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STUDIES ON TRICHINOSIS

XVI. EPIDEMIOLOGICAL CONSIDERATIONS BASED ON THE EXAMINATION FOR TRICHINAE OF 5,313 DIAPHRAGMS FROM 189 HOSPITALS IN 37 STATES AND THE DISTRICT OF COLUMBIA [1] [2]

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In a preceding paper in this series, Wright, Kerr, and Jacobs (*1*) have reported the findings of trichinae in the examination of diaphragm material from 5,313 individuals coming to necropsy in various parts of the United States. Of these individuals, 855, or 16.1 percent, were positive for this parasite. The material was divided into various series including 3,000 cases from hospitals in Washington, D. C., and 5 eastern seaboard cities, 200 cases from States in which clinical trichinosis had never been reported, 283 cases involving sudden death without hospitalization or with hospitalization for less than 24 hours, 1,125 cases selected at random from hospitals chosen on a chance basis, 295 cases in which the individuals resided on farms or in villages, 200 cases representing material from orthodox and unorthodox Jews, 200 cases from the State of Washington, and 10 cases from the State of Oregon. It is the purpose of this paper to review the epidemiological considerations and to discuss certain implications which may be derived from the data.

INCIDENCE IN VARIOUS POPULATION GROUPS

Previous papers (*2*, *3*) in this series have presented data concerning the incidence of the trichina parasite in individuals comprising certain population groups, with the view of determining whether the habits or mode of life of any particular class of persons might be more conducive to exposure to trichinosis. For the sake of uniformity, this arrangement has been continued and the data are presented in table 1.

[1] A list of the preceding papers in this series is given under "References."

[2] From the Division of Zoology, National Institute of Health.

[3] Resigned September 15, 1941.

TABLE 1.—*Incidence of* Trichinella spiralis *in various population groups as found in 5,313 post-mortem examinations*

	Total number in group	Number infected	Percent infected
Males	3,736	623	16.7
White	2,757	465	16.9
Colored	915	152	16.6
North American Indians	8	1	
Chinese	9	0	
Japanese	4	1	
Filipinos	10	0	
Mexican	25	3	
Race unknown	8	1	
Females	1,575	232	14.7
White	942	140	14.9
Colored	608	86	14.1
North American Indians	8	0	
Japanese	1	0	
Mexican	10	4	
Race unknown	6	2	
Sex unknown	2	0	
Whites	3,699	605	16.4
Negroes	1,523	238	15.6
Other races	75	9	
Race unknown	16	3	
Military (Army-Navy)	[1] 324	41	12.7
Officers (commissioned and warrant)	117	19	16.2
Enlisted men	[1] 207	22	10.6
Army	[2] 203	27	13.3
Navy	[2] 121	14	11.6
Families and relatives of military men	64	11	
Civil	4,984	813	16.3
Civilian Conservation Corps	[3] 54	5	
Farmers	289	48	16.6
Villagers	147	16	10.9
Veterans, mostly World War	[3] 765	157	20.5
Military-Civil status unknown	5	1	
Sea (Navy-Merchant Marine)	300	36	12.0
Merchant Marine	179	22	12.3
Land	5,013	819	16.3
Mentally deranged under hospitalization	684	115	16.8
Mentally sound or not under hospitalization	4,629	740	16.0
High economic-social status	1,189	179	15.1
Low economic-social status	3,788	630	16.6
Economic-social status unknown	336	46	13.7
Total cases	5,313	855	16.1

[1] One case, both soldier and sailor, counted only once.
[2] One case, both soldier and sailor, counted in both groups.
[3] Two cases, both CCC and veteran, counted in both groups.

It will be noted that many of the groupings are predicated on a more or less artificial basis and that many duplications and overlappings are represented. For instance, a single individual might be, and probably in some cases is, included in four or five categories. Thus, a white merchant seaman with a low social-economic status may have been a war veteran and may have been hospitalized for a mental disorder. It is conceivable that one or more of these factors might have had some bearing on his exposure to infection and at the outset of these investigations such was considered probable.

However, in spite of prior conceptions and discussions in previous papers in this series, it will be seen from table 1 that there is a striking uniformity in the incidence of infection encountered in these composite groups. In fact, there appear to be no significant differences between the incidence rates in the various population groups enumerated in

table 1 and the rate obtained for the cases as a whole. In one group the incidence rate is conditioned somewhat by the average age of the individuals included. The veterans group, consisting mostly of World War veterans, has an incidence figure of 20.5 percent, which is considerably above the incidence for the series as a whole. However, the average age of these individuals would probably fall within the age group 45 to 54, which has, according to table 3, an incidence for all series of 18.1 percent. There is no valid statistical difference between the incidence of infection in individuals in this age group and the incidence in the group of veterans.

The military group, consisting of commissioned officers, warrant officers, and enlisted men of the Army and Navy, has an incidence of 12.7 percent. This incidence is not statistically different from that obtained for the survey as a whole. Among commissioned and warrant officers in this group, there was an incidence of 16.2 percent and in the group of enlisted men an incidence of 10.6 percent. In discussing a somewhat wider discrepancy in the incidence in these two groups on the basis of 1,000 examinations in the base series, Hall (*3*) sought an explanation in the fact that the average age of enlisted men in the peacetime Army and Navy was considerably below that for the commissioned and warrant officers. However, there is a certain amount of error in this type of reasoning since actually our sampling included many enlisted men with long periods of service in the military establishment and many who had retired after even longer periods of service.

In order to establish what effect, if any, the age of enlisted men had on the incidence of infection in the military group, we have broken down our data in regard to these two factors. Enlisted men of the Army and Navy between the ages of 15 and 44 comprised 42.6 percent of the total number of such individuals, whereas for our survey as a whole persons between these ages comprised 33 percent of the whole number. Statistically, there is no difference between the incidence rate in these two groups, and likewise no statistical difference between the infection rate in persons over 44 years of age in these two groups. Therefore, the age of the enlisted men had no influence on the incidence rate recorded for the group and the fact that this rate was somewhat lower than the infection rate in the officer group is due merely to chance. The individuals represented in the military group were from the peacetime military establishment since the part of the survey in which military men are represented was completed long before the passage of the Selective Service Act and the outbreak of hostilities.

The group of those having occupations at sea has an incidence figure of 12.0 percent, with an infection rate of 11.6 percent for the Navy and 12.3 percent for the merchant marine. The incidence for

the latter is not statistically different from that shown by the series as a whole. The figures for the Navy and for the combined groups are on the border line of statistical significance and constitute a slightly lower incidence than for the series as a whole. However, this statistical difference is very slight and would probably be dissipated were the number of cases increased.

The incidence of 10.9 percent in the group of villagers is considerably below the general incidence figure and is on the border line of statistical significance. However, since the incidence of infection in the farm group is no different from that in the urban group, there is no good reason to believe that exposure to infection in persons residing in villages of 1,000 population or less would be any different from that faced by persons in the other two groups. Probably with a larger number represented, the figure in this group would not differ from that encountered for our entire sample.

At the present time, it appears that there is no correlation between trichina infection and representation in the various population groups cited. The number of persons in some of the groups in table 1 is not sufficiently large to offer valid appraisal of the question and definite conclusions cannot be drawn until more data become available.

OCCUPATION GROUPS

The occupations represented in our 5,313 cases included nearly all those encountered in civil life. There is no evidence to indicate that occupation in itself has any influence on the incidence of trichina infection. Certain occupations which theoretically might provide increased exposure to trichinosis include those of butcher, cook, and domestic. Among the 5,313 cases there were represented 19 butchers, of whom 4 were infected, and 56 cooks, of whom 13 were infected. There was an infection rate of 15.5 percent in the 400 domestics, a group which included waiters, butlers, and restaurant help. The incidence of trichinae in the domestics does not differ statistically from the incidence figure for the 5,313 cases as a whole. The number of cooks and butchers is too small to warrant definite conclusions. However, it does not appear that butchers, cooks, or domestics are more frequently infected with trichinae than are individuals having other occupations.

INCIDENCE IN MENTALLY DERANGED INDIVIDUALS IN INSTITUTIONS

As noted in table 1, 684, or 12.9 percent, of our 5,313 cases comprised individuals who came to necropsy in mental institutions. This grossly overloads our sample since in 1938, the median year of our survey, there were in mental institutions in the United States 513,858 individuals, or 0.4 percent of the estimated total population. The

incidence of trichina infection in the mentally deranged persons in institutions in our series was 16.8 percent, a figure not statistically different from the incidence figure of 16 percent in 4,629 persons not confined to mental hospitals.

A total of 581 of the 684 institutionalized mentally unsound cases were hospitalized in St. Elizabeths Hospital, Washington, D.C. In the paper reporting the results of the examination of 1,000 diaphragms in our base series, Nolan and Bozicevich (*6*) interpreted data based on examinations of material from this hospital to indicate that prolonged hospitalization results in decreasing exposure to trichinosis since the incidence of infection in the 205 cases examined decreased in accordance with the length of stay of the individual in the hospital. While we do not have data on the length of hospitalization of all of the 684 mentally unsound cases in our series, we do have the information for the 581 cases at St. Elizabeths and have reexamined the question in the light of the findings in these cases. These findings are summarized as follows:

Length of hospitalization	Less than 1 year	1 to 5 years	Over 5 years
Total number of cases examined	180	177	224
Percentage positive for trichinae	16.7	16.9	13.4

On the basis of the larger number of cases, it is evident therefore that there was no correlation between incidence of infection and length of hospitalization in this particular group of individuals. While a slightly lower incidence occurred in the group hospitalized for over 5 years, the difference was not sufficient to be statistically significant.

The question in point can be examined further, however, by reviewing the data concerning the state of the larvae in these positive cases and comparing the findings with the length of hospitalization. The data are summarized as follows:

Length of hospitalization	Less than 1 year	1 to 5 years	Over 5 years	Total
Infections with live larvae	11	10	5	26
Infections with mixed live and dead larvae	2	7	3	12
Infections with dead larvae	17	13	22	52
Total	30	30	30	90

The number of infections with dead larvae predominated over the number with live larvae and with mixed live and dead larvae in the same manner as in the total positive cases in the series as a whole (table 3). Live larvae were encountered in the group of cases with hospitalization for over 5 years, indicating either that these larvae survived for this period of time or that there was exposure to

infection after the commitment of the patients to the hospital; whether one or both of these possibilities existed, we are not prepared to say, although it appears probable that larvae are capable of surviving for this period of time if not longer.

There is a close correlation between the findings as regards the state of the larvae and the average length of hospitalization of individuals in the three categories. The individuals with live larvae were hospitalized for an average of 2 years and 10 months; those with mixed live and dead larvae for an average of 4 years and 9 months; and those with dead larvae for an average of 9 years and 7 months. These data would seem to add evidence to the view that most, if not all, of the trichina infections were acquired before the admission of the patients to the hospital in question.

The average age at death of the patients in the three groups is of interest in connection with the state of the larvae. The average for those patients having live larvae was 53.5 years; the average for those with mixed live and dead larvae was 55.3 years; and the average for those with dead larvae was 67.7 years. It is pointed out later that there is a distinct correlation between the age at death and the state of the larvae and this is true for the cases at St. Elizabeths, even though there is no great difference in the average age of death in two of the three groups.

It may be concluded on the basis of the data obtained from an examination of this group of mentally hospitalized individuals that, while there was no statistically significant difference in the rate of trichina infection in patients hospitalized for less than 1 year, from 1 to 5 years, and over 5 years, other evidence indicates that the majority, if not all, of the infections were acquired prior to the entry of the patient into the hospital. Even though exposure may have ceased at this time, these individuals showed an incidence of infection no different from that encountered in individuals not confined to mental institutions. This circumstance is probably associated with the fact that the average age of patients on admission was probably around that of middle life, by which time such individuals would have had adequate opportunities for exposure to trichinosis.

RACE AND NATIONALITY

Data are available concerning the nationalities and racial stocks involved in the 5,313 cases. In some cases, the individuals were citizens of foreign countries. In other cases the name of the individual has been used as a guide in sorting nationalities. Naturally, such a selection is open to considerable error since names may be highly misleading and especially so in the case of married women. Furthermore, in regard to opportunities for exposure to trichinosis, the habits of individuals of foreign extraction tend to change in accordance with

the period of time during which such individuals have resided in the United States. Second or third generation offspring of immigrants may have entirely adopted the American mode of living together with American food habits. However, for purposes of comparison, nationalities and racial groups represented in the 5,313 cases have been separated with the results indicated in table 2.

TABLE 2.—*Incidence of* Trichinella spiralis *by race or nationality*

Race or nationality	Number of diaphragms examined	Number of diaphragms positive	Percent diaphragms positive	Race or nationality	Number of diaphragms examined	Number of diaphragms positive	Percent diaphragms positive
Armenian	3	0		Portuguese	4	1	
Austrian	12	2		Puerto Rican	1	1	
Belgian	1	1		Russian	17	2	
Canadian	8	1		Slavic	37	5	
Chinese	9	0		Spanish	15	3	
Cuban	1	0		Swedish	45	10	
Danish	3	0		Swiss	1	1	
Dutch	3	0		Syrian	4	3	
East Indian	1	0		Turkish	3	1	
English citizens	23	2					
Esthonian	1	0		Total foreign or foreign descent	769	181	23.5
Filipino	10	0					
Finnish	14	1		North American Indians	16	1	
French	38	7		Hebrews	235	5	2.1
German	279	79	28.3	Race or nationality unknown	74	11	
Greek	16	8		American Negroes and whites of English-Scotch-Irish descent	4,219	657	15.6
Hungarian	8	3					
Italian	101	30	29.7	Total cases	5,313	855	16.1
Japanese	5	1					
Latvian	1	0					
Lithuanian	8	1					
Mexican	35	7					
Norwegian	28	5					
Polish	34	6					

There were represented in the survey 4,219 American Negroes and whites of English-Scotch-Irish descent, of whom 657, or 15.6 percent, were infected with trichinae. The 5,313 cases included 16 North American Indians, 74 individuals whose nationality or race was unknown, and 235 Hebrews. The remaining individuals total 769, representing citizens of foreign countries or persons whose names definitely indicated that they were of nationalities or races other than those mentioned above. Of these 769 individuals, 181, or 23.5 percent, were infected with trichinae. These cases included 279 Germans, of whom 79, or 28.3 percent, were infected, and 101 Italians, of whom 30, or 29.7 percent, were infected. The combined German and Italian groups totaled 380, of whom 109, or 28.7 percent, were infected. If we omit from the group of foreign born and foreign descent the 380 individuals in the German and Italian groups, there are 389 other individuals in the group, of whom 72, or 18.5 percent, were infected with trichinae. This incidence is not significantly different than the infection rate of 16.1 percent for the 5,313 individuals as a whole.

Thus it would appear that the higher infection rate in foreigners and those of foreign descent is due to the much higher incidence in the Germans and Italians, and the data bear out the prevailing assumption

that the latter groups are more commonly exposed to trichinosis because of their food habits. The Germans and Italians originated and are still very fond of pork products customarily eaten without cooking by the consumer. Such products frequently represent very important sources of trichina infection and it is probable that the relatively high incidence figure obtained in these two groups is correlated at least to some extent with this particular food habit. These facts are of interest in an attempt to appraise exposure to trichinosis in relation to the peculiar food habits of persons in these groups, but it must not be overlooked that the food habits of the remainder of the population are open to question also because of the relatively high incidence of trichina infection in Negroes and in whites of English-Scotch-Irish descent.

As previously stated, the survey included one group comprising 200 orthodox and unorthodox Jews, of whom only one was positive for trichinae (*1*). An additional 35 Jews, of whom 4 were found to have been infected, were represented in the other series in the survey, making a total of 235 persons of this religious faith, of whom 5, or 2.1 percent, were positive for the parasite (table 2). Compared to the incidence of trichinae in other composite groups, this is a very low rate of infection and demonstrates the protection afforded the Jewish people by the religious injunction against the consumption of pork.

INFECTION AND CONDITION OF LARVAE IN RELATION TO AGE AT DEATH

Age at death.—Table 3 presents data concerning the incidence of infection in various age groups and the condition of the larvae encountered in positive cases in these groups. In the individuals under 45 years of age, the incidence of infection was 12.6 percent, while in the individuals 45 years and over the incidence was 18.3 percent. Thus

TABLE 3.—*Incidence and condition of trichinae by age at death in 855 positive cases*

Age at death	Total number cases	Positive cases		Condition of larvae		
		Number	Percent	Live	Mixed	Dead
1–44	1,967	248	12.6	102	65	81
45 and over	3,304	603	18.3	143	77	383
1–4	85	1	1.2	1		
5–9	63	4	6.3		1	3
10–14	65	8	12.3	4	3	1
15–19	122	7	5.7	4	2	1
20–24	195	21	10.8	10	7	4
25–29	228	27	11.8	14	8	5
30–34	251	37	14.7	19	8	10
35–44	958	143	14.9	50	36	57
45–54	1,050	190	18.1	68	35	87
55–64	1,031	186	18.0	40	22	124
65–74	817	156	19.1	27	18	111
75 and over	406	71	17.5	8	2	61
Unknown	42	4	9.5			4
Total	5,313	855	16.1	245	142	468

there was a statistically significant difference in the occurrence of infection in these two groups, which might be expected when it is considered that older individuals have had more opportunities for acquiring an infection.

With some few exceptions there was a progressive increase in the incidence of infection with increase in age. Two of these exceptions fell within the age groups 10 to 14 and 15 to 19, in which the numbers involved were relatively small, and it seems probable that with a larger number of cases in the survey these differences would disappear. The peak of incidence was reached at 19.1 percent in the age group 65 to 74, the incidence in the group of 75 years and over being 17.5 percent. However, in view of the fewer cases involved, this lower calculated incidence in the age group of 75 and over is not significant. It seems probable that with a larger sampling the difference would no longer exist. As a matter of fact, the percentage of cases in the age group of 75 and over is markedly dissimilar to the percentage of this group in the mortality figures for 1938, the median year of our survey. As will be seen from table 4, the individuals of 75 and over represented only 7.6 percent of the total cases, whereas persons in this age group comprised 24.4 percent of the total deaths over 1 year of age [4] in the

TABLE 4.—*Comparison of age distribution of deaths in the United States in 1938 and distribution in survey sample*

Age at death	Percent total deaths	
	United States, 1938	Survey sample
1–4	2.5	1.6
5–9	1.1	1.2
10–14	1.1	1.2
15–19	1.9	2.3
20–24	2.4	3.7
25–29	2.7	4.3
30–34	2.9	4.7
35–44	8.0	18.0
45–54	12.9	19.8
55–64	17.6	19.4
65–74	22.4	15.4
75 and over	24.4	7.6
Unknown	0.08	0.8

United States in 1938. Table 4 also demonstrates further percentage discrepancies in the age at death of those persons dying in 1938 and the age at death in our sample. Between the ages of 1 and 34, the figures for the two groups do not differ widely. However, the majority of deaths in our sampling are concentrated within the age limits 35 to 64, while the majority of deaths occurring in 1938 fall in the groups over 55 years of age. It is evident therefore that our sample is a biased one and that it comprises a greater percentage of

[4] All the diaphragms in this survey came from individuals over 1 year of age.

individuals succumbing earlier in life than is found in the mortality figures for the median year of this survey. This difference in age distribution may be due to the fact that nearly all deaths in our series were institutional deaths, and it is possible that the average age at death in hospitalized individuals is less than the average age at death in nonhospitalized persons. It has not been possible to secure information on this point for the reason that the Bureau of the Census has no data on the age distribution of persons dying in institutions in the year 1938. It would appear, however, that the lower incidence in the age group of 75 years and over may be directly due to the inadequate representation of this group in our sampling.

Condition of larvae.—As will be noted from table 3, 245, or 28.7 percent, of the 855 positive cases represented infections with live larvae; 142, or 16.6 percent, infections with mixed live and dead larvae; and 468, or 54.7 percent, infections with dead larvae. This distribution of the larvae in the various conditions meets the expected distribution since it may be assumed that, if every individual has a uniform opportunity for infection during his or her lifetime, the possibilities are greater for the existence of old trichina infections with dead and calcified larvae in older individuals. On the other hand it may be assumed that live larvae will be encountered in the majority of infected individuals dying before middle life, since the average duration of infection in such individuals will have been shorter. Further, if the transition of live larvae to dead larvae occupies only a relatively short time, mixed infections will be found most frequently in individuals dying in middle life. The possibility that mixed infections represent superinfections has been discussed in the preceding paper of this series (*1*).

In the present series, live larvae were encountered in every age group with the exception of that of 5 to 9. Up to the age of 35, infections with live larvae constituted about one-half of the total infections. After this the proportion of cases with live larvae gradually decreased until in the age group of 75 and over, only 8 of the 71 cases were represented by only live larvae. As might be expected, a higher proportion of mixed infections occurred at middle age in the groups 35 to 54; actually 71, or 50 percent, of the 142 infections with mixed live and dead larvae occurred in these two decades.

Little is known concerning the rapidity with which larvae die and begin to disintegrate or calcify. Certain reports in the literature offer evidence that larvae may be very long lived. For instance, Babes (*4*) has reported the finding of live larvae in an individual who had suffered from clinical trichinosis 21 years previously; and Turner (*5*) noted a case in which live larvae were recovered from an individual 26 years after an attack of trichinosis, the larvae producing an infection in rabbits after the feeding of the infected muscle. Nolan and

Bozicevich (*6*) described a case included in our base series in which living larvae were encountered after the individual had been confined in a mental institution for 19 years and in which exposure to trichinosis was considered to be extremely limited. In all of these cases, however, the possibility of reinfection cannot be ruled out. Dammann (*7*) has offered more conclusive evidence concerning the longevity of trichina larvae in his report of the infection of rabbits with the muscle tissue of a hog which had been infected over 11 years previously and maintained during this time in an environment which excluded reinfection. On the other hand, our finding of dead larvae in 3 of 4 infections in persons in the age group of 5 to 9, and the finding of mixed live and dead larvae in the fourth case in this group, indicate that trichinae are not long lived in all cases and that in some cases death of the larvae may occur within a few years after infection.

SUMMARY AND CONCLUSIONS

The epidemiological evidence obtained from the examination of 5,313 diaphragms from 189 hospitals in 37 States and the District of Columbia has been reviewed. This evidence would indicate that there is no correlation between trichina infection and sex, civil or military status, past military service, occupation, mental hospitalization, urban or rural residence, or social-economic status.

The 5,313 cases included 769 persons of foreign citizenship or whose names indicated foreign extraction, of whom 181, or 23.5 percent, were infected. Individuals in the German and Italian groups totaled 380, of whom 109, or 28.7 percent, were infected. A comparison of these figures with an incidence of 15.6 percent in 4,219 American Negroes and whites of English-Scotch-Irish descent would seem to indicate that persons of foreign extraction are more frequently exposed to trichinosis. However, this applies only to individuals in the German and Italian groups, since the infection rate in other foreigners was not significantly different than that for the group as a whole. Represented were 235 Jews, of whom only 5, or 2.1 percent, were infected.

The peak of incidence of 19.1 percent was reached in the age group 65 to 74, although it appears that the actual peak would have fallen in the group over 75 years of age had that group been represented in our survey to the extent that it is represented in the mortality figures for the year 1938, the median year of the survey.

Of the 855 positive cases, 245, or 28.7 percent, had infections with live larvae; 142, or 16.6 percent, infections with mixed live and dead larvae; and 468, or 54.7 percent, infections with dead larvae. The finding of dead larvae in 3 of 4 cases in the age group 5 to 9 indicates that death of the larvae may occur within a few years after infection.

While there was no statistically significant difference between the

rate of trichina infection encountered in mentally afflicted individuals hospitalized in a single institution over varying periods of time, other evidence indicated that most, if not all, of the infections were probably acquired before admission to the institution and that probably exposure to trichinosis was of much less degree than that encountered in the outside world.

Evidence obtained from the present survey indicates very strikingly that within the continental limits of the United States exposure to trichinosis is nearly uniform in degree regardless of geographical or environmental factors. Such evidence therefore points to the need not for the enactment of control measures in localized areas but for the treatment of the problem on a nation-wide basis either through concerted action on the part of the States or assumption of control by the Federal government.

REFERENCES

(1) Wright, Willard H., Kerr, K. B., and Jacobs, Leon: Studies on trichinosis. XV. Summary of the findings of *Trichinella spiralis* in a random sampling and other samplings of the population of the United States. Pub. Health Rep., **58:** 1293–1313 (Aug. 27, 1943).

(2) Hall, Maurice C., and Collins, Benjamin J.: Studies on trichinosis. II. Some correlations and implications in connection with the incidence of trichinae found in 300 diaphragms. Pub. Health Rep., **52:** 512–527 (Apr. 23, 1937).

(3) Hall, Maurice C.: Studies on trichinosis. VI. Epidemiological aspects of trichinosis in the United States as indicated by an examination of 1,000 diaphragms for trichinae. Pub. Health Rep., **53:** 1086–1105 (July 1, 1938).

(4) Babes, Victor: Ein 21 Jahre alter Fall von Trichinose mit lebenden Trichinen. Centralbl. Bakteriol. 1 Abt., Orig., **42:** 541–545 (Oct. 29); 616–619 (Nov. 19, 1906).

(5) Turner, Dawson F. D.: Trichinosis. Lancet, **1:** 934 (May 11, 1889).

(6) Nolan, M. O., and Bozicevich, John: Studies on trichinosis. V. The incidence of trichinosis as indicated by post-mortem examinations of 1,000 diaphragms. Pub. Health Rep., **53:** 652–673 (Apr. 29, 1938).

(7) Dammann, Carl: Zur Frage der Lebensdauer under der Verkapselung der Trichinen bei dem Schweine. Deutsche Ztschr. Thiermed., **3:** 92–95 (30 Nov., 1876).

PAPERS IN THE SERIES

I. The incidence of trichinosis as indicated by post-mortem examinations of 300 diaphragms. By Maurice C. Hall and Benjamin J. Collins. Pub. Health Rep., **52:** 468–490 (Apr. 16, 1937).

II. Some correlations and implications in connection with the incidence of trichinae found in 300 diaphragms. By Maurice C. Hall and Benjamin J. Collins. Pub. Health Rep., **52:** 512–527 (Apr. 23, 1937).

III. The complex clinical picture of trichinosis and the diagnosis of the disease. By Maurice C. Hall. Pub. Health Rep., **52:** 539–551 (Apr. 30, 1937).

IV. The role of the garbage-fed hog in the production of human trichinosis. By Maurice C. Hall. Pub. Health Rep., **52:** 873–886 (July 2, 1937).

V. The incidence of trichinosis as indicated by post-mortem examinations of 1,000 diaphragms. By M. O. Nolan and John Bozicevich. Pub. Health Rep., **53:** 652–673 (Apr. 29, 1938).

VI. Epidemiological aspects of trichinosis in the United States as indicated by an examination of 1,000 diaphragms for trichinae. By Maurice C. Hall. Pub. Health Rep., **53:** 1086–1105 (July 1, 1938).

VII. The past and present status of trichinosis in the United States, and the indicated control measures. By Maurice C. Hall. Pub. Health Rep., **53:** 1472–1486 (Aug. 19, 1938).

VIII. The antigenic phase of trichinosis. By John Bozicevich and Laszlo Detre. Pub. Health Rep., **55**: 683–692 (Apr. 19, 1940).
IX. The part of the veterinary profession in the control of human trichinosis. By Willard H. Wright. J. Am. Vet. Med. Assoc., **94**: 601–608 (June 1939).
X. The incidence of light infestations of dead trichinae in man. By Leon Jacobs. J. Wash. Acad. Sci., **28**: 452–455 (Oct. 15, 1938).
XI. The epidemiology of *Trichinella spiralis* and measures indicated for the control of trichinosis. By Willard H. Wright. Am. J. Pub. Health, **29**: 119–127 (February 1939).
XII. The preparation and use of an improved trichina antigen. By John Bozicevich. Pub. Health Rep., **53**: 2130–2138 (Dec. 2, 1938).
XIII. The incidence of human infection with trichinae as indicated by postmortem examinations of 3,000 diaphragms from Washington, D. C., and 5 eastern seaboard cities. By K. B. Kerr, Leon Jacobs, and Eugenia Cuvillier. Pub. Health Rep., **56**: 836–855 (Apr. 18, 1941).
XIV. A survey of municipal garbage disposal methods as related to the spread of trichinosis. By Willard H. Wright. Pub. Health Rep., **55**: 1069–1077 (June 14, 1940).
XV. Summary of the findings of *Trichinella spiralis* in a random sampling and other samplings of the population of the United States. By Willard H. Wright, K. B. Kerr, and Leon Jacobs. Pub. Health Rep., **58**: 1293–1313 (Aug. 27, 1943).

PUBLIC HEALTH SERVICE PUBLICATIONS

A List of Publications Issued During the Period July–December 1943

The following is a list of publications of the United States Public Health Service issued during the period July–December 1943.

The purpose of the publication of this list is to provide a complete and continuing record of Public Health Service publications for reference use by librarians, scientific workers, and others interested in particular fields of public health work, and not to offer the publications for indiscriminate free public distribution.

Those publications marked with an asterisk (*) may be obtained only by purchase from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at the prices noted.

Periodicals

*Public Health Reports (weekly), July–December, vol. 58, Nos. 27 to 53, pages 1001 to 1940. 5 cents a number.
*Venereal Disease Information (monthly), July–December, vol. 24, Nos. 7 to 12, pages 185 to 392. 5 cents a number.
*Journal of the National Cancer Institute (bimonthly), August–December, 1943, vol. 4, Nos. 1 to 3, pages 1 to 338. 40 cents a number.
Public Health Engineering Abstracts (monthly), July–December, vol. XXIII, Nos. 7 to 12. Nos. 7, 8, 9, 10, and 11, each 32 pages; No. 12, 22 pages.
National Negro Health News (quarterly), January–December, vol. 11, Nos. 1 to 4. Nos. 1, 2, 3, each 28 pages; No. 4, 24 pages.

Reprints From the Public Health Reports

2490. Effect of lead absorption on blood calcium. By Wendell V. Jenrette and Lawrence T. Fairhall. July 2, 1943. 5 pages.
2491. Infection in monkeys with strains of *Trypanosoma cruzi* isolated in the United States. By Dorland J. Davis. July 2, 1943. 5 pages; 1 plate.

2492. *Salmonella enteritidis:* Experimental transmission by the Rocky Mountain wood tick *Dermacentor andersoni* Stiles. By R. R. Parker and Edward A. Steinhaus. July 2, 1943. 4 pages.

2493. The tick *Ornithodoros rudis* as a host to the rickettsiae of the spotted fevers of Colombia, Brazil, and the United States. By Gordon E. Davis. July 2, 1943. 4 pages.

2494. Influenza and pneumonia mortality in a group of 90 cities in the United States, August 1935–March 1943 with a summary for August 1920–March 1943. By Mary Gover. July 9, 1943. 29 pages.

2495. Extent of immunization and case histories for diphtheria, smallpox, scarlet fever, and typhoid fever in 200,000 surveyed families in 28 large cities. By Selwyn D. Collins and Clara Councell. July 23, 1943. 32 pages.

2496. Studies on strains of *Aerobacter cloacae* responsible for acute illness among workers using low-grade stained cotton. By B. H. Caminita, R. Schneiter, R. W. Kolb, and P. A. Neal. July 30, 1943. 20 pages; 2 plates.

2497. A soap which indicates the presence of mercury fulminate. By Howard S. Mason and Isadore Botvinick. July 30, 1943. 4 pages.

2498. Experimental transmission of the spotted fevers of the United States, Colombia, and Brazil by the argasid tick *Ornithodoros parkeri.* By Gordon E. Davis. August 6, 1943. 8 pages.

2499. An approach to the mental hygiene public health problem. By Gerhard B. Haugen. August 6, 1943. 4 pages.

2500. Jaundice following administration of human serum. By John W. Oliphant, Alexander G. Gilliam, and Carl L. Larson. August 13, 1943. 10 pages.

2501. Toxic effects of atabrine and sulfadiazine in growing rats. By C. I. Wright and R. D. Lillie. August 13, 1943. 9 pages.

2502. Sickness absenteeism among male and female industrial workers, 1933–42, inclusive. By W. M. Gafafer. August 13, 1943. 4 pages.

2503. The incidence and prevalence of cancer of the lung. By Harold F. Dorn. August 20, 1943. 8 pages.

2504. Carbarsone treatment for *Balantidium coli* infections. By Martin D. Young and Robert Burrows. August 20, 1943. 2 pages.

2505. The mechanism of antitoxic immunity in *Clostridium perfringens* (Welchii) infections in guinea pigs. By Sarah E. Stewart. August 20, 1943. 4 pages; 2 plates.

2506. Studies on trichinosis. XV. Summary of the findings of *Trichinella spiralis* in a random sampling and other samplings of the population of the United States. By Willard H. Wright, K. B. Kerr, and Leon Jacobs. August 27, 1943. 21 pages.

2507. The patient load of physicians in private practice. A comparative statistical study of three areas. By Antonio Ciocco and Isidore Altman. September 3, 1943. 24 pages.

2508. Surveys of liquid wastes from munitions manufacturing. By Russell S. Smith and W. W. Walker. September 10 and 17, 1943. 36 pages.

2509. Twenty-year survival of virulent *Bacillus pestis* cultures without transfer. By Edward Francis. September 10, 1943. 4 pages.

2510. Experimental chemotherapy of burns and shock. IV. Production of traumatic shock in mice. V. Therapy with mouse serum and sodium salts. By Sanford M. Rosenthal. September 24, 1943. 8 pages.

2511. Notes on the pathology of experimental trinitrotoluene poisoning. By R. D. Lillie. September 24, 1943. 4 pages.

2512. Tuberculosis mortality in the United States: 1939–41. By J. Yerushalmy, H. E. Hilleboe, and C. E. Palmer. October 1, 1943. 26 pages.

2513. Opportunities in the newer methods of tuberculosis case finding. By Herman E. Hilleboe. July 16, 1943. 8 pages.
2514. A study of an outbreak of food poisoning in a hospital in Galveston, Texas. By L. L. Lumsden, C. A. Nau, and F. M. Stead. October 8, 1943. 10 pages.
2515. American Q fever: the occurrence of *Rickettsia diaporica* in *Amblyomma americanum* in eastern Texas. By R. R. Parker and Glen M. Kohls. October 8, 1943. 2 pages.
2516. Harborage of *Rattus rattus alexandrinus*. By B. K. Milmore. October 8, 1943. 4 pages.
2517. The automatic control of exposure in photofluorography. By Russell H. Morgan. October 15, 1943. 9 pages; 2 plates.
2518. The successful treatment of granulocytopenia and leukopenia in rats with crystalline folic acid. By Floyd S. Daft and W. H. Sebrell. October 15, 1943. 4 pages.
2519. The war and the distribution of physicians. By G. St. J. Perrott and Burnet M. Davis. October 15, 1943. 10 pages.
2520. Frequency and duration of disabilities causing absence from work among the employees of a public utility, 1938–42. By W. M. Gafafer. October 15, 1943. 8 pages.
2521. The physically handicapped. By Bernard D. Karpinos. October 22, 1943. 20 pages.
2522. Surveys of milk laboratories in war areas in the United States. I. Practices observed in making agar plate counts. II. Practices observed in making direct microscopic examinations and methylene blue reduction tests. III. Observations on sampling and health department practice relative to bacteriological milk analysis. By Luther A. Black. October 29, November 5 and 12, 1943. 43 pages.
2523. An outbreak of dermatitis from hair lacquer. By Louis Schwartz. October 29, 1943. 2 pages.
2524. The effect of topically applied sodium fluoride on dental caries experience. By John W. Knutson and Wallace D. Armstrong. November 19, 1943. 13 pages.
2525. The identification of first stage larvae of Puerto Rican *Anopheles*. By Harry D. Pratt. November 19, 1943. 4 pages.
2526. Experimental transmission of the rickettsiae of the spotted fevers of Brazil, Colombia, and the United States by the argasid tick *Ornithodoros nicollei*. By Gordon E. Davis. November 26, 1943. 3 pages.
2527. The detection and analysis of arsenic in water contaminated with chemical warfare agents. By C. C. Ruchhoft, O. R. Placak, and Stuart Schott. December 3, 1943. 12 pages.
2528. Smallpox in relation to State vaccination laws and regulations. By Brock C. Hampton. December 3, 1943. 8 pages.
2529. Emergency minimum sanitation standards. December 10, 1943. 32 pages.
2530. Influence of pH and temperature on the survival of coliforms and enteric pathogens when exposed to free chlorine. By C. T. Butterfield, Elsie Wattie, Stephen Megregian, and C. W. Chambers. December 17, 1943. 30 pages.
2531. The promin treatment of leprosy. A progress report. By G. H. Faget, R. C. Pogge, F. A. Johansen, J. F. Dinan, B. M. Prejean, and C. G. Eccles. November 26, 1943. 13 pages.
2532. The use of curtain walls in ratproofing. By Ralph Porges. December 24, 1943. 5 pages.

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2533. The benefits accruing from the ratproof construction of vessels. By G. C. Sherrard. December 24, 1943. 4 pages.

2534. A survey of statistical studies on the prevalence and incidence of mental disorder in sample populations. By Paul Lemkau, Christopher Tietze, and Marcia Cooper. December 31, 1943. 20 pages.

Supplements to the Public Health Reports

133. Public health nursing. By Pearl McIver. Revised 1943. 19 pages.

173. Recommended wartime refuse disposal practice. With particular reference to the sanitary landfill method of disposal for mixed refuse. By C. C. Spencer. 1943. 19 pages.

Public Health Bulletin

280. Ordinance and code regulating eating and drinking establishments. Recommended by the United States Public Health Service. 1943. 60 pages; 9 halftones.

Miscellaneous Publication

11. Official list of commissioned and other officers of the United States Public Health Service, also a list of all stations of the Service, January 1, 1943. 1943. 91 pages.

Workers' Health Series

11. Hold on to your teeth. 1943. 7 pages.

Community Health Series

1. Wake up Main Street. Illustrated folder. 1943. 6 pages.
2. Safe water. Illustrated folder. 1943. 8 pages.
3. From hand to mouth. 1943. 48 pages, illustrated.

Posters

Community Health Posters.

1. Safe water on the farm. Four colors, 22 x 28 in. Illustrator, Robbins. 1943.
2. Saboteur—rats spread plague, spread typhus, destroy food, destroy property, start fires. Four colors, 10 x 14 in. Illustrator, Jex. 1943.

Malaria Control Posters—Set of five, four-color, each 14 x 10 in. Illustrator, Margo. 1943.

1. Mosquitoproof your home.
2. Keep out malaria mosquitos, repair your torn screens.
3. Spray to kill, malaria mosquitoes hide in your home.
4. Protect yourself, mosquitoproof your home.
5. Dust paris green on swamps and ponds.

Malaria Control Poster No. 7—Fight mosquitoes at home, spray, screen, cover cracks. 28 x 20 in., four colors. Illustrator, Margo. 1943.

Nurse Recruitment Posters.

Become a nurse—your country needs you. Four colors, 17.4 x 13.9 in. Illustrator, Muray. Write to Nursing Information Bureau, 1790 Broadway, New York, New York.

Enlist in a proud profession! Join the U. S. Cadet Nurse Corps. Four colors, sizes 14½ x 20, 19⅞ x 23⅞, 20 x 28, 23⅞ x 21⅞, and 40 x 56 in. Illustrator, Edmundson.

Tuberculosis Posters—Three, four-color, each 10 x 14 in.

1. You may look healthy but what does your chest X-ray show? Illustrator, Robbins.
2. Health wanted, have your chest X-rayed, find TB early. Illustrator, Kula.
3. Have your picture taken, guard against tuberculosis. Illustrators, Kula and Robbins.

Unnumbered Publications

U. S. Cadet Nurse Corps.

65,000 women needed. Information leaflet.

Fact sheet. 6 page folder.

What school will you choose? 4 page folder.

Get free training with pay in the world's proudest profession. 6 page folder, illustrated.

Enlist in a proud profession. Train as a nurse! U. S. Cadet Nurse Corps. 20 pages, illustrated.

How advertisers can cooperate with the U. S. Cadet Nurse Corps. 12 pages, illustrated.

Index to Public Health Reports, volume 58, part 1, January–June 1943. 18 pages.

Malaria Control Folder. 8 pages, illustrated.

Industrial hygiene education materials. 1943. 32 pages, illustrated.

Reprints From Venereal Disease Information

200. The management of gonorrhea in general practice. Procedures recommended by the American Neisserian Medical Society. Vol. 24, May 1943. 8 pages.
201. Laboratory procedures in the diagnosis of gonococcal infection. By Charles M. Carpenter. Vol. 24, May 1943. 11 pages.
202. Social and legal problems in the wartime venereal disease control program. By Charles P. Taft. Vol. 24, June 1943. 5 pages.
203. An experimental evaluation of intensive methods for the treatment of early syphilis. III. Clinical implications. By Harry Eagle and Ralph B. Hogan. Vol. 24, June 1943. 12 pages.
204. Fitness for freedom. By Thomas Parran. Vol. 24, July 1943. 5 pages.
205. Substitutes for spinal fluids as colloidal gold controls. By H. N. Bossak, A. A. Rosenberg, and Ad Harris. Vol. 24, July 1943. 4 pages.
206. The results of the follow-up of patients treated for early syphilis by rapid methods at Bellevue Hospital. By Russell J. Hammond, James A. MacPhail, and Evan W. Thomas. Vol. 24, August 1943. 4 pages.
207. Comparison of results obtained with culture of urine and urethral secretion in the detection of gonorrhea. By George Sewell, Paul T. Salchow, and Everett A. Nelson. Vol. 24, August 1943. 4 pages.
208. The facilitation process and venereal disease control. A study of source finding and suppression of facilitation in the Greater Vancouver Area. By Donald H. Williams. Vol. 24, September 1943. 12 pages.
209. Venereal disease epidemiology in the Army Third Service Command. Progress report for period January through June 1943. By E. W. Norris, A. F. Doyle, and Albert P. Iskrant. Vol. 24, October 1943. 8 pages.
210. The male investigator in venereal disease control follow-up. By Malcolm H. Merrill. Vol. 24, November 1943. 6 pages.

211. A method of inducing therapeutic fever with typhoid vaccine using the intravenous drip technic. By Harry C. Knight, Mayo L. Emory, and Lloyd D. Flint. Vol. 24, November 1943. 8 pages.
212. Penicillin treatment of early syphilis. A preliminary report. By J. F. Mahoney, R. C. Arnold, and Ad Harris. Vol. 24, December 1943. 4 pages.

Supplement to Venereal Disease Information

19. Management of chancroid, granuloma inguinale, and lymphogranuloma venereum in general practice. By Robert B. Greenblatt. 43 pages.

Venereal Disease Folders

5. (R. 43) Gonorrhea, the crippler . . . cured. 8 pages.

Unnumbered Publications

V. D. Stamps. "Stamp Out V. D."

FELLOWSHIPS IN HEALTH EDUCATION

In order to meet an increasing need for health educators, fellowships for graduate study and experience in health education will be offered to qualified women this fall. The awards will be made by the United States Public Health Service through funds made available by the W. K. Kellogg Foundation and will lead to a master of science degree in public health.

These fellowships will provide 12 months of training in public health education, 9 months of which will be academic work in public health and public health education, and 3 months supervised field experience. A stipend of $100 a month for 12 months, full tuition, and travel for field experience is included.

Owing to the wartime shortage of men for duty in the armed forces, industry, and essential civilian services, only women will be considered for fellowships at this time. Women between the ages of 19 and 40 years, inclusive, who are citizens of the United States, and who possess a bachelor of science degree, or its equivalent, from a recognized college or university may apply. Although standardized training cannot be specified as a qualification in a field as new as public health education, it is desirable that a candidate present a background including as many as possible of the following areas of knowledge and skill: A broad cultural education, including skills in the use of the English language; the basic sciences; training in education and educational psychology; and social science education to provide an appreciation of the importance of respect for human personality and government.

One of the personal qualifications needed for community education is the ability to work effectively with people. Adaptability, creative

ability, leadership, and sound judgment are other essential qualities for the health educator to possess, plus good health and a pleasing appearance.

The demand for qualified health educators has increased in the past few years to such an extent that at present there are not enough trained personnel to meet existing needs. Expanding fields are opening to the health educator through the local, State, and Federal health departments, schools, and voluntary agency programs of community and school health education. Leading public health authorities have recommended that a health educator be added to every local health department in the country, and the need for health education personnel abroad is foreseen.

Forms for application for fellowships may be obtained from the Surgeon General, United States Public Health Service, Washington 14, D. C. Applications must be accompanied by a transcript of college credits and a small photograph, and must be in the office of the Surgeon General not later than August 1, 1944.

DEATHS DURING WEEK ENDED MAY 13, 1944

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

	Week ended May 13, 1944	Corresponding week, 1943
Data for 92 large cities of the United States:		
Total deaths	9,044	9,389
Average for 3 prior years	8,614	
Total deaths, first 19 weeks of year	186,531	189,350
Deaths under 1 year of age	584	651
Average for 3 prior years	576	
Deaths under 1 year of age, first 19 weeks of year	11,844	13,137
Data from industrial insurance companies:		
Policies in force	66,516,228	65,527,004
Number of death claims	12,406	14,845
Death claims per 1,000 policies in force, annual rate	9.8	11.8
Death claims per 1,000 policies, first 19 weeks of year, annual rate	10.9	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 20, 1944

Summary

Following an increase last week, the incidence of meningococcus meningitis again declined. A total of 385 cases was reported for the current week, as compared with 420 last week, 382 for the next earlier week, 544 for the corresponding week last year, and 48 for the 5-year (1939–43) median. Increases were reported currently only in the Middle Atlantic and West Central areas. Eight States reporting 19 or more cases each are as follows (last week's figures in parentheses): *Increases*—New York 47 (45), Pennsylvania 36 (25), Illinois 36 (29); Texas 21 (10); *decreases*—Ohio 21 (28), Michigan 27 (28), California 19 (43); *no change*—Missouri 19 (19). A total of 10,270 cases has been reported for the year to date, as compared with 9,849 for the same period last year. However, weekly totals have been below last year's corresponding figures since February 26, and the total reported since that date is 5,205, as compared with 6,310 for the corresponding period last year. The comparable figure in 1942 was 994.

A total of 36 cases of poliomyelitis was reported, as compared with 37 last week, 36 for the corresponding week last year, and a 5-year median of 26. Of the current total, 8 cases were reported in California, 7 in Louisiana, and 4 in Texas. The cumulative figure is 462, as compared with 519 for the same period last year, and a 5-year median of 454.

Of the current total of 115 cases of typhoid fever, as compared with 86 last week and a 5-year median of 98, California reported 21, Texas 11, and Louisiana 9. The total increase is accounted for chiefly by increased incidence in the South Atlantic and East South Central areas.

The incidence of measles and scarlet fever for the country as a whole continued to decline. For measles the figures are lower in all of the nine geographic divisions, and for scarlet fever in all except the New England area. The current totals are 22,881 for measles and 5,425 for scarlet fever, as compared with 5-year medians of 20,966 and 3,672 respectively.

A total of 8,841 deaths was recorded for the week in 92 large cities of the United States, as compared with 9,054 last week and a 3-year (1941–43) average of 8,560. The cumulative total is 195,659, as compared with 198,620 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended May 20, 1944, and comparison with corresponding week of 1943 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43
	May 20, 1944	May 22, 1943		May 20, 1944	May 22, 1943		May 20, 1944	May 22, 1943		May 20, 1944	May 22, 1943	
NEW ENGLAND												
Maine	1	0	1	2	----	----	239	55	141	0	7	0
New Hampshire	0	0	0	----	----	----	20	60	40	0	1	0
Vermont	0	0	0	----	----	----	66	233	83	0	0	0
Massachusetts	6	2	5	----	----	----	944	1,844	1,219	7	18	4
Rhode Island	1	0	0	10	----	----	44	39	80	1	13	0
Connecticut	0	6	2	2	----	----	554	438	467	9	11	1
MIDDLE ATLANTIC												
New York	13	19	18	[1] 3	[1] 4	[1] 5	1,316	3,539	2,251	47	89	6
New Jersey	1	2	5	1	13	5	1,261	2,320	887	10	41	1
Pennsylvania	10	11	15	3	1	----	675	1,972	1,591	36	39	4
EAST NORTH CENTRAL												
Ohio	5	7	7	12	16	11	316	734	469	21	22	1
Indiana	5	3	3	----	13	9	103	458	58	3	11	1
Illinois	17	19	17	9	6	6	536	1,734	319	36	19	0
Michigan [2]	9	3	5	1	3	2	661	4,574	802	27	18	0
Wisconsin	0	4	1	31	39	39	2,271	2,319	1,383	8	10	1
WEST NORTH CENTRAL												
Minnesota	3	1	2	----	2	2	388	435	266	11	4	0
Iowa	5	3	3	2	2	1	185	127	205	8	4	1
Missouri	1	3	5	1	4	1	201	308	247	19	12	1
North Dakota	0	2	1	----	3	2	68	101	56	3	0	0
South Dakota	2	0	1	----	----	----	21	227	21	0	0	0
Nebraska	3	1	1	2	1	----	320	195	195	2	0	0
Kansas	5	2	2	2	----	3	352	494	453	8	3	1
SOUTH ATLANTIC												
Delaware	0	0	0	----	----	----	46	168	11	0	1	0
Maryland [3]	14	5	5	1	8	3	420	216	318	8	18	3
District of Columbia	0	0	1	3	1	----	178	119	119	3	6	0
Virginia	2	4	6	53	110	107	601	376	376	8	25	6
West Virginia	4	7	7	----	----	13	257	97	51	5	3	1
North Carolina	8	5	6	----	4	4	1,024	402	402	6	16	1
South Carolina	4	5	5	175	215	215	270	87	87	2	5	0
Georgia	6	3	3	8	18	23	126	75	109	3	3	0
Florida	3	3	3	3	19	16	154	52	93	5	10	0
EAST SOUTH CENTRAL												
Kentucky	1	5	4	8	9	9	119	258	152	9	9	1
Tennessee	0	3	2	15	21	37	111	277	166	6	32	3
Alabama	1	0	3	23	264	119	201	114	114	7	9	1
Mississippi [3]	5	2	3	----	----	----	----	----	----	6	10	4
WEST SOUTH CENTRAL												
Arkansas	2	8	3	17	3	29	112	64	121	0	2	0
Louisiana [2]	4	4	5	2	4	4	76	48	52	12	5	1
Oklahoma	4	2	3	53	8	28	369	71	74	0	1	0
Texas	23	22	22	305	482	410	2,664	443	733	21	11	3
MOUNTAIN												
Montana	1	0	0	6	6	6	118	175	113	0	0	0
Idaho	0	0	0	----	1	----	9	56	56	0	3	0
Wyoming	1	0	0	----	11	1	51	163	52	1	0	0
Colorado	6	6	6	14	20	14	315	451	248	2	2	0
New Mexico	5	1	0	4	2	1	122	32	41	0	1	1
Arizona	3	0	0	48	61	61	116	16	125	0	2	0
Utah [2]	0	0	0	----	6	6	42	98	151	1	2	0
Nevada	3	0	0	----	----	----	11	2	0	0	0	0
PACIFIC												
Washington	2	2	1	5	2	----	342	386	486	2	9	0
Oregon	0	3	3	15	68	15	115	218	197	3	6	0
California	18	16	16	61	51	51	4,371	1,053	1,053	19	31	2
Total	207	194	194	900	1,501	1,275	22,881	27,723	20,966	385	544	48
20 weeks	4,552	5,120	5,446	331,657	72,641	145,395	503,328	396,365	372,732	10,270	9,849	973

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 20, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [2]		
	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43	Week ended—		Median 1939–43
	May 20, 1944	May 22, 1943		May 20, 1944	May 22, 1943		May 20, 1944	May 22, 1943		May 20, 1944	May 22, 1943	
NEW ENGLAND												
Maine	1	0	0	57	16	12	0	0	0	1	0	0
New Hampshire	0	0	0	6	7	4	0	0	0	0	0	0
Vermont	0	0	0	11	18	9	0	0	0	0	0	0
Massachusetts	0	0	0	377	537	214	0	0	0	4	2	2
Rhode Island	1	0	0	11	37	19	0	0	0	0	0	0
Connecticut	0	0	0	85	110	53	0	0	0	1	0	0
MIDDLE ATLANTIC												
New York	2	0	0	470	569	554	0	0	0	3	14	9
New Jersey	1	1	1	262	137	229	0	0	0	1	1	2
Pennsylvania	1	0	0	486	269	324	0	0	0	2	3	4
EAST NORTH CENTRAL												
Ohio	1	0	0	453	231	231	1	6	0	4	5	5
Indiana	1	0	0	106	59	82	2	1	1	1	1	3
Illinois	1	1	1	391	161	298	1	1	1	1	2	4
Michigan [3]	0	0	0	304	129	255	0	0	1	2	3	3
Wisconsin	0	1	0	269	386	128	0	0	2	0	1	0
WEST NORTH CENTRAL												
Minnesota	1	0	0	130	69	69	0	0	0	0	0	1
Iowa	0	0	0	137	41	41	0	0	5	0	0	1
Missouri	0	0	0	97	44	52	0	0	0	0	1	0
North Dakota	0	0	0	26	6	6	0	0	0	0	0	0
South Dakota	0	0	0	23	14	14	0	0	1	0	0	0
Nebraska	0	0	0	64	20	11	1	0	0	0	0	0
Kansas	0	2	1	70	37	47	1	1	1	0	0	1
SOUTH ATLANTIC												
Delaware	0	0	0	6	5	6	0	0	0	0	0	0
Maryland [3]	0	0	0	204	100	49	0	0	0	0	0	1
District of Columbia	0	0	0	96	12	12	0	0	0	1	0	0
Virginia	0	1	1	46	32	19	0	0	0	6	1	4
West Virginia	0	1	0	121	15	25	0	1	0	2	2	2
North Carolina	0	0	0	27	21	16	0	0	0	7	0	1
South Carolina	3	1	1	8	2	2	3	0	0	5	0	1
Georgia	1	0	0	30	1	13	0	0	2	6	5	5
Florida	0	0	1	3	25	6	0	0	0	1	5	4
EAST SOUTH CENTRAL												
Kentucky	0	1	1	53	14	48	0	0	1	7	3	5
Tennessee	0	0	0	59	26	43	0	1	1	6	3	3
Alabama	0	0	0	9	5	7	2	0	0	3	3	3
Mississippi [3]	1	3	1	6	11	3	1	1	1	4	1	1
WEST SOUTH CENTRAL												
Arkansas	0	0	1	4	2	3	0	1	1	2	4	2
Louisiana [3]	7	2	1	7	7	7	0	0	0	9	4	7
Oklahoma	0	0	0	42	10	10	0	1	0	0	3	3
Texas	4	4	1	52	33	33	0	0	4	11	10	7
MOUNTAIN												
Montana	0	0	0	41	11	12	0	0	0	0	0	0
Idaho	0	0	0	14	119	2	0	0	0	0	0	0
Wyoming	0	0	0	16	34	9	0	0	0	1	0	0
Colorado	0	0	0	60	69	30	0	1	2	0	0	1
New Mexico	0	0	0	21	4	2	0	0	0	0	1	1
Arizona	1	3	0	26	8	8	0	0	0	1	0	1
Utah [3]	0	0	0	70	31	20	0	0	0	0	0	0
Nevada	0	0	0	1	0	0	0	0	0	0	0	0
PACIFIC												
Washington	1	2	1	221	30	30	0	0	1	2	2	0
Oregon	0	0	0	95	22	8	0	1	1	0	0	0
California	8	13	3	252	140	134	1	0	0	21	5	5
Total	36	36	26	5,425	3,686	3,672	13	16	61	115	85	98
20 weeks	462	519	454	123,855	79,410	79,410	237	517	919	1,491	1,168	1,600

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended May 20, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Whooping cough			Week ended May 20, 1944								
	Week ended—		Median 1939–43	Anthrax	Dysentery			Encephalitis, infectious	Leprosy	Rocky Mt. spotted fever	Tularemia	Typhus fever
	May 20, 1944	May 22, 1943			Amebic	Bacillary	Unspecified					
NEW ENGLAND												
Maine	0	23	23	0	0	0	0	0	0	0	0	0
New Hampshire	0	0	4	0	0	0	0	0	0	0	0	0
Vermont	0	10	23	0	0	0	0	0	0	0	0	0
Massachusetts	66	132	176	0	0	1	0	0	0	0	0	0
Rhode Island	15	41	41	0	0	0	0	0	0	0	0	0
Connecticut	35	81	74	0	0	1	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	151	260	322	0	1	5	0	1	0	0	0	3
New Jersey	46	189	189	0	0	0	0	1	0	0	0	0
Pennsylvania	50	213	276	0	0	0	0	0	0	0	0	0
EAST NORTH CENTRAL												
Ohio	73	167	201	0	2	0	0	0	0	0	0	0
Indiana	12	51	35	0	0	0	0	0	0	0	0	0
Illinois	42	100	110	0	1	0	0	0	0	0	0	0
Michigan [3]	83	291	233	0	1	5	0	0	0	0	0	0
Wisconsin	49	273	170	0	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota	10	78	51	0	2	0	0	0	0	0	1	0
Iowa	13	44	30	0	0	0	0	0	0	0	0	0
Missouri	15	21	19	0	0	0	1	0	0	1	0	0
North Dakota	0	4	10	0	0	0	0	0	0	2	0	0
South Dakota	4	2	2	0	0	0	0	0	0	0	0	0
Nebraska	3	13	13	0	0	0	0	0	0	0	0	0
Kansas	46	80	42	0	1	0	1	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	0	3	5	0	0	0	0	0	0	0	0	0
Maryland [3]	49	103	77	0	0	0	1	1	0	0	0	0
District of Columbia	8	24	15	0	0	0	0	0	0	0	0	0
Virginia	47	155	96	0	0	0	84	0	0	2	0	0
West Virginia	7	52	50	0	0	0	0	0	0	0	0	0
North Carolina	110	257	218	0	0	0	0	0	0	1	0	2
South Carolina	105	45	105	0	0	14	0	0	0	0	0	1
Georgia	9	23	43	0	2	4	1	0	0	0	2	12
Florida	22	7	13	0	0	81	0	0	1	0	0	15
EAST SOUTH CENTRAL												
Kentucky	62	7	67	0	0	0	0	0	0	0	0	0
Tennessee	30	58	45	0	0	0	2	0	0	0	1	0
Alabama	22	61	61	0	0	0	0	0	0	0	0	6
Mississippi [2]				0	0	0	0	0	0	0	2	2
WEST SOUTH CENTRAL												
Arkansas	22	39	32	0	3	3	0	0	0	0	4	0
Louisiana [2]	4	8	24	0	3	1	0	0	0	0	0	4
Oklahoma	3	35	26	0	0	0	0	0	0	0	0	0
Texas	288	621	309	0	3	321	0	2	0	0	1	39
MOUNTAIN												
Montana	4	14	14	0	0	0	0	0	0	0	0	0
Idaho	0	0	7	0	0	0	0	0	0	0	0	0
Wyoming	2	1	3	0	0	0	0	0	0	3	1	0
Colorado	34	30	30	0	0	1	0	0	0	0	0	0
New Mexico	5	16	23	0	1	1	0	0	0	0	0	0
Arizona	9	18	18	0	0	0	38	1	0	0	0	0
Utah [2]	69	67	72	0	1	0	0	0	0	0	0	0
Nevada	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	15	25	43	0	0	0	0	0	0	0	0	0
Oregon	10	28	28	0	0	0	0	0	0	0	0	0
California	112	561	501	0	2	11	0	1	0	0	0	1
Total	1,761	4,331	3,767	0	23	449	128	7	1	9	12	85
20 weeks	35,975	81,117	80,002	17	509	4,875	1,432	216	13	31	211	877
20 weeks, 1943				26	597	4,111	987	219	9	65	344	919

[1] New York City only. [2] Period ended earlier than Saturday.
[3] Including paratyphoid fever cases reported separately, as follows: Massachusetts, 4; Connecticut, 1; Michigan, 1; South Carolina, 4; Florida, 1; Arkansas, 1; Texas, 1; Washington, 1.

WEEKLY REPORTS FROM CITIES

City reports for week ended May 6, 1944

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	-----	0	38	1	4	0	15	0	0	0
New Hampshire:												
Concord	0	0	-----	0	2	0	2	0	1	0	0	1
Vermont:												
Barre	0	0	-----	0	0	0	0	0	2	0	0	0
Massachusetts:												
Boston	1	0	-----	0	180	7	20	0	72	0	0	14
Fall River	0	0	-----	0	31	1	0	0	4	0	0	2
Springfield	0	0	-----	0	45	1	0	0	24	0	0	4
Worcester	0	0	-----	0	5	0	11	0	33	0	0	2
Rhode Island:												
Providence	1	1	-----	0	72	1	0	0	5	0	0	4
Connecticut:												
Bridgeport	0	0	-----	0	10	1	3	0	1	0	0	0
Hartford	0	0	-----	0	5	0	2	0	38	0	0	2
New Haven	0	0	-----	0	62	0	0	0	3	0	0	0
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	-----	0	6	0	4	0	12	0	0	0
New York	12	1	1	0	968	35	66	1	329	0	1	37
Rochester	0	0	-----	0	15	1	4	0	10	0	1	2
Syracuse	0	0	-----	0	5	0	7	0	7	0	0	4
New Jersey:												
Camden	0	0	-----	0	6	0	0	0	49	0	0	0
Newark	0	0	3	0	185	3	4	0	30	0	0	2
Trenton	0	0	-----	0	9	2	1	0	4	0	0	0
Pennsylvania:												
Philadelphia	2	0	2	2	63	11	37	0	108	0	0	14
Pittsburgh	1	0	1	2	10	9	14	0	19	0	0	6
Reading	0	0	-----	0	5	0	5	0	5	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	1	0	0	0	29	5	2	0	66	0	0	7
Cleveland	0	0	2	0	63	5	9	-----	128	0	0	7
Columbus	1	0	2	2	29	3	3	0	13	0	0	7
Indiana:												
Fort Wayne	0	0	-----	0	0	0	1	0	0	0	0	0
Indianapolis	2	0	-----	1	35	0	6	0	43	0	0	2
South Bend	0	0	-----	0	5	1	0	0	5	0	0	0
Terre Haute	0	0	-----	0	2	0	1	0	2	0	0	0
Illinois:												
Chicago	1	0	1	1	145	20	20	0	153	0	0	8
Springfield	0	0	-----	0	47	0	2	0	2	0	0	1
Michigan:												
Detroit	1	0	1	1	110	12	7	0	148	0	1	11
Flint	0	0	-----	0	8	0	5	0	1	0	0	6
Grand Rapids	0	0	-----	0	39	0	0	0	6	0	0	1
Wisconsin:												
Kenosha	0	0	-----	0	280	0	0	0	2	0	0	0
Milwaukee	0	1	1	1	195	2	7	0	59	0	0	19
Racine	0	0	1	1	114	1	0	0	3	0	0	3
Superior	0	0	-----	0	0	0	0	0	26	0	0	0
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	-----	1	91	0	4	0	12	0	0	2
Minneapolis	3	0	-----	0	181	3	13	0	51	0	0	4
St. Paul	1	0	-----	0	118	0	5	0	27	0	0	4
Missouri:												
Kansas City	0	0	-----	0	80	1	6	0	36	0	0	0
St. Joseph	0	0	-----	0	4	0	0	0	3	0	0	0
St. Louis	0	0	2	0	52	8	9	0	52	0	2	5

City reports for week ended May 6, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
Nebraska:												
Omaha	0	0	------	0	94	1	4	0	19	0	0	1
Kansas:												
Topeka	0	0	------	0	115	0	1	0	5	0	0	------
Wichita	1	0	------	0	45	1	2	0	12	0	0	5
SOUTH ATLANTIC												
Delaware:												
Wilmington	1	0	------	0	1	1	4	0	1	0	0	0
Maryland:												
Baltimore	7	0	1	0	470	8	7	0	129	0	0	21
Cumberland	0	0	------	0	0	0	0	0	0	0	0	0
Frederick	0	0	------	0	0	0	0	0	3	0	0	0
District of Columbia:												
Washington	0	0	1	0	179	0	4	0	146	0	1	3
Virginia:												
Lynchburg	0	0	------	0	5	0	0	0	2	0	0	0
Richmond	0	0	1	0	48	2	3	0	3	0	0	2
Roanoke	0	0	------	0	7	0	1	0	0	0	0	8
West Virginia:												
Wheeling	0	0	------	0	38	0	1	0	8	0	0	1
North Carolina:												
Wilmington	0	0	------	0	37	0	1	0	1	0	0	5
Winston-Salem	0	0	------	0	29	0	0	0	1	0	0	0
South Carolina:												
Charleston	0	0	------	0	2	0	4	0	0	0	0	0
Georgia:												
Atlanta	0	0	2	0	18	3	2	0	13	0	0	0
Brunswick	0	0	------	0	4	0	1	0	1	0	0	0
Savannah	0	0	------	0	0	0	0	0	0	0	0	0
Florida:												
Tampa	1	0	2	0	15	0	0	0	1	0	0	1
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	3	0	20	1	8	0	24	0	0	9
Nashville	0	0	------	0	0	0	1	0	0	0	0	0
Alabama:												
Birmingham	0	0	------	0	6	0	1	0	3	0	0	0
Mobile	0	0	------	0	0	2	1	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	1	0	19	0	1	0	0	0	0	0
Louisiana:												
New Orleans	2	0	5	2	26	3	6	1	6	0	1	0
Shreveport	1	0	------	0	0	0	4	0	0	0	1	0
Texas:												
Dallas	2	0	------	0	184	0	3	0	6	0	0	8
Galveston	0	0	------	0	0	0	1	0	0	0	0	0
Houston	1	0	------	0	6	0	5	0	2	0	0	0
San Antonio	0	0	2	1	12	2	7	0	0	0	1	2
MOUNTAIN												
Montana:												
Billings	0	0	------	0	31	0	0	0	1	0	0	0
Great Falls	0	0	------	0	4	0	3	0	0	0	0	1
Helena	0	0	------	0	1	0	0	0	0	0	0	0
Missoula	0	0	------	0	12	0	0	0	2	0	0	0
Idaho:												
Boise	0	0	------	0	6	0	0	0	3	0	0	0
Colorado:												
Denver	2	0	------	0	123	0	5	0	18	0	0	17
Pueblo	0	0	------	0	3	1	3	0	3	0	0	------
Utah:												
Salt Lake City	0	0	------	0	8	0	0	0	23	0	0	4

City reports for week ended May 6, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	1	0	------	1	46	0	6	0	61	0	0	3
Spokane	0	0	------	0	66	1	3	0	17	0	1	0
Tacoma	1	0	------	0	17	0	1	0	33	0	0	0
California:												
Los Angeles	11	0	4	0	449	4	3	2	30	0	0	6
Sacramento	1	0	------	0	100	1	1	0	7	0	0	2
San Francisco	0	0	2	0	228	2	7	0	57	0	1	11
Total 87 cities	59	3	41	16	5,821	167	388	4	2,245	0	11	291
Corresponding week, 1943	68	3	85	29	9,422	257	470	8	1,515	2	10	1,157
Average, 1939–43	67	------	109	[1] 25	[2] 6,134	------	[1] 377	------	1,528	4	16	1,193

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

Dysentery, amebic.—Cases: Boston, 1; Detroit, 1; Birmingham, 1; Mobile, 1.
Dysentery, bacillary.—Cases: Providence, 1; Buffalo, 1; New York, 3; Detroit, 1; Charleston, S. C., 3; Los Angeles, 2.
Dysentery, unspecified.—Cases: San Antonio, 20.
Typhus fever.—Cases: Savannah, 3; Tampa, 5; New Orleans, 2; Dallas, 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 87 cities in the preceding table (estimated population, 1943, 34,375,900)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	5.2	2.6	------	0.0	1,171	31.2	109.3	0.0	515	0.0	0.0	75
Middle Atlantic	6.8	0.5	3.2	1.8	577	27.6	64.5	0.5	260	0.0	0.9	30
East North Central	3.7	0.6	4.9	4.3	672	29.9	38.4	0.0	401	0.0	0.6	44
West North Central	10.0	0.0	4.0	2.0	1,556	27.9	87.8	0.0	433	0.0	4.0	42
South Atlantic	15.2	0.0	11.9	0.0	1,442	23.7	47.4	0.0	523	0.0	1.7	69
East South Central	0.0	0.0	17.5	0.0	151	17.5	64.1	0.0	157	0.0	0.0	52
West South Central	17.0	0.0	22.7	8.5	701	14.2	76.7	2.8	40	0.0	8.5	28
Mountain	15.8	0.0	------	0.0	1,489	7.9	87.1	0.0	396	0.0	0.0	174
Pacific	23.1	0.0	9.9	1.6	1,494	13.6	34.6	3.3	338	0.0	3.3	36
Total	9.0	0.5	6.2	2.4	885	25.4	59.0	0.6	342	0.0	1.7	45

PLAGUE INFECTION IN MONTEREY COUNTY, CALIF.

Plague infection has been reported proved in a pool of 284 fleas from 14 ground squirrels, *C. beecheyi*, collected on March 27, 1944, from a ranch 10 miles south and 14 miles east of Monterey, Monterey County, Calif.

TERRITORIES AND POSSESSIONS

Puerto Rico

Notifiable diseases—4 weeks ended April 22, 1944.—During the 4 weeks ended April 22, 1944, cases of certain notifiable diseases were reported in Puerto Rico as follows:

Disease	Cases	Disease	Cases
Chickenpox	67	Mumps	4
Diphtheria	35	Syphilis	1,035
Dysentery	14	Tetanus	6
Filariasis	9	Tetanus, infantile	3
Gonorrhea	616	Tuberculosis (all forms)	592
Influenza	89	Typhoid fever	22
Lymphogranuloma inguinale	4	Typhus fever	13
Malaria	918	Undulant fever	1
Measles	7	Whooping cough	63

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended April 22, 1944.—During the week ended April 22, 1944, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		29	3	153	338	46	31	76	229	905
Diphtheria		3	2	23		2			1	31
Dysentery (bacillary)				9						9
German measles		27		144	140	14	42	7	51	425
Influenza		5			15		9		4	33
Measles		5	14	1,021	707	411	73	196	39	2,466
Meningitis, meningococcus				1	3			1		5
Mumps		24		142	212	39	9	67	48	541
Poliomyelitis									1	1
Scarlet fever		14	12	73	228	65	27	97	77	593
Tuberculosis (all forms)		3		260	78	13		10	56	420
Typhoid and paratyphoid fever				20		1	3	6		30
Undulant fever				1	3					4
Whooping cough		9		79	29	9	4	17	25	172

CHILE

Vital statistics—Year 1943.—The following table gives the provisional vital statistics for Chile for the year 1943:

	Number	Rate per 100,000 population
Births	211,552	[1] 39.7
Deaths	101,959	[1] 19.1
Infant mortality	32,855	[2] 155.3
Stillbirths	7,757	[2] 35.4
Deaths from:		
Anthrax	89	1.7
Diphtheria	213	4.0
Measles	125	2.3
Meningitis, meningococcus	505	9.5
Poliomyelitis	7	
Scarlet fever	12	
Tuberculosis	12,212	229.2
Typhoid and paratyphoid fever	441	8.3
Typhus fever	74	1.4
Whooping cough	1,117	21.0

NOTE.—Population, 5,327,335.

[1] Per 1,000 population.
[2] Per 1,000 births.

CUBA

Habana—Communicable diseases—4 weeks ended April 29, 1944.—During the 4 weeks ended April 29, 1944, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	25	1	Scarlet fever	1	1
Malaria	1		Tuberculosis	8	1
Measles	27		Typhoid fever	43	11

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 1944	March 1944	April 1944—week ended—				
				1	8	15	22	29
ASIA								
Ceylon	C	2						
India	C	33,667	9,109					
Calcutta	C	389	336	71	92	92		
Chittagong	C	60	3					
Madras	C	36						
Negapatam	C	15	2					

PLAGUE

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

AFRICA								
Belgian Congo	C	3						
Plague-infected rats		P						
British East Africa:								
Kenya	C	1						
Uganda	C		3	1				
Egypt	C	115	9		11	20	36	
Port Said	C	1					2	2
Suez	C	108	9	1	1	7	10	4
French West Africa: Dakar	C						[1] 1	
Madagascar	C	3						
Morocco (French)	C	19	1		1			
Rhodesia, northern	C	1						
Union of South Africa	C	20	3					
ASIA								
China: Foochow	C		P					
India	C	2,835	1,975					
Indochina	C	10	7					
Palestine	C	1						
SOUTH AMERICA								
Bolivia: Chuquisaca Department	C		4					
Ecuador: Chimborazo Department	C	1						
OCEANIA								
Hawaii Territory:								
Hamakua District	D	[2] 3	1					
Plague-infected rats [3]		[4] 25	[5] 8		5	[6] 3		

[1] 2 cases of suspected plague were also reported.
[2] Includes 1 death from pneumonic plague.
[3] 53 fleas were proved positive for plague on Mar. 7.
[4] Includes 6 plague-infected mice.
[5] Includes 5 plague-infected mice.
[6] Includes 1 plague-infected mouse.

SMALLPOX

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

Place		January–February 1944	March 1944	April 1944—week ended— 1	8	15	22	29
AFRICA								
Algeria	C	263	101					
Angola	C	20						
Basutoland	C	31						
Bechuanaland	C	7						
Belgian Congo	C	560	187	30	71			
British East Africa:								
Kenya	C	1,346	488	95	60			
Mombasa	C	56	39	10	5	9	1	
Tanganyika	C	285	93					
Uganda	C	498	402	180	170			
Cameroon (French)	C		190					
Dahomey	C	8	12		8			
Egypt	C	2,031	2,737	557	679			
French Equatorial Africa	C	60						
French Guinea	C	134	64		19			
Gambia	C		13					
Gold Coast	C	4	1					
Ivory Coast	C	196	59		7			
Morocco (French)	C	423	99					
Mozambique	C	1						
Nigeria	C	678	970	124				
Niger Territory	C	303	88		9			
Senegal	C	12	47		6			
Sudan (French)	C	888	279		264			
Tunisia	C	5						
Union of South Africa	C	16	10	1				
ASIA								
Arabia	C	[1] 7						
Ceylon	C	6	1	1				
China: Kunming [2]	C		7	5	1	2	5	
India	C	61,354	41,466					
Indochina	C	827	163		151			
Iran	C	1						
Iraq	C	22						
Palestine	C	4				6	23	20
Syria and Lebanon	C	71	51	5	16	3		
EUROPE								
Gibraltar	C	P						
Great Britain: London	C		[3] 12					
Portugal	C	8	1			1		
Spain	C	7	35	7	6	2	6	
Turkey	C	4,117						
NORTH AMERICA								
Honduras	C	4	2					
Mexico	C	665	243					
SOUTH AMERICA								
Bolivia	C	47	38					
Brazil	C	2	4	2		5		
Colombia	C	50	27					
Peru: Lima	C	19						
Venezuela	C	18	30					

[1] Includes 4 imported cases.
[2] Yunnan Fu.
[3] Includes 1 case imported from the Middle East.

TYPHUS FEVER

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

Place		January–February 1944	March 1944	April 1944—week ended— 1	8	15	22	29
AFRICA								
Algeria	C	210	93					
Basutoland	C	P						
Belgian Congo	C	4		1				
British East Africa:								
Kenya	C	3	1	1				
Egypt	C	3,053		750				
French West Africa: Dakar	C	2	2					
Morocco (French)	C	446	305					
Morocco (Spanish)	C	1	4					
Mozambique	C	2						
Nigeria	C		1					
Rhodesia, northern	C	5	1					
Tunisia	C	142	96		59			
Union of South Africa	C	2,496	405					
ASIA								
Arabia: Western Aden Protectorate	C	[1] 15						
China: Kunming [2]	C		4	4	4	4	6	
India	C	2	1					
Iran	C	[3] 450	264					
Iraq	C	24	107	15	41	52		
Palestine	C	99	102					
Syria and Lebanon	C	28	101	53	57	32	53	19
Trans-Jordan	C	24						
EUROPE								
Bulgaria	C	293						
France	C		3					
Hungary	C	442	323	151	80	149	187	
Irish Free State	C			1				
Netherlands	C	7						
Portugal	C		1					
Rumania	C	3,409	1,649					
Slovakia	C	152	44					
Spain	C	38	67		[4] 123		21	
Turkey	C	524						
Yugoslavia	C	273	[5] 1,465					
NORTH AMERICA [6]								
Guatemala	C	317	280					
Jamaica	C		1	1	1			
Mexico	C	432	182					
Puerto Rico	C	11	6	2	2	2	7	3
Salvador	C		2					
Virgin Islands	C	1						
SOUTH AMERICA								
Bolivia	C	5	16					
Chile	C	71						
Curacao	C	1						
Ecuador	C	53	48					
Peru	C	1						
Venezuela	C	12	6					
OCEANIA								
Australia	C	24	25					
Hawaii Territory	C	16	6					

[1] A report dated Mar. 30, 1944, states that an estimated 800 deaths from typhus fever have occurred.
[2] Yunnan Fu.
[3] Approximated.
[4] For 2 weeks.
[5] For the period Feb. 1 to Mar. 21, 1944.
[6] Cases of typhus fever listed in this area are probably of endemic type.

YELLOW FEVER

[C indicates cases; D, deaths]

Place		January–February 1944	March 1944	April 1944—week ended—				
				1	8	15	22	29
AFRICA								
Belgian Congo:								
Babeyru	D	1						
Leopoldville	C		1					
Gold Coast: Tamale	C	[1] 1						
EUROPE								
Portugal: Lisbon.[2]								
SOUTH AMERICA								
Brazil:								
Acre Territory	D	1						
Matto Grosso State	D	3						

[1] Suspected.

[2] According to information dated Jan. 21, 1944, it is reported that a vessel which called at the islands of Sao Tome and Cape Verde arrived at Lisbon, Portugal, with cases of yellow fever on board.

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