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An Investigation of Low Mortality in Certain Areas

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It has been recognized for some time that the lowest general death rates in the United States are found in the West North Central States. South Dakota had the lowest age-adjusted death rate for white persons in 1940. Nebraska was second in this respect with Iowa, Kansas, and North Dakota tying for third place. It might be thought that this geographical concentration of low mortality would disappear when urban and rural death rates are compared separately, since rural rates are considerably lower than urban and the West North Central States all have large proportions of rural population. However, the lowest urban white mortality in the country in 1940 was experienced in Minnesota with Wisconsin second, Nebraska third, Utah fourth, California fifth, and Iowa, Kansas, Massachusetts, and Michigan tying for sixth. Eastern and Far Western States are represented, but the West North Central States, with one exception, are all among the lowest. For rural white mortality, also, all of the States of this geographical division, except Missouri, ranked among the ten lowest in the country on the basis of age-adjusted death rates. In fact, the low level of the rural mortality in this area is more striking than that of the urban mortality. The rural white age-adjusted death rate in the West North Central States in 1940 was 16 percent below the rural rate for the country as a whole, while the urban white rate was 6 percent below the corresponding national figure.

The object of this investigation was to discover whether any set of factors exists which would account for the low rates that have consistently been observed in the rural areas and small towns of the West North Central region. The geographical units studied were counties, and the opportunity to make use of county mortality data was provided by the publication for the first time in 1943 by the National Office of Vital Statistics (at that time a part of the Census Bureau) of a table showing 2-year totals of deaths by age by place of residence for each county and city of over 10,000 population in the United States

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(*1*). The table refers to deaths in the years 1939 and 1940 and consequently presents the frequency of deaths at about the time of the 1940 census.

On the basis of the enumerated population at the time of the census and the deaths in the above mentioned table, age-specific death rates were computed for all the cities in the tabulation and for a systematic 10-percent sample of all the counties. For the particular purpose of this study the counties included in the sample were screened and certain counties were eliminated at the outset. The counties eliminated were as follows:

1. All counties containing a city of 10,000 or more population in 1940.
2. All counties having more than 30 percent of the population living in urban areas in 1940.
3. All counties in which the nonwhite population in 1940 formed 10 percent or more of the total or numbered 10,000 or more.
4. All counties with a population of less than 2,000 in 1940.
5. All counties in which 5 percent or more of the deaths in 1940 occurred in resident institutions.[1]

These counties were eliminated to reduce the number of factors causing variation in the death rate and thus facilitate the study of those which might be responsible for the low rates in the rural part of the West North Central region. While it is well known that a low proportion of nonwhite population, or a low proportion of urban population, is usually associated with lower death rates, it was also known in this case that the essentially rural white character of the populations under particular consideration was not the only cause of the low mortality. Hence, it was desirable to deal with a group of counties that was fairly homogeneous in this respect. It would have been preferable on theoretical grounds to include all types of counties and attempt to establish a control on the factors that were not under study, but this would have made the work exceedingly laborious. The few counties with large numbers of deaths in resident institutions or exceptionally small populations were omitted for fairly obvious reasons.

This process of elimination reduced the original sample of 308 counties to 124. This smaller sample represents, therefore, about 10 percent of the counties having largely rural white populations, excluding the very smallest ones and those containing large resident institutions.

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[1] The rules of the National Office of Vital Statistics for allocation of deaths to place of residence provide that deaths in institutions, such as mental institutions, orphanages, homes for the aged, and so forth, where the length of stay is usually long, are not re-allocated to the place of prior residence of the decedent. Hence, certain counties, in which the population of these resident institutions is a considerable proportion of the total, tend to have abnormally high death rates.

The distribution of these counties according to the nine major geographical divisions of the country was as follows:

	Number of all counties [1]	*Number of counties in sample*
United States	3,090	124
New England	67	4
Middle Atlantic	146	5
East North Central	436	22
West North Central	620	37
South Atlantic	577	8
East South Central	364	15
West South Central	470	17
Mountain	277	14
Pacific	133	2

[1] Includes certain jurisdictions sometimes classified as cities and also certain counties not organized as local governments.

For each of these counties a single index of mortality was computed by (*a*) calculating the annual age-adjusted death rate by the direct method (using the total United States population in 1940 as a standard) for the 2 years 1939 and 1940 combined; (*b*) finding the ratio of the age-adjusted rate to the crude death rate for the same 2 years; (*c*) multiplying the ratio obtained in (*b*) by the crude death rate for the 5-year period 1938–42; (*d*) adjusting the rate thus obtained for under-registration of deaths using the assumption described below.

It was apparent from inspection of the indices of mortality obtained in step (*c*) above that some of the low death rates were simply a reflection of incomplete registration of deaths. The only quantitative basis that exists for estimating the incompleteness of death registration is the information available on birth registration from the 1940 Birth Registration Test, conducted in conjunction with the census. Although nothing is accurately known about the relative completeness of death registration, there is reason to believe that death registration is better than birth registration and that many of the same factors which account for unregistered births in a given area also result in unregistered deaths. Consequently, it was assumed that the proportion of unregistered deaths in any county was one-half of the proportion of unregistered births estimated from the Birth Registration Test (*2*). Under this assumption the proportion of unregistered deaths in the country as a whole would be 3.75 percent, since the proportion for births was found to be 7.5 percent in 1940. Even if the proportion of unregistered deaths is more or less than one-half the proportion for births, a correction based on one-half probably results in a death rate for each county that is highly correlated with the "true" death rate for that county, except where

factors peculiar to death registration are responsible for the lack of completeness.

The factor actually used to correct for under-registration was designed so that its value for the country as a whole would be equal to 1. It therefore took the form:

$$\text{Correction for under-registration} = \frac{96.25}{100 - \frac{1}{2}(\text{percent of births unregistered})}$$

For the counties in the sample the value of the under-registration factor ranged from .963 (when no unregistered births had been found in the 1940 test) to a maximum of 1.503. However, it was greater than 1.100 in only 7 of the 124 counties. (Mean of distribution—1.014; standard deviation—.076.)

The final index of mortality was the ratio of the estimated age-adjusted death rate in the county for the years 1938–42 (corrected for under-registration) divided by the death rate in the entire country in 1940. Its value for all counties in the country would be very close to 1.000, and for any given county it is roughly proportional to the estimated age-adjusted death rate of that county.

The strength of the association of the index of mortality with a number of different variables was measured by the method of partial correlation. Some of the variables were discarded on the grounds that they appeared to explain little of the observed variation in mortality. One method that was used to examine new variables was to set up a least-squares linear regression equation on the basis of several variables known to have a significant association with the mortality. The differences between the actual and computed values of the dependent variable were then computed. (These will be termed the "deviates.") The association of these deviates with new variables was then examined either by means of scatter diagrams or zero order correlation coefficients.

It was decided in advance that the question of when to stop would be answered in terms of the original objectives of the investigation. The deviates obtained from a particular set of independent variables would be subjected to an analysis of variance. When an F test indicated that the mean square error between geographical regions was no longer significantly greater than the within-region mean square, then it would be concluded that the association of mortality with these variables was sufficient to explain the low death rates that were being studied. The geographic regions used in this analysis were somewhat more detailed than the 9 for which census statistics are usually shown. With one exception, however, the 14 regions used did not cut across the boundaries of the 9 major divisions. (Counties in Wisconsin were combined with those in Minnesota instead of with those in Ohio, Indiana, Illinois and Michigan.)

Results

It is not necessary to describe in detail all of the independent variables that were investigated. Some were not investigated as thoroughly as others. Hence, the set finally selected is not the only combination that would explain the observed geographic variation. Some were rejected simply because other indices seemed to measure the same thing better. Those rejected were variables measuring per capita retail sales and effective buying income, the proportion of aged persons in the population, the proportion of persons of European stock other than that from northwest Europe, educational status of the population, geographical density of the population, and percentage change in population between 1930 and 1940. Those finally included in the correlation analysis were:

X_2=rural level of living index, 1940 (*3*).
X_3=square root of the proportion of the population of the county in 1930 that was either born in a northwestern European country or born of parents one or both of whom were born in a northwestern European country (*4*).
X_4=percentage of births to residents of the county that were delivered in hospitals in 1939 and 1940 (*5*).
X_5=percentage of workers employed in agriculture in 1940 (*6*).

The rural level of living index (*3*) is described as "the result of an attempt to indicate in simple form the relative level of living in each county of the United States. It deals with the level of living of all rural families, both farm and nonfarm. The index for each county is a weighted average of indexes for rural farm and rural nonfarm families; the two indexes are weighted according to the proportions of the rural population of the county that are rural-farm and rural-nonfarm" (*6*, p. 428).[2] This composite level of living index contains measures of the crowding of the dwelling units, and the level of education, and prosperity of the families living in the county.

Since country of birth of foreign stock was not available by county in the 1940 census, it was necessary to go back to the previous census to obtain the numbers of foreign born and of native born of foreign or mixed parentage according to country of origin. Originally, proportions of persons of other types of foreign stock were included in the analysis, but it appeared that the only factor that seemed to be significantly associated with mortality was the proportion of persons of northwestern European stock, including persons whose families had immigrated fairly recently from Scandinavia, the Low Countries, France, Germany, and the British Isles. The square root of this proportion was more symmetrically distributed throughout the range of values and had a higher degree of linear association with mortality than the proportion itself.

[2] For a description of items included in the index, see this reference. For further detail see reference 3.

It was hoped that the percentage of births occurring in hospitals would measure the availability and utilization of medical facilities—a factor that was not measured in the level of living index. This turned out to be the least useful of the four independent variables.

The percentage of workers employed in agriculture accounted for more of the variation in mortality in these rural counties than did any of the other three variables.

Table 1 shows some of the correlation coefficients that were obtained using this set of variables. A "z"-test for significance indicated that only the two numerically largest 3rd-order correlation coefficients

Table 1. *Results of correlation analysis of mortality index for counties with certain socio-economic measures*

1 = index of mortality
2 = rural level of living
3 = $\sqrt{\text{percent Northwestern European stock}}$
4 = percent births in hospitals
5 = percent employed in agriculture

r_{ij}	$r_{ij \cdot k}$	$r_{ij \cdot klm}$
$r_{12} = -.32$	$r_{13.2} = -.22$	$r_{12.345} = -.26$
$r_{13} = -.43$	$r_{14.2} = .06$	$r_{13.245} = -.16$
$r_{14} = -.16$	$r_{15.2} = -.46$	$r_{14.235} = .14$
$r_{15} = -.37$	$r_{12.3} = -.03$	$r_{15.234} = -.37$
$r_{23} = .66$	$r_{14.3} = .12$	
$r_{24} = .67$	$r_{15.3} = -.32$	
$r_{25} = -.26$	$r_{12.4} = -.21$	
$r_{34} = .63$	$r_{13.4} = -.33$	
$r_{35} = .13$	$r_{15.4} = -.40$	
$r_{45} = -.17$	$r_{12.5} = -.41$	
	$r_{13.5} = -.38$	
	$r_{14.5} = -.22$	

could be considered significant. The square of the multiple correlation coefficient ($R^2_{1.2345}$) was equal to .35. It may seem that accounting for only 35 percent of the total variation represents very little gain in knowledge. However, the objective had been established of explaining that variation which was strongly related to geographical location. Hence, it was not necessary and, indeed, it would have been an overwhelming task to examine the scores of available chracteristics of the counties, such as climatological and demographic characteristics, in an attempt to reduce the residual variation still further.

The least-squares regression plane for the regression of X_1 (mortality) on the four variables described above was found to be:

$$X'_1 = 1.2565 - .0023X_2 - .0014X_3 + .0011X_4 - .0038X_5$$

The deviates, $X_1 - X'_1$, were grouped into 14 geographic subdivisions of the country. The arithmetic means of these deviates and of X_1, X'_1, and each of the other indices for all the sample counties falling into any one region are shown in table 2. The table suggests that not all of the regional variation was removed by taking account of the linear association of mortality with the four independent variables chosen. However, the only marked departures from the regression plane are the negative deviations for the six Arkansas

Table 2. *Means of indices for sample counties in each of 14 regions*

Regions and States in which sample counties were located	Number counties in sample	Unweighted means of indices [1] for sample counties in each region						
		Rural level of living	$10 \times \sqrt{\%}$ of pop. of N. W. Eur. origin	% births in hosp.	% emp. in agric.	Mortality [2] X_1	Computed mortality [2] X'_1	$X_1 - X'_1$
I Me., Vt., Mass	4	126	21.70	42.76	21.8	.893	.903	−.010
II N. Y., Penn	5	120	19.88	27.85	27.5	.880	.882	−.002
III Ohio, Ind., Ill., Mich	19	111	31.43	26.61	48.2	.827	.807	+.020
IV Wis., Minn	9	126	66.01	50.21	59.3	.711	.708	+.003
V N. Dak., S. Dak	9	108	57.24	41.43	68.8	.664	.714	−.050
VI Nebr., Iowa, Kans	16	122	44.81	34.57	56.9	.713	.739	−.026
VII Missouri	6	90	25.65	10.23	55.2	.784	.819	−.035
VIII Va., W. Va., N. C	8	86	8.30	10.12	46.9	.871	.883	−.012
IX Ala., Tenn	5	69	5.36	5.81	59.2	.901	.874	+.027
X Kentucky	10	81	7.63	6.92	55.0	.925	.862	+.063
XI Arkansas	6	75	8.33	5.21	64.9	.680	.836	−.156
XII Okla., Tex	11	104	21.06	29.53	59.0	.825	.800	+.025
XIII Colo., Utah, Mont., Idaho, Wyo	14	112	40.83	46.30	51.6	.833	.799	+.034
XIV Oreg., Calif	2	118	33.01	72.49	42.4	.972	.858	+.114

[1] For description of indices, see text. In a later table, weighted means of indices, with county populations as weights, are used.

[2] Note that the mortality index is expressed as a ratio and not as a death rate. The age-adjusted death rate corrected for under-registration of deaths as described in this study can be obtained by multiplying each of these ratios by the United States crude death rate in 1939 and 1940, which was 10.7 per 1,000 population.

counties and the positive deviations of the West Coast counties, the latter being of little significance because of the small number of counties in the sample.

The analysis of variance of the county deviates within and between regions is presented in table 3. The results indicate that the remaining geographical variation cannot be explained as a chance result. However, examination of the between-region sum of squares showed that more than one-half of the total sum of squares arose from the six counties in Arkansas (which had been set up as a separate region). All of the deviates for these counties had a negative sign. Arkansas is not among the West North Central States for which the low rural mortality was being investigated, but the mean of the mortality index for these six counties is the second lowest of any of the regions. The regression plane fits the West North Central counties reasonably well but misses badly in predicting the Arkansas counties.

Table 3. *Analysis of variance and test for significance of mortality index for counties with certain socio-economic measures held constant*

	d. f.	Sums of squares	Mean squares
Between regions	13	0. 2893205	0. 0222554
Within regions	110	. 9611423	. 0087377
Total	123	1. 2504628	. 0101664

$$F=\frac{0.0222554}{0.0087377}=2.55^{1}$$

1% point=2.30

[1] If the deviate for each county is weighted by the population of the county, the value of F is reduced to 2.32.

If the six Arkansas counties are omitted from the analysis of variance, a conservative estimate of the between-region sum of squares is obtained without recomputing the regression function, i. e., an estimate which is certainly not lower than that which would have been found had the six counties been omitted at the outset. The revised analysis of variance is shown in table 4.

The mean square estimated from the regional means is not significantly greater than the mean square estimated from within-region variation. It can be said, therefore, that, if the six counties in Arkansas are excluded, the remaining geographical variation is not too great to have arisen as a result of chance.

Table 4. *Revised analysis of variance of table 2 with six Arkansas counties omitted*

	d. f.	Sums of squares	Mean squares
Between regions	12	0. 1355413	0. 0112951
Within regions	105	. 9074890	. 0086428
Total	117	1. 0430303	. 0089148

$$F=\frac{0.0112951}{0.0086428}=1.31^{1}$$

1% point=2.35

5% point=1.85

[1] If the deviate for each county is weighted by the population of the county, the value of F is reduced to 1.19.

Discussion

The only factor that can reasonably be introduced to explain the low mortality in the Arkansas counties is incompleteness of death registration. In other obvious respects these counties are not different from some of the other counties in the sample, except in ways that would appear to make the death rates higher rather than lower. On the other hand, the Arkansas counties were no worse than some other counties as regards birth registration. Hence, it seems most likely that death registration is poor in these counties for some reasons that do not necessarily influence birth registration.

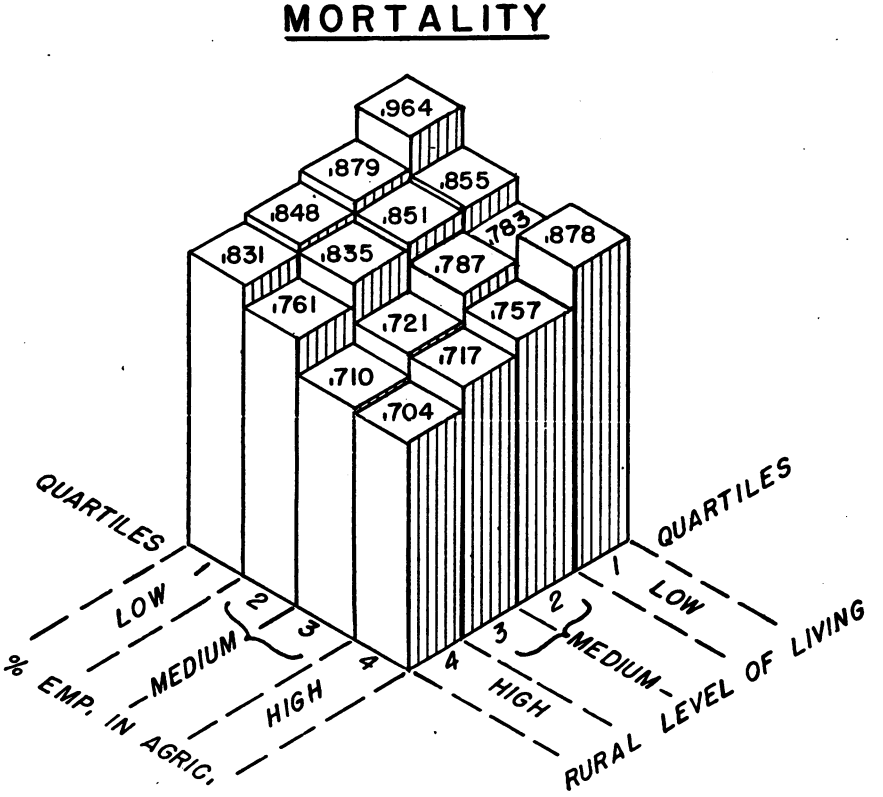
Table 5. *Mortality index in 124 counties distributed according to percent employed in agriculture and rural level of living* [1]

Rural level of living index	Percent employed in agriculture							
	9.2–46.9		47.0–55.9		56.0–61.4		61.5–83.8	
	Mortality index	Frequency and mean [2]	Mortality index	Frequency and mean [2]	Mortality index	Frequency and mean [2]	Mortality index	Frequency and mean [2]
50–91	0.800 .959 .986 1.048	4 .964	0.763 .782 .784 *.802 .916 .937 1.007	7 .855	*0.570 *.708 .834 .863 .885 .890	6 .783	*0.535 .647 *.695 *.768 .768 .786 .852 .864 .876 .878 .924 .928 .975 1.066 1.204	15 .878
92–111	0.676 .706 .779 .788 .798 .838 .904 .939 .961 1.000 1.042 1.079	12 .879	0.740 .817 .818 .825 1.088	5 .851	0.673 .720 .752 .768 .786 .794 .803 .886	8 .787	0.546 .655 .717 .747 .867 1.040	6 .757
112–122	0.799 .800 .842 .869 .902 .930 1.016	7 .848	0.689 .689 .693 .731 .759 .779 .815 1.145	8 .835	0.647 .653 .695 .712 .727 .763 .784 .909	8 .721	0.515 .690 .695 .705 .712 .926	6 .717
123–145	0.734 .785 .793 .829 .838 .882 .885 .922	8 .831	0.665 .671 .728 .740 .742 .750 .760 .780 .792 .794 .895	11 .761	0.666 .667 .668 .671 .702 .730 .760 .763 .769	9 .710	0.671 .683 .738 .741	4 .704

[1] Values marked with an asterisk are those for the 6 counties in the sample located in Arkansas.
[2] Weighted mean using populations as weights.

The variables of real importance in explaining the geographic variation of mortality in this sample of 124 rural white counties were: (1) rural level of living, and (2) proportion of working population engaged in agriculture. In each case the association is a negative one. This relationship is more clearly shown in table 5 in which the mortality index for each of the 124 counties is listed according to its quartile position in the distribution of the counties according to rural level of living and percent employed in agriculture. In each cell of the table the weighted mean of the values in that cell is also presented. The weights used were the 1940 populations of the counties. It will be seen that there is a fairly regular downward gradient from left to right and from top to bottom. The six Arkansas counties are marked with asterisks. The chart shows the same relationship graphically.

The negative relationship between living standards and mortality is understandable and, in fact, has been recognized for a long time.



Mortality in 124 rural white counties classified according to high, medium, and low rural level of living and percent of population over 14 years of age employed in agriculture, 1940 (see text for description of mortality index).

The data presented here, however, seem to indicate that in the population of rural areas and small towns the proportion of the population engaged in agriculture is at least an equally important factor in determining the age-adjusted death rate. This investigation does not, of course, show how many intermediate factors, themselves associated with percent employed in agriculture, should be inserted in the causal chain between the farm employment and the death rate. In fact, if all the causes of low and high mortality were known, this particular relationship might prove to be highly artificial. Some light is thrown upon it by a study of life tables for those States with high proportions of farm population contrasted with those having low farm populations, holding constant the median family income or some other measure of living standards. Such data suggest that if the index of mortality for the sample of counties used here had been confined to mortality under, say, 40 years of age, the strength of the association with rural level of living would have increased while the correlation with percent employed in agriculture would actually have been reduced. If, on the other hand, the mortality index had been based upon death rates over age 40, using, for example, the reciprocal of the expectation of life at age 40 as a measure, exactly the reverse would have been true.

If it should prove to be a fact that a particular environment or occupation is conducive to improve expectation of life beyond middle age, the reason for some of the now inexplicable variation in mortality from one area to another would become clear. Since death rates, nowadays, whether age-adjusted or crude, tend to be determined more and more by the age-specific rates at the older ages, some knowledge of the factors influencing these rates would contribute greatly to the usefulness of mortality statistics.

Summary

This study was undertaken in the hope of finding at least a partial explanation of the particularly low mortality that prevails in the rural parts of the West North Central region of the United States. It is pointed out that urban mortality is also low in these States, but the difference is not so marked.

The geographical units studied were counties. Out of the 3,090 counties in the country a sample of 124 was selected, comprising approximately 10 percent of the counties that had in 1940: (*a*) No city of 10,000 or more population; (*b*) not more than 30 percent of the population classified as urban; (*c*) not as much as 10 percent or as many as 10,000 nonwhite population; (*d*) not less than 2,000 population in all; (*e*) not as much as 5 percent of the 1940 deaths occurring in resident institutions. This preliminary elimination of certain types

of counties was made in order to reduce the effect of certain factors having an influence upon mortality that is already well recognized. For this same reason the death rates were age-adjusted, and an attempt was made also to adjust for assumed incompleteness of death registration by using information obtained in the 1940 Birth Registration Test. The final index of mortality used was roughly proportional to the age-adjusted death rates for the sample counties in the period 1938–1942.

The association of these measures of mortality with certain demographic and socio-economic characteristics of the populations of each of the 124 counties in the sample was studied. The plan was to find several factors which would be sufficient to account for the observed geographical differences in mortality. It was found that if two factors, (1) the "rural level of living" (a measure of standard of living in rural areas), and (2) the proportion of workers employed in agriculture, were held constant for each county, the remaining geographical differences could be explained as chance variation. This held true, however, only when the six Arkansas counties in the sample were omitted. The exceptionally low mortality in these counties was thought to be due to under-registration of deaths that was not associated with under-registration of births and, hence, had not been taken into account in the construction of the mortality index.

This study seemed to suggest that the mortality of a rural area is at least as dependent upon the proportion of its workers employed in agriculture as it is upon its standard of living. The question was raised for further study as to whether a high proportion of persons in farm employment might be found to be significantly associated with mortality at the older ages, in contrast with the standard of living which has been generally supposed to have more influence on death rates at the beginning of life.

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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 ENDING JULY 2, 1949

A total of 479 cases of poliomyelitis was reported, as compared with 409 last week, 362 for the corresponding week last year, and a 5-year (1944–48) median of 220. Of the 22 States reporting more than 4 cases each, 4 showed no increase. The largest increases over last week were reported in Arkansas (42 to 59), Louisiana (4 to 15), Kansas (2 to 13), and Minnesota (16 to 25). The 6 other States reporting increases of 5 or more cases are as follows (last week's figures in parentheses): Massachusetts 10 (4), New York 12 (7); Ohio 6 (0), Indiana 7 (2), Illinois 11 (3), Texas 18 (13). The total reported since March 19 (average week of seasonal low incidence) is 2,273, as compared with 2,020 for the corresponding week last year and a 5-year median of 874.

Of the total of 32 cases of Rocky Mountain spotted fever reported for the week (last week 26, 5-year median 26), 23 occurred in the South Atlantic and South Central areas, 6 in 4 States of the Mountain area, and 1 case each in New Jersey, Pennsylvania, and Ohio.

During the week 2 cases of anthrax were reported in New York State.

Current and cumulative figures are above the corresponding medians for measles, poliomyelitis, infectious encephalitis, Rocky Mountain spotted fever, and tularemia.

Deaths recorded in 94 large cities in the United States during the week totaled 8,979, as compared with 8,877 last week, 8,963 and 8,078, respectively, for the corresponding weeks of 1948 and 1947, and a 3-year (1946–48) median of 8,079. The total for the year to date is 246,775, as compared with 250,144 for the corresponding period last year. Infant deaths during the week totaled 686, as compared with 583 last week and a 3-year median of 630. The cumulative figure is 16,853, as compared with 17,637 for the same period last year.

Telegraphic case reports from State health officers for week ended July 2, 1949

(Leaders indicate that no cases were reported)

Division and State	Diphtheria	Encephalitis, infectious	Influenza	Measles	Meningitis, meningococcal	Pneumonia	Poliomyelitis	Rocky Mountain spotted fever	Scarlet fever	Smallpox	Tularemia	Typhoid and paratyphoid fever	Whooping cough	Rabies in animals
NEW ENGLAND														
Maine	1			43					3				16	
New Hampshire				6										
Vermont				42									1	
Massachusetts	7			240	2		10		39			1	106	
Rhode Island				24		2			2				1	
Connecticut			1	342	1	33	3		10				13	1
MIDDLE ATLANTIC														
New York	3	4	(c)	1,097	2	164	12		[d] 38			3	190	6
New Jersey	1	1		730	1	29	2	1	13				40	
Pennsylvania	5		(c)	649	2		2	1	44			1	57	1
EAST NORTH CENTRAL														
Ohio	1		1	515	3	16	6	1	40			1	68	11
Indiana	9		6	22		3	7		3			1	8	20
Illinois		1		286	1	39	11		11		1	1	89	4
Michigan	2	1		320	2	48	10		59				28	1
Wisconsin			2	1,229		3	5		12		1	1	64	
WEST NORTH CENTRAL														
Minnesota				22	1	5	25		10				5	
Iowa				32	1	2	4		1		1			4
Missouri	1		1	26		7	11		8		3	4	1	
North Dakota				4	1		6					1	2	
South Dakota				32					1					
Nebraska			2	27			2		14					
Kansas	1	1	1	39	2	4	13		5				4	
SOUTH ATLANTIC														
Delaware				10					1				6	
Maryland			1	46		20		[1] 1	9				26	
Dist. of Col	1			34		4	1		4					
Virginia	1		24	244		15	4	7	4		1	9	18	
West Virginia	2			32			6		4			2	33	
North Carolina	3			128	1		3	3	5		1	3	27	
South Carolina	2		95	151		36		1			1		16	2
Georgia	3		24	106	2	133	4	1	3			7	9	5
Florida	3			57		4	1		1			1	3	2

EAST SOUTH CENTRAL														
Kentucky	3			76	2	2	5	4	6			4	6	9
Tennessee		1	9	67	3	21	10	1	6			5	41	
Alabama	2		5	82	3	23	14		7				11	5
Mississippi [a]		1		22		6		1	5		1	2	7	
WEST SOUTH CENTRAL														
Arkansas	2		8	55	1	20	59		3		8	5	31	6
Louisiana	6			12	1	34	15		1		1	5	4	
Oklahoma	1		6	114		9	51	4	2			1	4	1
Texas	6	1	259	219	8	169	118		9		2	7	157	16
MOUNTAIN														
Montana				81				1	6			[e]	7	
Idaho			29	77		6	9		[d] 15			1	10	
Wyoming				7		17	2	1	2		2			
Colorado			2	26	2	10	2	1	2		1		15	
New Mexico	2		2	7	2	24	4					2		
Arizona			17	67		2	3					4	14	
Utah [a]				48		1	1	3	2		4		28	
Nevada														
PACIFIC														
Washington			10	56		1	7		15				12	
Oregon				63		5	2		7				19	
California	4	1	6	392	4	16	29		[d] 41			2	44	1
Total	72	12	511	8,006	48	933	479	32	473		28	74	1,241	
Median, 1944–48	159	10	583	6,034	81		220	26	1,223	4	20	111	2,170	
Year to date 26 weeks	3,688	269	74,185	568,871	1,992	50,103	3,197	238	56,601	40	640	1,293	27,471	
Median, 1944–48	6,165	231	188,206	517,296	3,964		1,271	172	82,114	245	471	1,586	50,116	
	(27th)		(30th)	(35th)	(37th)		(11th)		(32d)	(35th)		(11th)	(39th)	
Seasonal low week ends	July 10		July 31	Sept. 4	Sept. 18		Mar. 19		Aug. 14	Sept. 4		Mar. 19	Oct. 2	
Since seasonal low week	8,802		110,455	621,264	2,836		2,273		79,299	50		833	37,504	
Median, 1943–48 [b]	13,731		332,369	552,242	5,468		874		120,685	328		1,111	81,382	

[a] Period ended earlier than Saturday.
[b] The median of the 5 preceding corresponding periods; for poliomyelitis and typhoid fever the corresponding periods are 1944–45 to 1948–49, inclusive.
[c] New York City and Philadelphia only, respectively.
[d] Including cases reported as streptococcal infection and septic sore throat.
[e] Including paratyphoid fever; currently reported separately, as follows: North Dakota 1, Virginia 2, West Virginia 1, North Carolina 1, Georgia 1, Arkansas 1, Texas 1, New Mexico 1, California 1. Cases reported as Salmonella infection, not included, were as follows: Massachusetts 2, Pennsylvania 1, New York 3.
Anthrax: New York 2.
Alaska: Streptococcal throat 1, measles 2.
Hawaii Terrtitory: Influenza 2, measles 48.
[f] April onset.

PLAGUE INFECTION IN LINCOLN COUNTY, WYO.

Under date of June 30 plague infection was reported proved in a pool of 45 fleas from 15 ground squirrels, *Cytellus armatus*, and in a pool of 9 fleas from 9 ground squirrels, *Citellus richardsonii elegans*, collected on June 17 at a location 5 miles northeast of Opal, Lincoln County, Wyo.

DEATHS DURING WEEK ENDED JUNE 25, 1949

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

	Week ended June 25, 1949	Corresponding week, 1948
Data for 94 large cities of the United States:		
Total deaths	8,877	8,576
Median for 3 prior years	8,603	
Total deaths, first 25 weeks of year	237,797	241,181
Deaths under 1 year of age	583	612
Median for 3 prior years	629	
Deaths under 1 year of age, first 25 weeks of year	16,167	16,991
Data from industrial insurance companies:		
Policies in force	70,388,886	71,043,978
Number of death claims	12,205	12,346
Death claims per 1,000 policies in force, annual rate	9.0	9.1
Death claims per 1,000 policies, first 25 weeks of year, annual rate	9.5	10.0

FOREIGN REPORTS

CANADA

Provinces—Notifiable diseases—Week ended June 11, 1949—During the week ended June 11, 1949, cases of certain notifiable 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		39	1	208	379	33	105	91	79	935
Diphtheria				11	3					14
Dysentery, bacillary				7					1	8
Encephalitis, infectious									1	1
German measles		38		150	35	7	46	64	27	367
Influenza		38			6	13				57
Measles		46	4	260	299	332	202	462	385	1,990
Meningitis, meningococcal					1	1				2
Mumps		43		76	237	16	3	11	86	472
Poliomyelitis				2		1			1	4
Scarlet fever				55	58	3	1	14	8	139
Tuberculosis (all forms)		1	6	131	25	12	12	14	19	221
Typhoid and paratyphoid fever				6	1				2	9
Undulant fever				2	1					3
Venereal diseases:										
Gonorrhea		8	9	89	60	18	12	19	67	282
Syphilis		8	4	58	44	4	1	8	16	143
Whooping cough				77	32	8			6	123

JAPAN

Notifiable diseases—4 weeks ended May 28, 1949, and accumulated totals for the year to date.—For the 4 weeks ended May 28, 1949, and for the year to date, certain notifiable diseases have been reported in Japan as follows:

Disease	4 weeks ended May 28, 1949		Total reported for the year to date	
	Cases	Deaths	Cases	Deaths
Diphtheria	1,071	97	7,602	788
Dysentery, unspecified	547	149	1,375	364
Encephalitis, Japanese "B"			1	
Gonorrhea	15,098		76,550	
Influenza	404		1,617	
Malaria	411	6	925	21
Measles	35,728		95,657	
Meningitis, epidemic	121	27	693	175
Paratyphoid fever	130	2	678	24
Pneumonia	14,419		81,035	
Scarlet fever	481	12	2,074	35
Smallpox	54	6	95	10
Syphilis	16,860		86,510	
Tuberculosis	42,144		184,242	
Typhoid fever	356	47	1,837	242
Typhus fever	7	1	83	4
Whooping cough	9,165		33,942	

NOTE:—The above figures have been adjusted to include delayed and corrected reports.

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

Note.—The following reports include only items of unusual incidence or of special interest and the occurrence of these diseases, except yellow fever, in localities which had not recently reported cases. 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

Burma.—During the week ended April 23, 1949, 30 cases of cholera, with 2 deaths, were reported in Burma.

Plague

British East Africa—Kenya.—During the week ended May 21, 1949, 1 case of plague was reported in the Fort Hall District, Kenya, British East Africa.

India—Calcutta.—During the period May 29–June 18, 1949, 68 cases of plague with 6 deaths were reported in Calcutta, India.

Smallpox

Arabia—Aden.—Information dated June 28, 1949, states that on June 27, three cases of smallpox were landed at the port of Aden, Arabia, from a ship that left Batavia June 15 for Holland. The next port of call was said to be Suez.

Australia—Fremantle.—Information dated June 16, 1949, states that the steamship "Mooltan" arrived at Fremantle, Australia, on May 27 from United Kingdom, via Bombay and Colombo, with 1 case of modified smallpox on board. The patient and all contacts were quarantined.

Java—Batavia.—For the week ended June 18, 1949, 226 cases of smallpox were reported in Batavia, Java.

Nigeria—Lagos.—During the period June 1–18, 1949, 34 cases of smallpox with 4 deaths were reported in Lagos, Nigeria.

Spain—Canary Islands.—During the period May 1–21, 1949, 6 cases of smallpox were reported in the Canary Islands.

Typhus Fever

Belgium.—Four cases of endemic typhus fever were reported in the Brussels area, Belgium, during the week ended June 18, 1949.

British East Africa—Nyasaland—Zomba.—During the week ended June 4, 1949, 4 cases of typhus fever were reported in Zomba, Nyasaland, British East Africa.

Yellow Fever

No reports of yellow fever were received during the current week.

Notifiable Diseases, First Quarter, 1949

The figures in the following table are the totals of the monthly morbidity reports received from State health authorities for January, February, and March 1949, and show the numbers of cases reported by the required reporting sources in the respective States. They are preliminary and are subject to correction by final reports. They may be assumed to represent the civilian population only, although in some instances a few cases in the military population may be included. The comparisons made are with similar preliminary reports; but owing to population shifts in many States since the 1940 census, the figures for some States may not be comparable with those for prior years, especially for certain diseases. Each State health officer has been requested to include in the monthly report for his State all diseases that are required by law or regulation to be reported in the State, although some do not do so. The list of diseases required to be reported is not the same for each State. Only a few of the common communicable diseases are notifiable in all the States. In some instances cases are reported, in some States, of diseases that are not required by law or regulation to be reported and the figures are included although manifestly incomplete. There are also variations among the States in the degree of, and checks on, the completeness of reporting of cases of the notifiable diseases; therefore comparisons as between States may not be justified for certain diseases. As compared with the deaths, incomplete case reports are obvious for such diseases as malaria, pellagra, pneumonia, and tuberculosis, while in many States other diseases, such as cancer, puerperal septicemia, rheumatic fever, and Vincent's infection, are not reportable. However, the figures are recorded as reported.

In spite of these and other deficiencies inherent in morbidity reporting, these monthly reports, which are published quarterly and annually in consolidated form, have proved of value in presenting early information regarding the reported incidence of a large group of diseases and in indicating trends by providing a comparison with similar preliminary figures for prior years. The table gives a general picture of the geographic distribution of certain diseases, as the States are arranged by geographic areas.

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

Consolidated Monthly State Morbidity Reports for January, February, and March, 1949

Division and State	Anthrax	Chickenpox	Conjunctivitis [1]	Diphtheria*	Dysentery, amebic	Dysentery, bacillary	Dysentery, undefined	Encephalitis, infectious	German measles	Hookworm disease	Influenza	Malaria [2]	Measles*	Meningitis, meningococcal*	Mumps	Ophthalmia neonatorum	Pellagra	Pneumonia, all forms
NEW ENGLAND																		
Maine	------	1,309	------	15	1	------	------	3	121	------	37	1	5,713	4	1,552	------	------	235
New Hampshire	------	543	------	4	------	------	------	------	175	------	30	------	1,126	5	569	------	------	49
Vermont	------	1,047	------	1	------	------	------	------	161	------	------	------	4,499	5	918	------	------	30
Massachusetts	3	11,959	------	109	1	5	------	4	1,240	------	------	------	17,861	18	4,723	42	------	------
Rhode Island	------	627	------	4	1	------	------	------	9	------	------	------	4,876	5	1,191	------	------	114
Connecticut	------	6,025	29	9	8	2	------	3	411	1	150	1	5,304	13	5,438	------	------	861

See footnotes on page 932.

Consolidated Monthly State Morbidity Reports for January, February, and March, 1949—Continued

Division and State	Anthrax	Chickenpox	Conjunctivitis [1]	Diphtheria*	Dysentery, amebic	Dysentery, bacillary	Dysentery, undefined	Encephalitis, infectious	German measles	Hookworm disease	Influenza	Malaria [2]	Measles*	Meningitis, meningococcal*	Mumps	Ophthalmia neonatorum	Pellagra	Pneumonia, all forms
MIDDLE ATLANTIC																		
New York	9	14,762	4	73	162	66	-------	6	[3] 4,526	[3] 21	[3] 49	6	21,344	67	[3] 5,139	7	-------	4,134
New Jersey	-------	24,513	-------	30	20	1	-------	1	3,208	-------	53	2	10,027	28	3,831	4	-------	1,156
Pennsylvania	4	17,273	-------	132	5	-------	-------	4	677	-------	46	-------	21,407	97	4,712	6	-------	1,462
EAST NORTH CENTRAL																		
Ohio	-------	10,091	-------	83	4	2	1	-------	681	-------	31	5	2,221	37	3,791	105	-------	637
Indiana	-------	1,766	24	99	5	-------	-------	9	167	-------	226	1	1,221	14	540	-------	-------	294
Illinois	-------	9,227	34	30	58	23	-------	7	2,061	-------	196	[4] 1	972	58	3,383	25	-------	1,812
Michigan	-------	11,479	245	26	149	39	-------	1	1,150	16	72	-------	7,029	34	3,158	1	-------	693
Wisconsin	-------	12,552	-------	8	2	-------	-------	5	1,738	-------	771	-------	13,483	38	5,390	-------	-------	[5] 158
WEST NORTH CENTRAL																		
Minnesota	-------	1,700	3	49	11	2	1	-------	-------	-------	7	[6] 10	1,038	21	-------	-------	-------	171
Iowa	-------	1,663	-------	9	1	-------	1	2	13	-------	-------	-------	324	10	1,638	-------	-------	34
Missouri	-------	1,659	3	30	-------	-------	5	1	2	-------	91	2	5,380	31	435	-------	-------	374
North Dakota	-------	327	5	3	-------	-------	-------	-------	-------	-------	107	-------	679	4	-------	-------	-------	203
South Dakota	-------	299	-------	4	-------	-------	-------	-------	-------	-------	4	-------	189	4	209	-------	-------	7
Nebraska	-------	623	-------	5	1	-------	-------	-------	-------	-------	76	-------	637	2	1,380	-------	-------	45
Kansas	1	2,137	87	32	-------	1	-------	1	414	-------	93	-------	10,392	10	1,156	-------	-------	20
SOUTH ATLANTIC																		
Delaware	-------	313	-------	10	-------	-------	-------	-------	-------	-------	1	-------	199	5	52	-------	-------	6
Maryland	-------	1,929	8	28	4	-------	8	2	425	-------	30	2	13,695	16	353	3	-------	540
District of Columbia	-------	858	-------	14	1	9	-------	-------	-------	-------	-------	-------	882	7	-------	-------	-------	179
Virginia	-------	2,586	-------	42	-------	-------	884	2	-------	-------	4,750	2	9,969	29	1,384	-------	4	1,501
West Virginia	-------	550	-------	28	-------	-------	-------	-------	281	-------	870	-------	2,045	17	331	28	-------	177
North Carolina	-------	-------	-------	86	4	6	-------	1	-------	-------	-------	8	6,613	24	-------	-------	-------	-------
South Carolina	-------	1,026	-------	80	12	77	-------	4	283	411	7,971	32	2,081	18	952	9	120	2,412
Georgia	-------	1,252	4	39	5	33	2	2	-------	1,213	244	14	4,163	24	1,273	-------	5	534
Florida	-------	1,120	-------	80	28	24	-------	1	13	1,257	116	19	1,263	8	494	2	-------	225

EAST SOUTH CENTRAL																		
Kentucky	------	1,001	56	67	1	3	------	3	569	13	230	8	4,659	58	1,585	------	------	668
Tennessee	------	1,089	------	56	27	8	5	3	61	2	1,015	2	3,225	49	920	6	7	1,052
Alabama	------	1,104	------	101	5	------	------	------	39	------	1,384	11	6,493	20	560	------	5	932
Mississippi	------	------	------	69	24	6	------	5	------	1,383	------	5	892	18	------	5	------	427
WEST SOUTH CENTRAL																		
Arkansas	------	874	------	50	68	18	90	------	196	2	3,014	14	6,739	10	822	------	3	1,342
Louisiana	------	359	------	46	217	3	------	1	14	133	109	10	694	15	347	3	1	496
Oklahoma	1	839	------	42	53	------	7	------	145	9	911	10	2,936	18	1,056	1	12	617
Texas	------	13,637	------	276	128	3,831	1,993	1	------	------	------	522	34,909	98	5,582	31	------	6,380
MOUNTAIN																		
Montana	------	999	30	11	------	------	------	1	636	------	114	------	649	5	224	------	------	56
Idaho	------	518	19	19	------	------	146	------	251	------	127	2	918	2	990	------	------	131
Wyoming	------	257	------	5	1	------	------	2	161	------	1	------	225	1	379	------	------	36
Colorado	------	2,399	------	32	2	13	------	5	458	------	591	------	3,798	14	1,084	------	------	472
New Mexico	------	518	3	15	2	3	1	1	54	------	34	------	2,628	2	243	3	------	289
Arizona	------	1,047	------	54	15	89	20	1	359	------	1,933	4	1,729	3	320	------	1	453
Utah	------	1,316	------	[7] 20	------	[7] 3	------	------	175	------	57	------	1,167	------	686	------	------	70
Nevada	------	104	4	1	------	------	------	------	------	------	31	------	231	3	11	------	------	28
PACIFIC																		
Washington	------	4,411	88	13	5	5	577	2	1,098	------	1,097	1	5,652	24	2,217	------	------	360
Oregon	------	1,242	66	13	28	2	------	------	------	------	------	------	6,456	7	1,161	1	------	488
California	------	20,239	------	139	92	77	------	17	8,901	------	500	[6] 8	20,288	106	14,923	2	------	[8] 569
Total	18	193,168	712	2,191	1,151	4,351	3,741	101	30,873	4,461	27,169	703	280,920	1,106	87,102	284	158	33,118
First quarter, 1948	19	138,372	505	2,724	802	3,387	2,863	117	4,981	4,421	128,825	1,316	196,697	[8] 1,114	91,250	226	297	33,719
Median 1944–48	14	133,938	505	3,655	682	4,336	1,591	113	11,076	4,142	213,750	6,378	196,697	2,512	61,511	330	854	40,814
Alaska	------	73	------	------	------	------	------	------	39	------	68	------	38	1	185	------	------	11
Hawaii Territory	------	747	.3	9	2	11	------	------	103	1	1,910	------	3,900	------	411	------	------	[8] 19
Panama Canal Zone [9]	------	88	------	12	21	8	------	------	1	------	------	306	6	10	6	------	------	[10] 29

See footnotes on page 932.

Consolidated monthly State morbidity reports for January, February, and March, 1949—Continued

Division and State	Poliomyelitis*	Rabies in man	Rheumatic fever	Rocky Mountain spotted fever	Scarlet fever*	Septic sore throat	Smallpox*	Tetanus	Trachoma	Trichinosis	Tuberculosis, all forms*	Tuberculosis, respiratory	Tularemia	Typhoid fever*	Paratyphoid fever	Typhus fever, endemic	Undulant fever*	Vincent's infection	Whooping Cough*
NEW ENGLAND																			
Maine			1		284	23				2	150	134							101
New Hampshire					132	28					46						1	8	105
Vermont	2				122	4									2		3	26	137
Massachusetts					3,541	40		2	3	11	611	577	1	4	7		12		872
Rhode Island			21		178	5				1	131	79					3	5	81
Connecticut					593	201		2		8	380	366			1		33		74
MIDDLE ATLANTIC																			
New York	17				[13] 3,128	([12])		2		29	3,926	3,672	1	18	[13] 25		42		1,644
New Jersey	38				1,884	67		1		6	834			7	3		11		631
Pennsylvania	11		279	9	3,150					4	1,293		3	42	[13] 3	1	19		892
EAST NORTH CENTRAL																			
Ohio	8		45		4,417	13	2	2		8			2	19			35	11	681
Indiana	10		6		928	10			1		703	653	7	11	1		5		265
Illinois	10		22		2,427	43		4	1	1	1,715	1,610	18	17			109	45	446
Michigan	24		205		4,675	551	1	3			1,224			9	[13] 8	2	43		464
Wisconsin	10				948	169			2		546		4	2	1		70		470
WEST NORTH CENTRAL																			
Minnesota	40		18		912	64		4			299			1	[13] 1		69		24
Iowa	12		1	2	464	3				27	161		2	1			63		50
Missouri	13		5		478	9	4	1	97		577		24	16	1		17		67
North Dakota	4		5		138	6		1			47	45						7	76
South Dakota	21				56	1			1		77			1			3		15
Nebraska	14		1		[11] 172	([12])					87			1			8	1	42
Kansas	15		1		415	5	1		3		184	183	6	3			31	17	49
SOUTH ATLANTIC																			
Delaware	3				162						92	92		1					14
Maryland	5		37		425	27		1			828	468		9	[13] 4		10	1	122
District of Columbia					113			1					1	3	1				42
Virginia	8		4		239	605					793	770	7	12	2		14		357
West Virginia	13		4		303	39					546	544		10					224
North Carolina	29			4	286	13					950	904	30	9	6	11	9		331
South Carolina	15		73		92	2,221		2			122		33	12	3	5	13		323
Georgia	8		22		176	63		5			540	532	61	16	5	27	25	3	58
Florida	15				80	49		15	8		951	951	5	13	[13] 43	25	29	29	91

EAST SOUTH CENTRAL																			
Kentucky	6		22	1	740	22	1		45		602	581	4	32			4		477
Tennessee	8		30	2	562	137		4			1,177		39	19		10	13	45	167
Alabama	14			1	203			3			767		5	5	3	28	18		160
Mississippi	11		23		60			3			624	601	31	18			12		80
WEST SOUTH CENTRAL																			
Arkansas	11		7	1	69	284		2	13		502	494	8	19			7		120
Louisiana	10	1	11		76	10	1	6			746	713	23	36	6	5	6		40
Oklahoma	4		58		178	121		1	50		395	387	14	16		2	27	32	38
Texas	112				471	1,014	6		8	11	2,042		17	43	6	63	92		1,509
MOUNTAIN																			
Montana	6				222	48					154	154	3	3			5		20
Idaho	15		12		98	156	2				63			5	1		7	10	24
Wyoming			25	2	97						14	14	3		1		3	1	4
Colorado	3		39		227	98		1	2		323			4	4		18	7	113
New Mexico	1		8		183	8		1	12		[7] 378	[7] 355	1	6			5		44
Arizona	15		63		81	347			39		533	518	2	8	1		4		165
Utah	[7] 17		7		70	3			1	1	[7] 38	[7] 37	4				[7] 27		201
Nevada					15	31			2		14							3	2
PACIFIC																			
Washington	49		105		736	73			1		728			2			9	43	138
Oregon	18		25		215	92			1		216	203		4					245
California	330		185		1,388	214		7	2	2	2,294	2,114	1	29	10		19		761
Total	975	1	1,370	22	36,609	6,917	18	74	292	111	29,423	17,751	360	486	[13] 149	179	953	294	13,056
First quarter 1948	[8] 410	3	1,220	5	30,843	5,581	31	76	428	98	30,638	[9] 16,809	237	416	197	184	1,170	[8] 659	28,897
Median 1944–48	416	3	1,220	.5	44,899	3,173	130	68	502	130	29,726	16,809	242	466	110	548	1,111	605	28,897
Alaska			3		8	60					128	119							1
Hawaii Territory	11		4		4	3					182	165				3	1		14
Panama Canal Zone [9]	4							4			[10] 14			7	2				

See footnotes on page 932.

Footnotes for table on pages 927 to 931

*Diseases marked with an asterisk (*) are reportable by law or regulation in all the States, including the District of Columbia. Typhoid fever is reportable in all the States; paratyphoid fever in all except 6 States. Syphilis is reportable in all the States and the District of Columbia but is not included in the table. Some States have increased and some have reduced the list of reportable diseases since the latest published compilation of reportable diseases (Pub. Health Rep. 59:317-340, Mar. 10, 1944. Reprint No. 2544).

[1] Includes cases of kerato- and suppurative conjunctivitis and of pink eye.
[2] In a few States practically all cases contracted outside continental United States.
[3] New York City only.
[4] Exclusive of artificially induced malaria.
[5] Lobar pneumonia only.
[6] Exclusive of cases acquired by blood transfusion.
[7] Includes nonresident cases.
[8] Figures corrected by later reports.
[9] Includes the cities of Colon and Panama.
[10] In the Canal Zone only.
[11] Includes septic sore throat.
[12] Included in scarlet fever.
[13] Includes cases reported as salmonella infection.

The following list includes certain rare conditions, diseases of restricted geographical distribution, and those reportable in or reported by only a few States; last year's figures in parentheses (where no figures are given, no cases were reported last year, or the disease was not included in last year's published tabulation).

Actinomycosis: Rhode Island 1, Michigan 1, Minnesota 1, Georgia 1, Nevada 1 (3).
Botulism: New Jersey 1 (3), Oklahoma 1.
Cancer: Pennsylvania 1,657, North Dakota 93 (142), Kansas 732 (855), South Carolina 226 (443), Georgia 68 (62), Florida 527 (450), Kentucky 12, Tennessee 973 (601), Alabama 916 (727), Arkansas 146 (146), Louisiana 539 (523), Montana 204 (88), Idaho 180 (217), Wyoming 173, Colorado 787, New Mexico 146 (165), Utah 48 (95) includes nonresidents.
Coccidioidomycosis: New Mexico 1, Arizona 15, California 18 (13).
Colorado tick fever: Colorado 3.
Dengue: Texas 14.
Dermatitis: New Hampshire 4 (4), Missouri 7 (16), Kentucky 1 mycotic dermatitis.
Diarrhea: Connecticut 4 (1), New York 20 (15), Pennsylvania 21 (55), (includes gastroenteritis) Ohio 119 (54) (includes enteritis), Indiana 1 (8), Illinois 33 (16), Michigan 63 (32), Minnesota 5, North Dakota 2, Maryland 10 (7), South Carolina 2,759 (2,772), Florida 37 (82), Oklahoma 1, New Mexico 26 (9), Utah 1, Washington 3, California 14 (63), Alaska 12.
Dog bites: Massachusetts 2,264, Pennsylvania 1,065, Illinois 2,369 (2,182) all animal bites, Michigan 1,393 (1,288), Arkansas 132 (102) all animal bites.
Encephalitis (other forms): Rhode Island 11, Ohio 1, Michigan 12, Maryland 1, Kentucky 2, Idaho 4, Colorado 4.
Erysipelas: Vermont 1, Massachusetts 2, Connecticut 8, Pennsylvania 12, Ohio 7, Indiana 7, Illinois 54, Michigan 38, Wisconsin 20, Missouri 1, North Dakota 1, Nebraska 2, Kansas 3, Maryland 1, Florida 9, Tennessee 8, Arkansas 3, Louisiana 4, Montana 2, Idaho 1, Colorado 12, New Mexico 1, Utah 2 includes nonresidents, Washington 11, Oregon 18, Alaska 1, Hawaii Territory 5.
Favus: Kentucky 1 (5).
Filariasis: Nevada 1.
Food poisoning: Connecticut 3, New York 121, Ohio 1, Indiana 1, Illinois 49 (6) includes cases reported as food infection, Minnesota 327 (43) includes cases reported as food infection, Louisiana 1 (2), Oklahoma 8, Idaho 2 (5), Colorado 2 (300), New Mexico 3, Nevada 2 includes cases reported as food infection, Oregon 3 (1), California 143 (25).
Granuloma inguinale: Nebraska 1, Florida 280 (88), Kentucky 2 (4), Tennessee 14 (13), Mississippi 34 (88), Louisiana 36 (53).
Impetigo contagiosa: New York 28, Ohio 101 (9), Indiana 5 (15), Illinois 7 (6), Michigan 282 (345), North Dakota 9 (41), Kentucky 44 (4), Montana 10 (3), Idaho 23 (35), Wyoming 2 (11), Colorado 25 (49), Nevada 42 (50), Washington 243 (366), Alaska 4, Hawaii Territory 19.
Jaundice (including hepatitis and Weil's disease): Maine 8 (1), New Hampshire 1 (2), Rhode Island 17, Connecticut 2, New York 110 (61), Pennsylvania 104 (15), Ohio 1, Illinois 6 (3), Michigan 10 (5), Minnesota 10 (29), Maryland 5 (1), South Carolina 2, Kentucky 6 (3), Tennessee 2 (7), Louisiana 1, Montana 6 (1), Idaho 2, Arizona 1, Nevada 1, Washington 8 (1), Oregon 6 (3), California 148 (30), Alaska 1, Hawaii Territory 14 (5), Panama Canal Zone 7 (8).
Leprosy: New York 1 (3), Ohio 1, Mississippi 1, Texas 3 (1), California 3 (5), Hawaii Territory 8 (8), Panama Canal Zone 1 (1).
Lymphocytic choriomeningitis: Massachusetts 2, Indiana 1, Minnesota 1, Iowa 1, Tennessee 4 (2) choriomeningitis undefined.
Lymphogranuloma venereum: Connecticut 1 lymphogranuloma undefined, Nebraska 2 lymphogranuloma undefined, West Virginia 1, Florida 49 (28), Tennessee 18 (19), Mississippi 43, Louisiana 10 (40), Arizona 2 lymphogranuloma undefined, Alaska 1.
Mononucleosis: Vermont 1, Connecticut 28 (4), Ohio 2, Michigan 37 (35), Minnesota 111 (43), Maryland 2 (4), South Carolina 5, Tennessee 17 (4), Oklahoma 1, Montana 1 (1), Idaho 10 (7), Arizona 2, Washington 6.
Psittacosis: New York 1 (1), Illinois 1, Minnesota 1, Maryland 2, Virginia 2, Alabama 1, Washington 1, California 1.
Puerperal septicemia: Pennsylvania 5, Indiana 1, Maryland 1, Mississippi 2 (2), Arkansas 1 (1), Louisiana 1, Nevada 2.
Rabies in animals: New York 78 (165), Ohio 228 (156), Indiana 232 (183), Illinois 28 (29), Michigan 33 (51), Wisconsin 5, Iowa 52 (5), Kansas 1 (6), Virginia 20 (55), South Carolina 44 (59), Georgia 137, Florida 22 (156), Kentucky 102 (30), Alabama 93 (107), Arkansas 27 (26), Louisiana 4 (12), Oklahoma 52 (18), Texas 330 (316), Colorado 2 (1), Arizona 6 (9), California 66 (105).
Relapsing fever: Texas 7 (13), Panama Canal Zone 1 (2).
Rickettsialpox: New York (City) 23 (12).
Ringworm disease (including ringworm of the scalp): Connecticut 55 (61), Ohio 15 (24), Indiana 92 (49), Illinois 442 (824), Michigan 508 (446), Minnesota 1 (17), Iowa 7, Missouri 9 (34), Kansas 11 (22), Virginia 524, Georgia 93, Kentucky 421 (8), Arkansas 2, Oklahoma 35, Montana 1 (6), Idaho 19 (10), New Mexico 2, Utah 2 (21), Nevada 3 (3), Washington 235 (219), Oregon 27.
Scabies: Vermont 4, Rhode Island 2 (3), Ohio 36 (34), Indiana 13 (9), Michigan 274 (369), Missouri 3 (9), Nebraska 1, Kansas 10 (21), Maryland 2, Kentucky 287 (30), Montana 29 (24), Idaho 64 (40), Wyoming 6 (2), Nevada 10 (13).
Schistosomiasis: New York (City) 15 (7).
Silicosis: Arkansas 1, Idaho 3, New Mexico 1.
Yaws: Panama Canal Zone 6.