Public Health Reports

Vol. 61 • AUGUST 2, 1946 • *No. 31**

Printed With the Approval of the Bureau of the Budget as Required by Rule 42 of the Joint Committee on Printing

EDITORIAL

NEED FOR HOSPITAL FACILITIES FOR THE TUBERCULOUS

In the United States during the year 1944, 36 percent of all deaths from respiratory tuberculosis occurred outside of hospitals and institutions. This means that 19,703 persons were not given adequate medical care during their prolonged illness. In spite of the advances that we have made in the United States in the control of tuberculosis, we still are seriously weak in providing hospitals for the tuberculous. It is obvious that we cannot eradicate tuberculosis in the population of the United States if we do not isolate infectious cases and treat and rehabilitate the cases that are found. The day has gone by when we could leave the treatment of tuberculosis to the discretion of local dominion. There are many areas in the country which unassisted cannot afford to provide adequate hospital care for their populations. Nine populous States throughout the southern part of the United States have 55 to 77 percent of deaths occurring outside of hospitals and institutions. Such facts demonstrate forcibly the need for a more realistic distribution of hospital facilities so that tuberculosis, a disease that recognizes no such artificial boundaries as State lines, can be forcibly checked equally throughout the Nation.

The total of all estimated bed deficiencies is 44,388. That the seriousness of this situation is realized by the people of the United States is demonstrated by a bill (S. 191) which is designed to amend the Public Health Service Act, to authorize grants to the States, and to assist the States in planning the construction of additional hospital facilities, including beds for the tuberculous. Hearings on this bill make it plain that the United States is in serious need of extensive hospital construction, particularly in areas in which such facilities are either inadequate or absent. The welfare of the

*This is the sixth of a series of special issues of Public Health Reports devoted exclusively to tuberculosi control, which will appear the first week of each month. The series began with the Mar. 1, 1946, issue. The articles in these special issues are reprinted as extracts from the PUBLIC HEALTH REPORTS. Effective with the July 5 issue, these extracts may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10 cents a single copy. Subscriptions are obtainable at $1.00 per year; $1.25 foreign.

people depends in a large part on the health of the people. The health of the people depends in a large part on the availability of medical services and hospitalization. The effectiveness of hospitalization and medical care depends upon the willingness of the people and their State governments to cooperate in a program that will insure the construction and maintenance of adequate facilities.

In the field of tuberculosis control, great stress has been laid on case finding as one step in eradication. However, the value of case finding must be measured by the number of discovered cases that are given hospital care. It will do us little good to know the extent of the tuberculosis problem in the United States if we do not implement that knowledge with modern medical therapy. Indeed, it may be said that the years of labor and the millions of dollars that have been spent to control tuberculosis will largely go to waste if the present maldistribution of tuberculosis hospitals remains an unsolved problem.

SOME EPIDEMIOLOGICAL ASPECTS OF SENSITIVITY TO HISTOPLASMIN AND TUBERCULIN [1]

By Michael L. Furcolow, *Surgeon;* Robert H. High, *Assistant Surgeon;* and Margaret F. Allen, *Associate Statistician, United States Public Health Service*

During the past year several reports (*1*), (*2*) have shown that there is a close relationship between sensitivity to histoplasmin and pulmonary calcification. Christie and Peterson (*1*), in addition to reporting details of this relationship, studied the age factor in sensitivity to histoplasmin, tuberculin, and pulmonary calcification among 181 children in middle Tennessee. Emmons et al. (*3*) reported on the histoplasmin sensitivity by age and sex among 136 adult patients in St. Elizabeths Hospital, Washington, D. C. Palmer (*4*) in a study of approximately 10,000 student nurses in widely separated areas in the United States reported on the geographic variations in histoplasmin sensitivity. Except for these preliminary studies, little information has been available concerning the major epidemiological characteristics of histoplasmin sensitivity and of its relationship to pulmonary calcification. Early in 1945, therefore, an extensive study was begun in Kansas City, Mo., to determine the significance of age, race, sex, residence, socioeconomic, familial, and other basic factors in the epidemiology of sensitivity to histoplasmin. The present paper is the first report from this study.

Material and Methods

Through the cooperation of the Board of Education, the City Health Department, and the Tuberculosis Society of Kansas City, Mo., histoplasmin and tuberculin skin tests and chest X-rays were

[1] From the Field Studies Section, Tuberculosis Control Division.

made on over 17,000 persons. The greater part of the group was made up of white and Negro children attending the public schools. Approximately one-fourth of the total school population—those attending 33 grade schools, 7 high schools, and a junior college—was studied. In addition, 482 preschool children attending the summer nursery schools conducted by the Board of Education were included. The 41 schools selected for study were widely distributed over the city, and included schools in areas of poor and good economic circumstances, of semi-rural and urban habitation, with high and low tuberculin rates. Generally, grade and high schools in the same neighborhood were selected, so as to obtain a maximum number of children in family groups.

Written parental consent was obtained for the tests and X-ray on a form which also requested information as to age, birthplace, and all places of residence during the life of the child. The schools varied in the percentage of parental consent obtained, from 27 to 94 percent, with an average of 64. The number of children tested in the various schools ranged from 18 to 1,289. A total of 16,013 children, 13,522 white and 2,491 Negro, were skin-tested. Somewhat fewer were X-rayed.

In addition to the school children, more than 1,200 adults were tested and X-rayed. Residence histories of these adults were also obtained. Of these adults three-fourths were employees of the city government and the remainder were employees of the Federal Government stationed in Kansas City. While this group cannot be considered representative of the adult population of Kansas City, they may be employed to obtain a preliminary and tentative conception of the epidemiological characteristics of the adult population. One of the major factors that reduces the representativeness of this group is that many of the males were engaged in outdoor work, whereas most of the females were employed in clerical and office work.

A few of the school children were studied in May 1945, the nursery school group during the summer months of 1945, most of the school children between October and December 1945, and the adults during the early months of 1946.

Since all studies of histoplasmin sensitivity indicate widespread geographical differences, the previous places of residence of the population studied must be considered (*4*). For the purposes of the present paper all children were classified as "lifetime residents" of Kansas City if they had never resided away from the city or its environs for longer than 6 months at any one time. All other children were considered as "nonlifetime residents." As will be discussed elsewhere, somewhat different criteria for residence were applied to the adults.

The tuberculin employed was Purified Protein Derivative (PPD-S), furnished by Dr. Florence B. Seibert of the Henry Phipps Institute of Philadelphia, Pa. A single dose of 0.0001 mg. in 0.1 cc. of diluent was administered intracutaneously (*5*). The histoplasmin (H_3) (*3*) was furnished by Dr. Chester Emmons of the National Institute of Health. It was used in a dilution of 1 to 1,000, and 0.1 cc. was injected intracutaneously. For both skin tests, a reaction was considered positive if the induration measured 5 or more millimeters in diameter at the 48-hour reading. All of the skin tests were given by one of three persons, and all the readings were made by one of two persons.

Chest X-rays were obtained on 14″ x 17″ or 11″ x 14″ film and interpreted without knowledge of the tuberculin or histoplasmin reactions. Pulmonary calcification, as noted in the present study, was classified into three groups: namely, definite, probable, and questionable. The "definite" category included calcification in which the size, density, sharpness, and irregularity of outline were so striking as to be unquestionable. Calcification designated as "probable" represented shadows not as definite as in the preceding group, but in which the density and configuration seemed to exclude vascular structures and calcifying costal cartilages. The "questionable" group embraced all densities which could conceivably represent calcification but of which the interpreter was doubtful. In the analysis reported in this paper, films showing only questionable calcification were included among those classified as negative for calcification. Although X-ray films were obtained on nearly all of the persons tested, there was considerable variation in the diagnostic quality of the films. In order to obtain an estimate of the frequency of calcification as accurately as possible, only those films considered as quite satisfactory for interpretation of calcification were used in the present analysis.

Results

A general summary of the results of the histoplasmin and tuberculin tests on the school children is shown in table 1.

Figure 1 shows the percentage positive to histoplasmin and to tuberculin by age, sex, and race among almost 16,000 school children. The lowest two curves in figure 1 illustrate the change with age in the frequency of positive reactions to tuberculin among male and female white school children. Although the rates on preschool children are not based on large numbers, they are seen to be low, reaching about 2 percent by the age of 6 years. Throughout the school years there is a slow steady rise to a rate of a little over 10 percent by the age of 18 years. There is little indication of a sex difference. The next higher pair of curves in figure 1 is for tuberculin reactors for male and female Negro children; comparison of these curves with those for white children shows that in general the frequency of positive tuberculin reactors is about three times that for white children. At the time of entrance into school, the percent of reactors approximates 6 or 7, while at the end of the school period, at 18 years, the rates are about 30 percent. Again, there seems to be little consistent difference between males and females.

The curves showing the rates for positive histoplasmin reactors are much higher than those for tuberculin. Beginning with about 5 percent positive at age 2, the percentage positive rises steadily to over 60 percent at age 18. Up to age 8 little difference is seen between white and Negro, male and female. After the tenth year the curves for the white children tend to be above those for the Negroes; among the whites, males tend to be 6 to 8 percent higher than females of corresponding age.

It is well known that tuberculosis and positive tuberculin rates are markedly influenced by such socioeconomic factors as poverty and

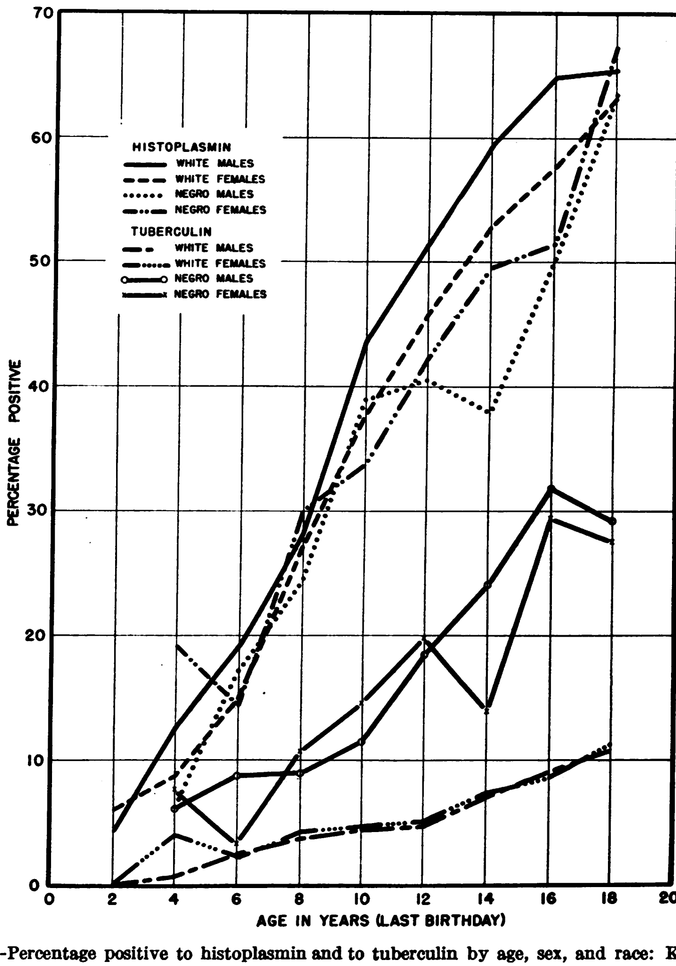

FIGURE 1.—Percentage positive to histoplasmin and to tuberculin by age, sex, and race: Kansas City, Mo., school children tested in 1945. (Rates based on less than 20 children not shown.)

TABLE 1.—*Percentage positive to both histoplasmin and tuberculin, histoplasmin alone, or tuberculin alone by age, race, residence, and sex among children receiving both tests*

[Kansas City, Mo., school children tested in 1945]

Age in years	Number tested	Lifetime residents								Nonlifetime residents							
		Males				Females				Males				Females			
		Number tested	Percent			Number tested	Percent			Number tested	Percent			Number tested	Percent		
			H+T+	H+T−	H−T+		H+T+	H+T−	H−T+		H+T+	H+T−	H−T+		H+T+	H+T−	H−T+
WHITE																	
Total	13,522	4,036	2.1	41.3	2.4	4,007	2.0	36.6	3.5	2,634	2.3	46.1	3.1	2,845	2.9	42.4	2.5
Under 1	7	2	-----	-----	-----	5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	14	7	-----	14.3	-----	7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	84	32	-----	-----	-----	29	-----	11.4	-----	9	-----	11.1	-----	14	-----	-----	-----
3	102	47	-----	4.3	-----	25	-----	4.0	-----	22	-----	4.5	-----	8	-----	12.5	-----
4	199	74	-----	16.2	1.4	61	1.6	4.9	3.3	32	-----	21.9	-----	32	-----	15.6	6.3
5	931	318	-----	13.8	1.0	300	-----	13.3	1.0	159	-----	21.4	2.5	154	-----	15.6	1.3
6	954	306	0.3	19.6	1.6	277	1.1	11.9	3.2	194	-----	25.3	4.6	177	-----	19.8	2.3
7	978	304	.3	21.1	2.9	289	.7	19.0	2.8	177	-----	23.7	2.9	208	1.9	26.9	1.9
8	941	281	.4	32.0	4.6	283	1.8	27.2	4.2	165	-----	39.4	1.8	212	1.4	31.6	.5
9	938	294	.7	41.1	.7	263	.8	28.9	4.9	194	2.1	43.8	1.5	187	1.6	34.2	1.6
10	998	291	1.4	41.6	3.1	289	.7	36.7	3.1	228	2.2	43.0	4.4	190	2.6	48.4	1.1
11	944	275	1.1	45.1	2.5	306	1.6	41.2	2.6	160	2.5	53.1	1.9	203	2.5	43.8	2.0
12	926	263	1.5	47.5	3.5	270	1.1	43.0	4.8	200	2.0	56.5	3.0	193	2.6	49.7	2.6
13	1,052	308	3.9	49.4	3.2	298	1.0	45.0	3.4	210	2.9	54.3	1.9	236	5.5	44.5	3.0
14	1,301	388	4.1	60.1	1.5	390	2.3	52.1	4.9	251	4.0	57.7	2.8	272	4.8	56.3	2.9
15	1,326	390	4.1	60.3	1.8	395	3.0	48.1	3.0	245	5.3	56.8	6.1	296	2.0	53.0	5.8
16	1,208	313	4.2	62.9	3.5	364	7.2	54.1	4.1	264	3.4	62.5	3.0	267	6.0	59.2	1.5
17	513	124	5.6	62.9	2.4	122	4.1	67.2	5.7	109	4.6	56.9	4.6	158	6.3	50.6	5.1
18	81	16	18.7	37.5	6.3	26	7.7	65.4	-----	11	-----	81.8	-----	28	-----	53.6	3.5
19	25	3	-----	100.0	-----	8	12.5	75.0	-----	4	-----	25.0	-----	10	-----	80.0	-----

NEGRO

Total	2,491	744	4.8	23.5	10.0	822	6.0	25.8	9.0	412	6.3	36.2	7.8	513	6.6	39.0	8.8
Under 1																	
1	2	1				1											
2	15	8				2				2				3			33.3
3	18	11			9.1	3			66.7	4	25.0						
4	41	14				13				4		25.0		10		50.0	
5	173	70	1.4	10.0	2.9	66		6.1	1.5	17	5.9	5.9	5.9	20		20.0	5.0
6	184	63		22.2	12.7	62		14.5	4.9	20	5.0	20.0	5.0	39		25.6	2.6
7	225	79		13.9	7.6	73	2.7	23.3	9.6	36		38.9	5.6	37		32.4	8.1
8	254	77	2.6	16.9	11.7	90	3.3	23.3	8.9	44	4.5	34.1		43		41.9	4.6
9	258	90	2.2	33.3	10.0	94	2.1	17.0	12.8	39	2.6	43.6		35	5.7	25.7	8.6
10	292	73	5.5	36.1	9.6	100	9.0	28.0	7.0	60	3.3	40.0	6.7	59	5.1	47.4	5.1
11	238	74	9.5	29.7	8.1	70	8.6	28.6	10.0	43	9.3	39.5	9.3	51	5.8	37.3	9.8
12	230	63	6.3	25.4	14.3	66	6.1	33.3	13.6	47	4.3	42.5	6.4	54	7.4	44.4	14.8
13	91	26	7.7	15.4	19.2	22	4.5	50.0	4.5	23	4.3	34.8	21.8	20		45.0	5.0
14	89	18	5.6	33.3	11.1	29	13.8	41.4	10.3	20	10.0	45.0	15.0	22	4.5	36.4	9.1
15	107	28	14.3	35.7	17.9	36	22.2	36.1	13.9	20	10.0	40.0	15.0	23	26.1	39.1	4.4
16	127	23	21.8	30.4	13.0	46	8.7	32.6	13.0	17	11.8	35.3	23.5	41	12.2	36.6	17.1
17	104	22	13.6	50.0	9.1	38	15.8	47.4	5.3	11	27.2	27.3	9.1	33	18.2	48.5	15.1
18	35	4	25.0	50.0		9		55.6	11.1	4	25.0	50.0	25.0	18	22.2	61.1	11.1
19	8					2		50.0		1	100.0			5		60.0	

overcrowding, especially among Negroes. As shown in this study there are three times as many positive tuberculin reactors among Negroes as among whites of similar age. The finding of this study that Negroes have lower histoplasmin rates than whites of similar age suggests that such socioeconomic factors are not operative in the development of histoplasmin sensitivity.

The histoplasmin rates established for Kansas City by this study are considerably lower than those reported by Christie and Peterson for Tennessee (*1*). It should be mentioned, however, that these authors used a 1 to 100 dilution of histoplasmin, whereas a 1 to 1,000 dilution was used in Kansas City.

Figure 2 shows the percentage positive to histoplasmin and tuberculin by age, race, and residence. In this figure the curves for positive reactors among lifetime residents of Kansas City are compared to

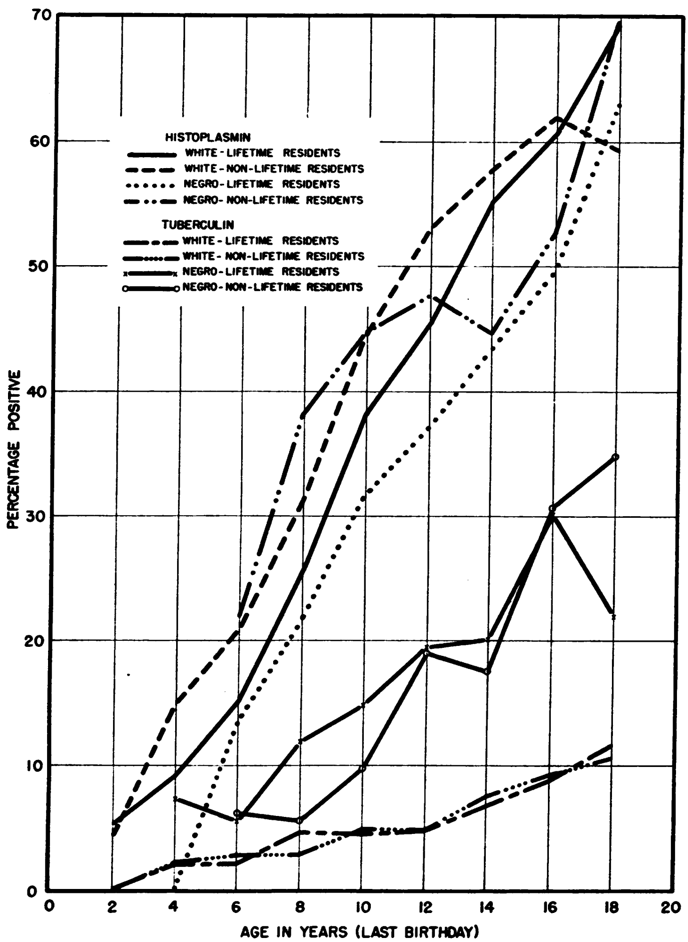

FIGURE 2.—Percentage positive to histoplasmin and to tuberculin by age, race, and residence: Kansas City, Mo., school children tested in 1945. (Rates based on less than 20 children not shown.)

similar curves for the nonlifetime residents. Considering the histoplasmin reactions in both Negro and white children, it is seen that the rates among lifetime residents of Kansas City are lower throughout all the age span than the rates among nonlifetime residents. One possible explanation is that the net effect of migration from areas of high and low sensitivity results in a group whose average sensitivity level is above that for permanent residents. Another is that negative persons migrating to Kansas City become sensitive at a higher rate than permanent residents of similar age and sex.

Little differences between lifetime and nonlifetime residents in tuberculin rates are evident among the white children. Among the Negro children there is a tendency for lifetime residents of Kansas City to have higher rates than nonlifetime residents.

In table 2 are assembled data on the percentage of positive reactors to tuberculin and histoplasmin among the white adult group.

TABLE 2.—*Percentage of positive reactors to histoplasmin and to tuberculin by sex and age groups*

[Kansas City, Mo., white adults tested in 1946]

Test	Total	Age groups in years								
		20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64
Histoplasmin: [1]										
Males:										
Number tested	610	35	61	80	84	77	78	80	60	55
Percent positive	78.5	68.6	78.7	81.2	88.1	83.1	82.1	77.5	71.7	63.6
Females:										
Number tested	158	39	12	13	21	14	21	21	11	6
Percent positive	53.8	66.7	58.3	53.8	47.6	50.0	57.1	42.9	45.5	33.3
Tuberculin: [2]										
Males:										
Number tested	859	54	101	114	139	117	99	99	70	66
Percent positive	63.8	31.5	33.7	49.1	58.3	69.2	74.7	89.9	92.9	77.3
Females:										
Number tested	384	91	57	42	56	42	41	30	17	8
Percent positive	43.0	14.3	31.6	35.7	46.4	54.8	68.3	73.3	76.5	87.5

[1] Lived in Kansas City, Mo., and environs for 15 or more years.
[2] All adults tested regardless of residence history.

Although all adults were given both tests, the table shows that the number of persons on which the tuberculin rates are based is larger than that on which the histoplasmin rates are based. Previous residence did not influence rates of reactors to tuberculin. Accordingly, the rates for tuberculin are based on all adults tested. Study of the histoplasmin reactors, however, showed marked variation in percentage positive associated with past residence. Accordingly, it was arbitrarily decided to present histoplasmin rates only for those who had lived for 15 or more years in Kansas City or its immediate environs.

Data from tables 1 and 2 are combined in figure 3 to give a composite picture, representative insofar as practicable with material now available, of the histoplasmin and tuberculin rates among white residents of all ages in Kansas City. The histoplasmin reactors in the group up to 20 years of age are based on large numbers of "lifetime residents" as defined above. The histoplasmin rates for those over 20 years of age are based on 768 persons who had lived in Kansas City or its environs for 15 or more years. Since little difference was found in tuberculin reactors among residents and nonresidents tested in Kansas City, the curves shown in this figure are based on all white persons tested.

The percentage positive to tuberculin rises slowly with no sex differences to a level of slightly over 10 percent by the age of 18 years.

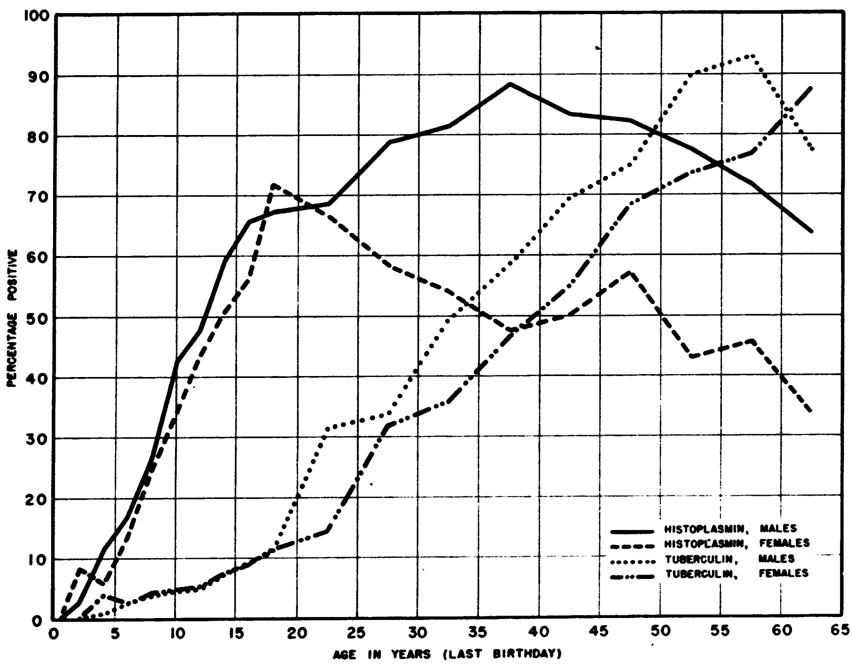

FIGURE 3.—Percentage positive to histoplasmin and to tuberculin by age and sex: Kansas City, Mo., white persons tested in 1945–46. (See text.)

At about age 20 there is an abrupt increase in the slope of the curves which rise quite uniformly, so that by the age of 55 years over 90 percent of the males and 75 percent of the females are found to be positive. Substantial sex differences, averaging 10 to 15 percent, are found in all the older age groups, the males being higher than the females.

The striking rise in histoplasmin rates during the first 20 years of life is clearly brought out in this figure; the fact that white males consistently show a slightly higher percentage of positive reactors is also shown. After the age of 20 marked differences are seen in the percentage of reactors between the sexes. The male rates increase steadily up to the 35–40 year age group where a peak of nearly

90 percent reactors is reached. The rates then decrease to about 65 percent in the age group 60–65. The rates among the females are based on relatively few persons (158) and may not be representative of the adult female population of Kansas City. However, the evidence available seems to indicate a slow decrease in percentage of positive reactors after the age of 20 years. A similar difference in percentage of positive reactors between males and females was noted by Emmons et al. (*3*).

Results of the study of pulmonary calcification in the school children are shown in table 3. In the total group of 6,528 children, 12.7 percent showed definite or probable pulmonary calcification. Among those positive to both histoplasmin and tuberculin, 23.8 percent showed calcification; among those positive to histoplasmin but negative to tuberculin, 26.4 percent; and among those negative to histoplasmin but positive to tuberculin, 11.4 percent. In the group of 3,566 children who were negative to histoplasmin and tuberculin only 2.6 percent had calcification. In general, these findings are in agreement with similar data presented by Christie and Peterson (*1*) and Palmer (*2*).

TABLE 3.—*Percentage of children showing pulmonary calcification by reaction to histoplasmin and tuberculin by age groups* [1]

[Kansas City, Mo., white and Negro school children tested in 1945]

Age groups in years	Total		Reaction groups							
			H+T+		H+T−		H−T+		H−T−	
	Number tested	Percent with calcification	Number in group	Percent with calcification	Number in group	Percent with calcification	Number in group	Percent with calcification	Number in group	Percent with calcification
Total	6, 528	12. 7	235	23. 8	2, 454	26. 4	273	11. 4	3, 566	2. 6
4–6	978	3. 8	3	0. 0	165	17. 6	32	3. 1	778	0. 9
7–9	1, 613	8. 9	17	41. 2	464	21. 6	59	6. 8	1, 073	3. 1
10–12	1, 714	13. 7	49	16. 3	699	26. 6	71	14. 1	895	3. 5
13–15	1, 414	19. 0	83	28. 9	721	30. 2	59	16. 9	551	2. 9
16–18	809	17. 8	83	20. 5	405	28. 6	52	11. 5	269	1. 9

[1] Based on those X-rays satisfactory for interpretation of pulmonary calcification.

Details of the change with age in the frequency of pulmonary calcification are also shown in table 3 and in figure 4. For the total group a steady rise in the percentage of children with calcified lesions is evident with increasing age. The age group 4–6 shows less than 4 percent with calcified lesions, whereas the age group 16–18 shows 18 percent. The finding that the age group 13–15 shows a slightly greater percentage of persons with calcified lesions than the next older age group is in agreement with Christie and Peterson (*1*) and Gass et al. (*6*). Preliminary data for older age groups in Kansas City indicates, however, that the percentage of calcified lesions con-

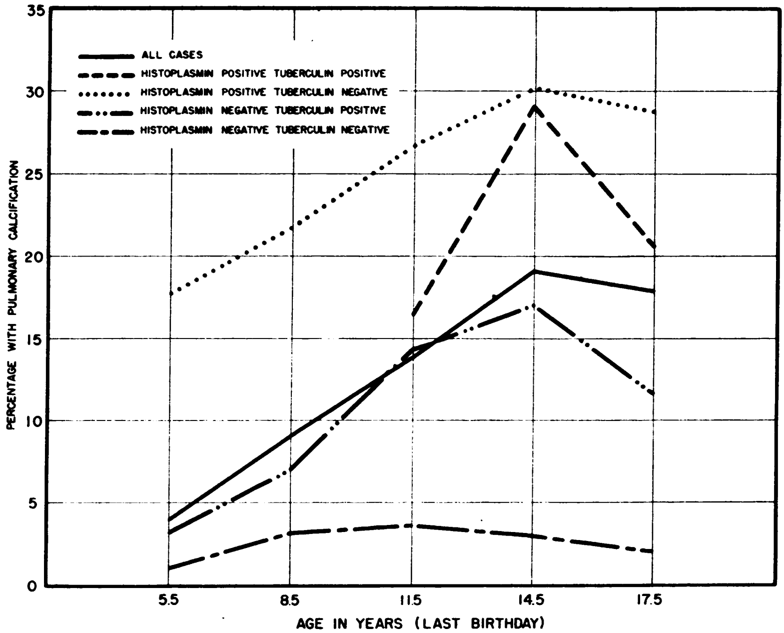

FIGURE 4.—Percentage with calcification by age and by reaction groups to histoplasmin and to tuberculin: Kansas City, Mo., school children tested in 1945. (Rates based on less than 20 children not shown.)

tinues to rise with age in spite of the apparent decrease in the age group 16–18.

The group which is positive to histoplasmin and negative to tuberculin shows a consistent increase with age from 17.6 percent in the youngest group to about 30 percent in the 13–15 year old group. Among those positive to tuberculin and negative to histoplasmin, a still more marked increase with age is evident. The age group 4–6 shows 3.1 percent while the age group 13–15 shows 16.9. Among the group positive to both tuberculin and histoplasmin, considerable variation with age is shown, due perhaps to the relatively small number of cases, especially in the younger age groups. The rates among those negative to both tuberculin and histoplasmin begin with less than 1 percent among the youngest age group and rise slightly to 3.5 percent in the age group 10–12 and decline again to 1.9 percent among the oldest children.

One possible explanation of the increase in pulmonary calcification among positive reactors to either test with increasing age is that there is a time lag between the development of a positive skin reaction and the appearance of calcification. Another is that repeated exposure to the causative agent is necessary before calcification develops, although no evidence is available of such an occurrence in tuberculosis.

Summary

Histoplasmin and tuberculin skin tests and chest X-rays were made on over 17,000 persons in Kansas City, Mo., to establish the major epidemiological characteristics of histoplasmin sensitivity. The frequency of histoplasmin and tuberculin reactors by age, sex, race, and residence are reported in this first paper from the study. In addition, the frequency of pulmonary calcification by age and skin-test reactions is presented. The preliminary findings are:

1. The percentage of positive histoplasmin reactors among whites is slightly higher than among Negroes, higher among males than females, and higher among nonlifetime residents than lifetime residents.
2. The percentage of positive tuberculin reactors is three times higher among Negroes than whites. Very little difference was observed between males and females, and between lifetime and nonlifetime residents.
3. The frequency of pulmonary calcification is over twice as high among reactors to histoplasmin alone as to tuberculin alone. The frequency of calcification among those who reacted to neither test was very low, equaling 2.6 percent. Among those who reacted to either tuberculin or histoplasmin there is a marked increase with age in the occurrence of calcification.

Acknowledgment

The authors are indebted for assistance of inestimable value to Dr. Herbert Mantz of the Kansas City, Mo., Health Department, Dr. Herold Hunt, Superintendent of Schools of Kansas City, his staff, and Miss Mabel Marvin, Executive Secretary of the Kansas City Tuberculosis Association. Special indebtedness is acknowledged to Miss A. Mary Ross, Supervisor of School Nurses in the Kansas City Public School system, Miss Ethel Anstaett, and Miss Mildred Cook. The active and cooperative spirit of the public school nurses who participated in this study is gratefully recognized.

Finally, the authors are indebted to Dr. Carroll E. Palmer under whose direction this study was carried on.

References

(*1*) Christie, Amos, and Peterson, J. C.: Pulmonary calcification in negative reactors to tuberculin. Am. J. Pub. Health, **35:** 1131–1147 (November 1945).

(*2*) Palmer, C. E.: Nontuberculous pulmonary calcification and sensitivity to histoplasmin. Pub. Health Rep., **60:** 513–520 (May 11, 1945).

(*3*) Emmons, C. W.; Olson, B. J.; and Eldridge, W. W.: Studies of the role of fungi in pulmonary disease. I. Cross reactions of histoplasmin. Pub. Health Rep., **60:** 1383–1394 (Nov. 23, 1945).

(*4*) Palmer, C. E.: Geographic differences in sensitivity to histoplasmin among student nurses. Pub. Health Rep., **61:** 475–487 (Apr. 5, 1946).

(5) Furcolow, M. L.; Hewell, Barbara; Nelson, W. E.; and Palmer, C. E.: Quantitative studies of the tuberculin reaction. I. Titration of tuberculin sensitivity and its relation to tuberculous infection. Pub. Health Rep., 56: 1082-1100 (May 23, 1941).

(6) Gass, R. S.; Harrison, E. F.; Puffer, Ruth E.; Stewart, H. C.; and Williams, E. C.: Pulmonary calcification and tuberculin sensitivity among children in Williamson County, Tenn. Am. Rev. Tuberc., 47: 379-387 (April 1943).

TUBERCULOSIS THROUGHOUT THE WORLD

I. THE PREWAR DISTRIBUTION OF TUBERCULOSIS THROUGHOUT THE WORLD[1]

By SARAH E. YELTON, *Medical Analyst, United States Public Health Service*

It will be several years before an accurate conception of the devastation from tuberculosis during the war years can be obtained, although it is certain that tuberculosis control will be a major problem in the rehabilitation of the war-torn countries of the globe. Some knowledge of the prewar distribution of the disease throughout the world should be useful as a basis for evaluating the extent of this problem.

The logical measure of the prevalence of tuberculosis is the number of cases occurring during the year per 100,000 population. Unfortunately, very few countries record cases of this disease with any degree of completeness. For this reason the tuberculosis mortality rate is generally regarded as a more useful indication of the prevalence of this disease. In this paper the prewar prevalence is indicated by the tuberculosis mortality rates, and estimated from additional data for countries where the tuberculosis death rate is not known, but for which some data can be obtained. Where possible, crude death rates for 1939 will be used, since the data necessary for adjusted rates are, in general, lacking. Unless otherwise specified, all rates are for deaths from all forms of tuberculosis.

The material is presented in two sections, the first giving the general distribution of tuberculosis throughout the world, and the second presenting in some detail the specific data for the various countries with the source from which the data were obtained. There are, of course, many areas for which no data could be found.

General Prevalence of Tuberculosis

Although the tuberculosis death rate, i. e., the number of deaths from all forms of tuberculosis per 100,000 population, is probably the most useful means of evaluating the prevalence of tuberculosis, there is serious underregistration of tuberculosis deaths in many countries, particularly those where medical services are not common, and the collection of vital statistics rudimentary. In such countries the reported tuberculosis death rate has little meaning. A more accurate

[1] From the Tuberculosis Control Division.

conception of conditions can often be obtained from the rates of cities, where the reporting and registration of deaths is more complete than in rural areas, from special studies of limited areas, from data on racial and social groups, and from proportionate mortality.

The data which form the basis for classification of the various countries into the categories used in table 1 range in reliability from accurate rates to the author's impressions. The basis for such impressions is presented in some detail for each country so that the validity of the estimates and impressions may be judged.

TABLE 1.—*Prevalence of tuberculosis in all countries as estimated from their probable death rates from all forms of tuberculosis*

Country	Tuberculosis death rate	Country	Tuberculosis death rate
Very low prevalence (rates under 50 per 100,000):		Medium prevalence (rates 100–149 per 100,000)—continued	
Denmark	34	Greece	128
Australia	40	Iceland	132
Netherlands	41	France	137
United States	47	Bulgaria	138
Low prevalence (rates under 100 per 100,000):		Hungary	148
		Portugal	148
Germany	50	Probable medium prevalence:	
Egypt	52	Algeria	
Canada	53	Bolivia	
Tasmania	53	Dominican Republic	
Mexico	56	Morocco	
Palestine	56	Nicaragua	
New Zealand	60	Tunisia	
Ceylon	62	Guatemala	
England and Wales	62	Thailand	
Luxemburg	62	High prevalence (rates 150 and over per 100,000):	
Hawaii	67		
Belgium	68	Russia	160
Scotland	70	Estonia	161
Sweden	75	Formosa	161
Cuba	76	Rumania	162
Italy	76	Costa Rica	172
Switzerland	80	Finland	190
Mauritius	81	Kwangtung	192
Virgin Islands	81	Burma	193
Northern Ireland	84	Poland	195
Norway	86	Newfoundland and Labrador	198
Lithuania	86	Turkey	198
Jamaica	97	Straits Settlements	202
Probable low prevalence:		American Samoa	206
British Guiana		Japan	207
Curacao		Venezuela	233
Columbia		Yugoslavia (pulmonary only)	234
Granada		Brazil	250
Honduras		Puerto Rico	257
Iraq		Chile	264
Surinam		India (pulmonary only)	283
Syria		Aden	291
Union of South Africa		Philippines	298
Medium prevalence (rates 100–149 per 100,000):		China	400–500
		Alaska	437
Austria	100	Greenland	550
Monaco	100	Probable high prevalence:	
Santa Lucia	100	Ecuador	
Trinidad and Tobago	101	El Salvador	
Uruguay	101	French Indochina	
Paraguay	102	Haiti	
Argentina	103	Java	
Latvia	109	Korea	
Eire	113	Peru	
Panama	119	Sumatra and the "Outer Provinces"	
Spain	122	Western Pacific Islands	
Czechoslovakia	124		

In order to minimize the errors in such estimates very broad prevalence groups are employed. To present the impressions gained from the available data in a specific country as a definite rate (therefore seemingly accurate) would be misleading. It is more nearly correct to state that the tuberculosis death rate for such a country probably falls within certain limits, i. e., under 100, 100–149, or 150 or over per 100,000 population.

The first category in table 1, "very low prevalence" (tuberculosis death rates under 50 per 100,000) contains only the four countries whose low rates are truly descriptive of conditions in those areas. The remaining categories (under 100, 100–149, and 150 or over) contain not only countries whose reported rates fall within the stated limits, but also countries whose estimated mortality from tuberculosis probably falls within those limits. The second category, "low prevalence," is defined as tuberculosis death rates under 100 rather than 50–99 per 100,000 because of certain countries whose reported death rates of less than 50 per 100,000 are very likely the result of incomplete registration, but for which there are not sufficient data to prove that the true death rates are more than 50 per 100,000.

Figure 1 shows the geographical distribution of the countries in the various prevalence groups. The unshaded areas on the map are those for which no data could be obtained, and do not signify an absence of tuberculosis infection.

On the continent of Europe the areas of low prevalence fall in a rough vertical line. The areas of highest prevalence are to the east of this line.

Information on Asia leaves much to be desired, but that which exists indicates an almost universally high prevalence of tuberculosis. Japan and the Philippines experience a high prevalence of the disease, while in Australia, New Zealand, and Tasmania the prevalence is low.

Data on Africa are meager. Comparatively little is known concerning the health conditions on this continent. It has, however, been observed that in Liberia the prevalence of tuberculosis is in proportion to the spread of civilization. It is probable that a similar situation exists throughout much of Africa. Such data as could be found do not indicate any areas of high prevalence on this continent.

In North America the prevalence of tuberculosis is fairly low except in Alaska, Labrador, and Newfoundland. Much of South America has a high prevalence of the disease. There is a wedge of medium prevalence made up of Argentina, Uruguay, and probably Bolivia and Paraguay, while a low prevalence of tuberculosis probably prevails in Colombia, British Guiana, and Surinam.

There is apparently no marked correlation of tuberculosis with geographical position. Areas of high prevalence occur in the tropics, the temperate, and Arctic zones. The same is true of areas of low prevalence. It is notable that the majority of such areas, as well as all of the four countries with very low prevalence, are in the temperate

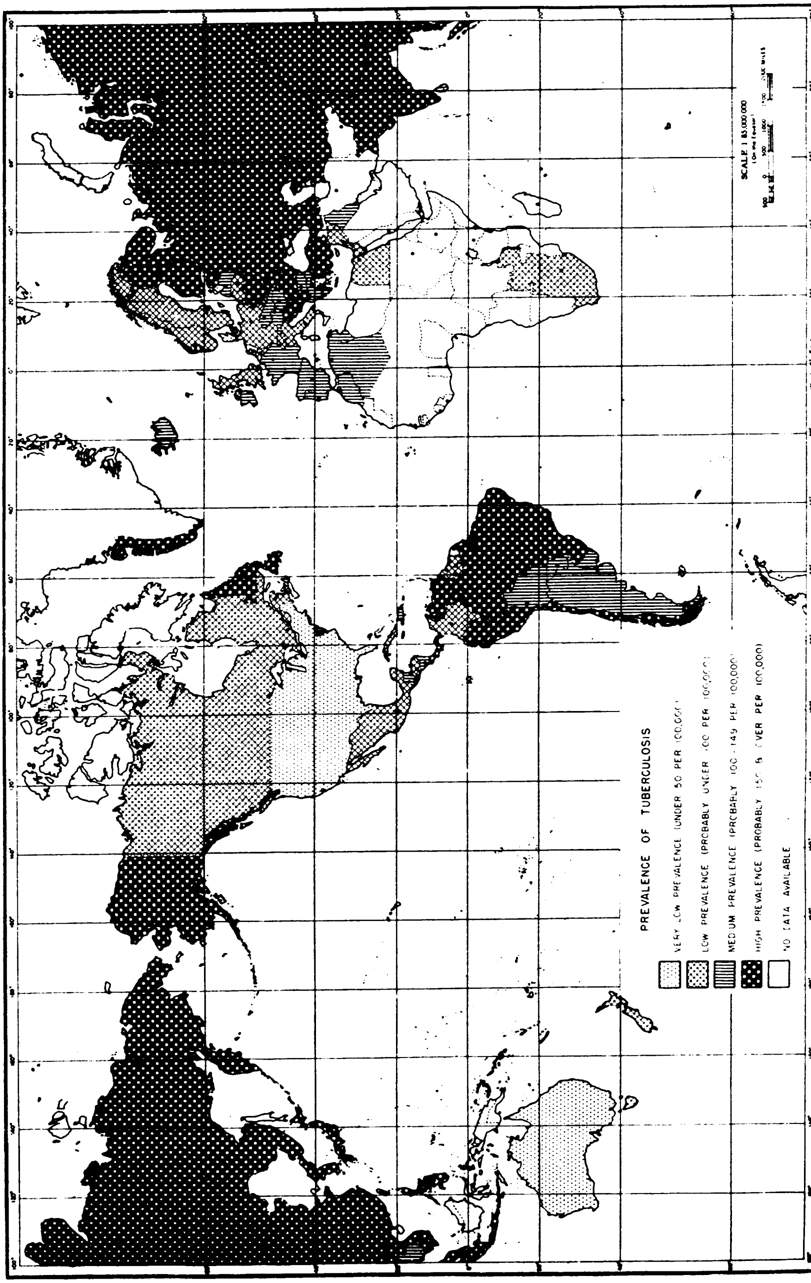

FIGURE 1.—Prevalence of tuberculosis as estimated from the probable death rates from all forms of tuberculosis in the various countries.

zones. From such data as could be obtained, climate appears to play a minor role, if any, in the prevalence of tuberculosis, and it is apparent that this disease has an extremely widespread occurrence throughout the world.

Specific Data Used in Estimating General Prevalence of Tuberculosis

Insofar as possible, the countries are arranged by continental areas and their neighboring islands. For example, the Philippines and Japan are found under "The Asiatic area," and Greenland under "North America." In Europe the tuberculosis death rates are complete and accurate enough to justify ranking the countries by the magnitude of their rates. In the other areas the information is of more dubious character, and so the available data are discussed under each country. The countries are arranged alphabetically by areas.

Europe

The reporting of tuberculosis mortality was apparently quite adequate during the prewar years in western Europe. Difficulty was encountered in finding rates for Latvia, Poland, Russia,[2] and Yugoslavia, while no rate of any kind could be found for Albania.

From table 2 it is seen that only Denmark and the Netherlands have rates of less than 50 per 100,000. It will be noted from figure 2 that with the exception of the British Isles, the countries with rates of less than 100 lie in a rough vertical line while the countries to the west and east of this area all have rates of 100 or over. The highest rates for tuberculosis mortality occur in eastern Europe.

The Asiatic Area

Tuberculosis mortality is very poorly reported throughout the Asiatic Area. In many countries tuberculosis deaths are reported for urban areas only or not at all. In addition, there is an extreme scarcity of medical services so that the registration of causes of death is suspect, and usually there is no satisfactory enumeration of the population. For these reasons, a considerable amount of additional material, such as urban rates, estimates, and even impressions, is employed in the attempt to form some conception of the prevalence of this disease in some of the Asiatic countries.

[2] No published rate could be found. The classification of Russia is derived from the following statement: "The Commissar of Health declared in 1942 that mortality from tuberculosis had decreased by 60 percent to 160 per 100,000 population under the Soviet regime as compared with 1913–15 when it was 400 per 100,000 population." *In* Civilian Medical Care and Incidence of Diseases in the U. S. S. R., Part I. Office of Strategic Services, Washington, 1946.

Table 2.—*European countries grouped by death rates from all forms of tuberculosis*

Country	Year	Tuberculosis death rate per 100,000
Under 50 per 100,000:		
Denmark (*2*)	1939	34
Netherlands (*2*)	1939	41
50–74 per 100,000:		
Germany (*2*)	1939	50
England and Wales (*2*)	1939	62
Luxemburg (*3*)	1937	62
Belgium (*2*)	1939	68
Scotland (*2*)	1939	70
75–99 per 100,000:		
Sweden (*2*)	1939	75
Italy (*2*)	1939	76
Switzerland (*2*)	1939	80
Northern Ireland (*2*)	1939	84
Norway (*2*)	1939	86
Lithuania (*3*)	1937	89
100–124 per 100,000:		
Austria (*2*)	1938	100
Monaco (*4*)	1934(?)	100
Latvia [1]	1929	109
100–124 per 100,000—Contd.		
Eire (*2*)	1939	113
Spain (*2*)	1939	122
Czechoslovakia (*3*)	1937	124
125–149 per 100,000:		
Greece (*3*)	1936	128
Iceland (*3*)	1937	132
France (*2*)	1938	137
Bulgaria (*2*)	1939	138
Hungary (*2*)	1939	138
Portugal (*2*)	1939	148
150 and over per 100,000:		
Russia (*1*)	1939 or 1940(?)	160
Estonia (*3*)	1937	161
Rumania (*3*)	1939	162
Finland (*3*)	1937	190
Poland [2]	1931–32	195
Yugoslavia (*5*) (pulmonary only)	1933	234

[1] Bull. Internat. Union against Tuberculosis. Paris, July 1931, pp. 298–331.
[2] Bull. Internat. Union against Tuberculosis. Paris, January 1938, pp. 62–67.

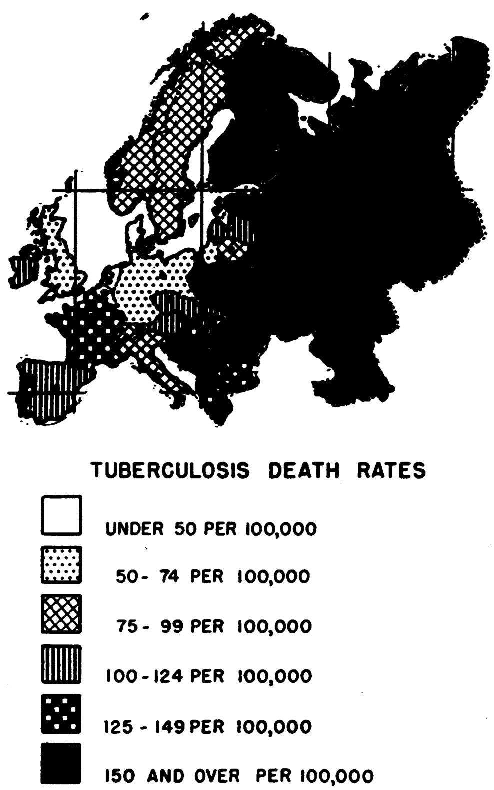

Figure 2.—Death rates from all forms of tuberculosis in European countries.

Table 3 presents the countries for which some sort of data could be found in very broad groupings according to their probable tuberculosis death rates. The data used in estimating these rates are so

TABLE 3.—*Asiatic countries grouped by probable death rates from all forms of tuberculosis*

Probably under 100 per 100,000	Probably 100–199 per 100,000	Probably 200–299 per 100,000	Probably 300 and over per 100,000
Ceylon. Palestine. Syria.	Formosa. Iraq. Java Kwangtung. Russia. Sumatra and the "Outer Provinces." Thailand. Turkey.	Aden. Burma. French Indochina. Japan. Korea. Philippines. Straits Settlements.	China. India.

fragmentary that finer groupings than under 100, 100–199, 200–299, and 300 and over do not seem justifiable. (In the introductory section of this paper, the group 100–149, medium prevalence, was used, but since only one Asiatic country, Thailand, falls in this range, the limits of the group are here extended to 100–199.) The geographical distribution of the countries falling in the various groups is shown in figure 3.

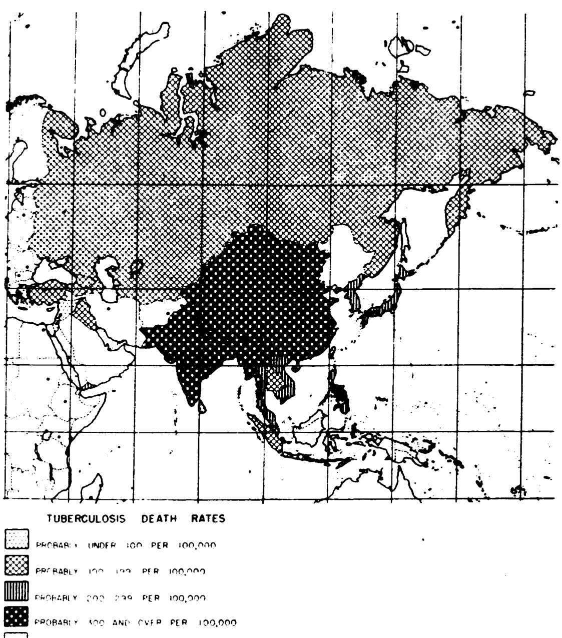

FIGURE 3.—Probable death rates from all forms of tuberculosis in Asiatic countries.

Aden.—In 1943 the tuberculosis death rate for Aden, Arabia, was 291 per 100,000 population (*6*). This high rate is given additional credence by the observation of a particularly high tuberculosis mortality among the Yemenite Jews in Palestine, since Yemen borders on Aden.

Burma.—In 1939, 3,196 deaths from all forms of tuberculosis, resulting in a mortality rate of 193, were reported in Burmese towns (*7*). The rate for Rangoon for the same years was estimated as 300 per 100,000 population. Tuberculosis deaths are inadequately reported in Burma. In many cases such deaths are called fever or respiratory disease. No rate is available for the entire country.

Ceylon.—In Ceylon, 3,630 deaths from all forms of tuberculosis were reported for the year 1939. The resulting rate is 62 per 100,000. In the same year, deaths from ill-defined causes comprised 12 percent of the total deaths. The death rate from tuberculosis for 1939 in Colombo, where the proportion of deaths from ill-defined causes was only 0.6 percent, was 197 (*8*). This high rate for Colombo, where reporting was more complete, would seem to indicate that the fairly low rate for the country as a whole is in part the result of incomplete reporting.

China.—The death rate from tuberculosis in 1937 was estimated as between 400 and 500 per 100,000.[3] Neither vital statistics nor population data are available for the entire country.

Formosa.—The rate for reported tuberculosis deaths was 161 per 100,000 population in 1934.[4]

French Indochina.—Deaths from tuberculosis are reported for three major cities only. In 1937 the rates for these cities were: Haiphong 263, Hanoi 181, and Saigon 296,[5] or 237 per 100,000 for the three cities combined. No data are available for the country as a whole.

India.—Tuberculosis deaths are reported only in the large cities of India. An effort to determine the rate for all India has been made by estimating that from 10 to 20 percent of all "fever" deaths, and 20 percent of the deaths from "respiratory disease" are caused by pulmonary tuberculosis. If 20 percent of each of these classifications are assumed to be pulmonary tuberculosis deaths, there would have been about 884,000 deaths from this cause in 1938. The resulting rate based on a population of 350,000,000 would be 283. The reference further states that nonpulmonary forms of tuberculosis are also common, and that the incidence of tuberculosis is increasing throughout India.[6]

Japan.—The death rate from all forms of tuberculosis was 207 per 100,000 population in 1936 (*9*). Japanese vital statistics are more complete than in most Asiatic countries.

Java.—Tuberculosis deaths are not reported at all in Java. The only information that could be found is the statement of F. Norman White in 1923 that pulmonary tuberculosis was very prevalent in this area (*10*).

Korea.—No statistics on the prevalence of tuberculosis are available. It is stated that "many of the inhabitants of Korea are tuberculous and reports indicate that the disease is increasing in prevalence." [7]

Kwangtung.—In the year 1934 the rate for reported deaths from all forms of tuberculosis was 192 per 100,000 population (*9*).

Palestine, Syria, and Iraq.—Tuberculosis mortality is reported only for residents of 11 cities and towns in Palestine. The urban population is less than half that of the entire country. In 1937 the tuberculosis death rate for urban areas only was reported as 56 per 100,000 population (*11*). It has been observed in Palestine

---

[3] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, pp. 57–58.

[4] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, p. 151.

[5] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, p. 193.

[6] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, pp. 121–122.

[7] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, p. 151.

that Moslems are reluctant to report tuberculosis, since it is very difficult to find husbands for girls in families known to be tuberculous, while Jews hesitate to report this disease because they object to going to government hospitals where Moslems also are treated. Such conditions would result in considerable underreporting of deaths from this disease. However, since tuberculosis is usually concentrated in cities, the urban rate might be a useful measure of the mortality from this disease experienced by the whole country.

Tuberculosis deaths were not reported for Syria and Iraq. The rate for reported deaths from tuberculosis in Beirut, Syria, for 1938 was 78 and that for Baghdad, Iraq, in the same year 113 per 100,000 (*12*). These urban rates would seem to indicate a somewhat higher incidence of this disease than occurs in Palestine.

Philippines.—Tuberculosis death rates are reported for the Christian population, which comprises 90 percent of the total population of the Philippines. In 1938 the rate for all forms of this disease was 298 (*13*). Tuberculosis is said to be the leading single cause of death among adult Filipinos (*14*).

Russia.—The tuberculosis death rate for Asiatic Russia, like that of European Russia, is derived from the statement of the Health Commissar in 1942 to the effect that tuberculosis mortality in the U. S. S. R. had been reduced to 160 per 100,000 (*1*).

Straits Settlements.—In 1936 the rate for registered tuberculosis deaths for the Straits Settlements, exclusive of Cocos, Christmas, and Keeling Islands, was 202 per 100,000 population. In this area nearly 40 percent of the registered deaths are reported by the police without verification of cause of death (*15*).

Sumatra and the "Outer Provinces".—Two rather complete studies have been made of the cause of death of estate laborers in these areas. The 520,172 laborers studied included all the indentured and part of the nonindentured laborers in this area. The majority of the men in the indentured group were between 20 and 40, and the women were, for the most part, under 30, while the nonindentured laborers were older. The number of laborers repatriated because of tuberculosis as well as the case fatality rates expected in such a group were included in the studies. In 1930 the total loss, through death or repatriation from tuberculosis within the year was 219 per 100,000. It was estimated that of the 720 repatriated workers, 191 probably died within the year, raising the total deaths to 608, or a death rate from tuberculosis of 117 per 100,000 population (*16*).

The tuberculosis death rate among indentured workers is probably at a minimum because these workers were given physical examinations before they were brought to these areas. It should be further remembered that the rate is for selected age groups only and not comparable to rates for all ages. However, the rate would seem to indicate a fairly high prevalence of tuberculosis in these areas.

Thailand.—During the fiscal year 1937–38, 10,548 deaths from tuberculosis were recorded in Thailand, and the resulting rate was 73 per 100,000.[8] It is likely that the reporting of deaths from this cause is far from complete in this country.

Turkey.—In 1934 the rate for 31 Turkish cities and towns was 198 per 100,000. These urban areas make up about 11 percent of the population of Turkey (*17*). Tuberculosis deaths are not reported for rural areas.

From the available data it would appear that there is a high prevalence of tuberculosis throughout the Asiatic area, with the possible exceptions of Ceylon, Palestine, and Syria.

---

[8] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, p. 193.

The Pacific Area

Australia.—In 1937 the death rate from all forms of tuberculosis in Australia was 40 per 100,000 population (*3*). This rate is for whites only. The aboriginal population is slightly more than 1 percent of the total population (*18*). Deaths from tuberculosis are not reported in this group. However, even if very high rates prevail among the aborigines, the total rate would not be greatly altered.

Hawaii.—In 1939 the death rate from all forms of tuberculosis in Hawaii was 67 per 100,000 population (*19*).

New Zealand.—As in Australia the reported tuberculosis death rate is for whites only. In 1939 this rate was 40, and in 1940, 39 per 100,000. In 1940 the Maoris constituted about 5 percent of the population of New Zealand. Tuberculosis mortality is extremely high in this group. The rate for the total population (including the Maoris) in 1940 was 60 per 100,000 (*20*), which is rather different from the usual published rate for New Zealand.

Tasmania.—The tuberculosis death rate for Tasmania was 53 per 100,000 in 1939 (*21*). The rate is probably for the white population only, as are the published rates for Australia and New Zealand, but it is not so stated.

Western Pacific Islands.—Hospital statistics and proportionate mortality indicate that tuberculosis is widespread throughout this area. The disease has been quite recently introduced and the course among the native population is rapid and lethal. Estimates of tuberculosis deaths run from 15 percent to 60 percent of the total deaths in the various islands. In American Samoa the death rate was 206 per 100,000 population in 1939.[9] In 1937 the tuberculosis death rate for the Friendly Islands was close to 300. Certification of cause of death must be very inaccurate, since less than 50 percent of the deaths are attended by physicians.[10]

Tuberculosis death rates for Australia, Hawaii, New Zealand, and Tasmania are low, but elsewhere in the Pacific Area the prevalence of tuberculosis is apparently very high.

Africa

The available data on tuberculosis deaths in Africa are even more fragmentary than in Asia. It has been said that in the interior the spread of tuberculosis coincides with that of civilization, and will in the future be a problem of increasing seriousness. The data are too incomplete for a map of this area to be advisable.

Algeria.—In 1936, 265 tuberculosis deaths were reported in the European population (including Israelites), which numbered 946,013 or 13 percent of the total population. The resulting rate is 28 per 100,000 (*22*). The tuberculosis death rate for Algiers in the same year was 139, and in 1938, 176 (*12*). It has been observed in other North African countries that there is a much higher tuberculosis death rate among Moslems than among Europeans or Israelites. Even if the rate for the European population of Algeria were reasonably descriptive, which is doubtful, of the prevalence of tuberculosis in that group, it would be of little value in describing the prevalence of the disease in the entire population. If the situation observed in Tunisia holds true in Algeria, the remaining 87 percent of the population would be subjected to a rate at least 2.5 times as high as that for Europeans, and the resulting tuberculosis death rate would be at least 65 per 100,000.

---

[9] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, p. 346.

[10] Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; Horack, Harold Maclachlan; and collaborators: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 1, p. 466.

Egypt.—Only in localities having a health bureau are tuberculosis deaths reported with any degree of completeness. These localities make up about 30 percent of the total population of Egypt. In 1939 the tuberculosis death rate was 52 per 100,000 population in these areas. According to Egyptian law, notification is in the first instance incumbent upon the relatives of the deceased or upon any male person residing in the same house. Only in the absence of such a person is the notification of death incumbent upon a physician or the health representative (*23*). Apparently no effort is made to verify the cause of death.

Mauritius.—In 1938 the death rate from tuberculosis was reported as 81 per 100,000 population on this island (*24*).

Morocco.—Data are available for 18 municipalities which comprised about 16 percent of the total population for the year 1937. The death rate for all forms of tuberculosis in these localities was 142 per 100,000. This rate is further broken down by three racial groups, Moslems 177, Israelites 48, and Europeans 61 per 100,000 population.[11] This racial break-down corroborates Masselot's findings in Tunisia. The rate for Casablanca in the same year was 136 per 100,000 (*12*).

Tunisia.—In 1938, 795 deaths from tuberculosis were reported in Tunisia. The rate, based on the 1936 population of 2,608,300, would be 30 per 100,000. It is obvious that tuberculosis deaths are very incompletely reported. In the same year the tuberculosis death rate in Tunis was 262 (*12*). Masselot, in his article on the campaign against tuberculosis in Tunisia, states that there are approximately 2,050,000 Moslems and 250,000 Europeans in Tunisia, and that in Tunis the tuberculosis death rate is 2.5 times higher among natives than among Europeans.[12]

Union of South Africa.—The published death rates for the Union of South Africa are for Europeans only. In 1937 the tuberculosis death rate for this portion of the population was 37 per 100,000 (*3*). Some idea of how poorly such a rate indicates the prevalence of tuberculosis in the total population can be obtained from the rates of three large cities by race.

City	Year	Total	European	Tuberculosis death rates (colored)			
				Total	Natives	Eurafrican	Asiatics
Capetown (*25*)	Year ending June 30, 1941	270	72	477	--------	--------	--------
Durban (*26*)	Year ending June 30, 1939	310	120	--------	550	580	390
Johannesburg (*27*)	Year ending June 30, 1938	77	20	--------	138	203	94

The rates for the total population in these cities are from 2.5 to nearly 4 times the rates for the European population. It is probable that the rate for the entire population of the Union of South Africa would be at least 2.5 times as high as that for Europeans, or somewhere around 90 per 100,000.

From such data as can be found for Africa it would appear that the tuberculosis death rates of the European population are quite low, while the native population suffers severely from this disease. There is reason to believe that the severity of this problem will increase in Africa as more and more of the isolated regions come under the influence of civilization.

---

11 Bull. Internat. Union Against Tuberculosis. Paris, July 1937. Pp. 402–409.

12 Masselot, Felix: Campaign against Tuberculosis in Tunisia. Bull. Internat. Union Against Tuberculosis. Paris, July 1937.

The Americas

Information on tuberculosis mortality is fairly complete for North America. This is not the case in Latin-American countries where medical services are meager and population statistics far from complete. Dunn, Eldridge, and Powell (*28*) in their study of the demographic status of South America make the following observation on data concerning cause of death:

"The causes of death in South American countries are in a large measure unknown. Except in large cities where hospital facilities are available, relatively few deaths are certified by physicians * * *. It may be observed that senility appears as one of the leading causes of death in seven of the countries * * *. A large percentage of deaths are attributed to ill-defined and unknown causes in all but a few places."

The lack of accuracy in reporting tuberculosis deaths in Latin America is particularly apparent in the great differences which appear between the rates for the countries and those for the large cities within their borders.

In table 4 the various countries are grouped according to their death rates from all forms of tuberculosis. In many instances the grouping is based on estimated tuberculosis mortality rather than on the reported tuberculosis death rates, which are obviously incomplete.

TABLE 4.—*Countries of the Western Hemisphere grouped by probable death rates from all forms of tuberculosis*

Under 50 per 100,000	Probably 50-99 100,000	Probably 100-149 per 100,000	Probably 150-249 per 100,000	250 and over per 100,000
United States.	British Guiana.	Argentina.	Costa Rica.	Alaska.
	Canada.	Bolivia.	El Salvador.	Brazil.
	Colombia.	Dominican Republic.	Haiti.	Chile.
	Cuba.	Guatemala.	Newfoundland and Labrador.	Greenland.
	Curacao.	Nicaragua.	Peru.	Puerto Rico.
	Granada.	Panama.	Venezuela.	
	Honduras.	Paraguay.		
	Mexico.	Santa Lucia.		
	Surinam.	Trinidad and Tobago.		
	Virgin Islands.	Uruguay.		

Broad groupings under 50, 50–99, 100–149, 150–249, and 250 and over are used in order to minimize the errors which may occur in such estimates and impressions. The geographic distribution of the countries in the various groups is shown in figure 4.

North America

Alaska.—In 1936 the tuberculosis death rate for Alaska was 437 per 100,000 population. Approximately half the population is native and half is white. The white death rate (63 in 1936) is incomplete, since deaths of the white population occurring in sanatoria outside Alaska are not reallocated to place of residence. On the other hand, the Indian death rate (794 in 1936) is said to be too high because of a tendency to certify as tuberculosis deaths from obscure or protracted illnesses (*29*).

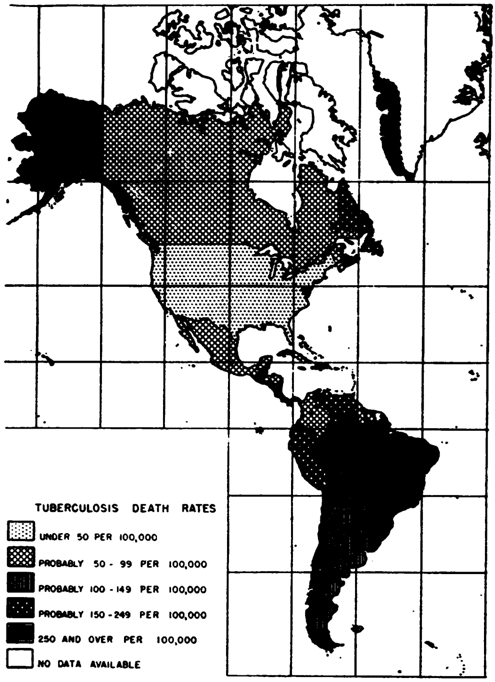

FIGURE 4.—Probable death rates from all forms of tuberculosis in countries in the Western Hemisphere.

Canada.—The death rate from all forms of tuberculosis for Canada in 1939 was 53 per 100,000 population (*30*).

Greenland.—In Greenland tuberculosis constitutes a major health problem. In 1937, there were 99 deaths from tuberculosis, or a rate of 550 per 100,000 population, on the west coast of Greenland (*31*).

Mexico.—The tuberculosis death rate for Mexico was 56 per 100,000 in 1939. About 7 percent of the total registered deaths are from ill-defined causes (*32*). Probably the actual tuberculosis death rate for Mexico is somewhat higher than the reported rate, but the published rate is doubtless as reliable as that of any Latin-American country.

Newfoundland and Labrador.—In 1938 the death rate from all forms of tuberculosis was reported to be 198 per 100,000 population in Newfoundland and Labrador (*32*).

United States.—The death rate for all forms of tuberculosis in the United States was 47 per 100,000 in 1939. The rate for whites only (comparable with the published rates of Australia, New Zealand, and the Union of South Africa) was 38 per 100,000 in the same year (*33*).

Central and South America

In both Central and South America it is likely that the low rates reported by many countries are due to serious defects in reporting rather than to a low prevalence of tuberculosis. An additional note on the situation comes from Puerto Rico. Arbona and Morales-Otero (*34*) state that, "This disease [tuberculosis] carries with it a stigma in a large part of Latin America, and deaths known to be due to tuberculosis are often attributed to other conditions."

Argentina.—The tuberculosis death rate for Argentina in 1937 was reported as 103 per 100,000 population. This rate appears to be a fair estimate of the mortality from tuberculosis in this country as the rate for Buenos Aires was 123 in the same year (*32*).

Bolivia.—In 1940 tuberculosis was said to be the third cause of death in Bolivia. The number of deaths reported (813) was considered so incomplete that a rate was not computed. In this year La Paz reported a death rate from all forms of tuberculosis of 128, Potosi a rate of 164, and Tarija a rate of 305 per 100,000 population (*32*). The rate for these three cities combined was 154 per 100,000. Less than 50 percent of the reported tuberculosis deaths occurred elsewhere in Bolivia, which is particularly striking as these three cities account for but 9 percent of the population of the country.

British Guiana and Surinam.—The rate for reported tuberculosis deaths in British Guiana was 63 in 1939 and 82 in 1938 (*32*). The medical inspector of Surinam reported that the rate for tuberculosis mortality in his country was 47 per 100,000 in 1939, and 70 in 1938. The rates in both these countries are based on estimated populations and undoubtedly are subject to inadequate reporting of deaths by cause. Both these countries contain vast isolated areas where the tuberculosis infection has probably not yet been introduced.

Brazil.—The rate for mortality from all forms of tuberculosis in the principal cities of Brazil was 272 per 100,000 in 1939 (*35*). In 1934 the rate for the entire country was estimated to be 250 per 100,000 (*32*), which seems a reasonable estimate of mortality from tuberculosis in this country.

Chile.—The rate for recorded tuberculosis deaths in Chile in 1939 is given variously as 264 (*36*) and 247 (*32*) per 100,000. The difference in the rates is very likely due to differences in the population base used. A census was taken in 1940, and one rate is probably based on this enumerated population, while the other is based on the estimated population for 1939. The rate for Santiago in 1938 was 453 per 100,000 (*32*).

Colombia.—The rate for reported deaths from tuberculosis in Colombia was 47 per 100,000 for the year 1939. The rate for Bogota in the same year was 150 (*32*). While there are doubtless many areas in Colombia where tuberculosis has not yet been disseminated, the low rate is probably due to a greater degree to limitations in reporting deaths by cause.

Costa Rica.—In 1939 the rate for reported mortality from all forms of tuberculosis in Costa Rica was 86 per 100,000 (*32*). This rate was considered incomplete. The true number of deaths from this cause was estimated to be twice the number reported (*37*), or 172 per 100,000 population.

Ecuador.—The rate for reported deaths from tuberculosis in Ecuador in 1939 was 74 per 100,000. In the same year the rate for Guayaquil was 737 (*32*). Such an extreme difference must be due in part to inadequate registration of cause of death in the country as a whole.

El Salvador.—The published rate for El Salvador in 1939 was 43 per 100,000. An adjusted rate based on a "hypothetical" method of the El Salvador Public Health Service was given as 53 in this year. The rate for reported deaths for the city of San Salvador was 376 for the year 1939 (*32*), which would appear to indicate that even the adjusted rate is considerably lower than the true mortality from this disease in El Salvador.

Guatemala.—In 1938 the tuberculosis death rate for Guatemala was reported as 64 per 100,000. In this country 13 percent of all deaths are registered as "cause ill-defined or not stated." The certification of cause of death is probably inaccurate in many instances. The tuberculosis mortality rate for Guatemala City, where the reporting was more complete, was 238 in 1939, and probably indicates that the reported rate for the whole country is too low (*32*).

Honduras.—Tuberculosis is said to be the second single cause of death in Honduras, but the number of such deaths is not known (*32*). The rate for reported deaths from pulmonary tuberculosis in 1939 was 27 per 100,000 (*38*). The rate for Tegucigalpa in 1939 was given as 93 (*32*). As in other Central American countries the reported deaths from tuberculosis are but a fraction of those which should be attributed to this cause.

Nicaragua.—Only 47 percent of the deaths in this country are certified by physicians. In 1939, 281 deaths from pulmonary tuberculosis were reported, or 29 per 100,000 (*39*). Such a low rate is the result of gross error in the certification of cause of death. The death rate from all forms of tuberculosis in Managua was 185 in the same year (*32*).

Panama.—In 1934 the rate for reported deaths from all forms of tuberculosis in Panama was 97, and in 1943, 199 per 100,000. No rate for 1939 is available for the entire country, but in this year the tuberculosis death rate for the Panama Canal Zone was 29, that for Colon 150, and for Panama City 247 per 100,000 (*40*). The rate for 1943 is probably a reasonable index of tuberculosis deaths for the entire country in 1939.

Paraguay.—Tuberculosis deaths are reported only for biodemographic districts in Paraguay. In 1940 these districts consisted of 25 towns with a population of 395,998 or approximately 40 percent of the total population. The rate for reported tuberculosis mortality in these localities was 102 in 1939. The rate for Asuncion was 180 per 100,000 in the same year (*32*).

Peru.—In 1941 the rate for reported deaths from this cause was 79 per 100,000 for the entire country. In the same year the rate for Lima was 359 (*41*). While the discrepancy between the rate for the country as a whole and that of the major city is less than in Ecuador, it is still very marked.

Uruguay.—In 1939 the tuberculosis death rate for Uruguay was 101 per 100,000 population, and that for the city of Montevideo, 189 (*32*). Uruguay and Chile have more complete vital statistics than are found elsewhere in South America.

Venezuela.—In this country 59 percent of the deaths are assigned to ill-defined causes. In 1939 the rate for reported tuberculosis deaths was 99, and in 1940, 95 per 100,000. An adjusted rate of 233, which allows for the incomplete registration of cause of death, was computed in Venezuela for 1940. The higher rate is undoubtedly much nearer the actual tuberculosis death rate in this country. The rate for Caracas in this year was 307 per 100,000 (*32*).

The Caribbean Area

Curacao, Granada, and Santa Lucia.—The tuberculosis death rate for Curacao in 1937 is reported as 44 per 100,000. The rates for Granada and Santa Lucia were 86 and 100, respectively, for 1939 (*32*). The population in these islands is so small that there is considerable fluctuation in their rates from year to year.

Cuba.—The death rate from tuberculosis in Cuba for the year 1937 is variously given as 71 (*32*) and 76 (*42*) per 100,000. As in Chile the discrepancy is due to the difference in the population on which the rate is based. The lower rate is based on the 1939 population. The rate for Havana in this year was 144 per 100,000 (*32*).

Haiti and the Dominican Republic.—The population of Haiti is not accurately known. It is estimated that only 20 percent of the deaths which occur are reported. In 1939, 75 percent of the reported deaths were recorded as from ill-defined or unknown causes. In spite of these difficulties in estimating the mortality from any cause, tuberculosis is considered the leading cause of death, and an estimated rate of 231 per 100,000 was reported for the year 1930.[13]

[13] Boletin de la Oficina Sanitoria Pan Americana, Washington, September 1941, p. 956.

In the Dominican Republic the category "cause ill-defined or not stated" included 23 percent of all deaths. The admittedly incomplete rate of 65 was reported for 1939. In the same year the rate for the city of Trujillo was reported to be 193 per 100,000 (*32*).

Jamaica.—The tuberculosis death rate for Jamaica in the year 1938 was reported as 97 per 100,000 population (*32*).

Puerto Rico.—The tuberculosis mortality rate for Puerto Rico was 257 per 100,000 in 1939 (*43*). Arbona and Morales-Otero (*34*) state, "As regards tuberculosis, the available information gives us an idea of the minimum death rates for tuberculosis [in Puerto Rico], but undoubtedly the true rates are far higher."

Trinidad, Tobago, and the Virgin Islands.—The rate for deaths from tuberculosis in Trinidad and Tobago was reported as 101 in 1939, and 95 per 100,000 in 1941. The tuberculosis death rate for Port au Spain was 222 in the latter year (*32*).

The tuberculosis death rate for the Virgin Islands was reported as 81 per 100,000 for the year 1939 (*32*).

Summary

Tuberculosis appears to be widely disseminated throughout all areas which have been to any degree subject to the influence of civilization.

The only countries which can be said with any certainty to have tuberculosis death rates of less than 50 per 100,000 in the prewar period are Denmark and the Netherlands in Europe, the United States, and Australia. If the rates for the white population only are considered, New Zealand and the Union of South Africa may be added to this list.

A high prevalence of tuberculosis probably exists throughout eastern Europe and Asia, with the possible exceptions of Ceylon and Palestine, where the reported rates are fairly low. Very high rates were found in Alaska, Greenland, Newfoundland, and Labrador. It is probable that all Latin America experiences a very high prevalence of this disease. It is also probable that the prevalence of tuberculosis is fairly high in North Africa with the possible exception of Egypt, although definite data are meager.

Certainly tuberculosis control is a problem of world-wide importance. The prewar distribution of this disease is alarming, and it is certain that the problem will be intensified during the postwar years, particularly in Europe.

References

(*1*) Civilian Medical Care and Incidence of Diseases in the U. S. S. R. Part I. Office of Strategic Services, Washington, 1946.

(*2*) Weekly Epidemiological Report. Health Section, League of Nations. Geneva, April 5, 1945.

(*3*) Annual Epidemiological Report, 1937. Health Section, League of Nations. Geneva, 1940.

(*4*) Bulletin of the International Union against Tuberculosis. Paris, July 1935. P. 338.

(*5*) Annuaire Statistique, 1933, Yugoslavia. Belgrade, 1935.

(*6*) Commissioner's Sanitary Report. Aden, 1943.

(*7*) Simmons, James Stevens; Whayne, Tom F.; Anderson, Gaylord West; and Horack, Harold Maclachlan: Global Epidemiology. Philadelphia, J. B. Lippincott Co., 1944, vol. 3, p. 9.

(8) Ceylon, Report on Vital Statistics for the year 1939. Colombo, 1940.
(9) Apercu de la Demographie des divers Pays du Monde, 1929–36: Office Permanente de l' Institut International de Statistique. Le Haye, 1939.
(10) White, F. Norman: Prevalence of Epidemic Diseases and Port Health Organization and Procedure in the Far East. Report to the Health Committee of the League of Nations, Geneva, 1923. P. 57.
(11) Statistical Abstract of Palestine, 1941. Jerusalem, 1942.
(12) Annual Epidemiological Report, 1938. Health Section, League of Nations, Geneva, 1941.
(13) Philippines, Annual Report of the Bureau of Health, 1938. Manila, 1939.
(14) Medical and Sanitation Data on the Philippine Islands. War Department, Washington, July 18, 1944.
(15) Straits Settlements: Annual Report on the Registration of Births and Deaths for the year 1936. Singapore, 1937.
16) Van Driel, B. M.: Mededeelingen No. 11 and No. 13, van het Pathologisch Laboratorium te Medan, Sumatra, 1931.
(17) Annuaire Statistique, Turkey. Ankara, 1937, vol. 8, pp. 101–138.
(18) International Vital Statistics, Summary. Vital Statistics Special Reports, Bureau of the Census, Washington, May 2, 1940.
(19) Vital Statistics of the United States, 1939. Part I: p. 506. Bureau of the Census, Washington, 1941.
(20) Vital Statistics for the Dominion of New Zealand, 1940. Wellington, 1941.
(21) Commonwealth Bureau of the Census, Part III. Vital and Meteorological, 1939. Tasmania Branch, Hobart, 1940.
(22) Annuaire Statistique de l' Algerie, 1936. Algiers, 1939.
(23) Vital Statistics, 1939. Statistical Department, Ministry of Finance, Kingdom of Egypt. Cairo, 1940.
(24) Annual Report of the Registrar General on Births, Deaths, and Marriages for 1938. Colony of Mauritius, 1939.
(25) Annual Report of the Medical Officer of Health, Capetown, 1940. Praetoria, 1942.
(26) Annual Report of the City Medical Officer of Health, Durban, for the year ending June 30, 1939. Praetoria, 1940.
(27) Annual Report of the Medical Officer of Health, Johannesburg, for the year ending June 30, 1938. Praetoria, 1939.
(28) Dunn, Eldridge, and Powell: Demographic Status of South America. Bureau of the Census, Washington, September 18, 1945.
(29) Caswell, J. A.: Poverty and Tuberculosis with Particular Reference to Economic and Social Significance of the High Death Rates among Alaskans. Reprinted from the Transactions of the 34th Annual Meeting of the National Tuberculosis Association, 1938.
(30) Vital Statistics—1940, Canada. Ottawa, 1942. P. 36.
(31) Wingo, S. M.; Public health in Greenland. Pub. Health Rep., **60**: 676–81 (June 15, 1945).
(32) Biostatistical and Epidemiological Report on the Americas. Pub. No. 195. Pan American Sanitary Bureau, Washington, February 1943.
(33) Moriyama, I. M., and Yerushalmy, J.: Tuberculosis Mortality in the United States in 1943. Vital Statistics Special Reports, National Summaries, Bureau of the Census, Washington, April 10, 1945.
(34) Arbona and Morales-Otero: Difficulties in planning public health programs in tropical areas. Am. J. Pub. Health, **35**: 1059 (October 1945).
(35) Brazil: Summary of Vital Statistics. Bureau of the Census, Washington, January 1945.
(36) Chile: Demographic Data. Bureau of the Census, Washington, 1943.
(37) Boletin de la Oficina Sanitoria Pan Americana. P. 834. Washington, August 1943.
(38) Honduras: Summary of Biostatistics. Bureau of the Census, Washington, July 1944.
(39) Nicaragua: Summary of Biostatistics. Bureau of the Census, Washington, May 1945.
(40) Panama: Summary of Biostatistics. Bureau of the Census, Washington, June 1945.
(41) Peru: Summary of Vital Statistics. Bureau of the Census, Washington, September 1944.
(42) Cuba: Summary of Biostatistics. Bureau of the Census, Washington, May 1945.
(43) Puerto Rico: Summary of Vital Statistics for 1941. Vital Statistics Special Reports. Bureau of the Census, Washington, May 18, 1943.

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 JULY 13, 1946

Summary

A total of 427 cases of poliomyelitis was reported for the current week, as compared with 311 (3 delayed reports) for the preceding week. Of 42 States in which changes occurred, 31 reported an aggregate increase of 161 cases, while 11 reported a total decrease of 45 cases, making a net increase of 116 cases. The most significant increases occurred in Minnesota (20 to 40), Kansas (4 to 18), Illinois (13 to 23), and Michigan (1 to 11). Increases of 9 cases each were reported in Arkansas (20 cases), Texas (54), and Colorado (31), and of 8 cases each in California (25) and Nebraska (12). The largest numerical decreases were reported for Florida (32 to 24), Alabama (25 to 14), and Georgia (15 to 3). The cumulative total to date is 2,594, as compared with 1,679 in 1945, 1,752 in 1944, and 1,626 in 1943 for the same period. The 5-year (1941–45) median for the same period is 1,626. Similar to the situation somewhat later last year, the excess in incidence above the normal expectancy is due to a moderately high incidence in a large number of States, as contrasted with 1944, when it was accounted for by excessively high incidence in a smaller number of States.

The incidence of diphtheria is on the decline. During the current week, 197 cases were reported, as compared with 207, 218, and 222 for the immediately preceding weeks. The total this year to date is 8,825 cases, as compared with 7,120 in 1945 and a 5-year median of 6,628 for the same period.

Of 17 cases of infectious encephalitis reported during the week, 9 occurred in California. Of 6 cases of smallpox, 3 occurred in Indiana, 2 in Arkansas, and 1 in Kentucky.

A total of 8,770 deaths was reported in 93 large cities in the United States, as compared with 7,884 last week and a 3-year average of 8,392. To date, 265,179 deaths have been reported in these cities, as compared with 260,122 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended July 13, 1946, and comparison with corresponding week of 1945 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 1941-45	Week ended—		Median 1941-45	Week ended—		Median 1941-45	Week ended—		Median 1941-45
	July 13, 1946	July 14, 1945		July 13, 1946	July 14, 1945		July 13, 1946	July 14, 1945		July 13, 1946	July 14, 1945	
NEW ENGLAND												
Maine	2	0	0	------	------	------	99	1	36	0	1	1
New Hampshire	0	0	0	------	------	------	10	1	3	0	0	0
Vermont	0	0	0	------	------	------	101	18	37	0	0	0
Massachusetts	7	2	4	------	------	------	962	188	232	4	1	4
Rhode Island	0	0	0	------	25	------	51	------	9	0	0	1
Connecticut	0	1	1	1	1	1	138	41	66	1	2	2
MIDDLE ATLANTIC												
New York	15	8	8	([1])	[1] 1	[1] 3	1,149	84	485	10	18	18
New Jersey	2	4	4	2	2	1	710	34	170	6	3	3
Pennsylvania	9	6	9	1	------	------	386	181	181	8	3	6
EAST NORTH CENTRAL												
Ohio	12	4	4	1	3	2	354	33	64	2	7	7
Indiana	1	6	3	------	3	4	33	18	18	5	3	2
Illinois	7	5	7	2	1	2	110	304	228	6	4	4
Michigan [2]	4	13	4	7	1	1	230	195	195	5	8	8
Wisconsin	1	6	2	18	1	6	560	61	352	0	3	3
WEST NORTH CENTRAL												
Minnesota	2	2	1	------	------	------	21	5	52	3	4	2
Iowa	4	1	1	------	------	------	43	28	39	2	0	0
Missouri	1	4	1	1	3	------	23	24	31	1	2	7
North Dakota	2	1	3	------	------	------	9	1	8	0	0	0
South Dakota	4	1	1	------	------	------	6	5	8	0	1	0
Nebraska	0	3	1	------	2	2	4	7	12	1	1	0
Kansas	9	14	2	------	------	------	23	20	33	2	2	1
SOUTH ATLANTIC												
Delaware	0	0	0	------	------	------	6	------	1	0	0	0
Maryland [2]	6	4	1	1	1	1	236	8	40	0	2	2
District of Columbia	1	0	0	------	1	------	51	1	24	1	1	1
Virginia	2	2	2	47	38	42	102	6	57	4	3	3
West Virginia	4	3	2	------	32	1	4	------	23	0	4	1
North Carolina	9	9	4	------	------	------	98	17	61	0	0	1
South Carolina	2	4	4	64	49	68	86	12	12	0	2	2
Georgia	4	4	4	4	4	6	34	------	20	1	0	0
Florida	6	3	3	7	------	4	14	1	16	1	3	3
EAST SOUTH CENTRAL												
Kentucky	5	4	1	------	------	------	7	20	16	1	5	4
Tennessee	7	2	2	11	5	5	20	7	15	0	2	2
Alabama	11	3	5	6	6	5	41	2	16	0	7	3
Mississippi [2]	3	7	4	------	------	------	------	------	------	3	3	3
WEST SOUTH CENTRAL												
Arkansas	2	4	4	9	3	3	11	15	15	2	2	1
Louisiana	5	10	2	6	4	4	10	9	9	2	4	3
Oklahoma	5	0	3	5	7	7	34	8	10	1	1	0
Texas	25	44	23	276	391	253	266	135	118	3	9	4
MOUNTAIN												
Montana	3	2	1	------	1	------	52	4	21	0	0	0
Idaho	0	1	1	4	10	------	11	19	3	0	1	1
Wyoming	0	1	0	------	------	------	3	1	9	0	0	0
Colorado	3	6	4	9	21	6	47	7	32	0	0	0
New Mexico	0	0	0	------	------	------	20	3	3	0	0	0
Arizona	0	2	2	6	14	16	30	8	15	0	1	0
Utah [2]	0	2	0	------	------	------	31	110	21	0	0	0
Nevada	0	0	0	------	------	------	------	------	5	0	0	0
PACIFIC												
Washington	4	3	0	------	------	------	16	92	74	0	2	2
Oregon	0	4	4	------	1	4	63	26	36	0	1	1
California	8	18	18	18	6	19	414	373	373	6	12	12
Total	197	223	151	506	637	548	6,729	2,133	3,255	81	128	128
28 weeks	8,825	7,120	6,628	189,238	67,692	78,995	626,672	95,575	528,593	4,110	5,656	5,656

[1] New York City only.
[2] Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended July 13, 1946, and comparison with corresponding week of 1945 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [3]		
	Week ended—		Median 1941–45	Week ended—		Median 1941–45	Week ended—		Median 1941–45	Week ended—		Median 1941–45
	July 13, 1946	July 14, 1945		July 13, 1946	July 14, 1945		July 13, 1946	July 14, 1945		July 13, 1946	July 14, 1945	
NEW ENGLAND												
Maine	0	1	1	8	11	9	0	0	0	1	0	0
New Hampshire	4	0	0	6	2	2	0	0	0	0	0	0
Vermont	0	1	0	2	4	3	0	0	0	0	0	0
Massachusetts	0	2	2	43	60	84	0	0	0	5	2	3
Rhode Island	0	0	0	6	6	2	0	0	0	1	0	0
Connecticut	4	4	2	4	4	8	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	15	29	11	135	122	113	0	0	0	3	7	7
New Jersey	6	23	1	44	23	30	0	0	0	3	1	2
Pennsylvania	1	4	4	83	63	63	0	0	0	4	8	8
EAST NORTH CENTRAL												
Ohio	13	10	3	57	57	57	0	0	0	8	8	8
Indiana	3	1	1	10	29	17	3	1	0	14	2	7
Illinois	23	4	6	43	82	71	0	2	0	10	3	3
Michigan [2]	11	1	3	70	117	46	0	1	1	1	11	5
Wisconsin	4	1	0	19	40	37	0	0	0	2	0	1
WEST NORTH CENTRAL												
Minnesota	40	0	1	12	29	20	0	0	0	1	0	0
Iowa	8	1	2	8	15	10	0	0	0	0	0	1
Missouri	14	1	1	3	16	13	0	1	0	2	0	6
North Dakota	1	0	0	2	8	3	0	0	0	0	0	0
South Dakota	5	0	0	0	1	4	0	0	0	0	0	0
Nebraska	12	0	0	4	18	7	0	0	0	0	0	0
Kansas	18	5	3	11	21	19	0	0	0	0	0	1
SOUTH ATLANTIC												
Delaware	0	1	0	1	4	3	0	0	0	0	0	0
Maryland [2]	3	3	1	5	19	17	0	0	0	1	2	3
District of Columbia	1	6	0	2	7	7	0	0	0	0	0	1
Virginia	3	7	5	22	19	8	0	0	0	1	3	6
West Virginia	1	3	0	6	9	12	0	0	0	0	4	4
North Carolina	1	2	1	16	7	8	0	0	0	2	3	7
South Carolina	3	11	5	1	4	3	0	0	0	4	9	8
Georgia	2	8	8	8	8	7	0	0	0	4	4	8
Florida	24	1	2	2	2	2	0	0	0	1	4	4
EAST SOUTH CENTRAL												
Kentucky	5	0	10	6	12	12	[4] 1	0	0	3	3	10
Tennessee	1	27	5	6	16	16	0	0	0	6	5	11
Alabama	14	6	6	5	11	8	0	0	0	0	5	7
Mississippi [2]	6	2	2	4	11	3	0	0	0	5	2	7
WEST SOUTH CENTRAL												
Arkansas	20	3	3	6	9	3	2	1	0	9	6	14
Louisiana	18	1	1	4	7	4	0	0	0	5	6	11
Oklahoma	15	8	1	2	7	7	0	0	0	4	1	6
Texas	54	45	13	33	32	25	0	0	0	28	22	25
MOUNTAIN												
Montana	6	0	0	1	5	7	0	0	0	1	2	0
Idaho	0	1	0	5	2	2	0	0	0	2	1	1
Wyoming	0	1	0	6	2	4	0	0	0	0	0	0
Colorado	31	1	1	36	11	11	0	0	0	0	1	1
New Mexico	1	0	0	7	2	3	0	0	0	0	0	0
Arizona	1	0	0	8	5	3	0	0	0	1	1	1
Utah [2]	0	0	0	4	6	6	0	0	0	0	2	0
Nevada	0	0	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington	5	5	2	15	16	14	0	0	0	1	0	0
Oregon	5	2	1	5	9	9	0	0	0	0	2	0
California	25	22	12	69	131	69	0	0	0	1	3	4
Total	427	254	254	855	1,101	884	6	6	6	134	133	207
28 weeks	2,594	1,679	1,626	83,792	130,156	93,978	[4] 264	254	584	1,821	2,004	2,401

[2] Period ended earlier than Saturday.
[3] Including paratyphoid fever reported separately, as follows: Massachusetts 2; Rhode Island 1; New York 2; New Jersey 1; Georgia 1; Arkansas 1; Louisiana 1; Texas 4; California 1.
[4] Delayed report: Smallpox, Kentucky 2 cases in April; total for April, 3 cases.

Telegraphic morbidity reports from State health officers for the week ended July 13, 1946, and comparison with corresponding week of 1945 and 5-year median—Con.

Division and State	Whooping cough: Week ended— July 13, 1946	Whooping cough: Week ended— July 14, 1945	Whooping cough: Median 1941-45	Week ended July 13, 1946: Dysentery: Amebic	Dysentery: Bacillary	Dysentery: Unspecified	Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever, endemic	Undulant fever
NEW ENGLAND											
Maine	6	50	27								1
New Hampshire	2	6	3								
Vermont	19	27	27								2
Massachusetts	104	117	116		1						2
Rhode Island	29	19	12								
Connecticut	30	28	28	3							1
MIDDLE ATLANTIC											
New York	124	327	301	3	2		2	2			2
New Jersey	150	221	221	1		2	1	2			
Pennsylvania	84	244	244					2			3
EAST NORTH CENTRAL											
Ohio	79	155	223				1				
Indiana	29	46	46								3
Illinois	141	128	145	3	1		2	4			15
Michigan [3]	148	75	198	7	3	1					5
Wisconsin	149	49	168								6
WEST NORTH CENTRAL											
Minnesota	10	9	64						1		3
Iowa	28	4	44								24
Missouri	15	33	33			1		1	1		1
North Dakota	2		16								
South Dakota			3								4
Nebraska	3	2	24								1
Kansas	27	36	63	1							4
SOUTH ATLANTIC											
Delaware	8		2					1			
Maryland [3]	41	70	70					2	1		1
District of Columbia	21	12	12								
Virginia	117	115	50			50		2	1	1	1
West Virginia	21	45	38								
North Carolina	134	207	213					5	2	4	1
South Carolina	36	66	88	7	25			1		2	4
Georgia	20	15	15		3			2		15	
Florida	33	1	13	3		1				14	
EAST SOUTH CENTRAL											
Kentucky	15	59	59		4			2			1
Tennessee	49	45	45		1				5	1	4
Alabama	22	14	31	1			1		1	18	2
Mississippi [3]									1	5	7
WEST SOUTH CENTRAL											
Arkansas	11	18	20	2			1		7	3	2
Louisiana	1		5					1	1	15	
Oklahoma	21	21	21	1	1						
Texas	224	258	253	29	329	31			4	50	20
MOUNTAIN											
Montana	1	14	14						1		
Idaho	4	15	15		1						4
Wyoming	9	1	4					1			
Colorado	29	44	38								1
New Mexico	11	5	10		1						
Arizona	14	14	14			16					
Utah [3]	18	35	60						2		
Nevada											
PACIFIC											
Washington	20	20	52								
Oregon	46	22	22	2							
California	71	231	195	2	3		9			1	4
Total	2,176	2,923	3,699	65	375	102	17	28	28	129	129
Same week, 1945	2,923			43	744	28	9	35	17	124	96
Average, 1943-45	3,104			40	781	274	12	[4] 19	17	[4] 123	
28 weeks: 1946	53,039			1,571	9,551	3,524	260	220	531	1,535	2,637
1945	70,366			934	12,992	3,543	194	204	440	1,822	2,606
Average, 1943-45	78,707		[4] 105,735	944	10,378	3,253	275	[4] 237	429	[4] 1,507	

[3] Period ended earlier than Saturday.

[4] 5-year median, 1941-45.

Anthrax: New York 1 case.

Leprosy: Louisiana 1 case.

WEEKLY REPORTS FROM CITIES

City reports for week ended July 6, 1946

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	20	0	1	1	0	0	0	1
New Hampshire:												
Concord	0	0	------	0	------	0	0	0	0	0	0	------
Vermont:												
Barre	0	0	------	0	------	0	1	0	0	0	0	------
Massachusetts:												
Boston	2	0	------	1	77	0	10	1	8	0	1	11
Fall River	0	0	------	0	27	0	0	0	0	0	0	------
Springfield	0	0	------	0	26	0	0	0	4	0	1	1
Worcester	2	0	------	0	55	0	4	0	1	0	3	23
Rhode Island:												
Providence	0	0	------	0	31	0	2	0	2	0	0	13
Connecticut:												
Bridgeport	0	0	------	0	------	0	0	0	0	0	1	------
Hartford	0	0	------	0	4	1	0	1	0	0	0	4
New Haven	0	0	------	0	24	0	0	0	0	0	0	------
MIDDLE ATLANTIC												
New York:												
Buffalo	3	0	------	0	5	0	3	0	0	0	0	------
New York	8	1	3	1	187	2	43	6	44	0	4	34
Rochester	0	0	------	0	3	0	1	0	7	0	1	------
Syracuse	0	0	------	0	------	0	0	1	6	0	0	4
New Jersey:												
Camden	0	0	------	0	1	0	0	0	0	0	0	1
Newark	0	0	------	0	24	1	1	0	7	0	0	16
Trenton	0	0	------	0	18	0	0	0	0	0	0	3
Pennsylvania:												
Philadelphia	3	0	3	0	21	3	13	1	11	0	0	21
Pittsburgh	1	0	------	0	25	0	0	0	12	0	0	7
Reading	0	0	------	0	2	0	1	0	1	0	0	1
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	------	0	6	0	2	0	2	0	0	5
Cleveland	1	0	1	1	165	2	3	9	13	0	1	11
Columbus	0	0	------	0	12	0	2	0	1	0	0	1
Indiana:												
Fort Wayne	0	0	------	0	2	0	1	0	0	0	0	------
Indianapolis	0	0	------	0	6	0	1	0	1	0	1	7
Terre Haute	0	0	------	0	5	0	1	0	0	0	0	------
Illinois:												
Chicago	0	0	------	0	42	1	14	0	31	0	0	50
Springfield	0	0	------	0	1	0	3	0	0	0	0	------
Michigan:												
Detroit	0	0	------	0	17	0	9	2	15	0	1	28
Flint	0	0	------	0	3	0	2	0	1	0	0	6
Grand Rapids	0	0	------	0	14	0	1	0	4	0	1	3
Wisconsin:												
Kenosha	0	0	------	0	14	0	0	0	0	0	0	------
Milwaukee	1	0	------	0	41	0	2	0	7	0	2	31
Racine	0	0	------	0	141	0	0	0	2	0	0	------
Superior	0	0	------	0	------	0	0	0	0	0	0	6
WEST NORTH CENTRAL												
Minnesota:												
Duluth	1	0	------	0	4	0	0	0	0	0	0	1
Minneapolis	1	0	------	0	7	0	5	14	6	0	0	2
Missouri:												
Kansas City	0	0	------	0	------	0	3	1	0	0	0	4
St. Joseph	0	0	------	0	------	0	0	0	0	0	0	------
St. Louis	0	1	1	0	17	1	3	8	4	0	0	4

City reports for week ended July 6, 1946—**Continued**

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo	0	0	------	0	------	0	0	0	1	0	0	------
Nebraska:												
Omaha	1	0	------	0	2	0	0	0	0	0	0	3
Kansas:												
Topeka	0	0	------	0	1	0	1	0	1	0	0	7
Wichita	0	0	------	0	5	0	3	0	0	0	0	------
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	------	0	3	0	1	0	1	0	0	------
Maryland:												
Baltimore	2	0	1	0	215	0	7	0	2	0	0	10
Cumberland	0	0	------	0	------	0	0	0	0	0	0	------
District of Columbia:												
Washington	0	0	------	0	50	2	3	0	3	0	1	8
Virginia:												
Lynchburg	0	0	------	0	5	0	1	0	0	0	0	------
Richmond	0	0	------	0	8	0	2	0	0	0	0	7
Roanoke	0	0	------	0	3	0	0	0	1	0	0	------
West Virginia:												
Charleston	0	0	------	0	1	0	0	0	0	0	0	------
Wheeling	1	0	------	0	1	0	1	0	0	0	0	7
North Carolina:												
Raleigh	0	0	------	0	2	0	0	0	0	0	0	3
Wilmington	0	0	------	0	2	0	0	0	0	0	0	1
Winston-Salem	0	0	------	0	11	0	1	0	0	0	0	14
South Carolina:												
Charleston	0	0	1	0	2	0	0	0	2	0	0	1
Georgia:												
Atlanta	1	0	------	0	4	0	1	2	1	0	0	2
Brunswick	0	0	------	0	------	0	0	0	0	0	0	------
Savannah	0	0	------	0	11	0	3	0	0	0	0	------
Florida:												
Tampa	1	0	------	0	3	1	0	6	2	0	2	2
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	2	0	1	3	4	1	1	0	0	12
Nashville	0	0	------	1	------	0	2	0	1	0	0	1
Alabama:												
Birmingham	0	0	1	0	2	1	1	0	1	0	1	------
Mobile	0	0	------	1	1	0	1	1	0	0	0	------
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	------	0	------	0	0	2	0	0	0	1
Louisiana:												
New Orleans	0	0	------	0	3	0	3	5	2	0	0	------
Shreveport	0	0	------	0	------	0	3	1	0	0	0	------
Texas:												
Dallas	1	0	------	0	5	0	1	7	0	0	0	2
Galveston	0	0	------	0	------	0	0	0	0	0	0	1
Houston	0	0	------	0	------	0	3	0	1	0	0	2
San Antonio	2	0	1	0	2	0	0	3	0	0	0	1
MOUNTAIN												
Montana:												
Billings	0	0	------	0	------	0	0	0	0	0	0	------
Great Falls	0	0	------	0	17	0	0	0	0	0	0	------
Helena	0	0	------	0	------	0	0	0	0	0	0	------
Missoula	0	0	------	0	------	0	1	0	0	0	0	------
Idaho:												
Boise	0	0	------	0	1	0	0	0	0	0	0	------
Colorado:												
Denver	2	0	1	0	------	1	3	20	6	0	0	12
Pueblo	0	0	------	0	17	0	0	0	1	0	0	------
Utah:												
Salt Lake City	0	0	------	0	18	0	2	1	2	0	0	2

City reports for week ended July 6, 1946—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	0	0	------	0	15	0	1	1	3	0	0	2
Spokane	0	0	------	0	------	0	0	0	0	0	0	1
Tacoma	0	0	------	0	6	0	0	0	3	0	0	4
California:												
Los Angeles	2	0	4	1	61	1	3	3	8	0	0	2
Sacramento	0	0	------	0	2	0	0	0	0	0	0	------
San Francisco	1	0	1	0	16	1	1	0	5	0	0	1
Total	37	2	20	6	1,543	21	185	98	238	0	21	408
Corresponding week, 1945	41	------	25	8	927	------	238	------	349	0	13	642
Average, 1940–45	46	------	24	[1] 8	[2] 1,591	------	[1] 250	------	401	1	20	1,023

[1] 3-year average, 1943–45.
[2] 5-year median, 1941–45.

Dysentery, amebic.—Cases: New York 1; Philadelphia 2; Chicago 2; Los Angeles 1.

Dysentery, bacillary.—Cases: Worcester 1; Providence 3; New York 2; Flint 1; San Antonio 1; Los Angeles 1; San Francisco 1.

Dysentery, unspecified.—Cases: San Antonio 20.

Rocky Mountain spotted fever.—Cases: Memphis 2.

Typhus fever, endemic.—Cases: Raleigh 2; Tampa 1; Mobile 1; New Orleans 4; Galveston 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 87 cities in the preceding table (estimated population, 1943, 33,992,900)

	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	10.5	0.0	0.0	2.6	690	2.6	47.1	7.8	39	0.0	15.7	139
Middle Atlantic	6.9	0.5	2.8	0.5	132	2.8	28.7	3.7	41	0.0	2.3	40
East North Central	1.2	0.0	0.6	0.6	289	1.8	25.2	6.8	47	0.0	3.7	91
West North Central	6.7	2.2	2.2	0.0	80	2.2	33.4	51.2	27	0.0	0.0	47
South Atlantic	8.2	0.0	3.3	0.0	527	4.9	32.8	13.1	20	0.0	4.9	90
East South Central	0.0	0.0	17.7	11.8	24	23.6	47.2	11.8	18	0.0	5.9	77
West South Central	8.6	0.0	2.9	0.0	29	0.0	28.7	51.7	9	0.0	0.0	20
Mountain	15.9	0.0	7.9	0.0	421	7.9	47.7	166.8	71	0.0	0.0	111
Pacific	4.7	0.0	7.9	1.6	158	3.2	7.9	6.3	30	0.0	0.0	16
Total	5.7	0.3	3.1	0.8	237	3.2	28.6	15.1	37	0.0	3.2	63

PLAGUE INFECTION IN SAN BERNARDINO, SAN LUIS OBISPO, AND VENTURA COUNTIES, CALIF.

Under date of July 5, 1946, plague infection was reported to have been proved in fleas and tissue from squirrels and in fleas from burrows in California as follows:

San Bernardino County.—In 31 fleas from 6 ground squirrels, *Citellus beecheyi fisheri* (*Otospermophilus grammurus fisheri*) taken 7 miles west of Big Bear Lake, received at the laboratory June 3, and proved positive July 3, 1946.

San Luis Obispo County.—In 58 fleas from 5 ground squirrels, *C. beecheyi*, taken on a ranch 1 mile north of Pozo, received at the laboratory June 10, and proved positive July 3, 1946; in 223 fleas from burrows on a ranch 2 miles southwest of Santa Margarita, received at the laboratory May 29, and proved positive July 3, 1946.

Ventura County.—In 40 fleas from 2 ground squirrels, *C. beecheyi*, and in tissue from 2 ground squirrels, same species, found dead ½ mile west of Ozena Public Camp. These specimens were received at the laboratory June 3, and proved positive July 3, 1946.

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (in ectoparasites).—Under date of July 3, 1946, plague infection in ectoparasites has been reported in Kahului, Island of Maui, T. H., as follows: In a pool of 50 fleas recovered from rats and mice trapped May 14, 1946, in Districts 14 and 14B, Kaluapulani Gulch, Kahului; also in a pool of 51 fleas from rats trapped May 22, 1946, in District 14, Kahului.

DEATHS DURING WEEK ENDED JULY 6, 1946

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

	Week ended July 6, 1946	Corresponding week, 1945
Data for 93 large cities of the United States:		
Total deaths	7,885	8,637
Average for 3 prior years	8,121	
Total deaths, first 27 weeks of year	256,410	251,948
Deaths under 1 year of age	626	612
Average for 3 prior years	569	
Deaths under 1 year of age, first 27 weeks of year	16,695	16,476
Data from industrial insurance companies:		
Policies in force	67,211,715	67,379,058
Number of death claims	9,665	10,386
Death claims per 1,000 policies in force, annual rate	7.5	8.0
Death claims per 1,000 policies, first 27 weeks of year, annual rate	10.2	10.8

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended June 15, 1946.—During the week ended June 15, 1946, 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		56		110	429	29	46	18	135	823
Diphtheria		2	3	34	11	1				51
Dysentery, bacillary				11					6	17
German measles				28	28		2	7	5	70
Influenza		10			185					195
Measles		14	1	407	939	135	20	210	77	1,803
Meningitis, meningococcus					1					1
Mumps	1	1		39	453	70	49	39	168	820
Poliomyelitis				1						1
Scarlet fever	1	12	3	89	72	14	1	7	12	211
Tuberculosis (all forms)		21	2	93	16	23	29	11	27	222
Typhoid and paratyphoid fever				13	1				5	19
Undulant fever				1	2					3
Venereal diseases:										
Gonorrhea	6	22	11	95	121	45	25	36	77	438
Syphilis	6	3	10	119	96	10	12	13	65	334
Whooping cough		5		25	119	6		6	1	162

CUBA

Habana—Communicable diseases—4 weeks ended June 22, 1946.—During the 4 weeks ended June 22, 1946, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	3		Poliomyelitis	17	1
Malaria	1		Tuberculosis	4	1
Measles	9		Typhoid fever	21	1

Provinces—Notifiable diseases—4 weeks ended June 15, 1946.—During the 4 weeks ended June 15, 1946, 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	5	9	16	21	2	10	63
Chickenpox		5		1	3	4	13
Diphtheria	2	4			2	1	9
Hookworm disease		12					12
Leprosy		5	4		1	5	15
Malaria	6	2		2	3	31	44
Measles		10			2		12
Poliomyelitis	4	33	10	16	2	4	69
Tuberculosis	41	46	42	37	5	56	227
Typhoid fever	27	54	12	60	20	67	240
Typhus fever (murine)		1					1
Undulant fever					1		1
Whooping cough	1				4	2	7

[1] Includes the city of Habana.

NORWAY

Notifiable diseases—March 1946.—During the month of March 1946, cases of certain notifiable diseases were reported in Norway as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	25	Mumps	211
Diphtheria	329	Paratyphoid fever	2
Dysentery, unspecified	10	Pneumonia	3,720
Encephalitis, epidemic	2	Poliomyelitis	25
Erysipelas	405	Rheumatic fever	223
Gastroenteritis	3,669	Scabies	4,986
Gonorrhea	643	Scarlet fever	549
Hepatitis, epidemic	551	Syphilis	117
Impetigo contagiosa	3,189	Tuberculosis (all forms)	434
Influenza	21,872	Typhoid fever	1
Lymphogranuloma inguinale	1	Typhus fever	1
Malaria	3	Weil's disease	1
Measles	1,276	Whooping cough	3,119

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 recent months. 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.

Cholera

China.—Cholera has been reported in China as follows: Amoy, week ended June 8, 1946, 1 fatal case; Canton, June 1–10, 1946, 380 cases, 142 deaths; Hong Kong, weeks ended—June 22, 1946, 75 cases, 23 deaths, June 29, 1946, 53 cases, 25 deaths; Kiangsu Province, June 1–20, 1946, 96 cases, 12 deaths, including 65 cases of suspected cholera.

Plague

China—Fukien Province.—Plague has been reported in Fukien Province, China, as follows: For the period May 11–20, 1946, 117 cases, 90 deaths; for the period May 21–31, 1946, 118 cases, 62 deaths.

Typhus Fever

Morocco (French).—For the period June 21–30, 1946, 126 cases of typhus fever were reported in French Morocco, by regions as follows: Agadir and frontier districts, 13; Casablanca, 33; Fez, 21; Marrakech, 25; Meknes, 14; Rabat, 20.

×