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— Editorial —

Beyond Case Finding

Public health workers are in substantial agreement that the development of a sound program of health education is a necessary part of any public health enterprise which can entertain hope of success. In this activity, effective community organization is a necessary prelude to the attainment of the principal objective—persuading the people who comprise the community to take advantage of what medical science can offer toward the conservation and improvement of individual health. The conspicuous success which a growing number of communities have enjoyed in chest X-ray service programs could not have been possible without recognition and application of this principle. The success of Minneapolis, where over 300,000 adults reported for X-rays within the comparatively short period of 4 months, as well as that of other large cities, offers abundant proof of the results that can be expected through the use of such methods. In less than 2 months after the completion of the survey, 90 percent of those requested to return for large films had done so, and 86 percent of these had responded within 1 or 2 weeks of the small-film examination. This is indeed a remarkable record, in view of the voluntary nature of the effort—one that would not have been possible without aggressive, coordinated community action. It also augurs well for other health programs in which case finding is a primary technique.

Of course, we need no reminder that the job of tuberculosis control is not done with the last screening film taken in a survey. The necessary follow-up takes much longer, lacks the glamour of the initial drive, but is most important. In this respect, any disease control program which depends for its principal solution on case finding is an

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operation more difficult to conduct than, let us say, one which has for its chief means of control the widespread application of an effective immunizing agent. In tuberculosis control, another phase of the problem is encountered with the discovery of the suspect case. We have reached the moment for which all of the rest, important as it is, is merely a prelude. The doctor sits face to face with his patient. Does this patient have tuberculosis, and, if so, is the disease active? Because of the fundamental nature of the case-finding activity, the second question assumes increasing importance, because the great majority of cases found are in an early stage.

In a recent publication, McKay pointed out that “. . . tuberculosis, both in its onset, and during the early period of relapse, is characteristically a symptom-free disease Surveys have shown that when the diagnosis is based upon symptoms, 87 percent of the cases will have advanced disease.” McKay goes on to discuss the problem this creates in convincing the person with early symptom-free tuberculosis that he is in need of medical treatment. All too often the patient postpones necessary hospitalization until his disease is well advanced and there results irreparable damage which could once have been easily prevented. We need not be reminded that the patient's failure to accept treatment will nullify the efforts of early case finding. The solution lies again in education—education in the broad sense: education both of the sufferer and of the community. If the physician's advice is to be accepted, the victim of tuberculosis must receive the sympathetic and patient understanding of his medical advisor and other professional workers. Society also has the obligation to see that the needs of the patient are reasonably well met and, most important in the instance of those with dependents, to see that sufficient relief is provided those dependents so that the victim of active, early disease is willing to accept hospitalization. Certainly, we have done very little in this respect, and this could well account for the reluctance of patients to accept proffered advice.

Those techniques which have contributed so brilliantly toward organizing the community for case finding can, we are sure, do as much for those found to have disease. In the final analysis, it is these few for whom the larger battle has been waged. Is it practical then, to neglect to provide the facilities they need when the cost of so doing is so little compared to the huge price which will be the inevitable consequence of neglect?

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Tuberculosis Mortality in the United States, 1946¹

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In 1946, the death rate for tuberculosis in the United States continued the downward course which since 1910 has been interrupted only in 1917, 1918, 1926, and 1936. The death rate in 1946 was 36.4 per 100,000 estimated population, based on 50,911 deaths from all forms of tuberculosis in the continental United States. This is a pronounced decrease (9.2 percent) from the rate of 40.1 for 1945 and represents a difference of 2,005 deaths.

Mortality statistics admittedly give an incomplete picture of the human damage and economic loss caused each year by tuberculosis. They tell nothing of the years of productive life lost because of the disease's incapacitating effects, of the families dislocated through hospitalization and/or death of a parent, or of the cost of sanatorium, medical, and nursing services for victims of the disease. However, mortality data do serve to indicate the progress which has been made since the early part of this century in reducing the annual toll of the disease, and serve to show the differences in tuberculosis mortality between white and nonwhite groups, geographic areas, and the two sexes. To some extent, too, these data probably indicate the differential prevalence of the disease, and furnish clues to those areas toward which control measures should be directed, so that further reductions may be achieved in the disease's prevalence and mortality.

This paper presents mortality data for 1946 by age, race, sex, type of infection (pulmonary or nonpulmonary), and geographic area, as well as trends for previous years.

Trend of the death rate, 1910-46

A part of the decrease between 1945 and 1946 tuberculosis death rates (based on population in this country, excluding armed forces overseas) is more apparent than real and comes about through the return of members of the armed forces from overseas in the latter part of 1945 and early months of 1946. A more accurate indication of the real change in tuberculosis mortality between 1945 and 1946 is afforded by comparing the rates for these years based on total population, including members of the armed forces overseas. These are the *de jure* rates, in contrast to the *de facto* rates which relate the events occurring in an area to the population actually present in that area.

¹ See references (1) to (3) for preceding papers in this series developed cooperatively by the National Office of Vital Statistics and Tuberculosis Control Division.

The tuberculosis death rate so computed was 38.0 for 1945 and 36.0 for 1946, with the decrease amounting to 5.3 percent.²

The comparison of the *de jure* rates is more precise than that which utilizes *de facto* rates because in nearly all instances deaths of members of the armed forces from tuberculosis occur in this country. This is true since tuberculosis cases discovered in the armed forces overseas are usually returned to this country for hospitalization. Consequently, the total population, including members of the armed forces at home and abroad, contributes to the total number of tuberculosis deaths and is the best approximation of the population exposed to risk of death from tuberculosis in the United States. However, since population estimates which include armed forces overseas are not available in appropriate detail, all rates given in this paper are *de facto* unless otherwise specified.

TABLE 1.—*Death rates for tuberculosis (all forms) by race and sex: death-registration States, 1910-46*

(Exclusive of stillbirths and of deaths among the armed forces overseas. Rates per 100,000 estimated population including armed forces in the area)

Year	All races	White			Nonwhite		
		Total	Male	Female	Total	Male	Female
1946	36.4	29.8	39.2	20.6	92.3	106.2	79.2
1945	40.1	32.7	45.1	21.7	102.6	120.9	86.5
1944	41.3	33.7	45.0	23.3	106.2	122.7	91.3
1943	42.6	34.3	44.4	24.7	112.9	126.4	100.0
1942	43.1	34.4	43.3	25.6	118.4	131.4	106.0
1941	44.5	35.4	43.3	27.4	124.2	134.3	114.5
1940	45.8	36.5	44.7	28.2	127.6	138.7	116.9
1939	47.1	37.7	44.7	30.6	129.1	137.3	121.1
1938	49.1	39.1	46.2	31.9	136.8	144.0	129.8
1937	53.8	43.4	50.9	35.8	145.0	155.0	135.2
1936	55.9	45.0	52.2	37.6	151.6	163.9	139.6
1935	55.1	44.9	51.7	37.8	145.1	155.4	135.0
1934	56.7	46.2	52.7	39.6	148.8	156.9	140.8
1933	59.6	48.5	54.3	42.6	157.7	165.6	149.9
1932	62.5	50.2	55.9	44.4	173.5	179.5	167.5
1931	67.8	54.2	60.1	48.2	191.1	197.4	184.9
1930	71.1	57.7	63.4	51.9	192.0	194.3	189.8
1929	75.3	62.4	67.1	57.6	192.0	191.5	192.6
1928	78.3	64.9	69.7	59.9	199.5	199.4	199.6
1927	79.6	66.5	70.7	62.2	208.7	205.4	212.1
1926	85.5	72.0	76.4	67.5	223.8	221.5	226.1
1925	84.8	71.6	75.8	67.2	221.3	215.8	226.7
1924	87.9	74.9	79.3	70.4	218.6	215.0	222.3
1923	91.7	79.5	84.4	74.5	213.1	206.3	220.0
1922	95.3	82.6	87.5	77.4	218.9	216.6	221.2
1921	97.6	84.7	89.1	80.2	239.3	233.7	245.1
1920	113.1	99.5	104.1	94.8	262.4	255.4	269.6
1919	125.6	110.9	121.1	100.4	284.0	275.5	292.7
1918	149.8	134.3	153.2	115.4	346.0	351.0	340.9
1917	143.5	129.6			332.6		
1916	138.4	125.7	141.3	109.5	322.7	322.3	323.0
1915	140.1	128.5	144.0	112.2	401.1	420.2	380.5
1914	141.7	130.3	146.9	112.9	396.7	417.8	374.0
1913	143.5	132.6	147.7	116.7	386.5	401.9	369.9
1912	145.4	136.0	149.4	121.8	429.0	459.9	394.5
1911	155.1	145.0	157.5	131.9	461.4	484.8	435.2
1910	153.8	145.9	158.2	132.8	445.5	479.3	406.8

² These rates, although they are based on a *de jure* population, are not strictly *de jure* because they do not include the small number of tuberculosis deaths among the armed forces overseas.

Between 1910 (the first year for which mortality data were tabulated by race, sex, and cause) and 1946, the crude tuberculosis death rate declined 76 percent, and a similar decrease occurred in the death rates for both white and nonwhite males. The rates for each year, for both white and nonwhite groups and for males and females, are shown in table 1 and figure 1. Slightly larger relative decreases, that is 81 and 85 percent, respectively, occurred in the death rates for white and nonwhite females over the same period. For white persons, the relative decrease in the rate was almost the same as that for nonwhite persons. Between 1922 and 1941, the rates for white groups decreased more rapidly than did the rates for nonwhite persons, but since 1941 there has been a larger relative decline in the death rates for nonwhites.

The 37-year decline in the tuberculosis death rates has been accompanied by a widening gap between the mortality rates for males and for females. In 1910, the rate for males, both white and nonwhite,

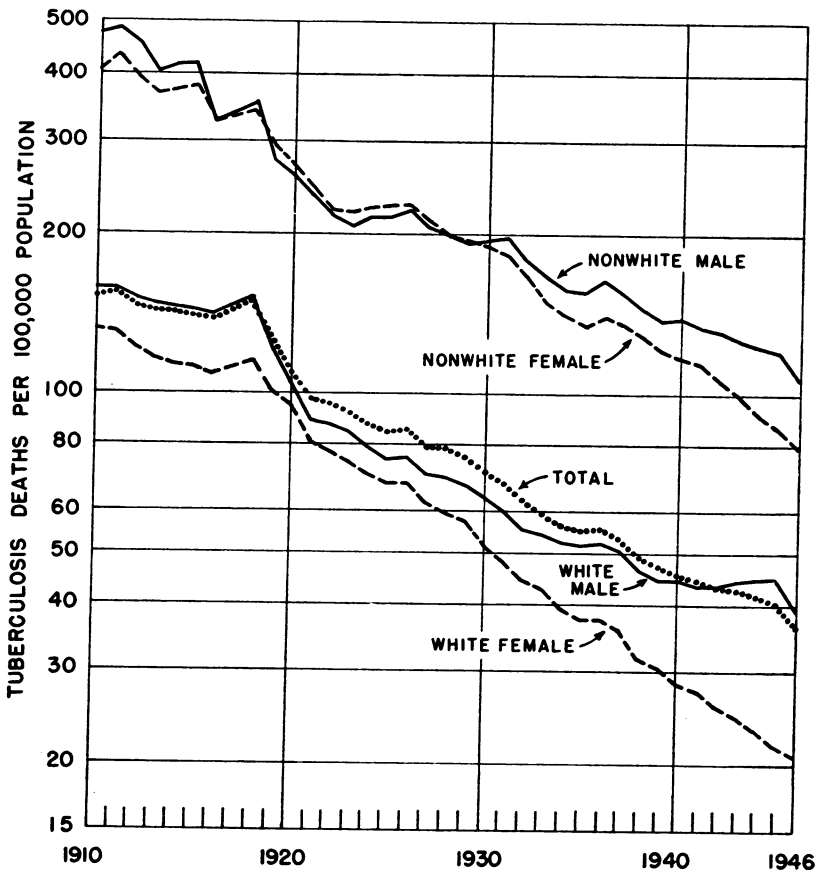


Figure 1. Death rates for tuberculosis (all forms) by race and sex: Death-registration States, 1910-1946.

was about one-fifth higher than the rate for females. In 1946, however, the rate for white males was nearly twice that for white females (i. e., 90 percent higher). For nonwhite groups, there was a much smaller difference in rates for the two sexes, with the death rate for males exceeding the corresponding rate for females by 34 percent.

Tuberculosis mortality in the United States, 1946

Between 1945 and 1946, the tuberculosis death rates for males appear to have decreased more than the rates for females. The decrease amounted to 12.8 percent for all males and 5.9 percent for females. However, a part of this decrease for males results from an increase in the male population in this country, brought about through the return of members of the armed forces from overseas stations; it is not entirely a reflection of the real decrease in tuberculosis mortality. When rates for males which are based on estimates of the total population, including members of the armed forces overseas, are compared (47.3 for 1945 and 45.3 for 1946) the relative decrease is found to be only 4.2 percent.

As indicated below, the rates for nonwhite females showed a larger relative decrease between 1945 and 1946 than did the death rates for white females. The change for males was approximately the same in both race groups.

Tuberculosis mortality rates per 100,000 population

	1946	1945	Percent decrease
White males.....	39.2	45.1	13.1
White females.....	20.6	21.7	5.1
Nonwhite males.....	106.2	120.9	12.2
Nonwhite females.....	79.2	86.5	8.4

Tuberculosis mortality—respiratory and nonrespiratory

As in other years, deaths from respiratory tuberculosis comprised the bulk (92.2 percent) of the total mortality from all forms of tuberculosis. The number of deaths and the death rates for specified forms of tuberculosis in 1946 are shown in table 2. Classification procedure is responsible in part for the high percentage of respiratory tuberculosis deaths because when both respiratory and nonrespiratory forms are reported on the same death certificate the death is assigned to respiratory tuberculosis. Consequently, nonrespiratory involvement may have occurred in a larger proportion of the deaths than is shown by these figures. During 1946, the two principal types of nonrespiratory tuberculosis were tuberculosis of the meninges and of the central nervous system, and disseminated tuberculosis, each of which had a death rate of 0.8 per 100,000; together, these accounted for 56 percent of the deaths from nonrespiratory forms of the disease. Tuberculosis of the intestines and peritoneum ranked third among the non-

TABLE 2.—*Number of deaths and death rates for tuberculosis by specified form: United States, 1946*

(Exclusive of stillbirths and of deaths among the armed forces overseas. Rates per 100,000 estimated population including armed forces in the area)

Cause of Death	Number of deaths	Percent of total	Death rate
Tuberculosis—all forms.....	50,911	100.0	36.4
Tuberculosis of the respiratory system.....	46,939	92.2	33.6
Tuberculosis (other forms).....	3,972	7.8	2.8
Tuberculosis of the meninges and central nervous system.....	1,150	2.3	.8
Tuberculosis of the intestines and peritoneum.....	578	1.1	.4
Tuberculosis of the vertebral column.....	439	.9	.3
Tuberculosis of the bones and joints (except vertebral column).....	137	.3	.1
Tuberculosis of the skin and subcutaneous cellular tissue.....	26	.1	0
Tuberculosis of the lymphatic system (except bronchial, mediastinal, mesenteric, and retroperitoneal lymph nodes).....	80	.2	.1
Tuberculosis of the genito-urinary system.....	367	.7	.3
Tuberculosis of other organs.....	105	.2	.1
Disseminated tuberculosis.....	1,090	2.1	.8

respiratory forms with a death rate of 0.4 per 100,000 population.

As expected, the death rates for respiratory tuberculosis bear a close resemblance to the rates for all forms of the disease in their relative magnitude for males and females and for white and nonwhite groups. The rate of 43.0 for respiratory tuberculosis for males is 76 percent larger than the rate of 24.4 for females. For white males the rate is nearly twice that for white females, but the rate for nonwhite males is only 34 percent higher than the rate for nonwhite females. The rate for the white group as a whole (27.8) is one-third the rate of 82.9 for nonwhites.

As for nonrespiratory tuberculosis, however, where the 1946 rate for males was 3.2 as against 2.5 for females, the difference between the sexes amounted only to 28 percent. The percentage difference was the same (28 percent) for white males and white females, but for the nonwhite group it was less. The relative difference between the nonwhite and white death rates for nonrespiratory tuberculosis was greater than the difference for the respiratory form since the nonwhite rate of 9.5 was 4½ times the rate of 2.1 for whites.

Between 1945 and 1946, the change in the death rates for respiratory tuberculosis was very similar to the change for all forms of the disease, with the nonwhite group showing a slightly larger relative decrease than the white group. For nonrespiratory tuberculosis, the death rates for white persons declined from 2.3 to 2.1, or about 9 percent, and the rates for the nonwhite group decreased from 9.8 to 9.5, or 3 percent.³

Differences in respiratory and nonrespiratory tuberculosis death rates by race and sex may be seen in table 3.

³ See (5) for a discussion of the trend in nonrespiratory tuberculosis death rates, as compared with rates for respiratory forms of the disease, and the differences in death rates for the two types of disease at various ages.

TABLE 3.—*Number of deaths and death rates for tuberculosis of the respiratory system, and for other forms by race and sex: United States, 1946*

Race and sex	Respiratory tuberculosis		Nonrespiratory tuberculosis	
	Number of deaths	Rate per 100,000 population	Number of deaths	Rate per 100,000 population
All races.....	46,939	33.6	3,972	2.8
Male.....	29,661	43.0	2,225	3.2
Female.....	17,278	24.4	1,747	2.5
White.....	34,760	27.8	2,580	2.1
Male.....	22,832	36.9	1,451	2.3
Female.....	11,928	18.8	1,129	1.8
Nonwhite.....	12,179	82.9	1,392	9.5
Male.....	6,829	95.4	774	10.8
Female.....	5,350	71.0	618	8.2

Death rates by age, sex, and race

Death rates for tuberculosis differ widely according to age of the decedent, as well as race and sex. Since 1900, when the death-registration system was initiated, the shape of the curve described by age-specific death rates for tuberculosis has changed greatly. This is illustrated in figure 2 which depicts the rates for quinquennial years 1900-1940. In 1900, the highest rate was that for infants; the rate for young adults 25 to 34 years of age approximated this peak rate closely. The third highest rate appeared in the age group 75 to 84. In contrast, the 1946 death rate for infants is at a low point, and rates for young adults have declined to such an extent that there is no longer a peak in the curve during the young adult years. The rate reaches a comparatively high point for persons 20 to 25 years, but continues to increase up to its maximum for persons 65 to 74 years of age. The 1946 rate for all races and both sexes rises rather sharply from a minimum for children 5 to 9 years old to a minor peak for the age group 20 to 25 years. Beyond this point, the rates continue to rise at a more moderate rate, and reach the maximum for persons 65 to 74 years of age. Between the ages of 25 and 44, the increase is more gradual than between the ages 45 and 74.

The tuberculosis death rate for white males rises steadily in 1946 from a minimum of 1.8 for young males aged 10 to 14 years to a maximum of 102.9 at ages 65 to 74. The rate for white males 75 years and over is somewhat lower than the peak rate. The tuberculosis death rate for white females is quite different from that for males in that it rises more sharply in the adolescent and young adult ages, levels off between the ages of 25 and 35, and then evidences a slight decrease which extends through the age group 45 to 54 years. From the age group 55 to 64 years of age to that 75 years and over, there is a gradual increase, but at no period above age 30 does the rate equal that for white males. In only three age groups, those from

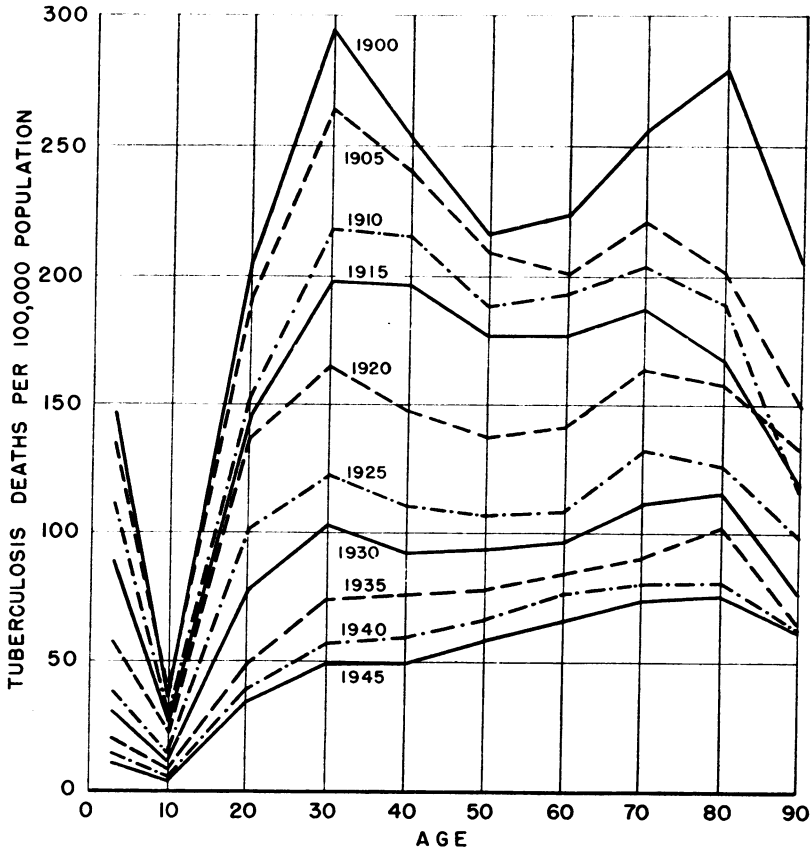


Figure 2. Death rates for tuberculosis by age: Death-registration States, quinquennial years, 1900-1940.

15 to 29 years, do the death rates for white females exceed those for males. The rates for 1946 are shown in figure 3 and the data are presented in table 4.

The age-specific death rates for nonwhite males and females resemble each other in that they both rise to pronounced peaks from minima at the age group 5 to 9 years. The rate for nonwhite males does not reach its height until ages 45-54 although it has a spur for the age group 20 to 24, whereas that for nonwhite females goes up abruptly to a sharp peak at ages 20 to 24, after which it moves downward.

The age-specific death rates for both white and nonwhite males in 1946 more nearly resemble the 1942-44 average than they do the rates for 1945 since they show steady increases to a single peak in the middle or late adult years. In contrast, a secondary peak followed by a slight decline occurred in 1945 for males 25 to 35. This, however, is deceptive in that it results from the selective effect of exclud-

TABLE 4.—Number of deaths and death rates for tuberculosis (all forms) by age, race, and sex: United States, 1942-44 average, 1945 and 1946
(Exclusive of stillbirths and of deaths among the armed forces overseas. Rates per 100,000 estimated population including armed forces in the area)

Race, sex, and year	NUMBER											75 years and over	Not stated				
	All ages ¹	Under 5 years	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-44 years	45-54 years	55-64 years			65-74 years			
All races, both sexes:																	
1946.....	50,911	1,300	313	434	1,946	4,119	4,356	4,408	8,919	9,314	8,133	5,316	2,314	39			
1945.....	52,916	1,332	311	476	2,288	4,478	4,759	4,798	9,508	9,521	7,981	5,174	2,296	46			
1942-44.....	56,475	1,539	384	602	2,786	5,075	5,231	5,267	9,980	10,035	8,121	5,271	2,128	56			
Male:																	
1946.....	31,896	666	181	174	740	1,620	1,935	2,265	5,669	7,121	6,368	3,715	1,378	24			
1945.....	32,934	688	158	187	880	1,812	2,123	2,404	6,085	7,309	6,220	3,632	1,318	28			
1942-44.....	34,435	808	199	240	1,076	2,061	2,353	2,755	6,365	7,611	6,159	3,522	1,221	34			
Female:																	
1946.....	19,025	634	132	260	1,206	2,499	2,421	2,143	3,220	2,193	1,765	1,601	936	15			
1945.....	19,982	644	153	289	1,408	2,665	2,636	2,282	3,423	2,212	1,761	1,542	948	18			
1942-44.....	22,041	731	185	362	1,710	3,014	2,848	2,512	3,614	2,424	1,932	1,750	908	22			
White, both sexes:																	
1946.....	37,340	842	181	210	909	2,246	2,658	2,872	6,284	7,201	6,999	4,707	2,113	28			
1945.....	38,623	846	178	219	1,082	2,434	2,904	3,113	6,743	7,495	6,854	4,644	2,073	28			
1942-44.....	40,824	1,002	219	271	1,302	2,736	3,203	3,436	7,057	7,907	6,971	4,745	1,963	30			
Male:																	
1946.....	24,282	430	108	84	324	872	1,192	1,467	4,057	5,608	5,546	3,342	1,241	16			
1945.....	25,055	438	90	90	490	1,002	1,327	1,605	4,401	5,827	5,407	3,224	1,198	16			
1942-44.....	28,886	519	117	116	469	1,069	1,446	1,789	4,583	6,104	5,335	3,149	1,109	21			
Female:																	
1946.....	13,057	412	75	126	585	1,374	1,466	1,405	2,227	1,595	1,453	1,455	872	12			
1945.....	13,568	418	88	129	662	1,632	1,577	1,508	2,342	1,668	1,447	1,410	860	7			
1942-44.....	14,939	483	102	156	803	1,637	1,757	1,647	2,474	1,803	1,636	1,576	856	9			
Nonwhite, both sexes:																	
1946.....	13,571	458	132	224	1,037	1,873	1,698	1,536	2,635	2,113	1,134	519	201	11			
1945.....	14,283	476	133	257	1,206	2,044	1,865	1,663	2,765	2,026	1,127	580	188	23			
1942-44.....	15,651	537	164	331	1,484	2,339	2,029	1,831	2,922	2,128	1,151	546	163	26			
Male:																	
1946.....	7,603	236	75	90	416	748	743	798	1,642	1,515	822	373	137	8			
1945.....	7,579	250	68	97	460	810	796	869	1,684	1,482	813	398	120	12			
1942-44.....	8,549	289	82	124	577	962	937	966	1,782	1,507	824	372	113	13			
Female:																	
1946.....	5,968	222	57	134	621	1,125	955	738	993	598	312	146	64	3			
1945.....	6,414	226	65	160	746	1,234	1,089	774	1,081	544	314	132	68	11			
1942-44.....	7,102	248	83	207	907	1,377	1,092	864	1,140	621	327	174	50	13			

RATE

All races, both sexes:													
1946	36.4	9.7	2.7	4.1	17.7	35.4	35.4	40.0	45.1	56.1	65.6	74.1	72.4
1945	40.1	10.1	2.7	4.5	21.2	48.0	50.5	48.3	50.4	58.1	66.0	73.5	73.6
1942-44	42.3	12.8	3.5	5.5	23.7	46.8	50.0	50.7	53.1	62.4	70.7	77.9	73.5
Male:													
1946	46.2	9.7	3.1	3.2	13.9	29.5	35.3	42.5	58.5	85.8	101.6	106.4	93.7
1945	53.0	10.3	2.7	3.5	17.5	56.4	59.6	58.4	67.6	89.1	101.5	103.5	92.7
1942-44	52.7	13.2	3.6	4.3	18.5	43.2	50.8	55.8	69.2	93.8	105.3	106.2	90.8
Female:													
1946	26.9	9.6	2.3	5.0	21.3	40.8	40.7	37.7	32.1	26.4	28.6	43.5	54.2
1945	28.6	10.0	2.7	5.5	24.5	43.6	44.9	40.6	34.7	27.0	29.5	42.8	57.2
1942-44	32.3	12.4	3.4	6.7	28.7	49.6	49.3	46.0	37.7	30.5	34.8	50.8	58.5
White, both sexes:													
1946	29.8	7.2	1.8	2.3	9.4	21.8	26.0	29.2	35.3	47.6	60.8	71.5	71.3
1945	32.7	7.4	1.8	2.4	11.4	29.6	34.6	35.3	39.8	50.1	61.1	70.6	72.7
1942-44	34.2	9.5	2.3	2.8	12.5	28.5	34.4	36.9	41.8	53.8	65.4	74.7	72.9
Male:													
1946	39.2	7.2	2.1	1.8	6.9	17.9	24.3	30.7	46.1	74.1	95.6	102.9	91.0
1945	45.1	7.4	1.8	1.9	9.6	35.8	41.8	42.0	54.2	77.8	95.3	101.3	90.7
1942-44	44.2	9.6	2.4	2.4	9.7	26.0	34.5	40.4	55.3	82.2	98.6	102.0	88.5
Female:													
1946	20.6	7.2	1.5	2.8	11.7	25.3	27.7	27.8	24.8	21.1	28.5	42.1	54.5
1945	21.7	7.4	1.8	2.8	13.1	26.4	30.2	30.2	26.5	22.4	26.1	41.7	57.2
1942-44	24.5	9.4	2.2	3.3	15.3	30.4	34.2	33.8	28.8	24.8	31.2	48.7	59.4
Nonwhite, both sexes:													
1946	92.3	27.6	8.4	16.3	78.1	142.7	138.6	132.0	132.9	142.6	126.7	110.6	86.9
1945	102.6	29.4	8.7	19.0	91.4	184.5	178.3	158.8	144.7	140.7	126.3	115.6	85.7
1942-44	112.5	36.2	11.3	24.4	108.5	186.5	170.2	168.1	152.0	154.4	137.9	124.1	81.2
Male:													
1946	106.2	28.5	9.5	13.1	64.8	120.3	131.0	148.2	174.2	207.4	177.3	153.8	128.7
1945	120.9	50.9	8.8	14.4	73.2	185.8	205.2	200.4	190.2	207.4	178.9	167.8	119.0
1942-44	126.9	39.0	11.3	18.3	86.3	174.7	185.9	192.0	194.7	217.3	187.7	163.2	122.2
Female:													
1946	79.2	26.8	7.3	19.4	90.5	162.8	145.1	118.0	95.5	79.6	72.3	64.5	51.2
1945	86.5	28.0	8.5	23.5	108.0	178.9	162.3	125.5	105.1	75.0	75.3	59.6	57.3
1942-44	98.0	33.3	11.5	30.3	129.7	201.4	168.7	147.5	113.1	90.7	82.7	82.0	46.2

1 Includes ages not stated.

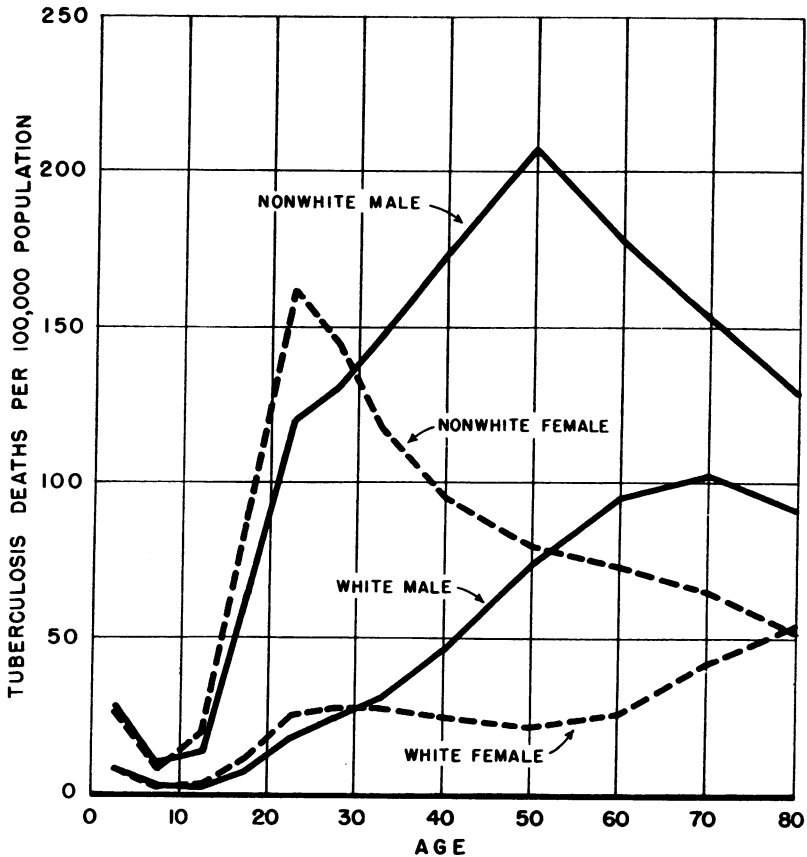


Figure 3. Death rates for tuberculosis (all forms) by age, race and sex: United States, 1946.

ing from the population, which is used as the base for the computation of death rates, many young men of these ages in the armed forces overseas. By 1946, the majority of those men had returned to this country and were included in the population which was used as the base for the computation of death rates for that year. This fact exaggerates the real decrease indicated by 1946 death rates for men of these ages. The *de jure* rates which appear below for males of military age are a more accurate representation of tuberculosis mortality for 1945 and 1946. These show a smoother, more steady rise with increasing age and more similarity between the 2 years.

Tuberculosis Death Rates (all forms) per 100,000 population, for males, United States

		Age (in years)			
		15-19	20-24	25-29	30-34
<i>de jure</i>	1946.....	12.7	26.9	34.2	41.9
	1945.....	14.9	30.1	38.1	46.0
<i>de facto</i>	1946.....	13.9	29.5	35.3	42.5
	1945.....	17.5	56.4	59.6	58.4

As the death rates in table 4 indicate, the principal changes in tuberculosis mortality between 1945 and 1946 have been in the rates for males aged 15 to 34. When *de jure* rates for the 2 years are compared, the relative decreases amount to between 10 and 15 percent. The *de facto* rates for most other age groups were lower in 1946 than in 1945, but decreased less than the rates for young men 15 to 34, both white and nonwhite. Except for nonwhite males, the death rates for all persons 65 to 74 years of age were slightly higher in 1946 than in 1945.

When the age-specific death rates for 1946 are compared with the average rates for 1942-44, it appears that reductions amounting to between 20 and 30 percent were recorded for white males between the ages of 5 and 45. For white females, the relative decreases were smaller, amounting to not more than 20 percent, except that for those age groups under 10 and between 15 and 19, the decreases were more than 20 percent. To some extent, decreases occurred at every age group. In general a comparison of 1946 tuberculosis death rates for nonwhite groups with the average rates for the period 1942-44 indicates that the nonwhite rates have decreased to the same or to a greater extent than did the rates for white persons; moreover, the decreases were relatively greater in the age groups under 35 than in the older ages.

Death rates by State, 1946

The death rates for tuberculosis (all forms) differ widely among individual States. Table 5 presents mortality data for each State for the year 1945 and the year 1946, as well as the 1942-44 average. State groupings by quartiles are shown in figure 4. The lowest rates of 10.7 for Wyoming and 12.9 for Iowa are only one-tenth the highest rate of 116.7 per 100,000 population for Arizona. Between the peak Arizona rate and the New Mexico rate of 73.3, which is the second highest, the gap is patently great. The unusual rate for Arizona, however, probably arises from the fact that the State appears to attract many tuberculous persons.

Even though the data in table 5 are tabulated by place of residence, the practice of allocating the death to the place of occurrence when the decedent has lived there for more than 1 year results in the assignment to Arizona of a number of deaths which would be allocated elsewhere were another residence standard applied.

Except for the extremes, tuberculosis death rates for the individual States are quite similar. In one-half of the States, the death rates range from 29 to 40 deaths per 100,000 population, while one-quarter of the States present rates of less than 25 per 100,000.

The 1946 geographic distribution of tuberculosis death rates resembles that of 1945 and earlier years. States in the upper quartile

form a band that stretches from the southwest, along the southern border of the country, to the Mississippi and thence northeast to Maryland and Delaware. In general, States in the third quartile border those States having the highest death rates and extend into New England. In contrast to the distribution pattern of high mortality rates the pattern of States which have low death rates for tuberculosis extends from the central and north central part of the country westward through Oregon; in addition, Maine and New Hampshire are in this group.

TABLE 5.—Number of deaths from tuberculosis (all forms), death rates and percentage changes in rates, by State: United States, 1942-44 average, 1945 and 1946

(Exclusive of stillbirths and of deaths among the armed forces overseas. By place of residence. Rates per 100,000 estimated population including armed forces in the area)

Area	Number of deaths			Rate per 100,000 population			Percentage change in rates	
	1946	1945	1942-44 average	1946	1945	1942-44 ¹ average	1945 to 1946	1942-44 to 1946
United States	50,911	52,916	56,475	36.4	40.1	42.3	-9.2	-14.0
Alabama	1,122	1,218	1,285	40.0	44.9	46.0	-10.9	-13.0
Arizona	727	776	716	116.7	133.4	113.2	-12.5	+3.1
Arkansas	699	817	931	37.1	44.1	49.3	-15.9	-24.7
California	3,959	3,827	3,858	41.5	42.0	46.3	-1.2	-10.4
Colorado	401	426	462	35.3	39.6	40.6	-10.9	-13.1
Connecticut	589	664	638	30.0	37.0	35.5	-18.9	-15.5
Delaware	133	109	127	46.4	39.5	47.4	+17.5	-2.1
District of Columbia	488	541	544	57.9	61.5	62.7	-5.9	-7.7
Florida	721	739	849	31.2	31.9	37.6	-2.2	-17.0
Georgia	1,070	1,108	1,256	34.2	36.4	39.7	-6.0	-13.9
Idaho	67	81	96	14.2	16.6	18.0	-14.5	-21.1
Illinois	3,014	3,184	3,302	37.5	42.5	42.8	-11.8	-12.4
Indiana	1,128	1,133	1,250	29.9	32.2	35.5	-7.2	-15.8
Iowa	329	355	388	12.9	14.8	16.1	-12.8	-19.9
Kansas	367	339	380	16.5	19.0	21.0	-13.2	-21.4
Kentucky	1,602	1,695	1,784	58.3	61.8	65.3	-5.7	-10.7
Louisiana	1,089	1,092	1,220	43.2	45.5	48.5	-5.1	-10.9
Maine	216	244	271	24.7	30.1	33.4	-17.9	-26.0
Maryland	1,186	1,267	1,305	51.2	62.9	65.2	-13.8	-16.9
Massachusetts	1,664	1,643	1,716	36.3	39.3	40.8	-7.6	-11.0
Michigan	1,891	1,816	1,858	31.2	32.5	34.2	-4.0	-8.8
Minnesota	585	621	702	20.7	23.6	26.4	-12.3	-21.6
Mississippi	741	720	952	35.3	33.9	41.5	+4.1	-14.9
Missouri	1,276	1,424	1,573	33.8	40.1	41.8	-15.7	-19.1
Montana	164	171	194	34.3	37.8	39.6	-9.3	-13.4
Nebraska	177	185	206	13.9	15.0	16.0	-7.3	-13.1
Nevada	73	89	82	53.9	62.7	58.4	-14.0	-7.7
New Hampshire	116	99	114	22.4	21.2	24.0	+5.7	-6.7
New Jersey	1,647	1,737	1,800	38.3	44.4	45.1	-13.7	-15.1
New Mexico	388	386	334	73.3	72.3	63.5	+1.4	+15.4
New York	5,601	6,032	6,154	40.8	47.1	47.6	-13.4	-14.3
North Carolina	1,182	1,262	1,355	32.5	35.9	37.1	-9.5	-12.4
North Dakota	96	117	110	17.9	22.6	20.3	-20.8	-11.8
Ohio	2,583	2,631	2,809	34.4	38.4	41.2	-10.4	-16.5
Oklahoma	708	830	931	31.8	39.1	43.5	-18.7	-26.9
Oregon	311	308	292	21.4	23.4	23.6	-8.6	-9.3
Pennsylvania	3,697	3,832	4,095	36.9	41.2	43.3	-10.4	-14.8
Rhode Island	232	252	292	31.1	34.4	39.7	-9.6	-21.7
South Carolina	562	663	718	29.4	34.7	36.4	-15.3	-19.2
South Dakota	172	156	180	31.4	28.7	32.1	+9.4	-2.2
Tennessee	1,631	1,776	1,981	54.4	62.9	68.0	-13.5	-20.0
Texas	2,923	2,966	3,358	42.0	44.3	49.2	-5.2	-14.6
Utah	83	79	75	13.0	13.2	12.2	-1.5	+6.6
Vermont	129	110	118	36.5	33.5	36.0	+9.0	+1.4
Virginia	1,300	1,366	1,475	43.5	46.5	49.0	-6.5	-11.2
Washington	738	706	699	32.7	32.6	34.7	+0.3	-5.8
West Virginia	718	719	766	39.7	42.4	42.9	-6.4	-7.5
Wisconsin	648	668	754	20.5	22.7	25.1	-9.7	-18.3
Wyoming	28	27	36	10.7	10.9	13.3	-1.8	-19.6

¹ Based on average 1942-1944 population.

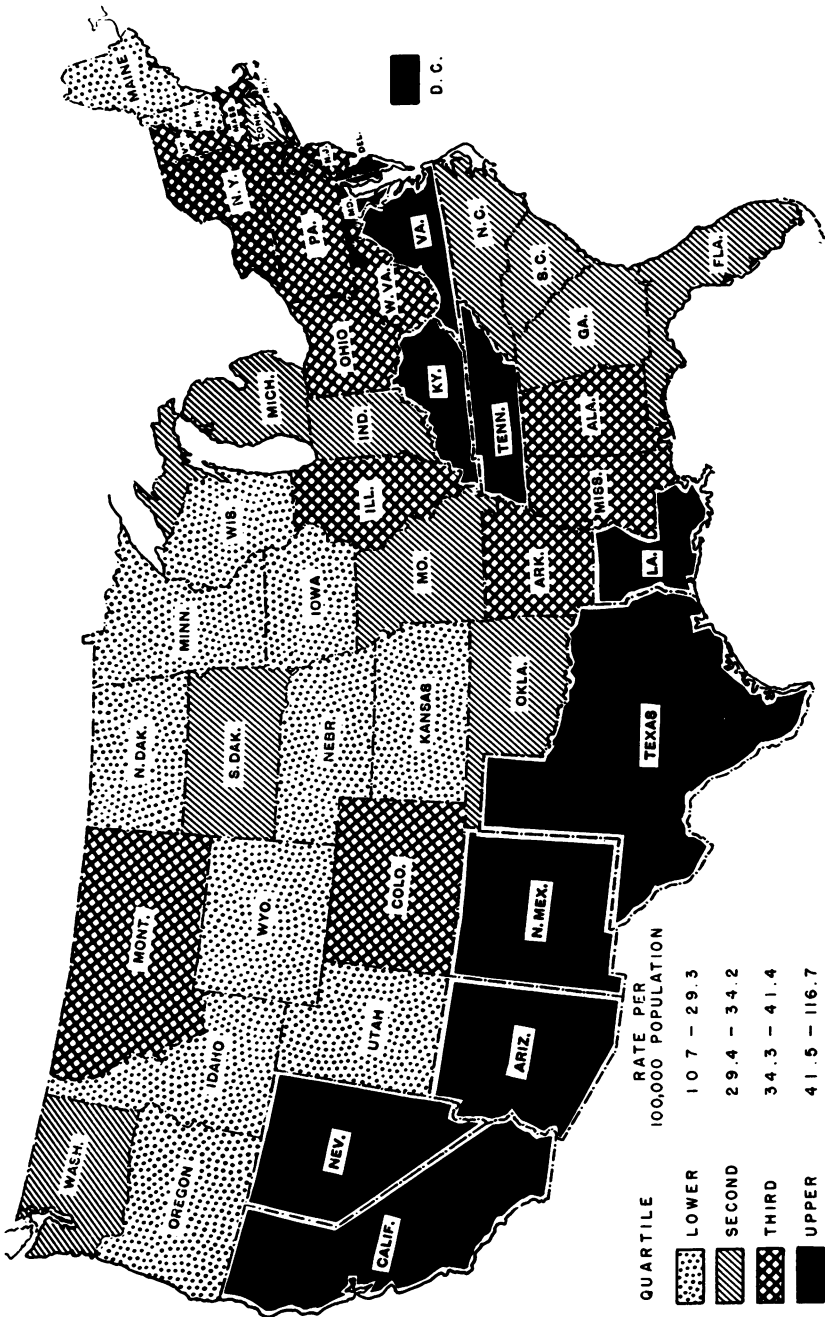


Figure 4. Geographic distribution of the mortality from tuberculosis (all forms) in the United States, 1946.

Changes in tuberculosis mortality by States, 1945-46

All but seven of the States contributed to the decrease in the tuberculosis death rate for the United States between 1945 and 1946. For a number of the States the difference between the 1946 and 1945 rates was small, and probably represents normal fluctuation associated with small numbers of deaths. For 19 States, the percentage decreases in the tuberculosis death rates are statistically significant; these States are Alabama, Arizona, Arkansas, Connecticut, Illinois, Maine, Maryland, Massachusetts, Minnesota, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas. It is possible that these changes between 1945 and 1946 are associated with changes in the population of the States that came about with demobilization of the armed forces. In those few States where death rates increased, the changes were not significant.

While the tuberculosis death rates are a convenient index to the comparative mortality risk in the individual States, the actual numbers of tuberculosis deaths are also of importance particularly to public health administrators, persons responsible for developing tuberculosis control programs, and authorities charged with providing hospital facilities. As the figures in table 5 indicate, there are extremely large differences among the States in the numbers of resident deaths. In 1946, New York and California lead the list with 5,601 and 3,959 deaths, respectively, while Wyoming and Nevada are last with 28 and 73 deaths, respectively. Oklahoma represented the median with 708 tuberculosis deaths.

In several States, the 1946 number of deaths was greater than the average for 1942-44. However, these increases were small, and appear in most cases to be associated with population movements. This observation is confirmed by the fact that only in four cases did the increase in the numbers of deaths swell the death rate for the State to a point in excess of the 3-year average.

More detailed information on tuberculosis deaths by age, race, and sex for individual States and a series of years is available from the National Office of Vital Statistics.

Respiratory and nonrespiratory tuberculosis deaths by State

Considerable variation may be observed in State death rates for respiratory tuberculosis (table 6). Since deaths from respiratory tuberculosis comprise about 92 percent of deaths from all forms of tuberculosis, the distribution of respiratory rates was similar to that of the death rates for all forms of the disease. Moreover, both respiratory and nonrespiratory forms of the disease evidenced about the same relative range of death rates in that the highest State rates were about ten times the lowest. The proportion of the total tuberculosis mortality that resulted from nonrespiratory forms of the disease

TABLE 6.—*Number of deaths and death rates for tuberculosis of the respiratory system and for other forms, by State: United States, 1946*

(Exclusive of stillbirths and of deaths among the armed forces overseas. By place of residence. Rates per 100,000 estimated population including armed forces in the area)

Area	Number of deaths				Rate per 100,000 population	
	Tuberculosis (all forms)	Tuberculosis of respiratory system	Tuberculosis (other forms)		Tuberculosis of respiratory system	Tuberculosis (other forms)
			Number	Percent		
United States	50,911	46,939	3,972	7.8	33.6	2.8
Alabama	1,122	1,049	73	6.5	37.4	2.6
Arizona	727	664	63	8.7	106.6	10.1
Arkansas	699	662	37	5.3	35.1	2.0
California	3,959	3,648	311	7.9	38.2	3.3
Colorado	401	367	34	8.5	32.3	3.0
Connecticut	589	548	41	7.0	27.9	2.1
Delaware	133	119	14	10.5	41.5	4.9
District of Columbia	488	441	47	9.6	52.3	5.6
Florida	721	674	47	6.5	29.2	2.0
Georgia	1,070	984	86	8.0	31.5	2.7
Idaho	67	57	10	14.9	12.1	2.1
Illinois	3,014	2,734	280	9.3	34.1	3.5
Indiana	1,128	1,012	116	10.3	26.9	3.1
Iowa	329	291	38	11.6	11.4	1.5
Kansas	307	291	16	5.2	15.6	0.9
Kentucky	1,602	1,492	110	6.9	54.3	4.0
Louisiana	1,089	1,018	71	6.5	40.4	2.8
Maine	216	202	14	6.5	23.1	1.6
Maryland	1,186	1,115	71	6.0	51.0	3.2
Massachusetts	1,664	1,563	101	6.1	34.1	2.2
Michigan	1,891	1,694	197	10.4	27.9	3.2
Minnesota	585	535	50	8.5	19.0	1.8
Mississippi	741	669	72	9.7	31.9	3.4
Missouri	1,276	1,195	81	6.3	31.6	2.1
Montana	164	135	29	17.7	28.2	6.1
Nebraska	177	160	17	9.6	12.5	1.3
Nevada	73	66	7	9.6	48.7	5.2
New Hampshire	116	105	11	9.5	20.3	2.1
New Jersey	1,647	1,545	102	6.2	35.9	2.4
New Mexico	388	341	47	12.1	64.5	8.9
New York	5,601	5,237	364	6.5	38.1	2.6
North Carolina	1,182	1,096	86	7.3	30.1	2.4
North Dakota	96	78	18	18.8	14.5	3.4
Ohio	2,583	2,370	213	8.2	31.5	2.8
Oklahoma	708	656	52	7.3	29.5	2.3
Oregon	311	286	25	8.0	19.7	1.7
Pennsylvania	3,697	3,408	289	7.8	34.0	2.9
Rhode Island	232	215	17	7.3	28.9	2.3
South Carolina	562	529	33	5.9	27.7	1.7
South Dakota	172	156	16	9.3	28.5	2.9
Tennessee	1,631	1,500	131	8.0	50.0	4.4
Texas	2,923	2,721	202	6.9	39.1	2.9
Utah	83	72	11	13.3	11.3	1.7
Vermont	129	123	6	4.7	34.8	1.7
Virginia	1,300	1,174	126	9.7	39.3	4.2
Washington	738	679	59	8.0	30.1	2.6
West Virginia	718	650	68	9.5	36.0	3.8
Wisconsin	648	589	59	9.1	18.6	1.9
Wyoming	28	24	4	14.3	9.1	1.5

varied from about one-fifth for North Dakota to one-twentieth for Vermont. In 1946, the highest rate for nonrespiratory tuberculosis was 10.1 for Arizona and the lowest 0.9 for Kansas (figure 5 and table 6). States with the highest rates were those in the southwestern part of the country and in the northern part of the South Atlantic division. Between 1945 and 1946, Montana replaced Washington as the only northwestern State whose nonrespiratory tuberculosis death rate was in the upper quartile (3.4–10.1 per 100,000 population). Among States whose nonrespiratory tuberculosis death rates fell

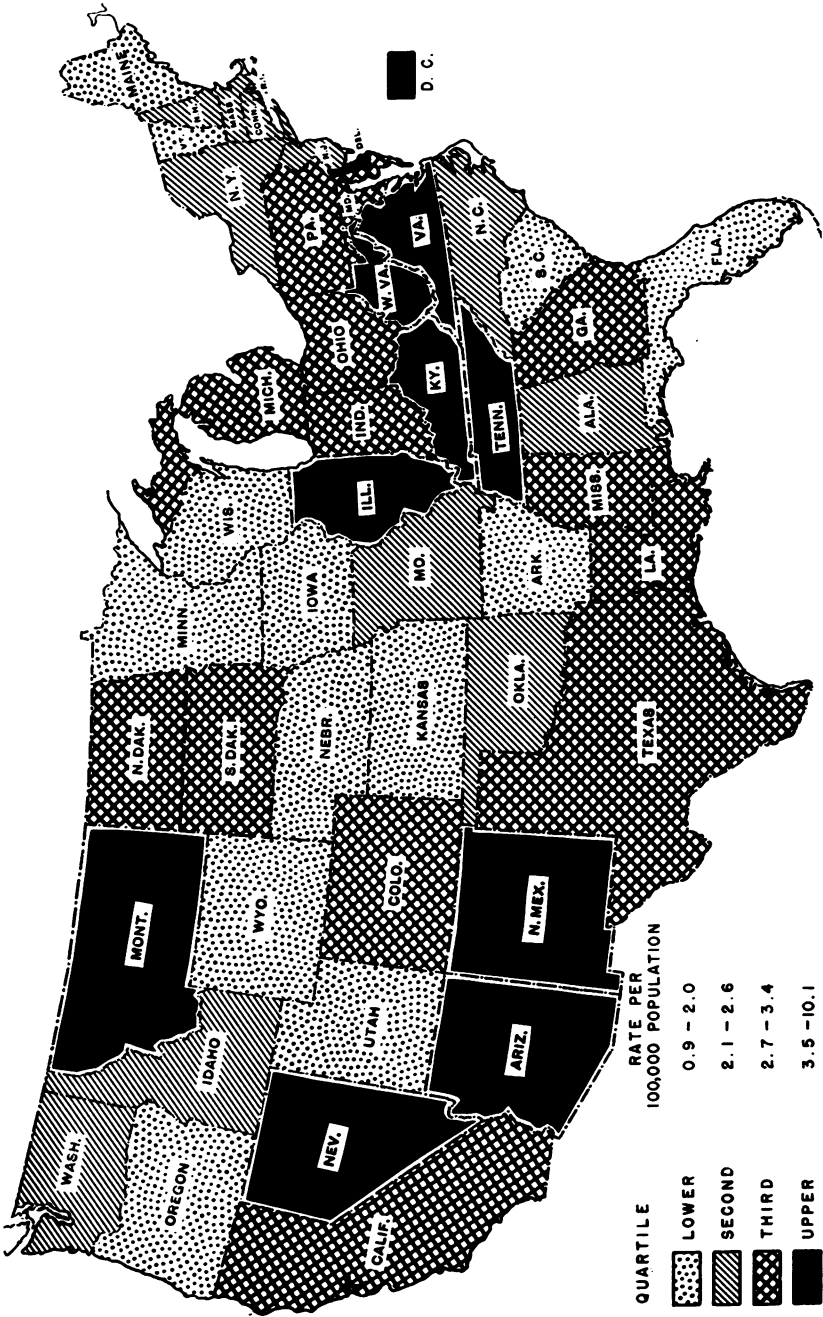


Figure 5. Geographic distribution of mortality from nonrespiratory tuberculosis in the United States, 1946.

within the upper quartile, common characteristics are obscure. However, with the exception of Illinois they are principally agricultural and mining States.

Summary

This report presents 1946 data on tuberculosis mortality in the United States and in individual States as well as corresponding frequencies and death rates for 1945 and for the 1942-44 average.

In 1946 the death rate for tuberculosis (all forms) in the United States was 36.4 per 100,000 population, as compared with the 1945 rate of 40.1 so that the downward trend of the death rate appears to have continued during 1946. In that year, 50,911 tuberculosis deaths were registered in this country. As in other years, the death rates for white persons were considerably lower than those for the nonwhite group, the difference amounting to 63 percent for males and 74 percent for females. There was also a marked difference between the tuberculosis mortality rates for the two sexes, the rates for males being about 72 percent higher than those for females. For males, the death rates rise steadily from their lowest values in early childhood to their highest values at ages 65 to 74 years. For females, the rates rise during the adolescent and young adult ages, but show a decline in the middle adult ages. The rates for nonwhite females, however, do not show the same rise in the older adult years which appears in the rates for white females.

Between 1945 and 1946, decreases were recorded for almost every age group for each of the four race-sex groups. The largest of these decreases occurred in the rates for males 15 to 34 years of age, although this may be partially attributed to a change in the size of the male population resulting from the return of overseas armed forces.

The death rates for the 48 States and the District of Columbia for all forms of tuberculosis ranged from a minimum of 10.7 per 100,000 population for Wyoming to a maximum of 73.3 for New Mexico and 116.7 for Arizona. In 41 States and the District of Columbia 1946 death rates were lower than in 1945.

Respiratory tuberculosis accounted for approximately 92 percent of all tuberculosis deaths in the United States. For the individual States, the proportion of respiratory tuberculosis deaths varied from a minimum of 81.2 percent for North Dakota to a maximum of 95.3 percent for Vermont. The death rates for nonrespiratory tuberculosis varied from 0.9 for Kansas to 10.1 for Arizona.

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- (1) Moriyama, I. M. and Yerushalmy, J.: Tuberculosis Mortality in the United States in 1943. *Vital Statistics—Special Reports*, Vol. 21, No. 2 (1945).
- (2) Yerushalmy, J., and Moriyama, I. M.: Tuberculosis Mortality in the United States and in Each State, 1944. *Pub. Health Rep.*, **61**: 487 (1946).
- (3) Pitney, Elizabeth H. and Kasius, Richard V.: Tuberculosis Mortality in the United States and in Each State, 1945. *Pub. Health Rep.*, **62**: 487 (1947).

Arm Rest for Use in Microscopy¹

By GEORGE A. SPENDLOVE, *S. A. Surgeon*, MARTIN CUMMINGS, *S. A. Surgeon*,
and ROBERT PATNODE, *Bacteriologist, Public Health Service*

Even under the best of conditions, microscope work, which frequently requires long hours of almost motionless sitting, may be extremely fatiguing. As a result, physical fatigue, backache, and olecranon bursitis are common complaints. In order to minimize these discomforts, microscope arm-rests have been devised (fig. 1) which favor proper posture and diminish annoying light reflections. The impressions of workers who have used these arm rests for a 6-month trial period indicate that the use of the devices reduces the expenditure of energy, results in fewer cases of backache and eye strain, and eliminates olecranon bursitis.

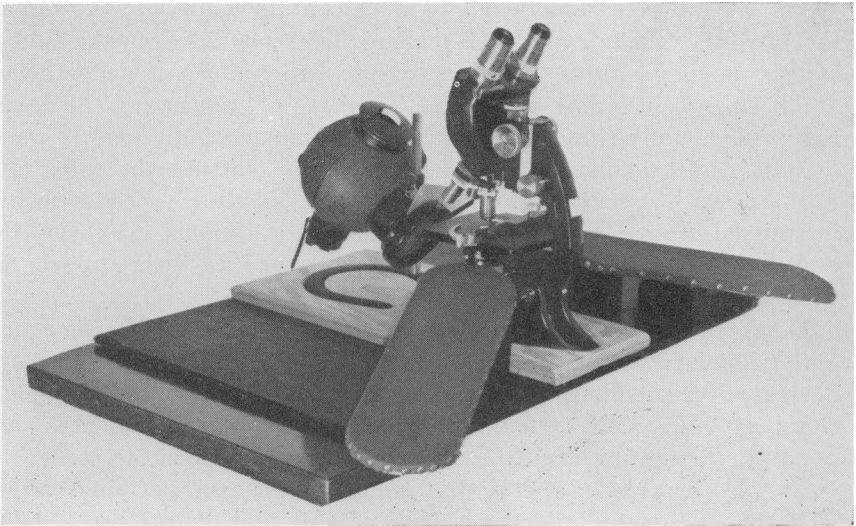


Figure 1

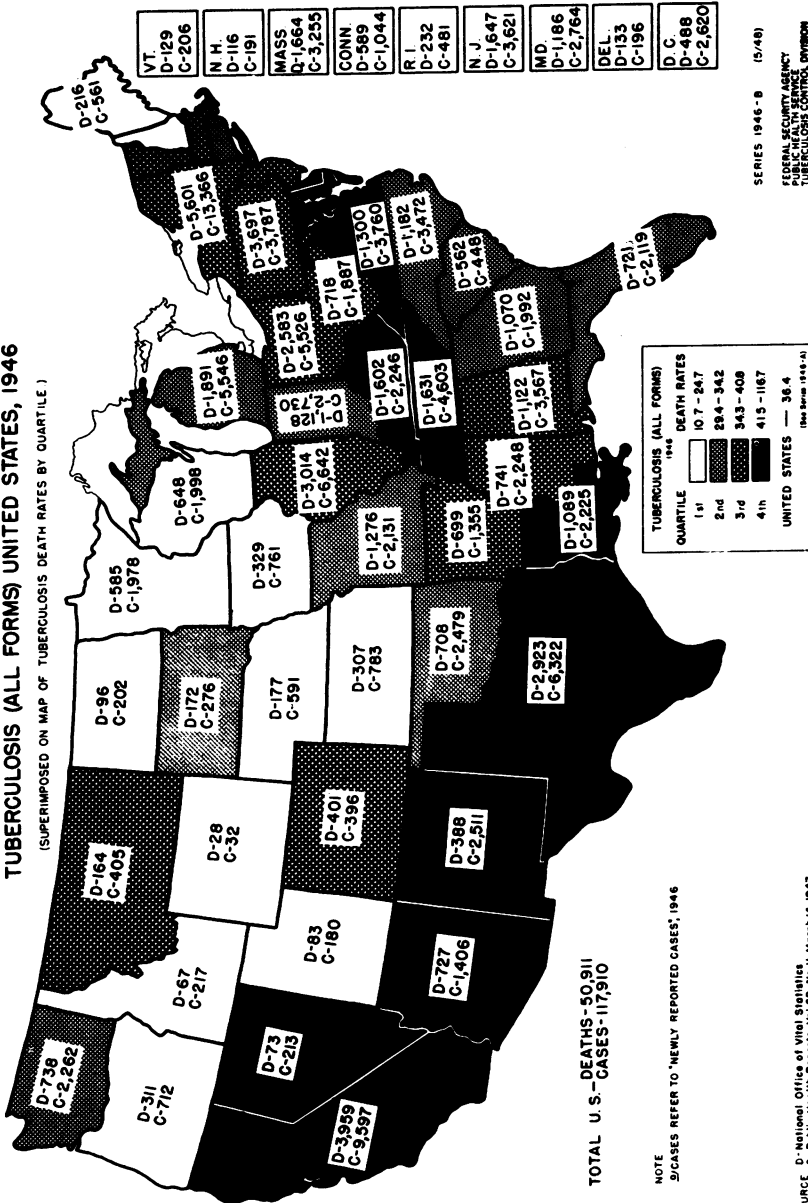
Advantages offered by this device are: (1) Better manipulation of microscope and slide is achieved because the microscopist's hands are steadied; (2) annoying reflected light is minimized because of the interposition of the rest between the observer's eyes and the source of light; (3) reduplication of lighting is permitted by the microscope and lamp lock; (4) microscope and lamp breakage due to accidents is lessened because these instruments are anchored to the base.

Materials used in making this simple device are readily available and consist only of plywood, nails, and padding, the total cost of which should not exceed \$4. It should be noted that the distance between the two arm rests, as well as their height, can be adjusted to different microscopes or individual preferences.

¹ From Tuberculosis Evaluation Laboratory, Communicable Disease Center, Atlanta, Ga.

**NUMBER OF DEATHS AND CASES^{2/}
TUBERCULOSIS (ALL FORMS) UNITED STATES, 1946**

(SUPERIMPOSED ON MAP OF TUBERCULOSIS DEATH RATES BY QUARTILE)



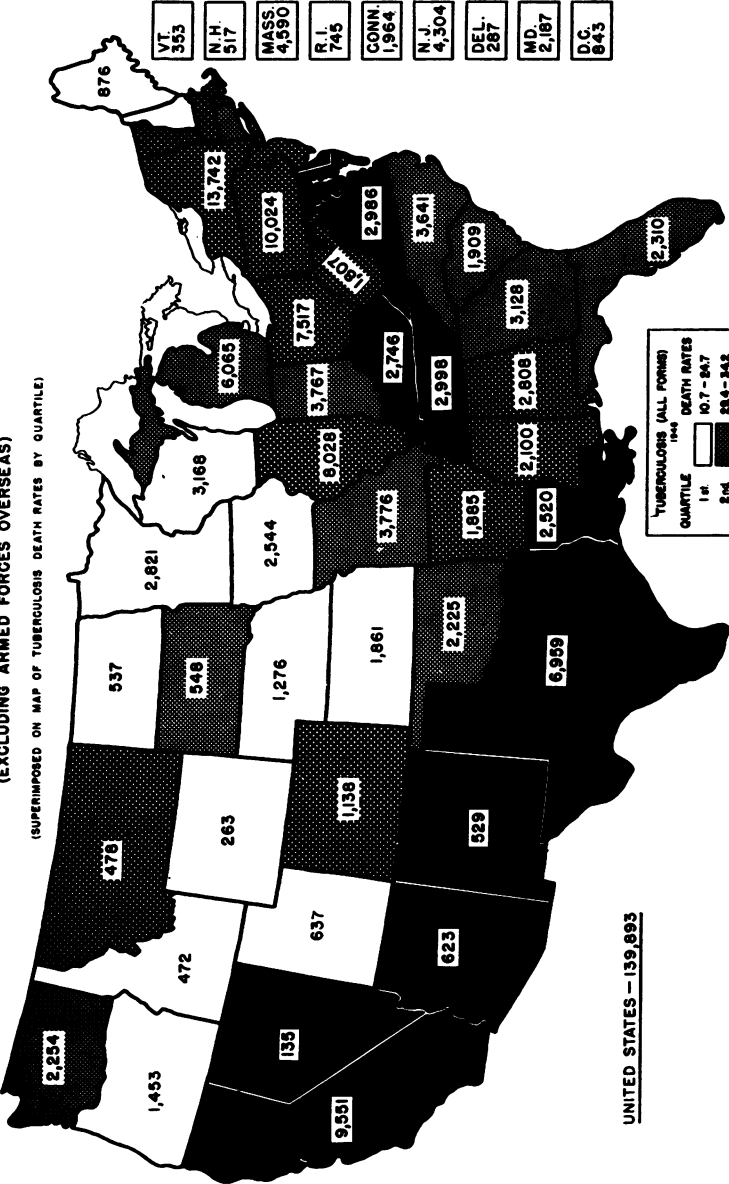
TOTAL U. S. - DEATHS-50,911
CASES-117,910

NOTE
2/CASES REFER TO 'NEWLY REPORTED CASES', 1946

SOURCE D - National Office of Vital Statistics
PUBLIC HEALTH REPORTS, Vol. 62, No. 11, March 14, 1947

SERIES 1946-B (5/48)
FEDERAL SECURITY AGENCY
PUBLIC HEALTH SERVICE
TUBERCULOSIS CONTROL DIVISION

ESTIMATED POPULATION IN THOUSANDS BY STATES, JULY 1, 1946
 (EXCLUDING ARMED FORCES OVERSEAS)



UNITED STATES - 139,893

TUBERCULOSIS (ALL FORMS)
 1944
 QUARTILE

QUARTILE	DEATH RATES
1st	10.7 - 24.7
2nd	25.4 - 34.2
3rd	34.3 - 40.8
4th	41.9 - 118.7

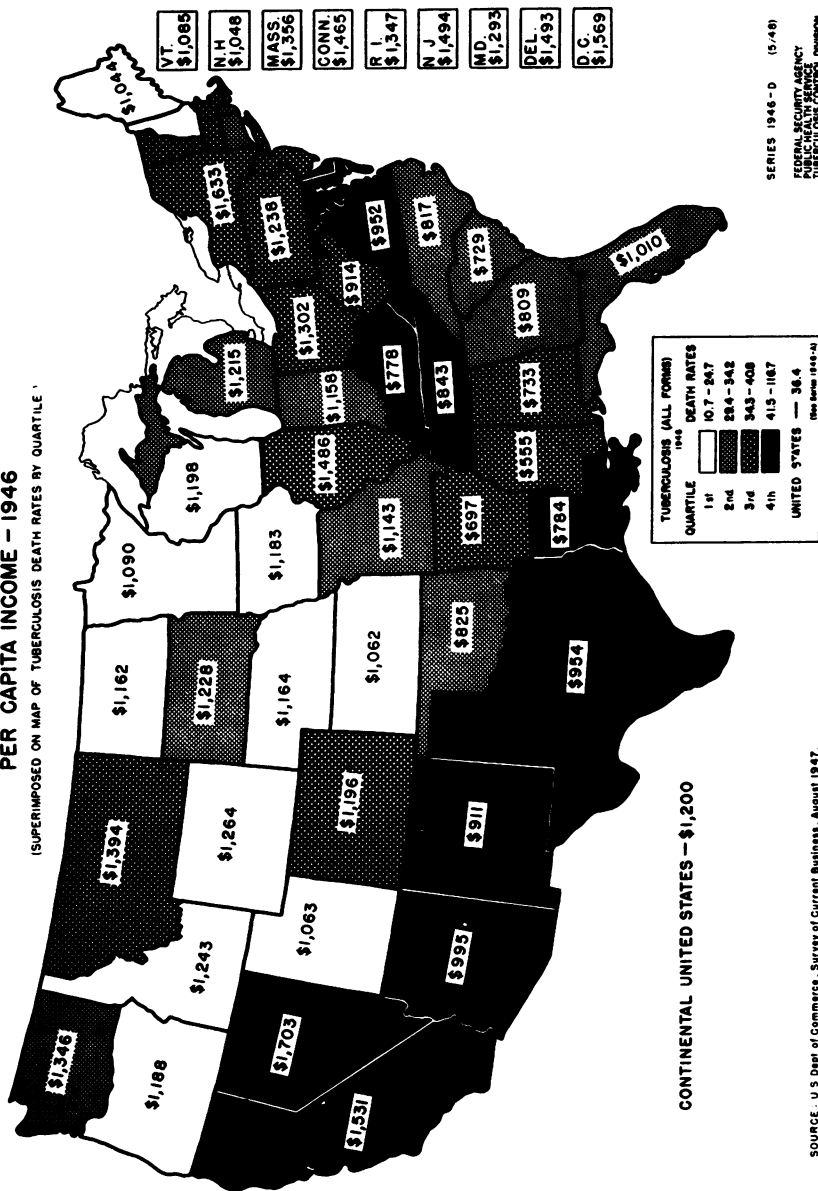
UNITED STATES — 36.4
(See Table 1044-3)

SERIES 1946-C (4/48)
 FEDERAL SECURITY AGENCY
 PUBLIC HEALTH SERVICE
 TUBERCULOSIS CONTROL DIVISION

SOURCE: P-25 NO. 2, 8-15-47, Bureau of the Census

PER CAPITA INCOME - 1946

(SUPERIMPOSED ON MAP OF TUBERCULOSIS DEATH RATES BY QUARTILE)



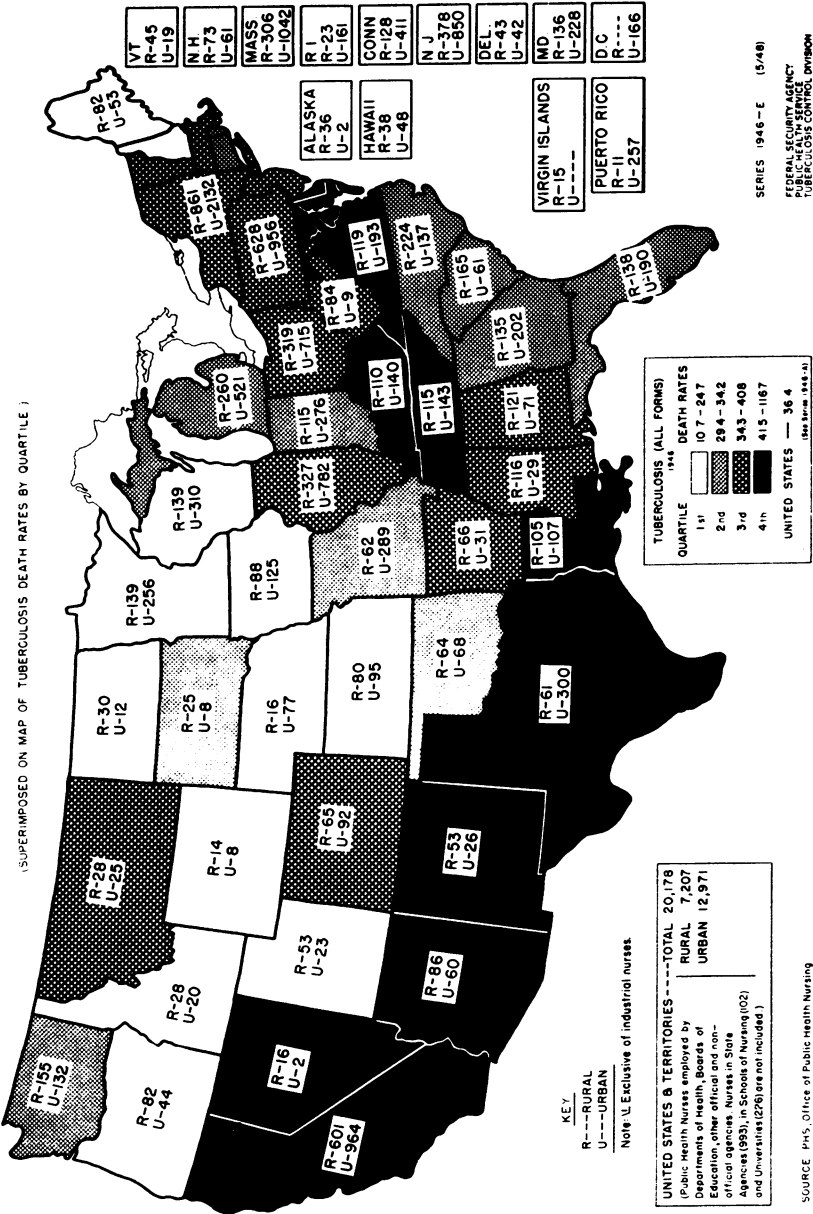
SERIES 1946-D (9/48)
 FEDERAL SECURITY AGENCY
 PUBLIC HEALTH SERVICE
 TUBERCULOSIS CONTROL DIVISION

CONTINENTAL UNITED STATES - \$1,200

SOURCE - U.S. Dept. of Commerce, Survey of Current Business, August 1947.

NUMBER OF RURAL AND URBAN PUBLIC HEALTH NURSES; JANUARY 1, 1947

(SUPERIMPOSED ON MAP OF TUBERCULOSIS DEATH RATES BY QUARTILE.)



SERIES 1946 - E (1548)
 FEDERAL SECURITY AGENCY
 TUBERCULOSIS CONTROL DIVISION

SOURCE: PHN, Office of Public Health Nursing

INCIDENCE 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 17, 1948

Summary

A total of 717 cases of poliomyelitis was reported for the week, as compared with 511 last week, 297 for the 5-year (1943-47) median, and 462, the largest corresponding figure of the past 5 years (reported in 1944). Of the current total, 549 cases (76 percent) were reported in the 10 States reporting more than 12 cases each, as follows (last week's figures in parentheses): *Increases*—New York 19 (11), Ohio 25 (15), Illinois 14 (12), Nebraska 15 (11), Delaware 13 (5), North Carolina 196 (130), California 164 (92); *decreases*—Virginia 15 (17), Oklahoma 13 (21), Texas 75 (89). The 14 other States which reported more than 5 cases each showed an aggregate increase of 69 cases. Since March 20, the approximate average date of seasonal low incidence, 3,252 cases have been reported, as compared with 2,123 (in 1946), the largest number reported for any corresponding period of the past 5 years, and a 5-year median of 1,324.

Of the total of 36 cases of Rocky Mountain spotted fever reported for the week (last week 20, 5-year median 28), 27 occurred in the South Atlantic and South Central areas, 3 in Pennsylvania, 2 in Missouri, and 1 each in New York, Colorado, Utah, and Oregon.

One case of smallpox was reported in North Dakota, the first since the week ended May 22, when 1 case was reported in Alabama. The total to date is 46, as compared with 141 for the same period last year and a 5-year median of 264.

Of 32 cases of tularemia (last week 25, 5-year median 19), 21 occurred in the South Atlantic and South Central areas, 3 each in Illinois, Wyoming, and Utah, and 1 each in Missouri and Oregon. The total to date is 571, the 5-year median 518, and for the same period last year, 830.

Deaths recorded during the week in 93 large cities in the United States totaled 8,648, as compared with 8,453 last week, 8,287 and 8,087, respectively, for the corresponding weeks of 1947 and 1946, and a 3-year (1945-47) median of 8,087. The cumulative figure is 276,572, as compared with 275,895 for the same period last year. Infant deaths totaled 639, as compared with 610 last week and a 3-year median of 650. For the year to date, the total is 19,507, as compared with 22,022 for the same period last year.

Telegraphic case reports from State health officers for week ended July 17, 1948

[Leaders indicate that no cases were reported]

Division and State	Diphtheria	Encephalitis, infectious	Menigitis, meningococcal	Pollomyelitis	Rocky M.T. spotted fever	Scarlet fever	Small-pox	Tularemia	Typhoid and paratyphoid fever ¹	Whooping cough
NEW ENGLAND										
Maine.....				1		2				3
New Hampshire.....				1		1				1
Vermont.....				(¹)		2				7
Massachusetts.....	1		1	1		98			2	40
Rhode Island.....						3			1	
Connecticut.....			1	1		2				9
MIDDLE ATLANTIC										
New York.....	6	1	2	19	1	349			3	87
New Jersey.....	4		3	9		10			1	57
Pennsylvania.....			5	11	3	34			3	64
EAST NORTH CENTRAL										
Ohio.....	6		2	25		59			3	49
Indiana.....	5			8		5			2	10
Illinois.....	3		4	14	(¹)	27			5	35
Michigan.....	3	1	1	5		36		3		25
Wisconsin.....			1	6		8				37
WEST NORTH CENTRAL										
Minnesota.....	1		2	9		9				14
Iowa.....	2		1	2		7				9
Missouri.....				5		2				15
North Dakota.....	2	1	1	1	2	3	1	1	5	6
South Dakota.....		4		4						
Nebraska.....	2			16		4				3
Kansas.....	1	1	1	9		3				53
SOUTH ATLANTIC										
Delaware.....				13		1				
Maryland.....				2	2	5				20
District of Columbia.....	1			3		4			3	10
Virginia.....	1			15	4	7		3	3	46
West Virginia.....			2	3		37			1	13
North Carolina.....	4		3	196	7	6			1	69
South Carolina.....	5			8		4			5	76
Georgia.....	2		1	9	3	3			3	8
Florida.....	3			10		3		1		8

EAST SOUTH CENTRAL									
Kentucky	1	2	10	1	5	10	1	10	8
Tennessee		4	10	6	7	6	1	2	36
Alabama	3	3	6	1	6	6		3	1
Mississippi	3	1	10		2		1	2	
WEST SOUTH CENTRAL									
Arkansas	1	1	5		2		67	2	20
Louisiana	1		2		1			6	6
Oklahoma	1		2	3	3		5	3	13
Texas	11	8	75		10			14	199
MOUNTAIN									
Montana					3			1	2
Idaho	1		1		4			3	3
Wyoming							3		4
Colorado	1		2	1	6			1	35
New Mexico			3		8			1	9
Arizona	2		3						6
Utah	5		1	1	3		3		12
Nevada									
PACIFIC									
Washington	1		7		17				6
Oregon			1	1	7		1		29
California	6	6	164		36			10	27
Total	89	58	717	36	496		1	32	1,194
Median 1943-47	1.82	128	297	28	855		5	19	2,923
Year to date, 28 weeks	4,689	2,015	23,603	4,252	54,065		46	6,568	52,417
Median, 1943-47	6,446	5,656	1,679	220	93,978		264	518	70,366
Seasonal low week ends	(27th)	(37th)	(11th)		(32d)	(35th)		(11th)	(39th)
Since seasonal low week	July 10	Sept. 18	Mar. 20		Aug. 14	Sept. 4		Mar. 20	Oct. 2
Median, 1943-47	89	2,797	23,252		76,604	67		1,187	83,683
	182	8,108	1,324		152,299	340		1,380	92,413

¹ Including cases reported separately as paratyphoid fever and salmonella infection, as follows: New York (salmonella infection) 1; Ohio 1; Illinois 2; North Carolina 1; Georgia 1; Louisiana 2; Texas 2; California 2.

² Delayed reports (included in cumulative totals only): Poliomyelitis, Nebraska, 4 cases; Oklahoma, January, 2 cases; Vermont, week ended March 19, 1 case.

³ Including cases reported as streptococcal infections and septic sore throat.

⁴ Correction (deducted from cumulative total): Rocky Mountain spotted fever, Illinois, 1 case reported week ended Feb. 21, 1948, reallocated to August 1947, date of onset.

⁵ Period ended earlier than Saturday.

⁶ Correction (deducted from cumulative total): Tularemia, Arkansas, week ended June 12, 14 cases (instead of 16); week ended June 19, 6 cases (instead of 7).

Alaska: Chikungunya 7; German measles 2; influenza 1; measles 5; mumps 1; scarlet fever 1.

Territory of Hawaii: Influenza 1; lobar pneumonia 2; whooping cough 9.

TERRITORIES AND POSSESSIONS

Panama Canal Zone

Notifiable diseases—May 1948.—During the month of May 1948, certain notifiable diseases were reported in the Panama Canal Zone and terminal cities as follows:

Disease	Residence ¹									
	Panama City		Colon		Canal Zone		Outside the Zone and terminal cities		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chickenpox	4		1		6		4		15	
Diphtheria	1		2		1				4	
Dysentery:										
Amebic	1				1		3		5	
Bacillary			1						1	
Hepatitis, infectious							3		3	
Influenza				1						1
Leprosy							1		1	
Malaria ²	1		3		10		120	6	134	6
Measles	4	1			2		7		13	1
Meningitis, meningococcus	1		1	1			1		3	1
Mumps					1				1	
Pneumonia		3		2	15			4	15	9
Relapsing fever							1		1	
Scarlet fever					1				1	
Tuberculosis		19		6	5	1		13	5	39
Typhoid fever							1	1	1	1

¹ If place of infection is known, cases are so listed instead of by residence.

² 7 recurrent cases.

³ Reported in the Canal Zone only.

DEATHS DURING WEEK ENDED JULY 10, 1948

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended July 10, 1948	Corresponding week, 1947
Data for 93 large cities of the United States:		
Total deaths	8,453	8,915
Median for 3 prior years	8,770	
Total deaths, first 28 weeks of year	267,924	267,608
Deaths under 1 year of age	610	742
Median for 3 prior years	742	
Deaths under 1 year of age, first 28 weeks of year	18,868	21,372
Data from industrial insurance companies:		
Policies in force	71,000,401	67,243,158
Number of death claims	10,508	12,111
Death claims per 1,000 policies in force, annual rate	7.7	9.4
Death claims per 1,000 policies, first 28 weeks of year, annual rate	9.7	9.7

FOREIGN REPORTS

CANADA

Provinces Communicable diseases Week ended June 26, 1948.

During the week ended June 26, 1948, 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		44	1	147	493	88	48	55	69	945
Diphtheria				12				2		14
Dysentery, bacillary						1	1			2
Encephalitis, infectious										1
German measles				19	5		3	6	5	38
Influenza		15		12						27
Measles		1		252	754	46	6	72	44	1,175
Meningitis, meningococcus					2	1				3
Mumps		4		93	172	43	66	51	4	433
Poliomyelitis				2	3			4	20	29
Scarlet fever		3	2	32	70			1	4	112
Tuberculosis (all forms)		4	3	98	25	34	17	1	43	225
Typhoid and paratyphoid fever				7			3	1	6	17
Undulant fever				1	2	2				5
Veneral diseases:										
Gonorrhoea	2	18	4	66	89	37	14	41	62	333
Syphilis	2	18	1	55	38	12	9		15	150
Other forms							1			1
Whooping cough		20		72	4	2	15	12		125

NORWAY

Notifiable diseases—March 1948.—During the month of March 1948, cases of certain notifiable diseases were reported in Norway as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	11	Measles	197
Diphtheria	61	Mumps	3,574
Dysentery, unspecified	36	Paratyphoid fever	5
Encephalitis, epidemic	4	Pneumonia (all forms)	2,954
Erysipelas	336	Poliomyelitis	13
Gastroenteritis	3,189	Rheumatic fever	153
Gonorrhoea	445	Scabies	2,859
Hepatitis, epidemic	141	Scarlet fever	126
Impetigo contagiosa	2,309	Syphilis	104
Influenza	3,187	Tuberculosis (all forms)	345
Laryngitis	12,630	Typhoid fever	18
Malaria	1	Whooping cough	444

MADAGASCAR

Notifiable diseases—May 1948.—Notifiable contagious diseases were reported in Madagascar and Comoro Islands during May 1948 as follows:

Disease	Aliens		Natives	
	Cases	Deaths	Cases	Deaths
Beri-beri	0	0	2	0
Bilharziasis	0	0	176	0
Cerebrospinal meningitis	0	0	7	1
Diphtheria	2	0	2	0
Dysentery:				
Amebic	7	0	168	1
Bacillary	0	0	12	0
Erysipelas	0	0	14	2
Influenza	17	0	4,180	29
Leprosy	0	0	35	0
Malaria	477	6	43,844	38
Measles	4	0	63	1
Mumps	6	0	124	0
Paratyphoid fever	0	0	3	0
Plague	1	0	10	8
Pneumonia, broncho	2	2	291	55
Pneumonia, pneumococcic	5	2	373	82
Puerperal infection	0	0	12	1
Relapsing fever	1	0	0	0
Tuberculosis, pulmonary	4	0	114	31
Typhoid fever	2	0	24	7
Whooping cough	5	0	172	1

NEW ZEALAND

Notifiable diseases—4 weeks ended May 29, 1948.—During the 4 weeks ended May 29, 1948, certain notifiable diseases were reported in New Zealand as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis	10		Poliomyelitis	116	7
Diphtheria	28		Puerperal fever	6	1
Dysentery:			Scarlet fever	85	2
Amebic	5		Tetanus	2	1
Bacillary	7		Trachoma	2	
Encephalitis, lethargic	2		Tuberculosis (all forms)	174	65
Erysipelas	16		Typhoid fever	4	
Food poisoning	3		Undulant fever	2	

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

India—Calcutta.—During the week ended July 3, 1948, 167 cases of cholera with 65 deaths were reported in Calcutta, India.

Plague

Belgian Congo—Costermansville Province.—During the week ended July 10, 1948, 1 fatal case of plague was reported northeast of Lubero in Costermansville Province, Belgian Congo.

Smallpox

British East Africa—Nyasaland.—Smallpox has been reported in Nyasaland, British East Africa, as follows: Week ended May 29, 1948, 158 cases with 20 deaths, including 26 cases, 7 deaths in Blantyre, and 50 cases, 1 death in Liwonde; week ended June 5, 1948, 172 cases with 15 deaths, including 38 cases, 5 deaths in Blantyre and 60 cases in Liwonde; week ended June 12, 1948, 111 cases with 20 deaths, including 47 cases, 9 deaths in Fort Johnston; week ended June 19, 1948, 74 cases with 10 deaths, including 26 cases, 4 deaths in Blantyre and 35 cases, 4 deaths in Port Herald; week ended June 26, 1948, 218 cases, 23 deaths.

Indochina (French)—Laos State.—For the week ended July 3, 1948, 431 cases of smallpox with 99 deaths were reported in Laos State, French Indochina.

Sudan (Anglo-Egyptian).—Smallpox has been reported in Anglo-Egyptian Sudan as follows: Week ended June 19, 1948, 52 cases with 7 deaths (including 49 cases, 7 deaths, in Kordofan Province); week ended June 26, 1948, 24 cases with 9 deaths (including 21 cases, 8 deaths, in Kordofan Province); week ended July 3, 1948, 47 cases with 11 deaths.

Trinidad.—Information, dated June 25, 1948, states that no additional cases of alastrim have been reported in Trinidad since June 3.