	10	12	14
300P.....	1.00	1	1/64	1/64	1/128	1/64	1/64	1/32	1/16
301P.....	1.00	1	1/128	1/64	1/64	1/128	1/128	1/32	1/64
302P.....	1.00	1	1/64	1/128	1/128	1/128	1/64	1/32	1/32
303P.....	1.00	1	1/128	1/128	1/64	1/32	1/64	1/16	1/16
305P.....	1.00	1	1/128	1/64	1/256	1/256	1/64	1/64	1/32
130 (fluid) ¹	1.00	1	1/32	1/32	1/32	1/32	-----	-----	-----
130P.....	1.00	1	1/16	1/32	1/32	1/32	-----	-----	-----

¹ Vaccine 130 was a crude product equivalent to only ca. 4 percent yolk membrane.

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SICKNESS ABSENTEEISM AMONG INDUSTRIAL WORKERS, FOURTH QUARTER OF 1944, WITH A NOTE ON SEASONAL VARIATION ¹

By W. M. GAFAFER, *Principal Statistician, United States Public Health Service*

The accompanying data on 8-day or longer absences due to sickness and nonindustrial injuries are derived from analyses of reports period-

¹ From the Industrial Hygiene Division, Bureau of State Services. The report for the third quarter appeared in *PUBLIC HEALTH REPORTS*, **60**: 145-148 (February 9, 1945).

ically received from industrial sick benefit associations, company relief departments, and group insurance plans. The workers covered number over 225,000 males.

FOURTH QUARTER OF 1944

Interest in the rates for the fourth quarter of 1944, shown in table 1, centers around the 31-percent decrease in the respiratory diseases, and the 20-percent increase in the nonrespiratory-nondigestive diseases, the 1944 rate for all causes (135.9 absences per 1,000 males) being 11 percent less than the corresponding rate for 1943 (152.5).

TABLE 1.—Average annual number of absences per 1,000 males on account of sickness and nonindustrial injuries disabling for 8 consecutive calendar days or longer, by cause, experience of MALE employees in various industries, fourth quarter of 1944 compared with fourth quarter of 1943, and year 1944 compared with years 1939-43, inclusive¹

Cause (numbers in parentheses are disease title numbers from International List of Causes of Death, 1939)	Annual number of absences per 1,000 males				
	Fourth quarter		Year		
	1944	1943	1944	1943	1939-43
Sickness and nonindustrial injuries.....	185.9	152.5	189.4	187.6	108.6
Nonindustrial injuries (106-195).....	10.8	11.2	11.7	12.0	11.6
Sickness.....	125.1	141.3	127.7	125.6	97.0
Respiratory diseases.....	56.8	81.8	57.3	66.3	45.6
Tuberculosis of respiratory system (13).....	.5	.8	.7	.8	.7
Influenza, gripe (53).....	19.5	46.4	24.3	28.9	19.9
Bronchitis, acute and chronic (106).....	13.5	10.9	9.9	10.7	6.8
Pneumonia, all forms (107-109).....	5.5	7.6	6.4	8.9	5.3
Diseases of pharynx and tonsils (115b, 115c).....	5.1	4.7	5.8	6.6	5.5
Other respiratory diseases (104, 105, 110-114).....	12.7	11.4	10.2	10.4	7.4
Digestive diseases.....	18.4	17.3	19.1	17.0	15.5
Diseases of stomach except cancer (117, 118).....	6.4	6.5	6.4	5.9	4.5
Diarrhea and enteritis (120).....	2.3	2.1	2.7	2.0	1.6
Appendicitis (121).....	4.2	4.2	4.6	4.4	4.8
Hernia (122a).....	2.2	1.7	2.0	1.9	1.7
Other digestive diseases (115a, 115d, 116, 122b-129).....	3.3	2.8	3.4	2.8	2.9
Nonrespiratory-nondigestive diseases.....	43.6	36.2	45.4	37.6	33.0
Infectious and parasitic diseases (1-12, 14-24, 26-29, 31, 32, 34-44) ²	1.9	1.7	2.4	2.4	2.3
Rheumatism, acute and chronic (58, 59).....	5.8	3.6	6.0	4.4	4.0
Neurasthenia and the like (part of 84d).....	1.8	1.5	2.2	1.5	1.1
Neuralgia, neuritis, sciatica (87b).....	3.5	2.8	3.2	2.8	2.4
Other diseases of nervous system (80-85, 87, except part of 84d, and 87b).....	2.0	1.7	2.0	1.6	1.2
Diseases of heart and arteries, and nephritis (90-99, 102, 130-132).....	7.4	5.6	7.6	5.4	4.6
Other diseases of genitourinary system (133-138).....	3.3	2.8	3.5	2.7	2.6
Diseases of skin (151-153).....	3.0	3.2	3.4	3.2	2.9
Diseases of organs of movement except diseases of joints (156b).....	3.4	3.4	3.7	3.5	3.0
All other diseases (45-57, 60-79, 88, 89, 100, 101, 103, 154, 155, 156a, 157, 162).....	11.5	9.9	11.4	10.1	8.9
Ill-defined and unknown causes (200).....	6.3	6.0	5.9	4.7	2.9
Average number of males.....	228,517	267,388	242,835	260,623	1,143,927
Number of organizations.....	17	18	17	18	-----

¹ Industrial injuries and venereal diseases are not included.

² Exclusive of influenza and gripe, respiratory tuberculosis, and venereal diseases.

The lower respiratory frequency in 1944 reflects principally the decrease of 58 percent in the frequency of influenza and grippe, the epidemic rate of 46.4 recorded for the fourth quarter of 1943 dropping to 19.5 in 1944.

With the exception of diseases of the skin and diseases of organs of movement except diseases of joints, each specific nonrespiratory-non-digestive cause yielded a rate for 1944 which was higher than the corresponding rate for 1943.

FOURTH QUARTERS, 1935-44

Selected groups of causes.—Figure 1 presents for the fourth quarters of the 10 years 1935-44 the contribution of each of six selected groups of causes to the total frequency of sickness and nonindustrial injuries.

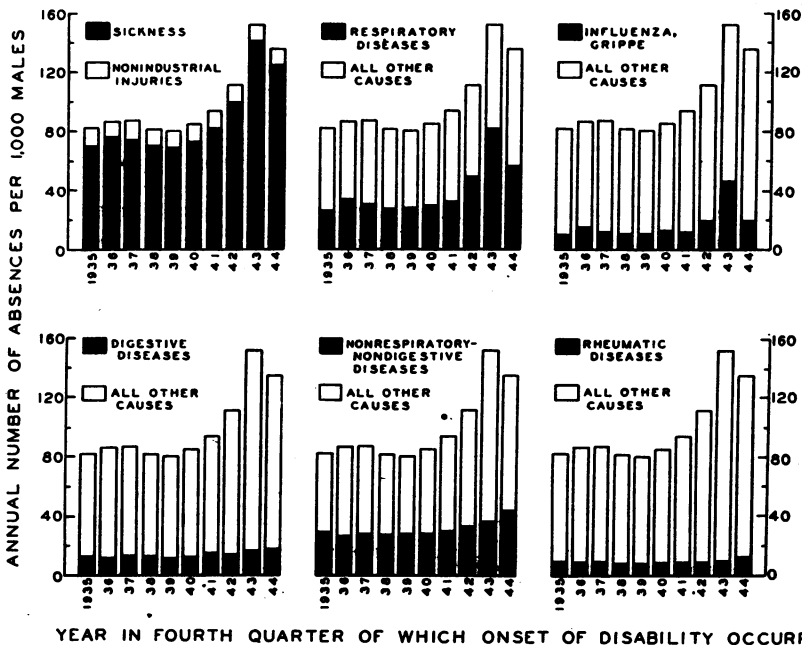


FIGURE 1.—Average annual number of absences per 1,000 males on account of sickness and nonindustrial injuries disabling for 8 consecutive calendar days or longer, for selected groups of causes, according to year in fourth quarter of which onset of disability occurred; experience of MALE employees in various industries, 1935-44, inclusive. (Each bar for a particular year represents the average annual frequency from all sickness and nonindustrial injuries, and the contribution made to that frequency by a particular group of causes. The rheumatic diseases include rheumatism, acute and chronic; neuralgia, neuritis, and sciatica; and diseases of organs of movement except diseases of joints.)

The six groups are sickness, respiratory diseases, influenza and grippe, digestive diseases, nonrespiratory-nondigestive diseases, and the rheumatic diseases.²

² Rheumatism, acute and chronic; neuralgia, neuritis, and sciatica; and diseases of organs of movement except diseases of joints.

The varying total frequency, shown six times in the figure, reveals an upward trend from 1939 to 1943, the rate decreasing in 1944. Nevertheless the 1944 rate is exceeded only by the rate for 1943, and is almost 70 percent above the minimum rate yielded in 1939. When the 10 total rates are related to their mean (99.9 absences per 1,000 males), excesses of 12, 53, and 36 percent are shown for the 3 consecutive years 1942, 1943, and 1944, each of the yearly rates prior to 1942 being less than the mean.

The movements of the fourth-quarter rates presented in figure 1 for the six selected groups of causes follow two general patterns as revealed by the respective upper and lower halves of the figure. The occurrence of the respiratory epidemic in the fourth quarter of 1943, and the apparent absence of such an epidemic in the same quarter of 1944 are revealed in the frequencies for influenza and grippe, and the respiratory group of diseases, and are reflected in the rates for all sickness, determining in turn the movement of the rates for all causes. For the digestive, nonrespiratory-nondigestive, and rheumatic groups of diseases, on the other hand, the rates show, in general, a slight but consistent increase each year beginning with 1940, the 1944 rate for each of these groups of causes being the highest recorded for the 10-year period.

For each of the six groups of causes the rate yielded for the fourth quarter of 1944 is higher than the corresponding 10-year mean, the

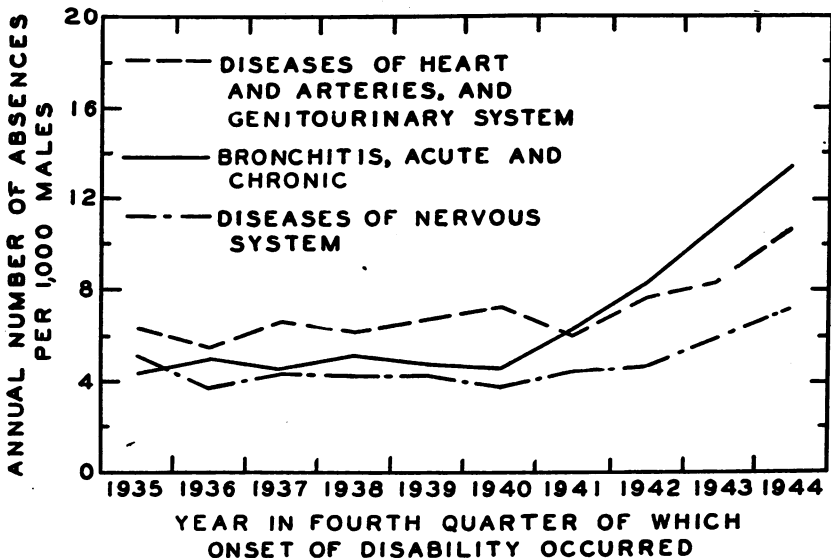


FIGURE 2.—Average annual number of absences per 1,000 males on account of 3 selected causes disabling for 8 consecutive calendar days or longer, variation of fourth-quarter rates with time; experience of MALE employees in various industries, 1935-44, inclusive. (Diseases of nervous system include neurasthenia and the like, and "other diseases of nervous system"; the group, neuralgia, neuritis, and sciatica, is not included.)

percentage excesses being as follows: Sickness, 42; respiratory diseases, 42; influenza and grippe, 15; digestive diseases, 30; nonrespiratory-nondigestive diseases, 40; and rheumatic diseases, 38.

Causes with relatively high rates in 1944.—Figure 2 shows graphically the variation during 1935–44 of the fourth-quarter rates for diseases of heart and arteries, and genitourinary system; bronchitis, acute and chronic; and diseases of nervous system.³

It will be observed that each of the three causes shows a fourth-quarter rate for 1944 which has never been equalled or exceeded in the 10-year period, the percentage excesses in terms of the corresponding 10-year means being 49, 101, and 52 for diseases of heart and arteries, and genitourinary system; bronchitis, acute and chronic; and diseases of nervous system, respectively.

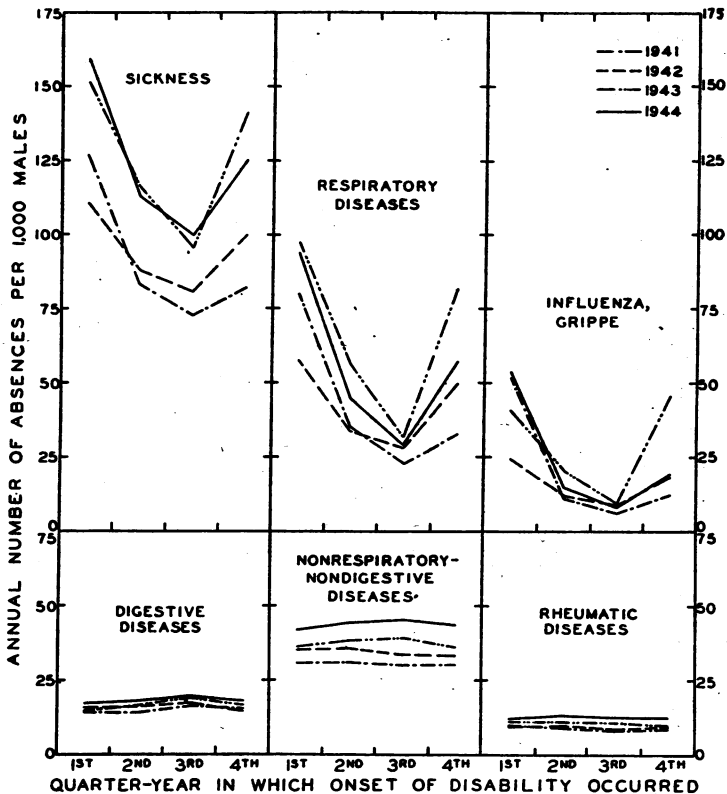


FIGURE 2.—Average annual number of absences per 1,000 males on account of sickness disabling for 8 consecutive calendar days or longer, for selected groups of causes, according to quarter-year in which onset of disability occurred, variation of rates with season; experience of MALE employees in various industries, 1941–44, inclusive. (The rheumatic diseases include rheumatism, acute and chronic; neuralgia, neuritis, and sciatica; and diseases of organs of movement except diseases of joints.)

³ Neurasthenia and the like, and "other diseases of nervous system." The group, neuralgia, neuritis, and sciatica, is not included.

SEASONAL VARIATION, 1941-44

Figure 3 presents the seasonal variation of the quarterly rates for each of the 4 years 1941-44, for six selected groups of causes. The rates for all sickness, respiratory diseases, and influenza and grippe exhibit each year the well-known seasonality while relatively little variation is shown for the digestive diseases, nonrespiratory-nondigestive diseases, and rheumatic diseases.

For all sickness the rates for both 1943 and 1944 are well above the corresponding rates for 1941 and 1942. For 1943 and 1944 the corresponding rates are similar in magnitude to each other with the exception of the rates for the fourth quarter, the rate for the fourth quarter of 1943 reflecting the respiratory epidemic prevalent at that time.

For the respiratory group of diseases the 1943 quarterly rates are highest in magnitude when compared with the corresponding rates for the other 3 years, the year 1944 assuming second place. On the other hand, the 1944 rates for the digestive diseases, nonrespiratory-nondigestive diseases, and rheumatic diseases, respectively, were not equalled or exceeded throughout the 4-year period. Indeed for the nonrespiratory-nondigestive diseases the rate for a particular quarter increases consistently from 1941 through 1944.

DEATHS DURING WEEK ENDED MAY 5, 1945

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

	Week ended May 5, 1945	Corresponding week, 1944
Data for 91 large cities of the United States:		
Total deaths.....	8,734	8,839
Average for 3 prior years.....	8,856	-----
Total deaths, first 18 weeks of year.....	169,936	176,978
Deaths under 1 year of age.....	581	610
Average for 3 prior years.....	597	-----
Deaths under 1 year of age, first 18 weeks of year.....	11,204	11,220
Data from industrial insurance companies:		
Policies in force.....	67,269,368	66,457,823
Number of death claims.....	15,170	11,928
Death claims per 1,000 policies in force, annual rate.....	11.3	9.4
Death claims per 1,000 policies, first 18 weeks of year, annual rate.....	11.1	11.0

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 12, 1945

Summary

The current week is the first week this year in which fewer cases of poliomyelitis were reported than for the corresponding week last year. A total of 33 cases of poliomyelitis was reported currently, as compared with 28 last week, 35 for the corresponding week last year, and a 5-year (1940-44) median of 22. Only 3 States reported more than 2 cases each—South Carolina (7), New York (6), and Texas (3). The cumulative total is 642 cases, as compared with 424 for the same period last year and a 5-year median of 436.

Of the current total of 170 cases of meningococcus meningitis, 81 cases, or 48 percent, occurred in 5 States (last week's figures in parentheses), as follows: New York 24 (15), California 19 (15), Illinois 14 (15), Pennsylvania 12 (13), Ohio 12 (8). The total for the year to date, 4,333 cases, while less than half the corresponding figures for the past 2 years, is nearly 4 times that of any of the years from 1938 to 1942.

Diphtheria, reported to be one of the leading epidemic diseases of the war on the European continent, with respect both to morbidity and mortality, recorded no unusual incidence in the United States up to the end of 1944. A slight increase has been noted this year, however, and mortality from the disease during January and February was above the normal expectancy. A total of 5,336 cases has been reported this year to date, as compared with 4,345 for the same period last year and 4,926 for the corresponding period in 1943. The average mortality rate for January and February (annual basis, sample of death certificates) was 1.5 per 100,000 as compared with 1.0 for the same period in 1944.

During the current week 1 case of psittacosis was reported in New York, 1 case of anthrax in Pennsylvania, and 1 case of leprosy in California.

A total of 9,147 deaths was reported in 93 large cities in the United States during the current week, as compared with 8,920 last week, 9,098 for the same week last year, and a 3-year (1942-44) average of 8,967.

Telegraphic morbidity reports from State health officers for the week ended May 12, 1945, and comparison with corresponding week of 1944 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44
	May 12, 1945	May 13, 1944		May 12, 1945	May 13, 1944		May 12, 1945	May 13, 1944		May 12, 1945	May 13, 1944	
NEW ENGLAND												
Maine.....	0	1	0	1	1	3	229	127	0	1	1	
New Hampshire.....	0	0	0			2	5	38	0	2	1	
Vermont.....	0	1	1			13	66	66	0	0	0	
Massachusetts.....	4	2	4			216	971	971	2	16	6	
Rhode Island.....	0	0	0	21	18	6	54	54	1	1	0	
Connecticut.....	0	1	1		1	77	600	422	3	5	1	
MIDDLE ATLANTIC												
New York.....	12	9	16	(¹)	15	89	1,555	1,555	24	45	14	
New Jersey.....	2	7	4	2	5	54	1,192	1,192	6	21	4	
Pennsylvania.....	6	10	10	1	1	417	937	1,329	12	25	4	
EAST NORTH CENTRAL												
Ohio.....	2	5	10	1	9	52	433	497	12	28	1	
Indiana.....	7	8	6	8	7	33	179	219	4	11	1	
Illinois.....	4	3	17	11	16	237	695	695	14	29	3	
Michigan.....	3	3	3	2	2	215	902	902	1	28	2	
Wisconsin.....	1	13	1	22	34	63	2,687	1,800	1	13	1	
WEST NORTH CENTRAL												
Minnesota.....	3	0	1			9	605	379	2	3	2	
Iowa.....	2	3	3	1	1	70	223	246	1	1	0	
Missouri.....	10	4	4	2	2	8	226	251	7	19	3	
North Dakota.....	0	1	1	2	6	4	87	21	3	3	0	
South Dakota.....	1	0	1			6	19	19	0	1	0	
Nebraska.....	2	1	1	4	2	32	80	80	1	2	0	
Kansas.....	4	3	4	1	3	47	465	542	1	5	2	
SOUTH ATLANTIC												
Delaware.....	0	1	0			3	13	13	0	1	0	
Maryland.....	9	6	2	2	11	22	464	356	1	13	5	
District of Columbia.....	1	0	0	1	2	4	194	123	1	3	2	
Virginia.....	3	3	4	77	93	27	849	326	5	12	5	
West Virginia.....	2	5	4	55	11	8	313	159	1	2	2	
North Carolina.....	4	8	6		4	45	879	706	2	6	2	
South Carolina.....	6	1	2	163	184	18	388	127	1	0	0	
Georgia.....	3	3	3	8	10	21	59	175	1	6	1	
Florida.....	1	3	3		27	11	0	295	219	0	2	
EAST SOUTH CENTRAL												
Kentucky.....	1	3	4		1	8	30	113	120	3	7	
Tennessee.....	1	2	2	26	29	35	63	92	181	9	14	
Alabama.....	8	4	4	29	24	47	13	238	205	5	9	
Mississippi.....	9	8	6						3	10	2	
WEST SOUTH CENTRAL												
Arkansas.....	1	2	2	23	35	21	34	161	161	2	4	
Louisiana.....	5	4	3	5	1	2	26	31	43	2	2	
Oklahoma.....	4	1	5	117	28	40	40	408	153	0	1	
Texas.....	32	23	23	518	472	335	441	2,915	1,106	10	10	
MOUNTAIN												
Montana.....	2	2	2	11		4	19	118	118	0	4	
Idaho.....	0	0	0			49	80	44	0	1	0	
Wyoming.....	0	0	0		1	1	7	153	93	1	1	
Colorado.....	8	3	7	11	12	23	30	170	200	1	5	
New Mexico.....	2	0	0	1	1	3	6	143	68	0	1	
Arizona.....	3	7	2	34	25	55	9	118	78	0	0	
Utah.....	0	0	0	15		3	283	68	252	1	0	
Nevada.....	0	0	0	36			0	0	4	0	0	
PACIFIC												
Washington.....	5	1	1	1		178	236	547	5	4	4	
Oregon.....	4	0	0	4	8	12	95	158	237	2	0	
California.....	20	19	8	12	66	63	1,510	4,947	1,218	19	43	
Total.....	197	184	187	1,221	1,150	1,150	4,634	25,813	25,813	170	420	
19 weeks.....	5,336	4,368	5,253	60,323	330,757	162,162	59,109	480,684	368,642	4,333	9,885	

¹ New York City only.

² Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended May 12 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Pollomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever ²		
	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44
	May 12, 1945	May 13, 1944		May 12, 1945	May 13, 1944		May 12, 1945	May 13, 1944		May 12, 1945	May 13, 1944	
NEW ENGLAND												
Maine.....	1	0	0	65	52	9	0	0	0	0	2	0
New Hampshire.....	0	0	0	5	6	6	0	0	0	0	0	0
Vermont.....	1	0	0	16	8	8	0	0	0	0	0	0
Massachusetts.....	1	0	0	392	345	284	0	0	0	1	1	1
Rhode Island.....	0	1	0	17	7	14	0	0	0	0	0	0
Connecticut.....	0	0	0	63	83	83	0	0	0	0	0	2
MIDDLE ATLANTIC												
New York.....	6	0	0	657	504	504	0	0	0	3	3	5
New Jersey.....	0	0	0	144	276	276	0	0	0	1	1	1
Pennsylvania.....	0	0	0	518	684	406	0	0	0	4	3	4
EAST NORTH CENTRAL												
Ohio.....	2	1	0	312	576	297	1	0	0	7	2	3
Indiana.....	0	0	0	122	169	82	0	0	0	1	4	2
Illinois.....	1	0	0	261	389	340	0	2	2	2	2	2
Michigan ³	0	0	0	258	300	263	0	0	1	2	6	1
Wisconsin.....	1	0	1	221	318	131	0	1	1	0	0	0
WEST NORTH CENTRAL												
Minnesota.....	2	0	0	81	137	49	0	0	0	0	0	0
Iowa.....	0	0	0	39	166	56	0	0	6	0	0	0
Missouri.....	0	0	0	62	161	138	0	0	1	0	2	2
North Dakota.....	0	0	0	8	58	5	0	0	0	1	0	0
South Dakota.....	0	0	0	9	16	12	0	0	0	0	0	0
Nebraska.....	0	0	0	58	34	25	0	0	0	0	0	0
Kansas.....	0	1	0	91	63	55	0	0	0	2	0	2
SOUTH ATLANTIC												
Delaware.....	0	0	0	8	7	7	0	0	0	0	0	0
Maryland ³	0	0	0	180	215	54	0	0	0	0	0	0
District of Columbia.....	0	0	0	35	119	18	0	0	0	1	0	0
Virginia.....	1	1	0	66	80	38	0	0	0	3	1	2
West Virginia.....	0	0	0	43	102	27	0	1	1	0	4	2
North Carolina.....	1	0	0	53	31	16	0	0	0	2	1	1
South Carolina.....	7	4	1	6	5	5	1	0	0	2	0	2
Georgia.....	0	1	0	20	27	15	0	0	0	3	2	4
Florida.....	1	2	2	8	4	4	0	0	0	0	1	1
EAST SOUTH CENTRAL												
Kentucky.....	0	1	1	48	91	76	0	0	0	3	0	4
Tennessee.....	2	0	0	44	63	55	1	0	0	2	3	3
Alabama.....	0	1	0	21	7	8	0	0	0	1	1	1
Mississippi ³	2	2	2	13	5	3	0	0	0	0	3	3
WEST SOUTH CENTRAL												
Arkansas.....	0	0	0	10	7	7	0	0	0	2	0	2
Louisiana.....	0	4	0	9	3	3	0	0	0	4	8	5
Oklahoma.....	0	0	0	26	15	15	0	0	0	1	1	1
Texas.....	3	2	1	81	155	48	4	1	1	11	12	7
MOUNTAIN												
Montana.....	0	0	0	20	36	18	0	0	0	1	0	0
Idaho.....	0	0	0	10	59	7	0	0	0	0	1	1
Wyoming.....	0	0	0	8	16	16	0	0	0	0	0	0
Colorado.....	1	0	0	56	60	34	1	0	0	0	1	1
New Mexico.....	0	0	0	21	14	6	0	0	0	1	1	0
Arizona.....	0	1	0	21	18	9	0	0	0	0	1	1
Utah ³	0	0	0	16	71	20	0	0	0	1	0	9
Nevada.....	0	0	0	0	2	2	0	0	0	0	0	0
PACIFIC												
Washington.....	0	2	0	68	178	31	0	3	0	1	0	2
Oregon.....	0	0	0	36	115	13	1	0	0	0	0	0
California.....	0	10	5	334	305	143	0	3	0	1	19	4
Total.....	33	35	22	4,660	6,162	3,963	9	11	25	65	86	99
19 weeks.....	642	424	436	103,415	118,449	75,724	203	224	501	1,114	1,376	1,484

¹ Period ended earlier than Saturday.

² Including paratyphoid fever reported separately as follows: Massachusetts 1; Ohio 1; South Carolina 2; Tennessee 1; Louisiana 2; Montana 1.

³ Correction: North Carolina, typhoid fever, week ended April 28, 2 cases (instead of 3).

Telegraphic morbidity reports from State health officers for the week ended May 12, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Whooping cough			Week ended May 12, 1945							
	Week ended—		Median 1940- 44	Dysentery			En- ceph- alitis, infect- ious	Rocky Mt. spot- ted fever	Tula- remia	Ty- phus fever	Un- du- lant fever
	May 12, 1945	May 13, 1944		Ame- bic	Bacil- lary	Un- spec- ified					
NEW ENGLAND											
Maine.....	40	14	26	0	0	0	0	0	0	0	0
New Hampshire.....	2	1	13	0	0	0	0	0	0	0	0
Vermont.....	11	3	17	0	0	0	0	0	0	0	2
Massachusetts.....	158	88	179	0	1	0	0	0	0	0	0
Rhode Island.....	16	6	15	0	0	0	0	0	0	0	0
Connecticut.....	53	46	48	0	0	0	0	0	0	0	4
MIDDLE ATLANTIC											
New York.....	166	116	289	0	8	0	1	1	0	0	7
New Jersey.....	111	48	114	2	1	0	0	1	0	0	3
Pennsylvania.....	209	83	280	0	0	0	0	1	0	0	3
EAST NORTH CENTRAL											
Ohio.....	143	52	189	0	0	0	0	0	0	0	0
Indiana.....	8	12	36	0	0	0	0	0	0	0	2
Illinois.....	43	13	99	0	0	0	0	0	0	0	6
Michigan ¹	61	62	199	1	2	0	0	0	0	0	8
Wisconsin.....	41	38	134	0	0	0	1	0	0	0	4
WEST NORTH CENTRAL											
Minnesota.....	13	11	48	1	1	0	0	0	0	0	7
Iowa.....	3	3	26	0	0	0	0	0	0	0	0
Missouri.....	14	19	44	0	0	0	0	0	0	0	0
North Dakota.....	1	1	11	0	0	0	2	0	0	0	0
South Dakota.....	2	5	5	0	0	0	0	0	0	0	0
Nebraska.....	8	0	7	0	0	0	0	0	0	0	0
Kansas.....	30	28	42	0	0	0	0	0	0	0	2
SOUTH ATLANTIC											
Delaware.....	1	0	1	0	0	0	0	0	0	0	0
Maryland ¹	79	50	102	0	0	0	0	2	0	0	2
District of Columbia.....	7	3	19	0	0	0	0	1	0	0	0
Virginia.....	58	65	65	0	0	31	0	2	0	1	0
West Virginia.....	5	16	46	0	0	0	0	0	0	0	0
North Carolina.....	134	97	109	0	0	0	0	1	0	2	0
South Carolina.....	57	83	62	6	56	0	0	0	0	2	0
Georgia.....	17	16	28	0	0	4	0	0	2	9	5
Florida.....	7	51	12	2	2	1	0	0	0	5	0
EAST SOUTH CENTRAL											
Kentucky.....	63	66	63	0	0	0	0	0	0	0	2
Tennessee.....	29	20	62	4	0	1	0	0	3	0	2
Alabama.....	21	48	51	1	0	0	0	0	0	9	2
Mississippi ¹	0	0	0	0	0	0	0	0	0	4	2
WEST SOUTH CENTRAL											
Arkansas.....	9	8	19	0	1	0	0	0	0	0	1
Louisiana.....	4	2	8	0	0	0	0	0	1	2	0
Oklahoma.....	29	16	16	0	1	0	0	0	0	1	0
Texas.....	276	220	300	16	296	50	4	0	1	24	17
MOUNTAIN											
Montana.....	3	1	14	0	0	0	0	0	0	0	0
Idaho.....	6	7	10	0	0	0	0	0	0	0	1
Wyoming.....	0	0	6	0	0	0	0	1	0	0	0
Colorado.....	37	45	27	0	0	0	0	0	0	0	6
New Mexico.....	4	8	18	0	2	1	0	0	0	0	0
Arizona.....	28	10	28	0	0	18	0	0	0	0	0
Utah ¹	44	43	43	0	0	0	0	0	1	0	2
Nevada.....	2	1	3	0	0	0	0	0	0	0	0
PACIFIC											
Washington.....	26	22	49	0	0	0	0	0	0	0	0
Oregon.....	26	13	21	0	0	0	0	0	0	0	0
California.....	471	115	431	0	1	0	1	0	0	0	13
Total.....	2,576	1,690	3,754	23	374	106	9	10	8	59	104
Same week, 1944.....	1,690	.....	.....	13	467	84	2	6	18	70	45
Average, 1942-44.....	3,160	.....	.....	22	267	61	9	16	23	28	.....
19 weeks: 1945.....	47,302	.....	.....	563	8,122	2,191	129	32	302	933	1,642
1944.....	34,214	.....	.....	496	4,426	1,304	208	21	199	792	1,102
Average, 1942-44.....	61,340	.....	*73,019	457	3,152	974	190	54	287	*678	.....

¹ Period ended earlier than Saturday.

* 5-year median, 1940-44.

Author: Pennsylvania 1 case. Leprosy: California 1 case. Psittacosis: New York 1 case (in Brooklyn).

NOTIFIABLE DISEASES, FIRST QUARTER, 1945

The figures in the following table are the totals of the monthly morbidity reports received from the State health authorities for January, February, and March 1945. These reports are preliminary and the figures are therefore more or less incomplete. In most instances they include cases reported in both civilian and military populations. The comparisons made are with similar preliminary reports; but owing to population shifts and the presence of large military populations in certain States, the figures for some States are not comparable with those for prior years, especially for certain diseases. Each State health officer has been requested to include in the monthly report for his State all diseases that are required by law or regulation to be reported in the State. The lists of diseases required to be reported are not the same for each State. Only 12 of the common communicable diseases are notifiable in all the States. In some instances cases are reported, in some States, of diseases that are not required by law or regulation to be reported, and the figures are included although manifestly incomplete. There are also variations among the States in the degree of completeness of reporting of cases of the reportable diseases. As compared with the deaths, incomplete case reports are obvious for such diseases as malaria, pellagra, pneumonia, and tuberculosis, while in many States other diseases, such as puerperal septicemia and Vincent's infection, are not reportable.

In spite of these known deficiencies, however, these monthly reports, which are published quarterly and annually in consolidated form, have proved of value in presenting early information regarding the reported incidence of a large group of diseases and in indicating a trend by providing a comparison with similar preliminary figures for prior years. To some extent they also give a picture of the geographic prevalence of certain diseases, as the States are arranged by geographic location.

Leaders are used in the table to indicate that no case of the disease was reported.

Consolidated monthly State morbidity reports for January, February, and March 1945

Division and State	Anthrax	Chick-enpox	*Conjunctivitis	*Diphtheria	Dysentery amebic	Dysentery bacillary	Dysentery, undefined	Enteric fever, infectious	German measles	Hookworm disease	Influenza	Malaria	*Measles	*Menigitis, meningococcus	Mumps	Ophthalmia neonatorum	Pellagra	Pneumonia, all forms
NEW ENGLAND																		
Maine.....		1, 064		12					96		28	1	65	13	515			214
New Hampshire.....		183		3	1	2			23				41	5	216			13
Vermont.....	3	880		3					480		6		116	3	1, 614			33
Massachusetts.....	2	4, 457	93	69	1	66		12	490		197		1, 180	71	6, 688	66		* 798
Rhode Island.....		4, 721		2		3			113		601		92	15	7, 783			128
Connecticut.....		2, 119	76	14	1	2			268	1	33	34	1, 054	49	1, 811			789
MIDDLE ATLANTIC																		
New York.....	1	8, 591	1	87	27	120		6	* 236	* 14	* 39	281	1, 213	330	* 1, 506	25		5, 195
New Jersey.....		10, 903		33	13			1	1, 173		60	446	1, 440	116	2, 544			1, 415
Pennsylvania.....	5	11, 067		160		11		3			42		1, 199	221	4, 891		1	1, 216
EAST NORTH CENTRAL																		
Ohio.....		4, 915		120	4			4	168		118	6	401	169	1, 671	157	1	648
Indiana.....		1, 680	3	34	3		1	1	34		149	310	274	80	1, 027			104
Illinois.....		4, 891		42	25	9		13	460	1	26	1	594	284	3, 150	124		2, 010
Michigan.....		6, 337	60	169	3	22			264		26	17	517	98	2, 849	6		2, 781
Wisconsin.....		10, 550		12					264		365	125	434	47	5, 929			* 300

WEST NORTH CENTRAL	3, 184	128	26	3	1	10	22	26	116	35	1, 084	80
Minnesota	1, 236	49	1	2	1	10	55	10	437	25	1, 561	80
Iowa	751	94	6	6	2	4	146	93	107	109	601	601
Missouri	445	37	1	1	1	1	2	43	43	12	48	48
North Dakota	1	20	2	2	2	2	136	204	204	7	786	194
South Dakota	835	48	4	4	4	359	30	229	229	23	3, 347	361
Nebraska	2, 888	55	1	2	4			20	251			
Kansas												
SOUTH ATLANTIC												
Delaware	144	4	1	2	2	213	92	13	195	9	55	15
Maryland	1, 973	78	1	1	1	1	11	249	617	56	1, 241	865
District of Columbia	648	9	1	1	1	1	6, 375	42	107	22	1, 114	310
Virginia	1, 250	80	1	812	1	1	260	241	630	99	342	1, 282
West Virginia	335	45	5	1	1	1	35	35	457	53	95	70
North Carolina	1, 310	125	3	1	1	194	197	125	371	83	371	2, 203
South Carolina	924	479	16	135	1	8, 341	8, 341	1, 641	318	35	1, 401	2, 290
Georgia	1, 452	86	6	41	1	959	518	1, 105	346	37	345	532
Florida		71	38	5	1	98	23	239	432	83	528	
EAST SOUTH CENTRAL												
Kentucky	665	85	3	3	1	113	433	114	896	79	262	211
Tennessee	828	71	3	13	4	51	707	37	895	11	917	728
Alabama	436	122	14	2	2	274	2, 480	375	165	84	656	1, 249
Mississippi	3, 832	111	285	1, 655	1	1, 438	22, 915	2, 397	4, 726	58	2, 968	6, 706
WEST SOUTH CENTRAL												
Arkansas	872	110	18	29	2	594	25	256	588	96	708	1, 009
Louisiana	378	92	25	3	1	40	107	403	358	43	167	656
Oklahoma	402	69	12	40	1	4	2, 354	150	301	26	402	545
Texas	8, 293	650	94	5, 615	432	3	23, 452	1, 424	4, 375	191	3, 168	5, 122
MOUNTAIN												
Montana	1, 031	14	14	2	1	75	315	9	96	5	491	128
Idaho	345	30	3	1	2	25	12	39	39	3	197	10
Wyoming	460	73	3	36	2	24	78	4	66	5	80	29
Colorado	2, 371	75	7	7	2	19	324	198	324	21	660	334
New Mexico	195	58	2	3	7	11	23	55	11	11	63	224
Arizona	825	25	4	241	1	69	1, 357	28	82	13	71	466
Utah	2, 755	6	6	4	6	230	197	45	946	3	1, 699	75
Nevada	160	1	1	1	1	1	11	41	41	1	173	18
PACIFIC												
Washington	3, 883	73	2	45	20	456	47	1, 299	3, 492	51	3, 492	602
Oregon	940	3	127	14	14	4, 430	140	32	643	27	757	282
California	18, 832	5	440	93	14	14	536	380	9, 711	289	14, 737	1, 845
Total	133, 938	3, 981	667	7, 907	1, 591	11, 076	5, 220	10, 523	37, 684	3, 231	76, 829	480
First quarter, 1944	12, 128, 054	3, 145	591	3, 946	1, 100	13, 044	4, 142	6, 374	38, 765	7, 046	61, 511	854
Median, 1940-44	18, 127, 834	3, 917	588	1, 839	528	142	42, 543	5, 016	222, 463	9, 911	65, 174	387
Alaska	169	3	47	6	10	12	71	100	21	2	6	16
Hawaii Territory	358	16	11	11	10	101	37	100	1, 484	18	280	26
Panama Canal Zone	64	22	14	12	12	13	196	196	30	13	13	692

See footnotes at end of table.

Consolidated monthly State morbidity reports for January, February, and March 1945—Continued

Division and State	*Polio- myeli- tis	Rabies in man	Rheu- matic fever	Rocky Moun- tain spotted fever	*Scar- let fever	Septic throat	*Small- pox	Teta- nus	Tre- thoma	Triphi- nosis	*Tu- bercu- losis, all forms	Tuber- culosis, respir- atory	Tuila- remia	*Ty- phoid and ty- phoid fever	Para- ty- phoid fever	Ty- phus fever	*Un- du- lant fever	Vin- cent's infect- ion	*Whoop- ing cough
NEW ENGLAND																			
Maine.....	7				735	5		2				130		11	3		14	8	625
New Hampshire.....	1				312	15					40								116
Vermont.....	2				138	6					10						22	0	505
Massachusetts.....	10				4,518	68	1			16	702	657		18	15		4	4	2,062
Rhode Island.....	14				445	14				1	348	222		2	2		8	2	310
Connecticut.....	5				1,095	49	2			6	351	328		4			20		773
MIDDLE ATLANTIC																			
New York.....	88				8,073		7			109	3,265	2,986	2	32	10	1	68		2,965
New Jersey.....	8				1,977	50		2		9	811		1	12			5		1,233
Pennsylvania.....	10	1			6,645						888		1	143		1	30		2,216
EAST NORTH CENTRAL																			
Ohio.....	15				5,103	6	1	7		2	1,398	1,331	4	18	1	3	12		1,971
Indiana.....	0				2,159	80	22	1	6		819	795	8	16			18	40	1,187
Illinois.....	14				5,082	4	1	11		1	1,522	1,364	61	17	3		47	80	919
Michigan.....	1				3,678	161	7	1			1,371		8	8	5		26		1,119
Wisconsin.....	4				2,888	62	8				707		2	2			53		1,966
WEST NORTH CENTRAL																			
Minnesota.....	5				1,270	26					275		1	5	1		91	16	358
Iowa.....	2				1,027	8	2				204	204	3	15			140	3	60
Missouri.....	15				1,556	2	5	107			529	529	6	4			7		233
North Dakota.....	8				381	3	2				55	54		4			1		25
South Dakota.....	1				288	3	3	6			62			7			9	14	65
Nebraska.....	1				1,276	4	4				70			4			84	1	84
Kansas.....	3				1,563	15	6	3		1	167	160	2	2			43	10	489
SOUTH ATLANTIC																			
Delaware.....					145						66	66							20
Maryland.....	2				2,751	55				2	747	725	1	3			5	8	645
District of Columbia.....	2				805						594	565		2			1		66
Virginia.....	12				1,647	656	3				550	550	12	13			4		643
West Virginia.....					1,788	11					397	397		11	1		2		414
North Carolina.....	20				1,176	11	1				968	837	13	16	1	44	2	3	1,353
South Carolina.....	2	1			1,130	35					180	180	3	22	2		17	2	847
Georgia.....	7				440	62	5	4			429	425	28	20	15	129	33	17	187
Florida.....	8				132	12		5			291	285	4	26	8	77	10	51	196
EAST SOUTH CENTRAL																			
Kentucky.....	10				817	9	3				786	763	18	4	1		5		379
Tennessee.....	6				971	98	4	10			1,095		25	13	2		14	104	284
Alabama.....	11				278	3	8				628		7	16			70	28	280
Mississippi.....	9				504	9			20		370	376		15	1		32		2,078

WEST SOUTH CENTRAL	0	1	57	443	426	17	2	118	296	548	4	8	3	11	282
Arkansas.....	4	1	57	215	380	2	2	82	565	548	6	26	1	24	66
Louisiana.....	4			865	41	3		52	477			8		3	178
Oklahoma.....	25			1,764	512			52	2,196		2	66	10	210	3,140
MOUNTAIN															
Montana.....	3		1	263	38				99	42		5	2	2	165
Idaho.....	1			760	73	6			106	106		9		1	29
Wyoming.....	4		62	1,138	30				7			1		2	86
Colorado.....	4			301	43	3		1	969	948	1	10	3	27	305
New Mexico.....	3		60	410	3	5		55	330			27	2	1	98
Arizona.....	4			713	3	3		4	46	45	1	1		16	309
Utah.....	4			74	11	3			32		1	1		4	300
Nevada.....															3
PACIFIC															
Washington.....	17		47	1,336	24	6		3	516			20	11	19	330
Oregon.....	2		1	536	15			4	13	175	1	5		80	194
California.....	41		247	5,413		1	16	19	4	2,459	1	26	7	14	3,726
Total.....	416	3	331	74,781	3,173	68	68	502	169	20,320	242	723	108	649	554
First quarter, 1944.....	263	11	514	76,727	1,978	159	62	611	30,902	17,297	127	925	89	507	852
Median, 1940-44.....	305	7		51,491	2,513	332	59	784	25,300	14,570	237	925		507	52,715
Alaska.....	10			1	9	2		1	70	68		8	7	20	1
Hawaii Territory.....	3			21	51				233	219		20	17		4
Panama Canal Zone.....				2					67	42					7

Dog bite: Illinois 1,873 (all animals), Michigan 1,387, Arkansas 88.
 Food poisoning: New York 27, Illinois 1, Louisiana 5, Colorado 51, Washington 2, California 65.
 Granuloma (unspecified): Ohio 13.
 Granuloma inguinale: Missouri 1, Florida 48, Tennessee 15, Mississippi 143, Louisiana 48.
 Impetigo contagiosa: New York 23, Indiana 5, Illinois 22, Michigan 262, Iowa 1, North Dakota 1, South Dakota 6, Kansas 21, Maryland 2, Oklahoma 6, Montana 21, Wyoming 22, Colorado 39, Nevada 7, Washington 260, Oregon 67, Alaska 1, Hawaii Territory 27.
 Jaundice (including hepatitis and Well's disease): Massachusetts 1, Indiana 6, Illinois 29, Michigan 61, Minnesota 7, Iowa 12, Kansas 71, Maryland 4, South Carolina 110, Florida 6, Idaho 10, Wyoming 2, Utah 1, Washington 43, Oregon 2, California 101, Hawaii Territory 103.
 Leprosy: New York 1, Louisiana 1, California 5, Hawaii Territory 9.
 Lymphocytic choriomeningitis: Tennessee 2, Florida 51, Tennessee 18, Louisiana 45, Lymphogranuloma venereum: Missouri 2, Florida 51, Tennessee 18, Louisiana 45, Arizona 2, Utah 1.
 Peltitacosis: Pennsylvania 1, Ohio 1, Illinois 1, Virginia 1, California 1.
 Puerperal septicemia: New York 3, Mississippi 66, Arkansas 2, New Mexico 1.
 Rabies in animals: Rhode Island 1, New York 184, Ohio 197, Illinois 103, Michigan 12, Iowa 28, Missouri 8, Kansas 6, Maryland 7, District of Columbia 96, South Carolina 40, Florida 3, Alabama 81, Arkansas 50, Louisiana 59, Texas 228, New Mexico 3, Utah 6, California 132.
 Relapsing fever: Pennsylvania 1, Texas 6.
 Ringworm: Pennsylvania 260, Michigan 383, Montana 4, Nevada 2, Washington 96.
 Scabies: Pennsylvania 24, Indiana 4, Michigan 178, North Dakota 2, South Dakota 1, Kansas 33, Oklahoma 1, Montana 32, Wyoming 3, Oregon 92.

* Diseases marked with an asterisk (*) are reportable by law or regulation in all the States, including the District of Columbia. Typhoid fever is reportable in all the States; paratyphoid fever in all except 6 States. Syphilis is reportable in all the States and the District of Columbia but is not included in the table.

! Includes cases of kerato- and suppurative conjunctivitis and of pink eye.
 † Lobes pneumonia only.
 ‡ New York City only.
 ‡ The number of cases of diphtheria reported in South Carolina for the year 1944 as published on page 334 of the Public Health Reports of the issue of Mar. 28, 1945, is an error. A later report states that the figure should be 346 cases for the year 1944.
 § Includes the cities of Colon and Panama.
 ¶ In the Canal Zone only.
 † Includes 784 cases originating outside the State.
 †† Includes 772 cases originating outside the State.
 ††† Includes cases of trench mouth.

The following list includes certain rare conditions, diseases of restricted geographical distribution and those reportable in or reported by only a few States:
 Actinomycosis: Connecticut 1, Michigan 2, Minnesota 3, Iowa 1, Kansas 2, Montana 1.
 Botulism: Utah 7, California 1.
 Coccioidiomycosis: California 10.
 Dengue: West Virginia 1, South Carolina 4, Hawaii Territory 1.
 Diarrhea: New York 28, New Jersey 2, Ohio 78 (diarrhea and enteritis), Illinois 1, Michigan 5, Maryland 7, South Carolina 1,971, Florida 12, Montana 18, Colorado 1, New Mexico 62 (diarrhea and enteritis), Utah 18, Washington 56 (diarrhea and enteritis).

WEEKLY REPORTS FROM CITIES

City reports for week ended May 5, 1945

This table lists the reports from 86 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	Pollomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	0	0	0	0	1	0	3	0	0	8
New Hampshire:												
Concord	0	0	0	0	11	0	0	0	1	0	0	0
Vermont:												
Barre	0	0	0	0	2	0	0	0	1	0	0	3
Massachusetts:												
Boston	2	0	0	0	65	1	6	0	73	0	1	39
Fall River	0	0	0	0	1	0	3	0	2	0	0	1
Springfield	0	0	0	0	2	1	1	0	30	0	0	2
Worcester	0	0	0	0	3	0	7	0	10	0	0	4
Rhode Island:												
Providence	0	0	1	0	10	0	4	0	6	0	0	16
Connecticut:												
Bridgeport	0	0	0	0	0	1	0	1	2	0	0	0
Hartford	0	0	0	0	46	0	2	0	10	0	0	0
New Haven	0	0	0	0	2	0	3	0	3	0	0	1
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	0	0	2	0	2	0	11	0	0	0
New York	13	1	1	2	53	6	54	0	272	0	2	100
Rochester	0	0	0	0	4	0	1	0	8	0	0	17
Syracuse	0	0	0	0	0	0	1	0	0	0	0	39
New Jersey:												
Camden	1	0	0	0	2	0	2	0	3	0	0	3
Newark	0	0	0	0	5	1	2	0	25	0	0	13
Trenton	0	0	0	0	3	0	2	0	6	0	0	1
Pennsylvania:												
Philadelphia	0	0	1	0	251	2	17	0	81	0	1	96
Pittsburgh	1	0	2	2	0	2	6	0	37	0	2	8
Reading	0	0	0	0	5	0	2	0	11	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	0	0	4	2	13	0	22	0	0	2
Cleveland	0	0	3	1	9	0	4	0	56	0	0	44
Columbus	0	0	0	0	1	1	1	0	3	0	0	6
Indiana:												
Fort Wayne	0	0	0	0	0	0	2	0	10	0	0	2
Indianapolis	2	0	0	0	8	2	5	0	10	0	0	5
South Bend	0	0	0	0	0	0	0	0	3	0	0	0
Terre Haute	0	0	0	0	0	0	0	0	4	0	0	5
Illinois:												
Chicago	0	0	0	0	159	9	15	0	106	0	0	19
Springfield	0	0	0	0	0	1	0	0	5	0	0	0
Michigan:												
Detroit	1	0	1	1	141	0	11	0	119	0	0	11
Grand Rapids	0	0	0	0	1	0	0	0	11	0	0	0
Wisconsin:												
Kenosha	0	0	0	0	1	0	0	0	7	0	0	4
Milwaukee	0	0	0	0	12	0	4	0	54	0	0	2
Racine	0	0	0	0	0	0	0	0	6	0	0	0
Superior	1	0	0	0	3	0	0	0	1	0	0	2
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	0	0	1	0	1	0	15	0	0	0
Minneapolis	1	0	0	0	9	0	4	0	13	0	0	2
St. Paul	0	0	0	0	4	0	2	0	5	0	0	3
Missouri:												
Kansas City	0	0	0	0	2	0	8	0	24	0	0	1
St. Joseph	0	0	0	0	2	0	0	0	1	0	0	0
St. Louis	0	0	0	0	4	2	11	0	30	0	0	18
North Dakota:												
Fargo	0	0	0	0	1	0	1	0	1	0	0	0
Nebraska:												
Omaha	1	0	0	0	17	0	3	0	24	0	0	2
Kansas:												
Topeka	0	1	0	0	2	0	0	0	4	0	0	4
Wichita	0	0	0	0	6	0	1	0	10	0	0	5

City reports for week ended May 5, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
SOUTH ATLANTIC												
Delaware:												
Wilmington.....	0	0		0	6	0	2	0	0	0	0	1
Maryland:												
Baltimore.....	10	0	1	1	9	1	7	0	75	0	1	60
Cumberland.....	0	0		0	0	0	0	0	6	0	0	0
Frederick.....	0	0		0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington.....	0	0		0	6	2	5	0	27	0	1	3
Virginia:												
Lynchburg.....	0	0		0	1	0	1	0	2	0	0	1
Richmond.....	0	0		0	2	0	2	0	9	0	1	1
Roanoke.....	0	0		0	1	0	0	0	4	0	0	0
West Virginia:												
Charleston.....	0	0		0	1	0	0	0	0	0	0	0
Wheeling.....	0	0		0	5	0	0	0	1	0	0	1
North Carolina:												
Raleigh.....	0	0		0	26	0	2	0	0	0	0	19
Wilmington.....	0	0		0	2	0	0	0	0	0	0	5
Winston-Salem.....	0	0	1	1	0	0	3	0	8	0	0	1
South Carolina:												
Charleston.....	0	0		0	4	0	1	0	0	0	0	1
Georgia:												
Atlanta.....	0	0	1	0	0	1	1	0	7	0	0	1
Brunswick.....	0	0		0	1	0	3	0	0	0	0	0
Florida:												
Tampa.....	0	0		0	1	1	2	0	1	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis.....	0	0	1	0	32	1	9	0	12	0	0	4
Nashville.....	0	0		0	0	0	2	0	6	0	0	0
Alabama:												
Birmingham.....	0	0		0	0	1	1	0	2	0	0	0
Mobile.....	0	0		0	0	0	2	0	1	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock.....	0	0		0	7	0	1	0	2	0	0	4
Louisiana:												
New Orleans.....	4	0		0	19	2	7	0	7	0	0	2
Texas:												
Dallas.....	1	0		0	2	0	5	0	4	0	0	2
Houston.....	2	0		0	0	1	3	0	1	0	0	0
San Antonio.....	0	0	1	0	0	0	2	0	3	0	0	1
MOUNTAIN												
Montana:												
Billings.....	0	0		0	0	0	0	0	2	0	0	0
Great Falls.....	1	0	2	0	0	0	0	0	2	0	0	2
Helena.....	0	0		0	0	0	0	0	3	0	0	0
Missoula.....	0	0		0	3	0	0	0	1	0	0	0
Idaho:												
Boise.....	0	0		0	1	0	0	0	1	0	0	0
Colorado:												
Denver.....	3	0	2	0	3	1	8	0	14	0	0	11
Pueblo.....	0	0		0	3	0	0	0	4	0	0	2
Utah:												
Salt Lake City.....	0	0		0	124	1	1	0	7	0	0	11

City reports for week ended May 5, 1945—Continued

	Diphtheria cases	Etiophthalmia, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polio-myelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle.....	3	0	0	0	35	0	11	0	18	0	0	2
Spokane.....	1	0	0	0	1	0	1	0	4	0	0	0
Tacoma.....	0	0	0	0	17	0	1	0	14	0	0	2
California:												
Los Angeles.....	1	0	2	0	73	1	0	0	46	0	0	41
Sacramento.....	1	0	0	0	0	0	1	0	20	0	0	2
San Francisco.....	4	0	0	0	107	2	5	1	45	0	0	25
Total.....	54	2	20	8	1,346	46	291	2	1,496	0	9	693
Corresponding week, 1944.....	59	-----	41	16	5,911	-----	374	-----	2,263	0	11	299
Average, 1940-44.....	60	-----	79	125	6,303	-----	376	-----	1,665	1	15	1,036

1 3-year average, 1940-42.
 2 5-year median, 1940-44.

Anthrax.—Cases: Philadelphia, 1.
Dysentery, amoebic.—Cases: New York, 1; Detroit, 1; Wichita, 1.
Dysentery, bacillary.—Cases: Newark, 1; Chicago, 1; Charleston, S. C., 10; Los Angeles, 3.
Dysentery, unspecified.—Cases: Cincinnati, 2; San Antonio, 29.
Rocky Mountain spotted fever.—Cases: Terre Haute, 1.
Typhus fever, endemic.—Cases: Tampa, 1; Birmingham, 1; San Antonio, 1; Los Angeles, 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 86 cities in the preceding table (estimated population, 1943, 33,961,200)

	Diphtheria case rates	Etiophthalmia, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Polio-myelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England.....	5.2	0.0	2.6	0.0	371	7.8	70.6	2.6	369	0.0	2.6	193
Middle Atlantic.....	6.9	0.5	1.9	1.9	150	5.1	41.2	0.0	210	0.0	2.3	128
East North Central.....	2.5	0.0	2.5	1.2	210	9.3	34.0	0.0	258	0.0	0.0	63
West North Central.....	4.0	2.0	0.0	0.0	95	4.0	61.7	0.0	253	0.0	0.0	70
South Atlantic.....	17.0	0.0	5.1	3.4	110	8.5	49.3	0.0	238	0.0	5.1	160
East South Central.....	0.0	0.0	5.9	0.0	189	11.8	82.6	0.0	124	0.0	0.0	24
West South Central.....	22.0	0.0	3.1	0.0	88	9.4	56.7	0.0	54	0.0	0.0	28
Mountain.....	31.8	0.0	31.8	0.0	1,064	15.9	71.5	0.0	270	0.0	0.0	207
Pacific.....	15.8	0.0	3.2	0.0	368	4.7	30.0	1.6	232	0.0	0.0	114
Total.....	8.3	0.3	3.1	1.2	207	7.1	44.8	0.3	231	0.0	1.4	107

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended April 21, 1945.—
 During the week ended April 21, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox.....		14	1	156	273	44	25	57	116	686
Diphtheria.....	2	8	4	38	3	5	2	2	2	66
Dysentery:										
Bacillary.....				7						9
Unspecified.....					1					1
Encephalitis, infectious.....					1					1
German measles.....		6		11	23	1	2	17	17	77
Influenza.....		25			52	1			23	101
Measles.....		11	2	290	160	17	58	26	355	919
Meningitis, meningococcus.....		1		2	1					4
Mumps.....		3		335	140	38	44	160	18	738
Poliomyelitis.....				1		4				5
Scarlet fever.....		5	18	65	79	6	9	20	17	219
Tuberculosis (all forms).....		6	5	160	39	14	30		27	281
Typhoid and paratyphoid fever.....			1	12	1			1	2	17
Undulant fever.....				15	2				1	18
Veneral diseases:										
Gonorrhoea.....	1	18	24	78	124	29	39	21	45	379
Syphilis.....		7	15	138	96	11	7	6	19	299
Whooping cough.....		11		209	45	19	5	20	16	325

CHINA

Notifiable diseases—December 1944.— During the month of December 1944, certain notifiable diseases were reported in various provinces of China as follows: ¹

Disease	Cases	Deaths	Disease	Cases	Deaths
Cholera.....	2		Relapsing fever.....	214	5
Diphtheria.....	25	1	Scarlet fever.....	26	4
Dysentery.....	810	8	Smallpox.....	45	
Meningitis.....	6		Typhoid fever.....	257	7
Plague.....	61	14	Typhus fever.....	88	3

¹ The figures are those reported by the health units and medical institutions of the Army Medical Administration, the Health Department of the Board of Supplies and Transport, the Chinese Red Cross Medical Corps, and the National Health Administration.

CUBA

Habana—Communicable diseases—4 weeks ended April 28, 1945.—During the 4 weeks ended April 28, 1945, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chickenpox.....	22		Measles.....	5	
Diphtheria.....	11		Typhoid fever.....	48	1

Provinces—Notifiable diseases—4 weeks ended April 21, 1945.—During the 4 weeks ended April 21, 1945, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana ¹	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer.....	1		4	2		11	18
Chickenpox.....	1	29		1		23	54
Diphtheria.....		26	2		1		29
Hookworm disease.....		16					16
Leprosy.....			1	1		119	121
Malaria.....	2	3		4	2	46	57
Measles.....		4		28	1	2	35
Poliomyelitis.....						2	2
Rabies (human).....					1		1
Tuberculosis.....	10	39	16	39	1	39	144
Typhoid fever.....	30	82	12	27	9	36	196
Whooping cough.....		1					1
Yaws.....						1	1

¹ Includes the city of Habana.

FINLAND

Notifiable diseases—January–March 1945.—During the months of January, February, and March 1945, cases of certain notifiable diseases were reported in Finland as follows:

Disease	January	February	March	Disease	January	February	March
Actinomycosis.....		2	1	Mumps.....	570	582	649
Cerebrospinal meningitis.....	34	30	25	Paratyphoid fever.....	723	491	328
Chickenpox.....	522	586	493	Pneumonia.....	1,919	2,912	2,732
Conjunctivitis.....	15	20	16	Poliomyelitis.....	28	24	18
Diphtheria.....	1,943	1,551	1,342	Puerperal fever.....	48	37	42
Dysentery, unspecified.....	25	5	14	Rheumatic fever.....	351	310	305
Gastroenteritis.....	2,604	2,012	1,904	Scabies.....	4,030	3,694	3,269
Gonorrhoea.....	2,160	1,669	1,661	Scarlet fever.....	585	537	470
Hepatitis, epidemic.....	983	841	798	Syphilis.....	397	415	394
Influenza.....	1,105	1,858	1,942	Typhoid fever.....	117	61	43
Laryngitis.....	57	68	60	Undulant fever.....		1	
Malaria.....		1	12	Vincent's angina.....	20	32	37
Measles.....	244	355	425	Whooping cough.....	3,052	3,600	2,951

GOLD COAST

Cerebrospinal meningitis.—Cerebrospinal meningitis has been reported in Gold Coast as follows: Week ended March 10, 1945, 1,095 cases with 96 deaths; week ended March 17, 1945, 1,003 cases with 95 deaths.

JAMAICA

Notifiable diseases—4 weeks ended April 7, 1945.—For the 4 weeks ended April 7, 1945, cases of certain notifiable diseases were reported in Kingston, Jamaica, and in the island outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Cerebrospinal meningitis.....	1	1	Puerperal sepsis.....		1
Chickenpox.....	31	41	Scarlet fever.....	1	
Diphtheria.....	5	3	Tuberculosis (pulmonary).....	27	56
Dysentery (unspecified).....	10	22	Typhoid fever.....	15	76
Erysipelas.....	2		Typhus fever.....	2	
Leprosy.....		1			

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

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

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

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

Cholera

French Indochina—Cochinchina.—Information received May 10, 1945, states that cholera is prevalent in the Mekong delta, in Cochinchina, French Indochina. The Government has warned those living on both banks of the Mekong River to avoid eating raw fruits and vegetables.

Plague

Bolivia—Santa Cruz Department—Lagunillas.—For the period January 21 to February 24, 1945, 10 cases (including 6 unconfirmed cases) of plague with 6 deaths were reported in Lagunillas, Santa Cruz Department, Bolivia.

Madagascar.—For the period April 1–10, 1945, 28 cases of plague were reported in Madagascar.

Morocco (French).—For the period April 11–20, 1945, 3 cases of plague were reported in French Morocco.

Peru.—During the month of March 1945, plague was reported in Peru as follows: Ica Department, Los Puentes, 1 suspected case; Libertad Department, city of Trujillo, 1 case; Piura Department, Las Pampas, 2 cases.

Spain—Canary Islands.—For the week ended March 3, 1945, 1 case of plague was reported in Puerto de la Cruz on the north side of Tenerife, Canary Islands, Spain.

Smallpox

Bolivia.—For the month of February 1945, 56 cases of smallpox with 6 deaths were reported in Bolivia. For the month of March 1945, 41 cases of smallpox with 6 deaths were reported, with Departments reporting the highest incidence as follows: La Paz, 15 cases, 4 deaths; Potosi, 11 cases; Cochabamba, 7 cases, 1 death.

Rhodesia (Northern).—For the week ended April 7, 1945, 113 cases of smallpox were reported in Northern Rhodesia.

Sudan (French).—For the period April 11–20, 1945, 153 cases of smallpox were reported in French Sudan.

Typhus Fever

Algeria.—For the period April 1–10, 1945, 36 cases of typhus fever were reported in Algeria.

Bolivia.—For the month of February 1945, 33 cases of typhus fever with 10 deaths were reported in Bolivia. For the month of March 1945, 55 cases of typhus fever with 9 deaths were reported. Departments reporting the highest incidence for March are as follows: La Paz, 23 cases, 5 deaths; Potosi, 18 cases, 3 deaths; Oruro, 11 cases, 1 death.

Bulgaria.—Typhus fever has been reported in Bulgaria, as follows: Weeks ended—April 7, 1945, 49 cases; April 14, 1945, 88 cases.

Morocco (French).—For the period April 11–20, 1945, 266 cases of typhus fever were reported in French Morocco, including 6 cases in Casablanca, and 4 cases in Rabat.

Tunisia.—For the period April 13–23, 1945, 118 cases of typhus fever were reported in Zaghouan and vicinity, Tunisia.

Turkey.—Typhus fever has been reported in Turkey as follows: Weeks ended—April 28, 1945, 49 cases; May 5, 1945, 71 cases, including 6 cases reported in Istanbul.

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