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PHYSICAL IMPAIRMENTS OF MEMBERS OF LOW-INCOME FARM FAMILIES—11,490 PERSONS IN 2,477 FARM SECURITY ADMINISTRATION BORROWER FAMILIES, 1940 [1]

III. IMPAIRED HEARING FOR SPEECH

By MARY GOVER, *Associate Statistician*, and JESSE B. YAUKEY,[1] *Statistician*, *United States Public Health Service*

Existing knowledge of the health status of the normal individual at specific ages, or the average prevalence of defects and chronic diseases at different ages, is none too extensive. The results of physical examination of industrial workers in 10 surveyed industries (*4*) and of industrial policyholders given first check-up examinations by the Life Extension Institute (*11*) are available and form the main contribution to our knowledge of the prevalence of impairments of adult life at specific ages. The results of physical examination of men called under the Selective Service and of National Youth Administration health examinations are available for limited age groups. The present series of studies is based on the physical examination findings for all members of selected groups of low-income farm families residing in eastern, central, and southern sections of the United States. The examinations were not made primarily for statistical purposes but rather to determine the health status of farmers and their families applying to the Farm Security Administration for rehabilitation loans. An effort was made to keep the examining procedure as uniform as possible but the results, on the whole, must be considered as representing an average opinion of a relatively small number of examining physi-

[1] From the Division of Public Health Methods, U. S. Public Health Service, in cooperation with the Farm Security Administration, Department of Agriculture. Mr. Yaukey is detailed to the Farm Security Administration.

This is the second in a series of papers dealing with physical defects found on examination of members of low-income farm families residing in 19 localities in the United States. The physical findings of the examinations were coded and transferred to punchcards by the Farm Security Administration under the direct supervision of Mr. Jesse B. Yaukey. The data were subsequently made available to the Public Health Service. Acknowledgment is made to Dr. S. D. Collins for critical suggestions and advice throughout the preparation of the studies.

cians. In presenting the physical examination findings for low-income farm families available data from other sources have been assembled and compared with the findings for the low-income farm group.

SOURCE OF THE DATA

During the period November 1939 through November 1940 the Farm Security Administration made general physical examinations of the members of all borrower families residing in selected areas in connection with the health aspects of their rehabilitation program. The physical examinations were conducted by physicians assembled mainly from colleges or universities located in the various sections. The same professional staff frequently worked in adjacent areas. Eye, ear, nose, and throat examinations were made by specialists; children under 15 years of age were examined by pediatricians; the men were examined by internists and the women by gynecologists. Psychologists gave the mental age tests and dentists made the dental examinations.

The selected localities consisted, usually, of entire counties and practically all Farm Security Administration borrower families residing within the selected counties came to the clinics for examination; among the white families represented at the clinics 91 percent of all members were examined. Thirteen of the selected areas were located in southern States and six in northern or intermediate States. In nine of the southern counties white and Negro families were examined, the examinations of both whites and Negroes being made by the same physicians. The data, therefore, seem favorable for a racial comparison. There may, however, have been some selection of Negro farmers on the basis of good physical condition since loans were made by the Farm Security Administration to farm operators only, and, in addition, a more rigid standard may have been used in the extension of loans to Negroes.

The examined population (9,776 whites and 1,714 Negroes) has a comparatively young age distribution, due probably to the fact that relatively young heads of families were selected for rehabilitation loans. On the whole, the age distribution of the examined population does not differ widely in the various localities. The size of family is relatively large, 5.0 persons per family for whites and 5.6 for Negroes.

According to the 1940 census enumeration the population of the 19 selected localities is 57 percent rural farm with no large cities included in the areas. Farms operated by all Farm Security Administration borrowers are average or somewhat larger than average size except in those States where the average size of farm is unusually large. Dairy products, poultry, and labor-off-farm are major sources of farm income in a disproportionately large percentage of all borrower farms. The Bureau of Agricultural Economics estimates an average annual net income of $767 per farm for all farms in 1940, while a comparable av-

erage annual net income for all rural rehabilitation farms, estimated by the Farm Security Administration, is $500 in 1940, or approximately 35 percent less than that for all farms.

A somewhat more detailed account of the characteristics of the examined population can be obtained by reference to a preceding study (*9*) in this series.

IMPAIRED HEARING FOR SPEECH

The test of hearing given by the examining staff was the usual whispered voice test generally employed for this purpose in mass examinations such as those for the Army. Each ear was examined by speaking numbers in a whispered voice which were to be repeated as heard; the longest distance at which correct answers were given was recorded in feet. The measurements were subsequently grouped on the basis of the ability to hear the whispered voice at 16 to 20 feet or more, at not more than 8 to 15 feet, or at only 7 feet or less in each ear separately.

TABLE 1.—*Prevalence of impaired hearing among white persons in 3 age groups—members of Farm Security Administration borrower families in 19 localities, 1940*

Geographic area	State	County	Examined for hearing			Impaired hearing [1]		
			5–14 years	15–44 years	45 years and over	5–14 years	15–44 years	45 years and over
			Number			Percent [2]		
New England	Maine	Aroostook	302	279	120	3.0	15.1	35.8
East North Central	Ohio	Champaign	76	172	58	2.6	4.1	19.0
	Indiana	Montgomery	76	146	75	1.3	12.3	42.7
West North Central	Missouri	Callaway	127	252	121	------	13.1	46.8
	Nebraska	Howard	187	218	83	2.7	9.2	51.8
Mountain	Colorado	Phillips	99	163	63	2.0	6.7	42.9
South Atlantic	Virginia	Spotsylvania	10	60	34	------	20.0	52.9
	North Carolina	Avery	11	76	35	------	13.2	60.0
	South Carolina	Kershaw	226	226	76	.4	2.2	26.3
	Georgia	Worth	181	215	59	11.0	16.7	67.8
	Florida	Levy	122	249	122	------	39.8	83.6
East South Central	Tennessee	Henderson	158	222	64	2.5	7.2	21.9
	Mississippi	Carroll, Leflore, Humphreys	128	162	53	6.3	17.3	52.8
West South Central	Arkansas	Pope	211	303	77	5.2	5.0	24.7
	Oklahoma	*Okfuskee*	*179*	*214*	*107*	------	*2.1*	*3.7*
	Louisiana	Franklin	293	389	105	11.3	11.3	49.5
	Texas	*Panola*	*87*	*127*	*48*	------	*.8*	*6.2*
	Texas	*Williamson*	*94*	*126*	*61*	------	------	*1.6*
	Texas	*Runnels*	*85*	*126*	*61*	------	*.8*	------
15 localities [3]	------	------	2,207	3,132	1,145	4.3	12.6	46.0

[1] Impaired hearing is defined as the ability to hear the whispered voice only at 15 feet or less in one or both ears.

[2] The range of the probable errors of the percentages with impaired hearing is from 0.7 to 3.5 percent for the age group 15–44 years; and from 2.9 to 5.8 percent for the age group 45 years and over.

[3] Okfuskee County, Okla., and Panola, Williamson, and Runnels Counties, Tex., have been omitted from the total of all localities since the standard used in these counties was markedly dissimilar to that used elsewhere. Prevalence rates for these 4 localities are printed in italics.

The ability to hear the whispered voice at 16 to 20 feet or more in both ears is defined as normal hearing for speech in these data.

Table 1 shows the results of the hearing test made on white persons of 5–14, 15–44, and 45 or more years of age, in each of 19 localities where Farm Security Administration borrower families were examined. The prevalence of impaired hearing, or the percentage of persons unable to hear the whispered voice at more than 15 feet in one or both ears, varies considerably as recorded in 15 localities; from 2 to 40 percent at 15–44 years of age and from 19 to 84 percent at 45 years and over. Levy County, Fla., for ages over 15 years, and Worth County, Ga., for ages over 45 years show a significantly high prevalence of impaired hearing, whereas Champaign County, Ohio, Kershaw County, S. C., Henderson County, Tenn., and Pope County, Ark., show a significantly low prevalence of impaired hearing for ages over 15 years. The results for Okfuskee County, Okla., and Panola, Williamson, and Runnels Counties, Tex., are not included in any of the following tables dealing with impaired hearing for all localities combined because of the extremely low recorded prevalence in the records. The prevalence of impaired hearing in these 4 localities is practically nil in all age groups, so that it seems reasonable to assume that a markedly dissimilar standard was employed in these localities to that used elsewhere.

Table 2 shows the percentage of white persons in specific age groups who could hear the whispered voice at not more than 15 feet or at not

TABLE 2.—*Prevalence of impaired hearing among white persons in specific age groups—members of Farm Security Administration borrower families in a total of 15 localities,*[1] *1940*

Age	Both sexes			Male			Female		
	Number examined for hearing	Ability to hear whispered voice only at—		Number examined for hearing	Ability to hear whispered voice only at—		Number examined for hearing	Ability to hear whispered voice only at—	
		15 feet or less in one or both ears (percent)	7 feet or less in one or both ears (percent)		15 feet or less in one or both ears (percent)	7 feet or less in one or both ears (percent)		15 feet or less in one or both ears (percent)	7 feet or less in one or both ears (percent)
5 years and over	6,484	15.6	3.3	3,308	18.8	4.7	3,176	12.3	1.8
5–9	984	4.9	.4	497	4.6	.4	487	5.1	.5
10–14	1,223	3.9		623	5.5		600	2.3	
15–19	827	7.9	.8	424	8.5	1.2	403	7.2	.5
20–24	402	12.2		163	15.3		239	10.0	
25–29	409	5.6	1.2	193	6.2	1.9	216	5.1	.6
30–34	506	12.6		229	14.4		277	11.2	
35–39	494	14.6	3.7	235	16.2	5.1	259	13.1	2.4
40–44	494	24.7		258	25.6		236	23.7	
45–49	407	36.6	8.9	211	41.2	11.0	196	31.6	6.2
50–54	325	45.2		199	51.3		126	35.7	
55–59	187	43.3	12.6	112	49.1	15.5	75	34.7	6.9
60–64	107	58.9		81	63.0		26	46.2	
65 and over	119	69.7	37.0	83	73.5	43.4	36	61.1	22.2

[1] The 15 localities are as listed in table 1 exclusive of Okfuskee County, Okla., and Panola, Williamson, and Runnells Counties, Tex.

more than 7 feet in one or both ears for a total of the persons examined in 15 localities. Other available data on the prevalence of impaired hearing at specific ages are not exactly comparable with the Farm Security administration data since the definition of "impaired hearing" differs even in those data in which the test was substantially the same. Table 3 gives data from four main sources: (1) Washington, D. C., school children given otological examination, (2) Johns Hopkins Hospital general patients given otological examination, (3) life insurance policyholders given first check-up physical examination by the Life Extension Institute, the whispered voice test being used as the test of hearing, and (4) families canvassed in the National Health Survey, a sample of whom were later given otological examination.

TABLE 3.—*Prevalence of impaired hearing among white persons in specific age groups—data comparable with the Farm Security Administration examinations of hearing*

Age	Washington, D. C., school children[1] (both sexes)	General hospital patients[2]				Life Extension Institute					National Health Survey[6]		National Youth Administration[7] (both sexes)
		Stage 1 and worse		Stage 2 and worse		Male				Female, total[8]			
						Total[3]	Professional, business, and skilled trade		Agricultural (field)[4]				
		Male	Female	Male	Female		New York City (head)[4]	Other cities (field)[4]			Male	Female	
	Percent												
7–9	8.3												
10–11	10.9										[9] 3.5	[9] 4.2	
12–13	13.1												
14–15	17.3												
15–19	[9] 19.4	6.0	6.3	18.0	25.0						5.0	5.4	2.8
20–24		6.5	5.8	24.2	22.5	5.6	8.0	5.1	3.6	5.5	7.0	8.5	
25–29						6.4		5.7	6.9				
30–34		12.3	10.4	38.4	28.9	7.9	11.3	7.3	7.0	6.5	9.5	12.2	
35–39						9.4	11.8	8.9	9.1	7.5			
40–44		10.2	8.8	40.4	33.1	11.8	15.4	10.9	14.4	10.5	14.0	14.3	
45–49						15.1	27.1	13.5	13.9	11.2			
50–54		19.7	9.6	59.0	42.9	18.7	27.1	17.0	17.4	14.1			
55–59						23.9	27.1	26.9	25.0	19.1	22.3	21.8	
60–64		28.5	26.2	67.4	63.1	30.9	27.1	26.9	25.0	26.8			
65 and over						39.6	27.1	26.9	25.0	26.8	43.5	43.9	

[1] From Ciocco and Palmer (*7*) 1933–34. Impaired hearing for speech is defined as involving slight to marked hearing loss on 256–1,024 cycles.

[2] From Ciocco (*1*). Prior to 1932. Stage 1 deafness and worse represents hearing loss of approximately 30 decibels or more for low or middle tones (512–2,048 cycles); stage 2 deafness and worse represents hearing loss of 40–45 decibels or more for tones in the middle range (512–2,048 cycles).

[3] From Sydenstricker and Britten (*11*). 1922–25. Impaired hearing is defined as the ability to hear the whispered voice only at less than 10 feet in either ear.

[4] From Sydenstricker and Britten (*12*). 1922–25. Impaired hearing is defined as in note 3, this table.

[5] From Britten (*5*), 1922–25. Impaired hearing is defined as in note 3, this table.

[6] From Beasley (*2*), 1935–36. Impaired hearing is defined as impairment for group conversation, direct conversation at close range (2–3 feet or less) or telephone conversation, as obtained from a house-to-house canvass and corrected on the basis of later otologic examinations. In clinic examinations of persons not reported on the survey as having hearing defects, impaired hearing for speech is defined as equivalent to 30.1 decibels or more average hearing loss on 256–1,024 cycles.

[7] From McDowell and Meroney (*10*), 1941. Impaired hearing is defined as the ability to hear the conversational voice only at less than 18 feet in either ear.

[8] 5–14 years of age.

[9] School children 16 or more years of age.

The Washington school children (*7*) were examined with a 2–A audiometer and the audiograms classified into groups; those showing slight to marked loss for auditory frequencies of the middle range, 256, 512, and 1,024 cycles, were considered to have hearing impairment for conversation. The prevalence of impaired hearing as recorded for Washington school children cannot be considered to represent the total population, since the records upon which the age curves were based were not a random sample of all children tested but were selected in such a way as to be weighted in favor of some auditory defect.

The Johns Hopkins Hospital general patients (*1*) were examined with a 1–A audiometer and the audiograms grouped; those classified as having "stage 1 deafness" and worse had a hearing loss of approximately 30 decibels or more for low or middle tones (512–2,048 cycles), those having "stage 2 deafness" and worse had a hearing loss of 40–45 decibels or more for tones in the middle range (512–2,048 cycles). The hospital patients were unselected with respect to age, occupation, sex, and hearing; recorded prevalence rates for the groups, however, are relatively high, which may be associated with the fact that the examinations were of ill persons.

The Life Extension Institute (*11*, *12*) examinations were of persons who had passed a medical examination for life insurance and who had come for a first check-up health examination, which fact largely excluded disabled persons. The examined population was probably somewhat above an average income level. The examinations of hearing ability were the whispered voice test; impaired hearing was defined as the ability to hear the whispered voice only at less than 10 feet in either ear. The data for males are shown in table 3 for (1) a group of professional, business, and skilled trade examined at the head office in New York City, (2) a group of professional, business, and skilled trade examined in other urban areas in the field, and (3) an agricultural group examined in the field. The two groups, urban and agricultural, examined in the field, have practically identical age-specific percentages; while the group examined in New York City has a higher prevalence of impaired hearing in every age group. The author's explanation of the high rates for New York City is the more uniform examinations made there. The prevalence rates for all groups examined by the Life Extension Institute fall logically between those shown for members of Farm Security Administration borrower families made at 15 and 7 feet, respectively.

Beasley (*2*) reports the prevalence of impaired hearing for speech obtained in a house-to-house canvass of approximately two and one-half million persons living in large cities located in 18 States. Information on the household prevalence and incidence of illness, including impaired hearing, was usually given by the housewife so that in 70 percent of the cases the enumerator's return represented information

about persons other than the one giving the information. Impaired hearing as obtained by the canvass was intended to include all classes of impairment, that is, (1) difficulty in understanding speech in church, at the theatre, or in group conversation, as well as (2) at close range (2–3 feet), and (3) over the telephone, or total deafness. Stage 1 deafness, however, was almost entirely missed on the canvass, so that the percentage with impaired hearing as obtained by the canvass represents the percentage of persons who have considerable difficulty even with direct conversation. Among the total population surveyed a random sample of those with hearing impairment and a control group reported on the canvass as having normal hearing were given an otological examination with a Western Electric 2–A audiometer. On the basis of clinic examinations, Beasley concludes that a rather large number of persons with impaired hearing must have been included in the reported-normal group. An adjustment of the original prevalence rate of impaired hearing in the general population was therefore made on the basis of the results obtained from an examination in the clinic sample of those not reported as having impaired hearing on the survey. The excess added to the original percentages of persons reported as having impaired hearing represents persons with an estimated average loss of more than 30 decibels on 256, 512, and 1,024 cycles with slight, moderate, or marked high-tone loss. The actual age-specific percentages with impaired hearing are similar to the Life Extension Institute percentages based on urban and agricultural groups examined in the field (table 3).

Fletcher (*8*) gives a table of hearing loss associated with specific intensities of called numbers at specific distances made under uniform conditions and with a minimum of noise disturbance. Under uniform examining technique, therefore, it should be possible to make a rough estimate of hearing loss represented by the ability to hear called numbers at a specified distance and so to compare the actual prevalence of impaired hearing for speech for different population groups obtained by different methods. Owing to variability in the examining procedure used in the several localities where Farm Security Administration borrower families were examined, however, it does not seem practical to make comparisons of actual prevalence rates as obtained for these data with those given for general hospital patients or the National Health Survey where the individuals were given otological examination. The whispered voice test, however, gives results that are in general agreement with those obtained from a more specific examination.

The relative age-specific prevalence of impaired hearing for data from the several sources named is given in figure 1. The prevalence of impaired hearing obviously increases with age. Ciocco and Palmer (*7*) have shown that for school children the rate of increase is rapid from approximately 7 to 20 years of age and have pointed out that the

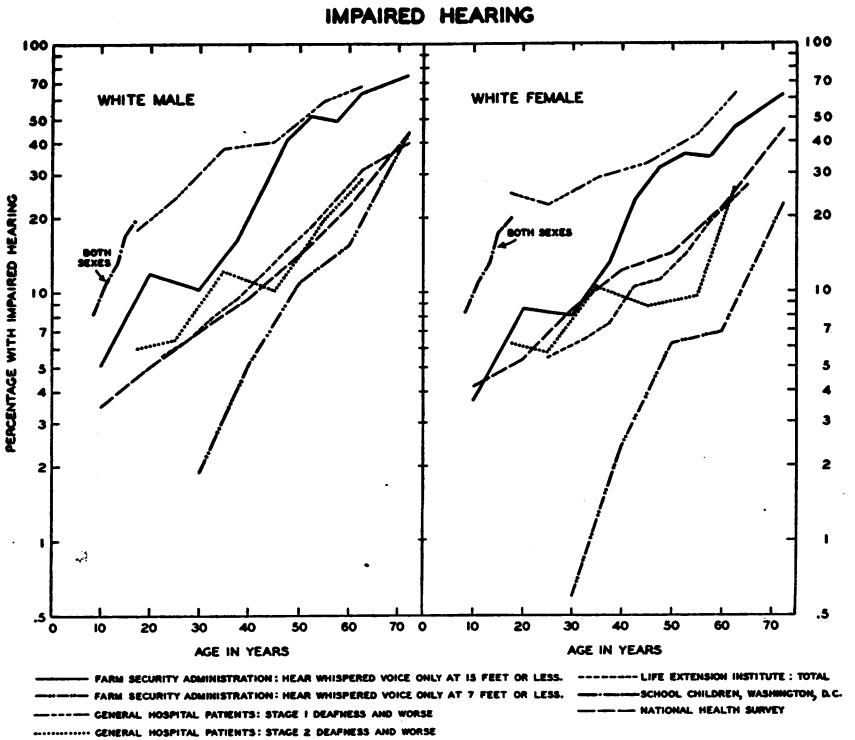

FIGURE 1.—Relative age prevalence (logarithmic) of impaired hearing for (*a*) members of Farm Security Administration borrower families in a total of 15 localities examined by the whispered voice test at 15 feet and at 7 feet, (*b*) Washington, D. C., school children showing slight to marked loss for auditory frequencies of 256–1,024 cycles (poorer ear); (*c*) life insurance policyholders examined at the Life Extention Institute by the whispered voice test at 10 feet; (*d*) general hospital patients showing approximately 30 or more and 40 to 45 or more decibels loss for auditory frequencies of 512–2,048 cycles (poorer ear); (*e*) persons reported in the National Health Survey as having impaired hearing plus those reported normal but found on examination to have 30 or more decibels loss for auditory frequencies of 256–1,024 cycles.

"period of childhood is one of particular susceptibility for the development of hearing difficulties." A rapid rate of increase of impaired hearing under 20 years of age and again between 40 and 55 years seems to be indicated by the Farm Security Administration examinations. In these data, the prevalence of impaired hearing increases less rapidly between 20 and 40 years of age and after 55 years of age. The increase in the prevalence of marked impairment of hearing is uniformly rapid from 30 years on. Prevalence rates of impaired hearing after 20 years of age as given for the Life Extension Institute examinations, the Health Survey, and the Johns Hopkins Hospital patients show a fairly uniform rate of increase at successive ages. Expressed as a ratio of the rate at each age to the rate for all ages the prevalence of impaired hearing has an older age distribution among members of Farm Security Administration borrower families than among those examined at the Life Extension Institute, Health Survey Clinic, or Johns Hopkins Hospital.

The prevalence of impaired hearing among males and females is shown in tables 2 and 4 and figure 2 for members of Farm Security Administration borrower families. Both white and Negro males have a higher prevalence of impaired hearing than females for every age group except 5 to 9 years among both whites and Negroes and 65 years and over among Negroes. The ratio of male to female prevalence is practically constant throughout life and is approximately 30 percent

TABLE 4.—*Prevalence of impaired hearing among Negro and white persons in specific age groups—members of Farm Security Administration borrower families in a total of 7 localities,*[1] *1940*

Age	Negro						White					
	Number of persons examined for hearing			Percentage of persons with impaired hearing[2]			Number of persons examined for hearing			Percentage of persons with impaired hearing[2]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
5 years and over	1,021	519	502	10.7	13.3	8.0	3,301	1,691	1,610	17.9	21.1	14.5
5–14	349	184	165	1.7	1.1	2.4	1,171	599	572	6.2	7.3	5.1
15–24	244	119	125	3.7	5.9	1.6	660	305	355	10.9	12.5	9.6
25–34	88	31	57	5.7	6.5	5.3	461	222	239	9.5	10.8	8.4
35–44	118	46	72	8.5	8.7	8.3	483	238	245	25.3	27.3	23.3
45–54	132	77	55	25.0	27.3	21.8	341	200	141	45.7	46.0	45.4
55–64	64	45	19	50.0	53.3	42.1	139	93	46	61.2	71.0	41.3
65 and over	26	17	9	53.8	52.9	55.6	46	34	12	82.6	82.4	83.3

[1] The 7 localities are: Spotsylvania County, Va., Kershaw County, S. C., Worth County, Ga., Levy County, Fla., Carroll, Leflore and Humphreys Counties, Miss., Pope County, Ark., and Franklin Parish, La.

[2] Impaired hearing is defined as the ability to hear the whispered voice only at 15 feet or less in one or both ears.

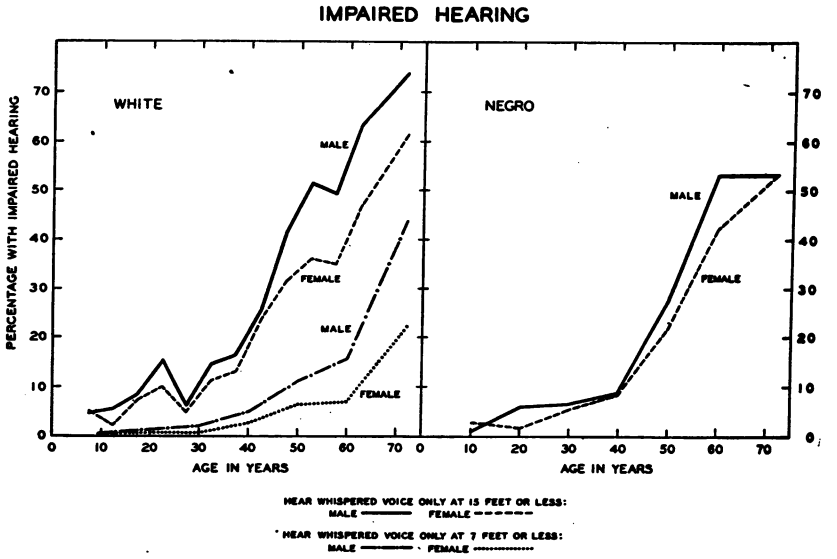

FIGURE 2.—Prevalence of impaired hearing among males and females in specific age groups; members of Farm Security Administration borrower families in a total of 15 and 7 localities, 1940, for whites and Negroes, respectively.

higher for white and 20 percent higher for Negro males than females, respectively. The Life Extension Institute examinations likewise show a higher prevalence of impaired hearing, or inability to hear the whispered voice at more than 10 feet, for males than females at every age group over 20 years (table 3). The whispered voice includes some high tones and therefore the percentage with impaired hearing based upon this test would include some persons with high-tone loss only as well as those with impairment for tones in the speech range.

Ciocco (*6*) shows a slightly higher percentage of girls than boys 7 to 20 years of age with hearing impairment for speech, or slight to marked loss for low and middle tones; the difference, however, is slight and not statistically significant. The percentage with some high-tone loss, however, is significantly higher for boys than girls. The percentage of children with good hearing, that is, exclusive of those with high-tone loss only and those with hearing impairment for speech (*6*), is significantly higher for girls than boys, due to the lower percentage of girls with high-tone loss. Ciocco points out that since the prevalence of high-tone loss is high among males in childhood as well as in later life it cannot be associated with occupation but is probably "associated with the constitutional make-up of the individual." The National Health Survey (table 3) shows a slightly higher percentage of females than males at ages 5 to 55 years with 30 decibels or more hearing loss on 256 to 1,024 cycles or hearing impairment for tones in the speech range. After 55 years of age the prevalence of impaired hearing for tones in the speech range is identical for males and females. Beasley (*1*) also finds that for persons with hearing impairment "males are more deficient than females for high tones, whereas females are more deficient than males for the middle and low tones." Bunch and Raiford (*5*) also found somewhat greater hearing loss for low tones among females than males; while hearing loss for higher tones is significantly greater among males than females at all ages.

The prevalence of impaired hearing among whites and Negroes in the seven localities in which Negroes were examined is shown in table 4 and figure 3. Whites have a higher percentage with some hearing impairment in practically every age group. The prevalence of impaired hearing among whites is roughly 50 percent higher than among Negroes, although there is some decline in the ratio of white to Negro impairment rates with age. Consistent results prevail in separate localities, that is, more whites have impaired hearing than Negroes. The numbers, however, are small and the differences not always significant. The National Youth Administration examinations (*10*) also show a significantly higher percentage of whites than Negroes with some hearing impairment as tested by the conversational voice at specified distances.

Although defects and chronic diseases found on examination were recorded in all localities where members of Farm Security Administration borrower families were given a physical examination the defects of less frequent occurrence have been coded and tabulated for only 11 of the 19 localities, including 5 localities where Negroes were examined. Table 5 gives the recorded prevalence of otitis media and deafness found on general examination of white and Negro males and females per 100 persons examined; table 6 gives the age-specific prevalence of otitis media as recorded for Pope County, Ark., and for a total of

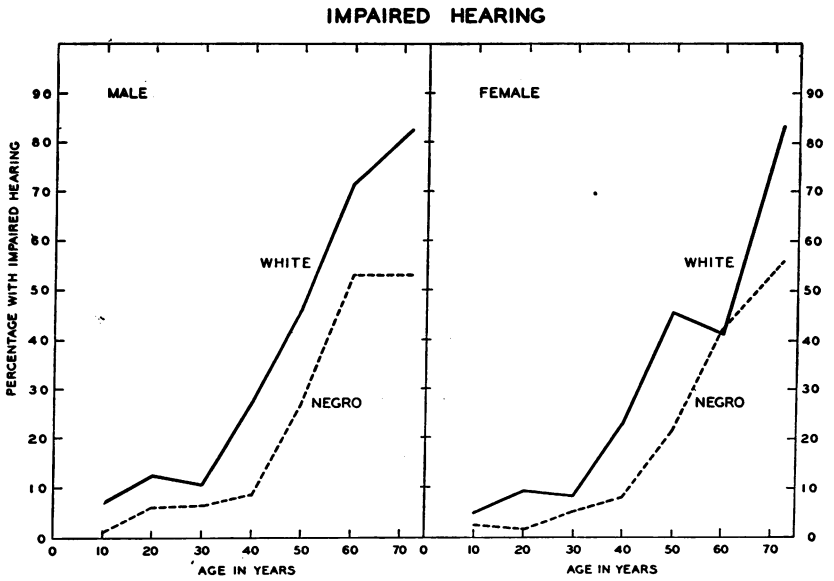

FIGURE 3.—Prevalence of impaired hearing among Negroes and whites in specific age groups; members of Farm Security Administration borrower families in a total of 7 localities, 1940.

the other 10 localities. Recorded cases of otitis media are the number of cases diagnosed by the several physicians, and do not include a history of prior attacks of otitis media or discharging ears. The recorded prevalence does not vary significantly with sex or color (table 5). Because of the high rate for all ages and the relatively old age distribution of cases shown there, the prevalence of otitis media is given separately for Pope County, Ark., in table 6; the cause of the high recorded rate in this locality is unknown. The rates recorded for otitis media are approximately 4 and 1 percent at under 5 and 5–14 years of age, respectively, in 10 localities (table 6). Otitis media is recorded in 10 localities as relatively frequent under 5 years of age, with decreasing prevalence as age increases. Since the recorded prevalence of otitis media occurs largely under 15 years of age and impaired hearing is encountered mostly over 15 years and, moreover, since changes in the tympanic membrane which may have been

associated with a childhood middle-ear infection were not recorded on examination, it is impossible from these data to state the extent of any possible association between otitis media and impaired hearing.

TABLE 5.—*Prevalence of specific ear diseases among white and Negro males and females—members of Farm Security Administration borrower families, 1940*

Race and sex	Total number of persons examined	Otitis media (acute and chronic) [3]	Deaf in one ear	Deaf in both ears
		Percent		
White male (11 localities) [1]	3,000	2.87	0.17	0.17
White female (11 localities) [1]	2,905	3.06	.07	.17
Negro male (5 localities) [2]	494	2.23	----	.20
Negro female (5 localities) [2]	499	2.81	----	.20

[1] The 11 localities are: Aroostook County, Maine, Champaign County, Ohio, Montgomery County, Ind., Callaway County, Mo., Spotsylvania County, Va., Avery County, N. C., Kershaw County, S. C., Levy County, Fla., Henderson County, Tenn., Pope County, Ark., and Okfuskee County, Okla.

[2] The 5 localities are: Spotsylvania County, Va., Kershaw County, S. C., Levy County, Fla., Pope County, Ark., and Okfuskee County, Okla.

[3] Of the total of 175 white cases of otitis media, 122, or 70 percent, occurred in Pope County, Ark. The recorded rate for otitis media in 10 localities, exclusive of Pope County, Ark., was: white male, 1.03 percent; white female, 1.02 percent.

TABLE 6.—*Prevalence of otitis media among white persons in specific age groups—members of Farm Security Administration borrower families, 1940*

Age	Number of persons examined in—		Otitis media	
	10 localities [1]	Pope County, Ark.	10 localities [1]	Pope County, Ark.
			Percent	
All ages	5,160	745	1.03	16.4
Under 5	645	88	3.72	2.3
5–9	763	111	1.31	12.6
10–14	828	135	.60	7.4
15–24	860	131	.81	16.0
25–34	576	87	.52	16.1
35–44	619	107	.16	29.0
45–54	523	58	.19	32.8
55–64	245	23	.82	43.5
65 and over	101	5	----	20.0

[1] Prevalence of otitis media, under 15 years of age, in the several localities is as follows: Aroostook County Maine, 0.22 percent; Champaign County, Ohio, 3.31 percent; Montgomery County, Ind., 2.27 percent; Callaway County, Mo., 0.70 percent; Spotsylvania County, Va., 1.33 percent; Avery County, N. C., 2.02 percent; Kershaw County, S. C., 4.81 percent; Levy County, Fla., 0.97 percent; Henderson County, Tenn.; 0.41 percent; Okfuskee County, Okla., 2.38 percent.

SUMMARY

The whispered voice was used to test hearing in the Farm Security Administration examinations of rural rehabilitation farmers and their families. The results of the test show considerable variation in the several localities where examinations were made. The actual prevalence of impaired hearing in these data agrees roughly with other recorded results although exact comparisons are impossible owing to the different criteria used. Probably an average hearing ability was recorded for these families, however. The age-specific prevalence of

impaired hearing plotted on semi-logarithmic paper shows a rapid increase under 20 years of age and again between ages 40 and 55 years. Between 20 and 40 years of age the increase in the prevalence of impaired hearing is somewhat less rapid.

In these data more males than females and more whites than Negroes have impaired hearing at specific ages.

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A PROCEDURE FOR THE HANDLING OF FIELD SAMPLES OF DUST AND FUME

By HARRY E. SEIFERT, *Sanitary Engineer (R)*,[1] ROBERT G. KEENAN, *Associate Chemist*,[2] and LAWRENCE T. FAIRHALL, *Principal Industrial Toxicologist*[2]

In the field sampling of dusts and fumes with the MSA electrostatic precipitator, the transfer of precipitated material from the collecting

[1] Industrial Hygiene Division, Bureau of State Services.

[2] Industrial Hygiene Research Laboratory, National Institute of Health.

tubes to shipping containers is often difficult and unsatisfactory when work is performed under field conditions. The following difficulties are often encountered: (1) The amount of material is small, requiring great care to prevent loss during the transfer of the sample; (2) reagents of sufficient purity are generally unobtainable unless prepared in the central laboratory, and the necessary equipment is burdensome and requires frequent replenishing; (3) the danger of contamination during the transfer of the sample is potentially great under ordinary field conditions; (4) the time involved in transferring samples and the shipping of sample bottles back and forth tend to retard field operations; and (5) in the shipping of glass sample bottles there is always the possibility of breakage due to rough handling.

The following arrangement has been devised to meet this problem. Instead of using only the four precipitator tubes provided with the instrument and transferring the samples in the field into bottles for shipping, the precipitator tube itself is made to serve as the shipping container. Close-fitting plastic caps formed or machined to a sliding fit are used to close the ends of the tube (fig. 1), which may then be dispatched to the central laboratory in the usual mailing case. In practice it has been found that samples reach the laboratory in excellent condition. The fume or dust adheres to the aluminum tube with such persistency that only in rare instances is there any loose material in the tube. Even so, the smooth plastic surface permits the quantitative removal of all such material with no danger of contamination.

This arrangement permits a large number of samples to be taken in the field with no interruption arising from the need of transferring the sample, and the cost and inconvenience of shipping sample bottles and solutions are eliminated. The time-saving factor is further enhanced by the rapid dispatch of samples and the facility with which the amount of the sample may be determined by directly weighing the tube when the sample amounts to 5 milligrams or more. Furthermore, the transfer of samples for chemical examination is much more appropriately carried out in the central laboratory with the exacting conditions necessary for the determination of minute amounts of material.

The procedure sometimes used in the field where the precipitate is removed from the sampling tube with 5 percent nitric acid soon affects the polished finish of the tube, which becomes roughened and pitted, making the removal of subsequent fume samples more difficult. Furthermore, the solution and suspension when evaporated to dryness and weighed for the determination of "total fume" may, in certain cases, give somewhat high values owing to the formation of nitrates. On the other hand, direct determination of total fume by weighing the tube in the laboratory before and after removing the fume with

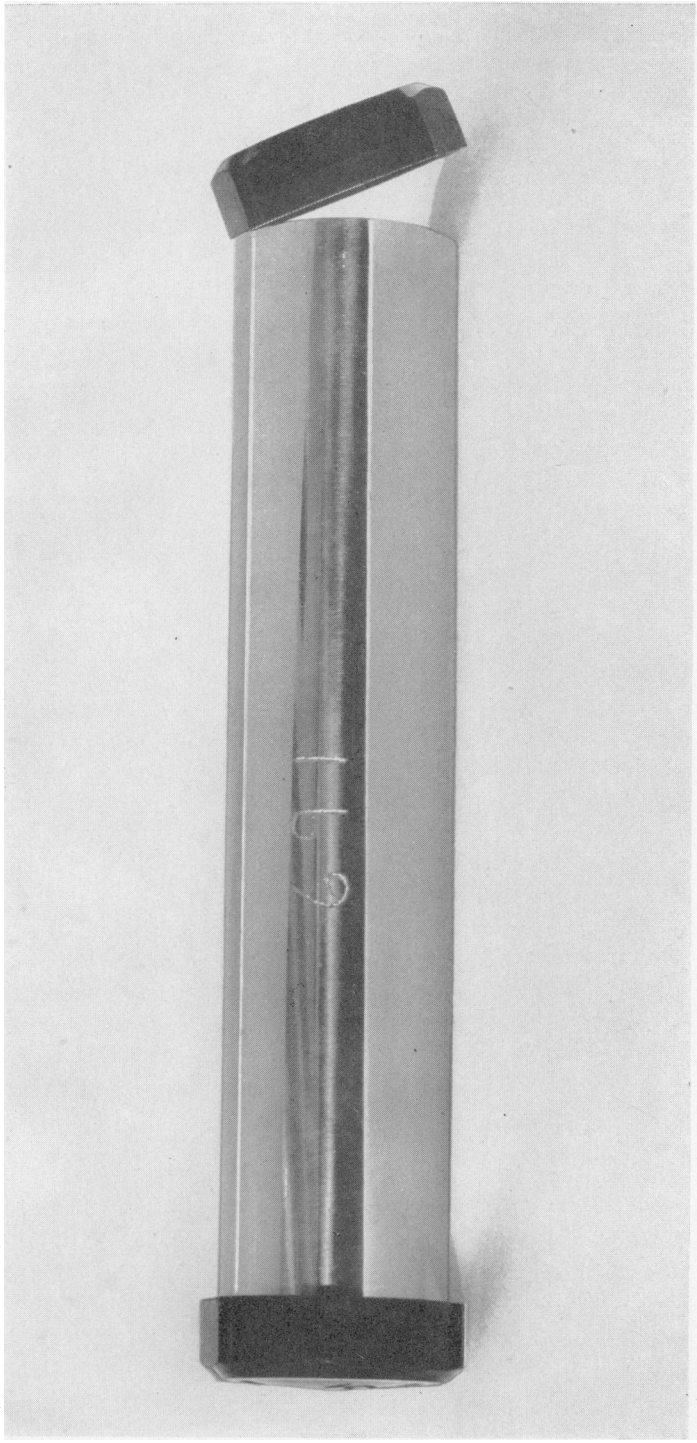

FIGURE 1.

distilled water is comparatively simple and accurate. Moreover, this suspension is then immediately available for quantitative determination of the constituents sought.

The cleaned tube weights remain surprisingly uniform following this procedure. For instance, following two trips between the Pacific coast and Washington, D. C., and the collection and removal of fume samples, representative tube weights were as follows:

Tube weights following first field collection (gm.)	*Tube weights following second field collection (gm.)*
56. 0221	56. 0222
55. 9245	55. 9240
56. 0769	56. 0766
54. 0371	54. 0374
55. 7876	55. 7878
55. 0431	55. 0428
55. 7045	55. 7045
56. 0193	56. 0193
55. 7902	55. 7903
55. 7861	55. 7864

This method of handling field samples taken with the MSA electrostatic precipitator has been applied to a study now in progress, which requires the use of several hundred tubes. It has been found to be satisfactory from both the field and laboratory viewpoints.

PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

February 25–March 24, 1945

The accompanying table summarizes the prevalence of nine important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State for each week are published in the Public Health Reports under the section "Prevalence of disease." The table gives the number of cases of these diseases for the 4 weeks ended March 24, 1945, the number reported for the corresponding period in 1944, and the median number for the years 1940–44.

DISEASES ABOVE MEDIAN PREVALENCE

Meningococcus meningitis.—For the 4 weeks ended March 24 there were 1,018 cases of meningococcus meningitis reported as compared with 2,150 for the corresponding period in 1944. The 1940–44 median for this period was 339 cases. In each geographic section the number of cases was smaller than for the corresponding period in 1944, but in the New England section alone the incidence was below the preceding 5-year median. While the current incidence is high compared with the median, the number of cases has declined considerably since 1943 and 1944 when the peak of the current epidemic was

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reached, and it is probable that the incidence will continue to decline until it reaches the median level of normal years.

Poliomyelitis.—The number of cases of poliomyelitis dropped from 171 for the preceding 4-week period to 112 for the current 4 weeks. The disease continued high in comparison with the preceding 5-year median. The Middle Atlantic section, however, seemed to be mostly responsible for the excess incidence; of the 32 cases reported from that section New York reported 26. In other sections the incidence either closely approximated or fell below the median.

Scarlet fever.—For the 4 weeks ended March 24 there were 26,097 cases of scarlet fever reported. During the corresponding weeks in 1944 there were 28,659 cases and the 1940–44 median was approximately 18,000. The Middle Atlantic and East and West South Cen-

Number of reported cases of 9 communicable diseases in the United States during the 4-week period February 25–March 24, 1945, the number for the corresponding period in 1944, and the median number of cases reported for the corresponding period, 1940–44

Division	Current period	1944	5-year median	Current period	1944	5-year median	Current period	1944	5-year median
	Diphtheria			Influenza [1]			Measles [2]		
United States	1,062	972	1,110	13,358	16,532	18,821	14,337	130,490	87,789
New England	29	40	25	113	83	48	1,159	7,567	6,153
Middle Atlantic	107	95	176	48	95	110	1,239	21,783	21,783
East North Central	127	142	187	311	777	777	1,018	35,573	7,891
West North Central	117	117	80	103	396	396	490	13,665	7,699
South Atlantic	138	133	169	4,414	4,540	7,324	1,475	24,834	13,329
East South Central	108	75	88	888	1,609	1,732	525	3,863	3,863
West South Central	183	230	209	6,662	6,913	7,297	2,737	8,982	5,634
Mountain	51	36	54	656	1,566	1,257	640	5,138	4,004
Pacific	202	104	99	163	553	841	5,054	9,085	8,469
	Meningococcus meningitis			Poliomyelitis			Scarlet fever		
United States	1,018	2,150	339	112	68	74	26,097	28,659	18,079
New England	45	147	50	5	4	3	2,361	2,424	1,810
Middle Atlantic	239	460	93	32	5	7	6,739	6,093	5,269
East North Central	188	457	33	9	5	9	6,713	7,590	5,420
West North Central	70	167	12	7	8	7	2,256	3,401	1,718
South Atlantic	158	347	74	17	3	10	2,869	2,959	1,082
East South Central	93	219	32	13	3	7	775	722	768
West South Central	101	124	38	16	12	12	791	570	414
Mountain	13	24	7	1	5	5	1,182	1,447	552
Pacific	111	205	26	12	23	13	2,411	3,453	897
	Smallpox			Typhoid and paratyphoid fever			Whooping cough [1]		
United States	39	39	95	196	241	262	10,667	7,644	15,039
New England	0	0	0	13	8	8	1,599	717	1,445
Middle Atlantic	0	0	0	43	33	44	2,137	1,236	3,241
East North Central	13	6	38	28	32	32	1,569	1,293	3,041
West North Central	10	9	22	8	17	14	377	433	632
South Atlantic	2	2	2	35	54	59	1,521	1,570	1,961
East South Central	6	5	8	17	18	28	435	485	566
West South Central	5	13	16	23	50	47	1,196	787	907
Mountain	3	2	3	23	9	9	399	437	863
Pacific	0	2	2	6	20	26	1,434	686	1,497

[1] Mississippi and New York excluded; New York City included.
[2] Mississippi excluded.

tral sections reported more cases than occurred during these same weeks in 1944 and all sections reported excesses over the normal seasonal (median) expectancy.

DISEASES BELOW MEDIAN PREVALENCE

Diphtheria.—The number of cases (1,062) of diphtheria reported for the 4 weeks ended March 24 was about 10 percent above the incidence during the corresponding period in 1944, but it was slightly below the 1940–44 median. Significant increases over the 1944 figures were reported from the Middle Atlantic, East South Central, Mountain, and Pacific sections and 4 of the 9 geographic regions reported increases over the preceding 5-year median. In the Middle Atlantic, East North Central, South Atlantic, West South Central, and Mountain sections the numbers of cases were below the seasonal (median) expectancy.

Influenza.—The incidence of influenza was also relatively low during the current 4-week period, the number of cases (13,358) being about 20 percent below the 1944 incidence for the same weeks and 30 percent below the 1940–44 median. A few more cases than might normally be expected occurred in the New England section, but in all other regions the incidence was considerably below the normal seasonal incidence. States reporting the highest incidence were Texas (5,325 cases), South Carolina (2,179), and Virginia (2,082); more than 70 percent of the total reported cases were from these 3 States.

Measles.—For the 4 weeks ended March 24 there were 14,337 cases of measles reported as compared with 130,490 for the corresponding period in 1944 and a preceding 5-year median of 87,784 cases. For the country as a whole and for each geographic section except the West North Central, West South Central, Mountain, and Pacific regions the current incidence was the lowest in the 18 years for which these data are available. A previous low record was established in the West North Central and West South Central sections in 1937, in the Mountain section in 1936, and in the Pacific region in 1941; however, the current incidence in every section was the lowest in the 4 years 1942–45.

Smallpox.—The number of cases (39) of smallpox reported for the current 4 weeks was the same as that reported for the corresponding weeks in 1944 but the distribution of the cases varied, particularly in two of the geographic regions. In the East North Central section there were 13 cases reported for the current period as against 6 in 1944, and in the West South Central section there were 5 cases as compared with 13 in 1944. The 1940–44 median for this period was 95 cases; in each section the current incidence was either the same as or less than the median.

Typhoid and paratyphoid fever.—The recent favorable record of this disease was maintained during the 4 weeks ended March 24. The number of reported cases (196) dropped considerably below even the previous year when 241 cases were reported for these same weeks. The 1940–44 median for this period was 262 cases. More cases were reported from the New England and Mountain sections than might normally be expected and in the Middle Atlantic and East North Central sections the incidence was about normal; in all other sections the numbers of cases were relatively low.

Whooping cough.—This disease was more prevalent during the current 4-week period than it was during the corresponding weeks in 1944, but the number of cases (10,667) was only about 70 percent of the 1940–44 median incidence. All but 4 of the 9 geographic regions contributed to the excess over 1944, but only 2 sections, the New England and West South Central, showed an increase over the 1940–44 median.

MORTALITY, ALL CAUSES

A total of 38,701 deaths from all causes in the large cities of the United States was recorded by the Bureau of the Census for the 4 weeks ended March 24, as compared with 38,642 for the corresponding period in 1944 and a 3-year (1942–44) average of 38,565 deaths. The deaths for the current period represent an excess of 0.3 percent over the 3-year average.

DEATHS DURING WEEK ENDED MARCH 24, 1945

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

	Week ended March 24, 1945	Corresponding week, 1944
Data for 93 large cities of the United States:		
Total deaths	9,602	9,605
Average for 3 prior years	9,570	
Total deaths, first 12 weeks of year	117,065	122,809
Deaths under 1 year of age	651	603
Average for 3 prior years	644	
Deaths under 1 year of age, first 12 weeks of year	7,673	7,588
Data from industrial insurance companies:		
Policies in-force	67,158,424	66,368,639
Number of death claims	15,526	12,665
Death claims per 1,000 policies in force, annual rate	12.1	10.0
Death claims per 1,000 policies, first 12 weeks of year, annual rate	11.0	11.4

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 MARCH 31, 1945

Summary

The total of 216 cases of meningococcus meningitis reported for the current week, although the lowest weekly incidence recorded this year, is more than reported for any corresponding week since 1936 except the two immediately preceding epidemic years. States reporting more than 9 cases each (last week's figures in parentheses) are as follows: New York 18 (32), Pennsylvania 11 (12), Ohio 15 (14), Illinois 17 (10), Texas 16 (5), California 23 (20). The total of 3,232 cases reported for the first 13 weeks of the year, although less than half the average for the first quarter of the past 2 years, is more than for the corresponding period of any of the 12 years from 1931 to 1942.

The current week's total of 28 reported cases of poliomyelitis, the same number as reported last week, is the largest number reported for a corresponding week since 1937. Only 5 States, however, reported more than 1 case each, viz, Texas 5, New York 4, North Carolina and Kentucky 3 each, and Indiana 2. The total to date, 453 cases, is more than reported for the first quarter of any other year since 1928.

One case of relapsing fever was reported in Pennsylvania during the week.

Total numbers of cases of certain other diseases reported for the first 13 weeks of the year are as follows (figures for the corresponding period of last year in parentheses): Anthrax 12 (12), diphtheria 4,020 (3,212), dysentery (all forms) 8,186 (3,802), infectious encephalitis 91 (133), influenza 51,157 (320,567), measles 32,041 (306,417), scarlet fever 73,991 (76,814), smallpox 136 (162), tularemia 246 (134), typhoid and paratyphoid fever 719 (953), endemic typhus fever 657 (504), undulant fever 1,099 (532), whooping cough 31,638 (23,873).

Deaths recorded during the week in 93 large cities of the United States totaled 9,140, as compared with 9,640 last week, 9,476 for the corresponding week last year, and a 3-year (1942–44) average of 9,397. The total for the first 13 weeks of the year is 126,243, as compared with 132,285 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended March 31, 1945, and comparison with corresponding week of 1944 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Mar. 31, 1945	Apr. 1, 1944		Mar. 31, 1945	Apr. 1, 1944		Mar. 31, 1945	Apr. 1, 1944		Mar. 31, 1945	Apr. 1, 1944	
NEW ENGLAND												
Maine	0	0	1	-------	-------	-------	3	394	173	3	0	0
New Hampshire	0	0	0	-------	-------	-------	0	0	60	0	0	0
Vermont	0	1	0	-------	-------	-------	6	171	70	0	1	0
Massachusetts	6	2	2	-------	-------	-------	18	1,196	1,085	9	16	7
Rhode Island	0	1	0	49	-------	-------	7	269	158	1	5	0
Connecticut	0	2	1	3	-------	5	97	471	365	5	12	2
MIDDLE ATLANTIC												
New York	16	12	17	[1] 3	[1] 6	[1] 15	88	2,799	2,799	18	63	30
New Jersey	3	2	6	7	21	15	63	1,684	1,653	5	24	5
Pennsylvania	12	14	11	-------	5	-------	172	1,424	1,424	11	37	10
EAST NORTH CENTRAL												
Ohio	10	3	7	10	9	16	58	2,135	1,227	15	30	2
Indiana	7	5	6	5	15	27	39	294	294	2	13	3
Illinois	6	15	19	33	14	23	102	1,271	1,271	17	28	2
Michigan [2]	55	8	5	-------	7	4	104	1,295	1,295	7	28	2
Wisconsin	0	1	1	46	55	55	42	2,737	1,447	1	11	1
WEST NORTH CENTRAL												
Minnesota	1	5	2	-------	-------	-------	11	1,354	214	3	5	1
Iowa	0	2	2	-------	31	9	89	165	270	2	6	0
Missouri	10	0	3	2	3	3	18	415	157	6	27	0
North Dakota	1	0	0	-------	8	3	8	148	56	1	0	0
South Dakota	2	3	2	-------	-------	-------	19	37	13	5	0	0
Nebraska	4	2	3	2	9	9	25	125	125	0	1	0
Kansas	2	3	3	-------	3	4	23	814	646	0	8	2
SOUTH ATLANTIC												
Delaware	0	1	0	-------	-------	-------	5	22	22	1	5	0
Maryland [2]	11	1	2	2	25	25	53	1,139	393	6	5	5
District of Columbia	1	0	1	-------	1	2	6	125	91	0	5	2
Virginia	4	5	5	215	259	441	108	695	621	6	5	5
West Virginia	2	5	5	7	4	29	52	666	209	7	9	3
North Carolina	5	4	8	-------	26	57	58	2,028	1,090	5	3	3
South Carolina	6	0	3	389	346	473	69	604	347	2	12	2
Georgia	4	7	5	13	35	48	52	330	264	2	4	4
Florida	1	3	4	2	6	6	18	416	260	2	1	2
EAST SOUTH CENTRAL												
Kentucky	5	2	6	-------	13	13	12	105	111	5	13	5
Tennessee	8	4	3	27	57	74	81	378	378	7	19	3
Alabama	7	7	7	66	76	324	13	531	320	8	5	4
Mississippi [2]	6	1	3	-------	-------	-------	-------	-------	-------	3	10	2
WEST SOUTH CENTRAL												
Arkansas	4	2	4	33	87	195	54	264	264	2	4	1
Louisiana	9	0	3	55	5	8	24	121	121	2	5	1
Oklahoma	5	2	2	131	214	197	26	95	95	3	3	1
Texas	33	34	34	1,153	1,143	1,143	718	3,039	1,825	16	18	7
MOUNTAIN												
Montana	0	0	0	21	13	13	10	262	150	1	1	0
Idaho	4	0	0	1	-------	-------	14	29	29	0	2	0
Wyoming	0	2	1	-------	12	12	11	104	104	0	0	0
Colorado	7	3	6	23	40	40	11	354	354	2	12	1
New Mexico	2	0	0	1	7	1	10	150	133	1	7	0
Arizona	2	2	2	92	59	98	11	308	109	0	2	0
Utah [2]	0	0	0	15	15	13	156	28	235	0	0	0
Nevada	0	0	0	-------	-------	-------	0	0	9	0	0	0
PACIFIC												
Washington	10	6	3	-------	6	2	234	261	286	1	8	3
Oregon	15	5	3	12	26	24	86	135	361	0	6	1
California	21	33	17	13	109	109	1,142	2,705	812	23	44	9
Total	307	210	242	2,431	2,770	3,645	4,026	34,092	26,183	216	523	110
13 weeks	4,020	3,212	3,820	51,157	320,567	149,029	32,041	306,417	210,408	3,232	7,160	952

[1] New York City only.

[2] Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended March 31, 1945, and comparison with corresponding week of 1944 and 5-year median—Continued

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever[2]		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Mar. 31, 1945	Apr. 1, 1944		Mar. 31, 1945	Apr. 1, 1944		Mar. 31, 1945	Apr. 1, 1944		Mar. 31, 1945	Apr 1, 1944	
NEW ENGLAND												
Maine	0	0	0	42	46	13	0	0	0	0	0	0
New Hampshire	0	0	0	18	21	10	0	0	0	0	1	0
Vermont	0	0	0	6	11	11	0	0	0	0	0	0
Massachusetts	1	0	0	434	431	363	0	0	0	0	0	0
Rhode Island	0	0	0	33	14	17	0	0	0	0	0	0
Connecticut	0	0	0	70	93	93	0	0	0	0	0	0
MIDDLE ATLANTIC												
New York	4	1	0	825	749	640	0	0	0	3	3	6
New Jersey	0	0	0	161	283	283	0	0	0	2	1	1
Pennsylvania	0	1	1	604	750	494	0	0	0	9	2	2
EAST NORTH CENTRAL												
Ohio	1	0	0	468	489	414	0	0	1	1	4	2
Indiana	2	0	0	122	230	190	3	0	1	0	1	0
Illinois	0	0	0	341	582	512	1	0	1	3	0	3
Michigan[3]	0	0	0	328	388	310	4	0	0	0	2	2
Wisconsin	0	1	0	317	433	175	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota	0	0	0	116	219	80	0	0	0	0	0	0
Iowa	0	0	0	82	200	64	0	1	2	0	2	0
Missouri	1	0	0	98	160	40	0	0	2	2	0	1
North Dakota	0	0	0	25	56	9	0	0	0	0	0	0
South Dakota	0	1	0	11	21	13	0	0	0	0	0	0
Nebraska	1	0	0	82	43	43	1	0	0	0	0	0
Kansas	1	0	0	81	126	74	1	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	0	0	0	11	22	11	0	0	0	0	0	0
Maryland[3]	0	0	0	173	230	79	0	0	0	0	0	2
District of Columbia	0	0	0	50	159	16	0	0	0	0	0	0
Virginia	0	0	0	114	112	43	0	0	0	0	2	2
West Virginia	[4] 0	0	0	38	108	41	0	0	0	1	1	2
North Carolina	3	0	0	69	29	32	0	0	0	0	0	1
South Carolina	1	0	0	10	5	5	0	1	0	1	2	2
Georgia	1	1	0	27	30	15	1	0	0	3	4	2
Florida	0	1	1	7	13	8	0	0	0	1	3	2
EAST SOUTH CENTRAL												
Kentucky	3	1	0	68	83	83	0	0	0	0	1	1
Tennessee	0	0	0	38	60	60	0	0	0	1	1	2
Alabama	1	0	0	16	15	18	0	0	0	3	1	2
Mississippi[3]	0	0	1	38	6	7	2	1	0	0	2	2
WEST SOUTH CENTRAL												
Arkansas	1	1	0	10	20	5	1	0	1	2	1	1
Louisiana	0	1	0	15	7	7	0	0	0	2	1	2
Oklahoma	1	0	0	24	13	15	1	1	1	2	0	1
Texas	5	4	0	118	140	71	0	1	5	4	7	5
MOUNTAIN												
Montana	0	0	1	14	90	32	0	4	0	0	0	0
Idaho	0	0	0	51	43	7	0	0	0	1	0	0
Wyoming	0	0	0	12	10	19	0	0	0	0	0	0
Colorado	0	1	0	72	71	39	2	0	0	0	0	0
New Mexico	0	0	0	18	29	4	0	0	0	1	0	2
Arizona	0	0	0	49	28	14	0	0	0	0	0	0
Utah[3]	0	0	0	69	125	24	0	0	0	0	0	0
Nevada	0	0	0	1	5	1	0	0	0	0	0	0
PACIFIC												
Washington	0	1	0	160	372	24	1	1	0	0	3	1
Oregon	0	0	0	43	166	12	0	0	0	0	0	0
California	1	3	3	318	391	136	0	0	0	3	17	4
Total	28	18	19	5,897	7,727	4,465	18	10	36	45	62	62
13 weeks	[4] 453	295	330	73,991	76,814	52,173	136	162	350	719	953	966

[2] Period ended earlier than Saturday.
[3] Including paratyphoid fever reported separately as follows: New York 1; Georgia 1; Tennessee 1; Texas 1; California 2.
[4] Corrected report: West Virginia, week ended March 17, poliomyelitis 0.

Telegraphic morbidity reports from State health officers for the week ended March 31, 1945, and comparison with corresponding week of 1944 and 5-year median—Continued

Division and State	Whooping cough			Week ended March 31, 1945							
	Week ended—		Median 1940–44	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever	Undulant fever
	Mar. 31, 1945	Apr. 1, 1944		Amebic	Bacillary	Unspecified					
NEW ENGLAND											
Maine	33	0	33	0	0	0	0	0	0	0	1
New Hampshire	11	0	10	0	0	0	0	0	0	0	0
Vermont	45	37	34	0	0	0	0	0	0	0	2
Massachusetts	202	79	179	0	1	0	1	0	0	0	2
Rhode Island	15	6	19	0	1	0	0	0	0	0	0
Connecticut	35	28	51	0	0	0	0	0	0	0	3
MIDDLE ATLANTIC											
New York	231	101	334	3	18	0	1	0	0	0	6
New Jersey	84	54	98	0	0	0	0	0	0	0	1
Pennsylvania	122	96	311	0	0	0	0	0	0	1	3
EAST NORTH CENTRAL											
Ohio	175	50	181	1	0	0	0	0	0	0	3
Indiana	13	14	27	0	0	0	0	0	0	0	0
Illinois	57	37	111	3	3	0	1	0	0	0	3
Michigan [2]	121	98	131	0	1	0	0	0	0	0	5
Wisconsin	53	53	101	0	0	0	0	0	1	0	10
WEST NORTH CENTRAL											
Minnesota	16	29	29	2	0	0	0	0	0	0	1
Iowa	3	11	18	0	0	0	1	0	0	0	6
Missouri	8	10	8	0	0	0	0	0	0	0	3
North Dakota	0	2	16	0	0	0	0	0	0	0	0
South Dakota	3	0	2	0	0	0	0	0	0	0	0
Nebraska	11	7	8	0	0	0	0	0	0	0	0
Kansas	47	37	49	0	0	0	1	0	0	0	0
SOUTH ATLANTIC											
Delaware	10	0	7	0	0	0	0	0	0	0	0
Maryland [2]	51	28	80	0	0	1	0	0	1	0	0
District of Columbia	4	2	7	0	0	0	0	0	0	0	0
Virginia	48	54	54	0	0	50	0	0	0	0	0
West Virginia	14	53	69	0	0	0	0	0	0	0	0
North Carolina	94	112	156	0	1	0	0	0	0	0	0
South Carolina	88	72	72	3	11	0	0	0	0	0	0
Georgia	28	20	28	1	0	0	0	0	1	3	1
Florida	7	18	20	0	0	0	0	0	1	3	2
EAST SOUTH CENTRAL											
Kentucky	28	27	50	0	0	0	0	0	0	0	0
Tennessee	14	11	36	0	0	6	0	0	2	0	0
Alabama	21	31	51	4	0	0	0	0	4	2	1
Mississippi [2]	---	---	---	0	0	0	0	0	8	1	1
WEST SOUTH CENTRAL											
Arkansas	17	13	17	1	0	0	0	0	1	0	3
Louisiana	5	0	12	0	0	0	0	0	0	1	3
Oklahoma	13	5	9	4	10	0	0	0	0	0	1
Texas	302	260	260	3	244	0	0	0	0	30	7
MOUNTAIN											
Montana	9	10	10	0	0	0	0	0	0	0	0
Idaho	0	11	5	0	0	0	0	0	0	0	0
Wyoming	3	5	3	0	0	0	0	0	0	0	0
Colorado	30	22	22	0	1	0	0	0	0	0	0
New Mexico	7	10	31	0	0	0	0	0	0	0	1
Arizona	19	52	40	0	0	14	0	0	0	0	0
Utah [2]	57	32	51	0	0	0	0	0	0	0	1
Nevada	0	6	0	0	0	0	0	0	1	0	0
PACIFIC											
Washington	22	34	38	0	0	0	0	0	0	0	0
Oregon	28	35	29	0	0	0	0	0	0	0	11
California	344	92	283	3	0	0	0	0	0	2	4
Total	2,548	1,764	3,414	28	291	71	5	0	20	43	85
Same week, 1944	1,764	---	---	40	237	111	7	2	9	29	49
Average, 1942–44	3,192	---	---	37	144	57	8	[3] 2	16	[3] 21	43
13 weeks: 1945	31,638	---	---	358	6,207	1,621	91	4	246	657	1,099
1944	23,873	---	---	357	2,589	856	133	4	134	504	532
Average, 1942–44	42,002	---	[3] 50,708	312	2,033	624	122	[3] 8	208	[3] 504	417

[2] Period ended earlier than Saturday.

[3] 5-year median, 1940–44.

Leprosy: California, 1 case. *Relapsing fever:* Pennsylvania, 1 case.

WEEKLY REPORTS FROM CITIES

City reports for week ended March 24, 1945

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	0	0	2	0	2	0	0	6
New Hampshire:												
Concord	0	0	------	0	7	0	2	0	7	0	0	0
Vermont:												
Barre	0	0	------	0	0	0	0	0	0	0	0	1
Massachusetts:												
Boston	0	0	------	0	71	2	22	1	80	0	0	44
Fall River	0	0	------	0	0	0	0	0	3	0	0	3
Springfield	0	0	------	0	1	0	1	0	23	0	0	0
Worcester	0	0	------	0	2	1	8	0	26	0	0	20
Rhode Island:												
Providence	1	0	------	0	2	1	2	0	6	0	0	19
Connecticut:												
Bridgeport	0	0	------	0	1	0	0	0	8	0	0	0
Hartford	1	0	------	0	47	3	0	0	30	0	0	0
New Haven	0	0	------	0	2	0	1	0	5	0	0	5
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	0	2	1	7	1	11	0	0	3
New York	11	0	3	3	32	20	65	2	383	0	2	84
Rochester	0	0	------	0	8	1	5	0	8	0	0	17
Syracuse	0	0	------	0	0	0	2	0	8	0	0	20
New Jersey:												
Camden	1	0	------	0	2	0	5	0	4	0	0	1
Newark	0	0	------	0	9	4	5	0	28	0	0	6
Trenton	0	0	1	0	4	0	3	0	22	0	0	0
Pennsylvania:												
Philadelphia	2	1	3	2	83	7	42	0	107	0	1	53
Pittsburgh	1	0	3	1	2	1	22	0	42	0	0	11
Reading	0	0	------	0	2	0	3	0	15	0	0	2
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	------	1	0	3	7	0	30	0	0	15
Cleveland	0	0	6	0	7	5	4	0	65	0	0	36
Columbus	0	0	------	0	0	1	3	0	8	0	0	0
Indiana:												
Fort Wayne	1	0	------	0	0	0	2	0	7	0	0	0
Indianapolis	6	0	------	0	4	1	6	0	51	0	0	2
South Bend	0	0	------	0	0	0	0	0	5	0	0	2
Terre Haute	0	0	------	2	1	0	1	0	5	0	0	0
Illinois:												
Chicago	0	0	------	0	47	4	34	0	119	0	0	26
Springfield	0	0	------	0	1	0	1	0	3	1	0	1
Michigan:												
Detroit	4	0	------	1	25	2	14	0	79	0	0	13
Flint	0	0	------	0	2	0	1	0	6	0	0	0
Grand Rapids	0	0	------	1	5	0	1	0	12	0	0	0
Wisconsin:												
Kenosha	0	0	------	0	1	0	0	0	3	0	0	0
Milwaukee	0	0	1	1	10	4	5	0	77	0	0	2
Racine	0	0	1	1	1	0	0	0	3	0	0	4
Superior	0	0	------	0	6	0	0	0	0	0	0	2
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	0	0	4	0	9	0	0	0
Minneapolis	1	0	------	0	15	0	3	0	35	0	0	8
St. Paul	1	0	------	0	1	1	2	0	7	0	0	6
Missouri:												
Kansas City	0	0	------	2	0	1	13	0	26	0	0	1
St. Joseph	0	0	------	0	0	0	0	0	5	0	1	0
St. Louis	0	0	2	1	2	3	10	0	23	0	0	8

City reports for week ended March 24, 1945—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	1	0	1	0	0	0
Nebraska:												
Omaha	3	0	------	0	6	0	5	0	14	0	0	0
Kansas:												
Wichita	0	0	------	0	0	0	6	0	4	0	0	6
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	------	0	0	1	3	0	4	0	0	0
Maryland:												
Baltimore	3	0	1	1	10	2	6	0	138	0	0	39
Cumberland	0	0	------	0	0	0	0	0	2	0	0	0
Frederick	0	0	------	0	0	0	0	0	1	0	0	0
District of Columbia:												
Washington	0	0	1	0	19	1	10	0	51	0	0	8
Virginia:												
Lynchburg	0	0	------	0	0	0	2	0	2	0	0	2
Richmond	0	0	------	0	3	0	0	0	12	0	0	3
Roanoke	0	0	------	0	3	0	0	0	3	0	0	7
West Virginia:												
Charleston	0	0	------	0	0	0	0	0	0	0	0	0
Wheeling	0	0	------	0	42	1	0	0	1	0	0	2
North Carolina:												
Raleigh	0	0	------	0	2	0	0	0	2	0	0	30
Wilmington	0	0	------	0	0	0	1	0	1	0	1	4
Winston-Salem	0	0	------	0	0	0	1	0	9	0	0	2
South Carolina:												
Charleston	0	0	2	0	1	0	2	0	1	0	0	1
Georgia:												
Atlanta	0	0	3	2	1	0	3	0	8	0	1	3
Brunswick	0	0	------	0	0	0	1	0	1	0	0	0
Savannah	0	0	------	0	3	0	2	0	1	0	0	0
Florida:												
Tampa	0	0	------	0	1	0	3	0	0	0	0	1
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	8	3	103	1	12	0	11	0	0	9
Nashville	0	0	------	0	1	0	5	0	6	0	0	0
Alabama:												
Birmingham	0	0	1	0	2	0	1	0	2	0	1	2
Mobile	0	0	------	0	1	0	1	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	3	0	15	0	1	0	3	0	0	4
Louisiana:												
New Orleans	3	0	2	0	20	1	1	0	9	0	0	0
Shreveport	0	0	------	0	0	0	3	0	1	0	0	0
Texas:												
Dallas	0	0	1	1	25	1	6	0	6	0	0	0
Galveston	1	0	------	0	0	0	0	0	0	0	0	0
Houston	0	0	------	0	4	0	6	0	11	0	1	0
San Antonio	2	1	2	0	0	0	4	0	0	0	0	0
MOUNTAIN												
Montana:												
Billings	0	0	------	0	1	0	1	0	0	0	0	0
Great Falls	0	0	------	0	1	0	1	0	1	0	0	0
Helena	0	0	------	0	1	0	1	0	0	0	0	0
Missoula	0	0	------	0	0	0	2	0	2	0	0	0
Idaho:												
Boise	0	0	------	0	0	0	0	0	2	0	0	0
Colorado:												
Denver	0	0	------	0	3	0	11	0	16	0	0	23
Pueblo	0	0	------	0	1	0	0	0	5	0	0	0
Utah:												
Salt Lake City	0	0	------	0	67	0	4	0	7	0	0	6

See footnotes at end of table.

City reports for week ended March 24, 1945—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	43	1	4	0	22	0	0	2
Spokane	0	0	2	1	0	0	0	0	4	0	0	2
Tacoma	0	0	------	0	5	0	0	0	6	0	0	3
California:												
Los Angeles	4	0	6	5	58	4	8	1	64	0	0	20
Sacramento	0	0	------	0	8	0	1	0	11	0	0	15
San Francisco	1	0	2	0	122	1	10	0	43	0	0	12
Total	47	2	54	29	977	80	437	5	1,884	1	8	627
Corresponding week, 1944	53	------	124	38	8,345	------	486	------	2,439	0	18	233
Average, 1940–44	66	------	236	[1] 42	[2] 6,678	------	[1] 498	------	1,819	1	14	916

[1] 3-year average, 1942–44.
[2] 5-year median, 1940–44.

Dysentery, amebic.—Cases: New York, 1; Chicago, 1; Los Angeles, 1.
Dysentery, bacillary.—Cases: Providence, 1; Buffalo, 12; New York, 7: Cleveland, 1; Charleston, S. C., 4; Los Angeles, 2; San Francisco, 1.
Dysentery, unspecified.—Cases: Cincinnati, 5; Richmond, 1; San Antonio, 9.
Tularemia.—Cases: St. Louis, 1; Nashville, 1.
Typhus fever, endemic.—Cases: Savannah, 1; New Orleans, 1; Houston, 1; San Antonio, 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,331,900)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	5.2	0.0	0.0	0.0	348	18.3	99.3	2.6	497	0.0	0.0	256
Middle Atlantic	6.9	0.5	4.6	2.8	67	15.7	73.6	1.4	291	0.0	1.4	91
East North Central	6.7	0.0	4.9	4.3	67	12.2	48.0	0.0	288	0.6	0.0	63
West North Central	10.2	0.0	4.1	6.1	49	10.2	89.7	0.0	253	0.0	2.0	59
South Atlantic	4.9	0.0	11.4	4.9	139	8.2	55.6	0.0	387	0.0	3.3	167
East South Central	0.0	0.0	53.1	17.7	632	5.9	112.1	0.0	112	0.0	5.9	65
West South Central	17.2	2.9	23.0	2.9	184	5.7	60.3	0.0	86	0.0	2.9	11
Mountain	0.0	0.0	0.0	0.0	588	0.0	158.9	0.0	262	0.0	0.0	230
Pacific	7.9	0.0	15.8	9.5	373	9.5	36.4	1.6	237	0.0	0.0	85
Total	7.2	0.3	8.2	4.4	149	12.2	66.6	0.8	287	0.2	1.2	95

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (rodent).—Plague infection in rats found in Hamakua District, Island of Hawaii, T. H., has been reported as follows: A rat found on February 1, 1945, in District 2A, Kukuihaele area, Honokaa, was proved plague infected on February 6, 1945; a rat found on February 26, 1945, in District 7A, Honokaa area, Honokaa, was proved plague infected on March 2, 1945.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended March 10, 1945.—During the week ended March 10, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		14		144	219	58	35	68	67	605
Diphtheria	3	3		26	4	4		2		42
Dysentery; bacillary									2	2
German measles		6		13	11		2	7	20	59
Influenza		41			52	1	6		32	132
Measles		3	1	66	114	9	17	19	368	597
Meningitis, meningococcus				1	4			1		6
Mumps		3		375	167	48	33	129	38	793
Scarlet fever		4	3	86	90	31	11	34	28	287
Tuberculosis (all forms)			7	118	58	14	19	12	46	274
Typhoid and paratyphoid fever				13	1		4	1		19
Undulant fever				11	1		4	1	2	19
Venereal diseases:										
Gonorrhea	4	13	12	81	130	45	33	20	45	383
Syphilis	4	6	3	100	119	9	13	4	19	277
Other	1			1						2
Whooping cough		32		203	73	3	8	45	26	390

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

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

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

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

Plague

Bechuanaland.—For the month of January 1945, 7 cases of plague were reported in Bechuanaland.

Morocco (French).—For the period March 11–20, 1945, 29 cases of plague were reported in the region of Casablanca, French Morocco.

Smallpox

Rhodesia (Northern).—For the week ended February 24, 1945, 76 cases of smallpox were reported in Northern Province, Northern Rhodesia.

Togo (French).—For the period March 1–10, 1945, 69 cases of smallpox were reported in French Togo.

Typhus Fever

Egypt.—For the week ended February 24, 1945, 562 cases of typhus fever with 48 deaths were reported in Egypt.

France.—Creuse Department.—For the month of February 1945, 2 cases of typhus fever were reported in Creuse Department, France.

Morocco (French).—For the period March 11–20, 1945, 434 cases of typhus fever were reported in French Morocco.

Palestine—Jaffa.—For the week ended January 6, 1945, 9 cases of typhus fever were reported in Jaffa, Palestine.

Turkey.—For the week ended March 24, 1945, 64 cases of typhus fever were reported in Turkey.

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