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A GENERAL VIEW OF THE CAUSES OF ILLNESS AND DEATH AT SPECIFIC AGES [1]

Based on Records for 9,000 Families in 18 States Visited Periodically for 12 Months, 1928–1931

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CONTENTS

Mortality statistics are now collected by the registration method in nearly all civilized countries of the world. Detailed annual and special reports based on the registered deaths are available for the principal countries and for the various States of the United States. These data afford information on death rates for specific causes, at specific ages, for both males and females and in some countries for specific occupations, together with time trends. In contrast with this mass of complete information on mortality, there are no detailed data on the extent and causes of illness for any large population group in any country.

The scattered sources of sickness records were discussed in a preceding report (4); they may be summarized here with special reference to the availability of data for specific ages.

[1] From the Office of Statistical Investigations, U. S. Public Health Service.

This is the fourth of a series of papers on sickness and medical care in this group of families (4, 5, 6). The survey of these families was organized and conducted by the Committee on the Costs of Medical Care; the tabulation was done under a cooperative arrangement between the Committee and the Public Health Service. Committee publications based on the results deal primarily with costs and Public Health Service publications primarily with the incidence of illness and the extent and kind of medical care, without regard to cost. As costs are meaningless without some knowledge of the extent and nature of the service received, there is inevitably some overlapping. The Committee staff, particularly Dr. I. S. Falk and Miss Margaret Klem, cooperated in the tabulation of the data.

Special thanks are due to Dr. Mary Gover, who assisted in the analysis, to Miss Lily Vanzee, who was in immediate charge of tabulating the data, to Drs. Amanda L. Stoughton and R. R. Jones for advice and assistance in classifying the causes of sickness and death, and to other members of the statistical staff of the Public Health Service for advice and assistance in the preparation of the study.

The tenth decennial census of the United States taken as of June 1, 1880, included an inquiry on the number of persons "so sick or disabled as to be unable to pursue their ordinary occupations" on the day of the enumeration. The tabulations were limited to persons over 15 years of age and to States where the data were thought to be complete. The census report devoted to vital statistics (3) includes rates by age and sex, based on a total of 20,000,000 persons over 15 years of age in 19 States. No data were published on the causes of illness, but the preponderance of chronic ailments is indicated by the rapid rise of sickness prevalence with age, as found by more recent surveys of sickness prevalence on the day of the canvass.

Similar inquiries were included in the Irish censuses of 1851, 1861, and 1871 and in the Australian census of 1881.

During the years 1915–17 the Metropolitan Life Insurance Co. surveyed families including half a million people (11) to determine the *prevalence of illness on a given day;* the results are published by cause for all ages and by age for all causes, and a few of the reports for individual localities show the numbers of cases of specific diagnoses in broad age groups.

Data on the *prevalence* of illness *on a given day,* such as those in the two sources quoted above, are quite different from data on the *incidence* of new cases that occur *over a period of time.* The prevalence data for a given day are heavily weighted by chronic illnesses, whereas data on incidence over a period of time are more largely made up of acute cases of shorter duration.

Among the sources of data on the incidence of illness are the rather incomplete reports of communicable diseases to local and State health departments. These reports afford data on this limited group of ailments for States and cities, but tabulations by age or in any classes except as total cases for each diagnosis are rarely published.

Records of illness among members of sick benefit associations (2) are available in specific diagnoses but not by age except insofar as the working span limits the individuals to the active working ages. In a few special studies of industrial employees (1) and of school children (7, 9, 10, 14), sickness rates are available by age for the limited age ranges covered.

The Hagerstown study (12) shows data classified by age, sex, and cause of illness and is the only one which affords a record of sickness *incidence over a period of time* for persons of different ages throughout the life span; this solitary record of the incidence of illness in the general population contrasts remarkably with the wealth of mortality data available.

SOURCE OF THE DATA

Illness.—The data included in the present paper are the results of periodic canvasses of 8,758 white families living in 130 localities in 18 States and including 39,185 individuals. Each family was visited at intervals of 2 to 4 months for a period long enough to obtain a sickness record for 1 year. On the first call a record was made of the number of members of the household, together with data about sex, age, marital status, and communicable disease history of each person. On succeeding visits the canvasser recorded all illness that had occurred since the preceding call, with such pertinent facts about each case as the date of onset, the duration of disability and of confinement to bed, the nature of such medical service as was obtained, and the termination of the case. Thus there are available certain facts about the observed population and the illnesses suffered in the course of 12 months.[2]

Mortality.—The surveyed population of nearly 40,000 persons is sufficient in number to give a fair degree of reliability to the sickness rates, but the number of deaths in a group of this size is so few that they afford little indication of the expected mortality from different causes at specific ages. These nearly 9,000 families were living in rural, urban, and metropolitan areas of 18 States; in many other respects they were found to be similar to the general white population of the United States (4).

In the comparison of illness and death, mortality data from the registration States were used because of insufficient numbers of deaths within the surveyed group. That this substitution is justifiable is indicated in later pages, where a comparison is made of the death rates in the two groups (figs. 1 and 3). The illness data, as previously stated, apply to a 12-month period for each household, but the total time of observation extended over about 3 years, the record for the first family beginning in February 1928 and for the last one ending in June 1931; most of the observations, however, were made in 1929 and 1930. For this reason mortality data for the registration States for the years 1929 and 1930 are used.

DEFINITION OF AN ILLNESS AND THE CLASSIFICATION OF ITS CAUSES

Illness as here used refers to both injury and disease. What was actually included as cases, however, was necessarily influenced not only by the informant's (usually the housewife's) conception of illness but also by her memory. With visits as infrequent as 2 to 4 months, it is inevitable that many of the nondisabling illnesses would be terminated and forgotten before the next visit of the enumerator. However, if the record includes most of the real illnesses and excludes only the minor disorders, it may be as useful as a more complete one.

[2] Further details on the method of collecting the data and the characteristics and geographic distribution of the surveyed population are included in the first report in the series (4).

Illnesses that originated prior to the study and caused sickness during the year are included with those having their onset within the period of observation; 93 percent had their onset within and 7 percent prior to the year. The inclusion of these illnesses of prior onset is necessary to give proper representation to chronic ailments. A large proportion of the cases of such diseases as tuberculosis, cancer, diabetes, and cardio-renal affections originated prior to the study. A preceding paper shows for each diagnosis the number of cases with prior onset (4).

Considering an illness in the sense of a continuous period of sickness, one finds only 4.3 percent designated as due to more than one cause. In general, the more important or more serious cause was used as primary, except where a disease like pneumonia is commonly recognized as following measles or influenza, in which cases the antecedent condition was taken as primary.[3] In the present series of papers, illness rates for all causes and for the broad disease groups are always based on sole or primary causes only, so that a continuous period of sickness is never counted as two illnesses. Later papers will consider the incidence of specific diseases, such as pneumonia, appendicitis, and whooping cough; and in these studies all cases with the given diagnosis will be counted whether it was the sole, primary, or contributory cause of the illness. Whenever case rates are related to or compared with death rates, only the sole or primary causes can be used, because contributory causes are not available in the mortality data for the registration States.

EXTENT OF ILLNESS FROM ALL CAUSES IN DIFFERENT SEVERITY CLASSES

In the present study the crude annual rate was 850 illnesses per 1,000 persons observed. Adjustment to the age distribution of the white population of the registration States reduces this rate to 823 per 1,000. A rate so adjusted represents the rate that would obtain if the age-specific rates in the surveyed families had prevailed in a population with the age distribution of that in the registration States. Adjustment for age is necessary before sickness rates can be compared in the surveyed population with death rates in the general population. Rates in the preceding paper (4) which dealt with sickness only were not adjusted for age and hence they are somewhat different from the adjusted rates which are used exclusively in this discussion.

The Hagerstown (12) crude annual illness rate was 1,081 per 1,000 which becomes 1,053 when adjusted for age. Although this rate is somewhat above that of 823 per 1,000 for the present study,[4] both

[3] Further details on the method of classifying the causes of illness are included in the first report in the series (4).

[4] The excess in the Hagerstown rate over that of the present study is all in the respiratory diseases (adjusted rate for Hagerstown 649, for 18 States 329 per 1,000), the nonrespiratory rate being greater in this study (adjusted rate for Hagerstown 404, for 18 States 494 per 1,000). A comparison of results in the two studies is made in the first paper in the series (4).

indicate a frequency of illness of roughly one case per person per year. The incompleteness of this figure, so far as colds and other trivial attacks are concerned, is suggested by the results of intensive surveys in which the observed individuals made weekly or semimonthly reports which indicated annual rates as high as 3 per person for respiratory affections alone (8, 13). No pretense is made of such a degree of completeness in the present record, but it probably includes most of the real illnesses and some of the trivial affections that are so frequent.

In addition to the rate of 823 illnesses, nearly four-fifths of which were attended by a doctor, there were 438 services per 1,000 without illness in the usual sense of the word, including vaccinations and immunizations of all kinds, physical examinations, eye refractions, and dental services.

Of the total rate of 823 illnesses, 331 were nondisabling and the remainder, 492 per 1,000, were disabling; that is, they caused the patient to lose 1 or more days from his or her usual work, school, play, or other activities during the year of the study. Of the disabling cases, 84 percent were also confined to bed for 1 or more days—a rate for bed cases of 414 per 1,000 persons, leaving almost the same number, 409 per 1,000, with no days in bed. About one-fifth of the cases not in bed reported disability for 1 or more days (78 per 1,000 persons observed).

Of all cases reported, 79 percent were attended by a doctor and 7 percent were in a hospital for 1 or more days during the year of the study, a rate of 62 hospital cases per 1,000 persons observed. Almost as many cases (60 per 1,000 persons observed) had surgery in connection with the primary diagnosis. As some cases had surgery in connection with a contributory diagnosis and others had 2 or more surgical operations on the same illness, there was a total of 65 surgical operations per 1,000 persons observed. The rates quoted above have all been adjusted to the age distribution of the white population of the registration States.

Among white persons in the registration States (1929–30) there was an annual death rate of 11.1 per 1,000 population; in the surveyed families the death rate (adjusted for age) amounted to 9.6 per 1,000 persons observed.[5] Infant mortality which is expressed as deaths under 1 year of age per 1,000 live births, was 61 for white infants in the birth registration States, 1929–30; in the surveyed families the figure was 53 per 1,000 live births.[5] The canvassed groups included only families and would not include any representation from such institutions as almshouses, homes for the aged, insane hospitals, and orphanages, where the death rate is usually high. Somewhat lower death rates in the surveyed group than in the general population might therefore be expected.

[5] All mortality data for the surveyed group are based on the families observed for a full 12 months and those observed for less than that time. All sickness data are based on the full-time families only. For further details, see footnote 6 to table 1.

CAUSES OF ILLNESS OF DIFFERENT SEVERITIES CLASSIFIED IN BROAD DIAGNOSIS GROUPS

Figure 1 shows the important causes of sickness of different types and severities discussed in the preceding section and the important causes of death. The cases are classified in the broad groups of the International List of the Causes of Death, the diseases being arrayed in each severity category according to the magnitude of the rates for the groups. The percentages are all based on adjusted rates, each being the percentage that the rate for a given diagnosis group is of the rate for all causes of the same severity category. The percentages

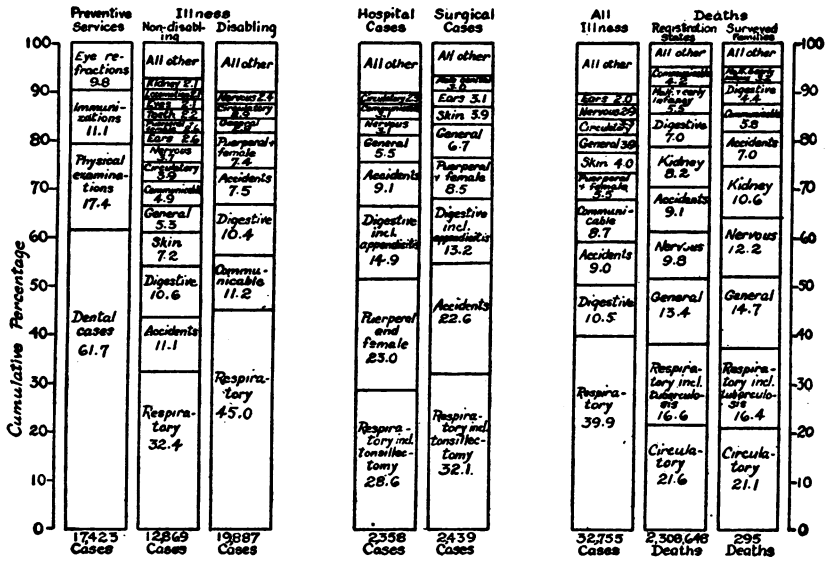


FIGURE 1.—Important causes of illness of different severity categories—percentage of cases due to each disease group—illness in canvassed white families in 18 States during 12 consecutive months, 1928-31; and deaths among white persons in the registration States, 1929-30. (Chart shows all diagnosis groups that caused 2 or more percent of the total cases in the given severity category. Percentages are based on rates adjusted to the age distribution of white persons in the registration States.)

that appear on the graph are the equivalent of the percentage of cases as they would occur in a population with the age distribution of that in the registration States in 1929–30.

The three bars on the right contrast the causes of sickness and death, the mortality being shown for both the registration States and the surveyed population. It will be noted that the mortality data for the canvassed families are quite similar to those for the registration States, the more important causes being the same and including approximately the same percentage of total deaths from all causes. In the comparison of sickness and mortality, reference will be made to the larger mortality experience of the registration States.

Respiratory and digestive diseases, accidents, and communicable diseases constitute nearly 70 percent of the causes of illness, respiratory alone accounting for two-fifths of all the cases. Of these four most frequent causes of illness, only respiratory appears in the four most important causes of death. Heart and circulatory diseases are the most frequent causes of death, but they are in the eighth place as causes of sickness. Likewise, general diseases (including cancer and diabetes) and affections of the nervous system (including cerebral hemorrhage) are among the four most important causes of death, but are relatively infrequent as causes of sickness. Accidents are third among the causes of sickness and fifth among the causes of death.

The three bars on the left present the causes of (*a*) medical care without sickness (largely preventive service), (*b*) sickness that did not keep the patient from his usual activities (nondisabling), and (*c*) sickness that caused the patient to lose 1 or more days from his usual work, school, or other activity (disabling). Care of the teeth and eye examinations for glasses are definitely therapeutic, but they have been included with preventive care because illness in the usual sense of the word is not commonly present at the time the service is rendered. More than three-fifths of the cases of care without illness are dental; 17 percent are physical examinations; 11 percent, vaccinations and immunizations of the various kinds; and 10 percent, eye refractions. In both disabling and nondisabling illness, respiratory diseases are the outstanding cause, constituting 32 percent of the nondisabling and 45 percent of the disabling cases.[6] Accidents stand fourth in the disabling class and second in the nondisabling, evidently including a considerable number of minor injuries that did not involve loss of time from usual activities. The communicable diseases occupy second place in the disabling class, but there are also a considerable number that are nondisabling, being sixth in that class. Digestive disorders are third in importance in both classes of illness; skin affections are fourth in the nondisabling but do not appear in the disabling class, since they amount to less than 2 percent of these cases.

The two center bars show the most frequent causes of illness that were hospitalized and that had surgical treatment. An examination of the diagnoses of hospitalized cases indicates that the hospital is used as a convenience in surgical and maternity cases as much as a concentration point for the most severe illnesses of all kinds. The four most frequent groups of hospital cases are respiratory (largely tonsil and adenoid operations), puerperal and female genital, digestive (nearly half of this group was appendicitis), and accidents. These four classes constitute more than three-fourths of the hospital cases.

[6] Respiratory illnesses constitute nearly half of the cases that were in bed for 1 or more days (4).

About 60 percent of all hospital cases were surgical, and about the same percentage of all surgical cases were hospitalized. Surgical cases show about the same line-up as hospital cases, respiratory (largely tonsil and adenoid operations), accidents, digestive (largely appendicitis) and puerperal and female genital diseases being the four most frequent diagnoses in surgical as well as in hospital cases. These four causes constitute 75 percent of the surgical cases.

AGE VARIATION IN ILLNESS OF DIFFERENT SEVERITIES

Figure 2 shows the age curve of illness from all causes classified as disabling and nondisabling (table 1). Disabling refers to illness that caused loss of 1 or more days from the person's usual activities, whether or not the individual was gainfully employed. Curves are also shown for cases that were not in bed and for those confining the patient to bed for 1 or more days; all cases in the latter category are included in the disabling class, constituting 84 percent of the illnesses in that group.

TABLE 1.—*Age incidence of illness of varying severity and of mortality—illness in canvassed white families in 18 States during 12 consecutive months, 1928–31, and mortality among white persons in the registration States,[1] 1929–30. (All causes; sole or primary diagnosis only)*

Age	Surveyed group						Registration States	Relation between illness and death rates		White population (years of life) for the registration States, 1929–30 (in thousands)
	Annual illness rates per 1,000 population				Population (years of life) for illness data	Annual death rates per 1,000 population [6]	Annual death rates per 1,000 population	Estimated case fatality, per cent [3]	Estimated number of illnesses per death [4]	
	All illness	Nondisabling cases	Disabling cases	Cases in bed						
All ages:										
Crude	850	334	516	434	[5] 38,544	6.90	11.07			[5] 208,492
Adjusted [2]	823	331	492	414		9.58	11.07	1.35	74	
Under 5	1,212	548	664	609	5,513	11.11	17.11	1.41	71	18,935
5–9	978	253	725	563	5,715	1.73	1.92	.20	511	20,904
10–14	679	199	480	372	4,568	.98	1.46	.21	464	20,149
15–19	599	227	372	288	3,050	2.97	2.41	.40	248	19,276
20–24	672	242	430	373	2,119		3.37	.50	199	18,040
25–29	798	317	481	427	2,491	2.71	3.77	.47	212	16,364
30–34	838	343	495	435	3,149		4.30	.51	195	15,527
35–39	792	346	446	392	3,292	4.57	5.28	.67	150	15,708
40–44	753	349	404	339	2,638		6.98	.93	108	13,841
45–49	737	347	390	327	1,928	6.83	9.35	1.27	79	12,166
50–54	790	392	398	342	1,423		13.02	1.65	61	10,420
55–59	840	402	438	348	838	21.07	19.09	2.27	44	8,283
60–64	850	439	411	334	635		28.00	3.29	30	6,723
65 and over	979	430	549	497	998	77.13	75.10	7.67	13	12,008
Number of cases—all ages [5]	32,756	12,869	19,887	16,726		295	2,308,648			

[1] Registration States included all except Texas and South Dakota in 1929 and all except Texas in 1930.
[2] Rates for all ages are adjusted to the age distribution of the white population of the death registration States, 1929–30.
[3] Percentage that death rate in registration States is of case rate in surveyed population.
[4] Ratio of case rate in the surveyed population to death rate in the registration States.
[5] "All ages" includes a few of unknown age.
[6] The death rate in the surveyed group is based on both the families observed for a full 12-month period and those observed for less than that time, all part-time persons in both groups being counted in the population for only the actual time under observation. As a death in the family was sometimes the reason for the discontinuance of reports, it was necessary to use both groups of families in computing the death rate. The years of life in the full- and part-time families was 42,749. All sickness data are based on the full-time families only.

There is somewhat more variation with age in the nondisabling than in either the disabling or bed cases; the rise with age after 20 years is slightly greater and the rate for children under 5 years is also relatively higher in the less severe nondisabling class. An examination

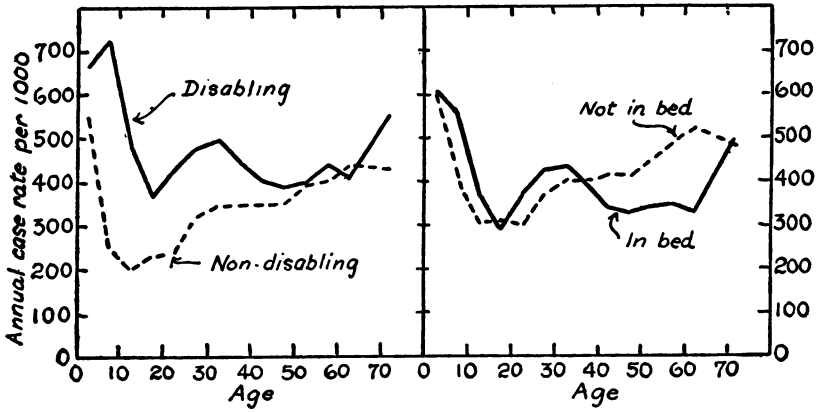


FIGURE 2.—Age incidence of illnesses of different severity categories—canvassed white families in 18 States during 12 consecutive months, 1928-31.

of the age curves of nondisabling illness in broad diagnosis groups indicates that respiratory and digestive affections are the principal causes that contribute to the more rapid rise as age increases; it is also

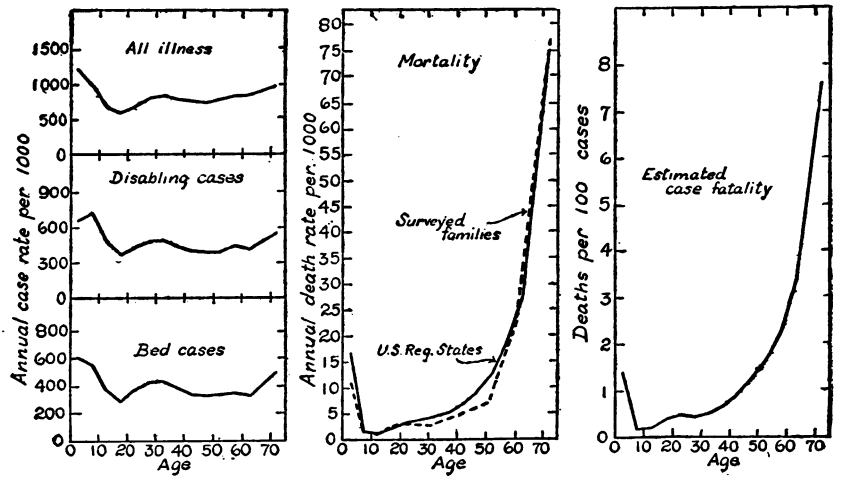


FIGURE 3.—Variation with age in illness, mortality, and estimated case fatality rates—illness in canvassed white families in 18 States during 12 consecutive months, 1928-31; and mortality among white persons in the registration States, 1929-30. (Scales are so made that the adjusted rate for all ages represents an interval on the vertical rate scale that corresponds to 20 years on the horizontal age scale.)

these groups that are largely responsible for the relatively high nondisabling illness rate among children under 5 years.

Figure 3 shows, among other things, age-specific sickness rates in the surveyed population and age-specific mortality rates in the regis-

tration States. The scales in both the sickness and mortality charts are so made that the adjusted rate for all ages plots on the vertical axis at a distance above the base line that is equal to the distance representing 20 years on the horizontal axis. Such an arrangement makes the relative variation with age in the sickness and death curves comparable in the same way as in curves of the ratio of the rate in each age to the rate for all ages. The variation with age is far greater in mortality than in sickness. The mortality curve increases steadily from a minimum at 10–14 years to a maximum at the oldest ages. The sickness curve has its minimum at 15–19, with a small peak at 30–34 years followed by a decline to 45–49 and then a gradual increase to the end of life; but the relative difference between sickness rates for persons over 65 and 15–19 years of age is very small as compared with the relative difference between mortality rates for the same ages. If the mortality curve were extended forward to the ages 75 and beyond, it would continue to rise rapidly, and if extended back to the age group under 1 year its rise would be so rapid that it would reach a height about equal to that of the oldest ages. On the other hand, if the sickness curve were similarly extended in both directions there would be practically no change in the morbidity picture. The age curves of the more serious illnesses that disabled and that confined the patient to bed do not resemble the mortality curve any more closely than does the curve of all illness.

An approximate idea of the case fatality of illness at the different ages may be obtained by relating mortality rates in the registration States to sickness rates in the surveyed population. Considering all ages, a death rate of 11.1 when related to a total case rate of 823 per 1,000 indicates a fatality of 1.35 per 100 cases. Relating the same death rate to the disabling case rate of 492 and the bed case rate of 414 per 1,000 gives a fatality of 2.25 per 100 disabling cases and of 2.67 per 100 cases that caused confinement to bed. In other words, there was a total of 74 cases of illness for each death; there were 44 disabling cases for each death; and there were 37 cases which confined the patient to bed for each death during the year.

Figure 3 shows by age the ratio of the mortality rate to the sickness rate—an estimated case fatality, or deaths per 100 cases of illness. Because sickness varies from age to age so much less than mortality, the age curve of the estimated case fatality is quite similar to that of mortality. If the sickness rates were the same for all ages, the denominators entering the calculation of the successive case fatalities would be the same, and hence the fatality curve would be identical in shape with the mortality curve.

The reciprocal relation of mortality and sickness in terms of the estimated number of illnesses per death at the different ages is shown in table 1. From 511 illnesses for each death at 5–9 years, the number

declines to only 13 cases per death above 65 years. Likewise, in the youngest group there are fewer cases per death, reflecting the higher fatality of illness at the extremes of life. This is also evident in the series of percentages representing the case fatality by age.

DISTRIBUTION OF INDIVIDUALS ACCORDING TO THE FREQUENCY OF ILLNESS

An annual illness rate of one case per person does not indicate that every person was sick during the year. Such an assumption would be quite erroneous; among the nearly 40,000 individuals, each of whom was observed for 12 months, almost half (48 percent) were not sick, about a third (32 percent) were sick once, about one-eighth (13 percent) were sick twice, and the other 6 to 7 percent were sick three or more times during the year of the study. Table 2 shows by

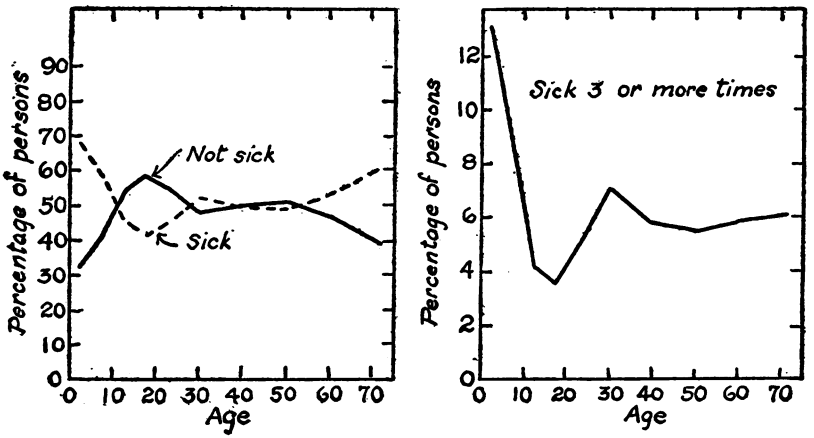


FIGURE 4.—Percentage of persons sick and not sick during a 12-month period—canvassed white families in 18 States during 12 consecutive months, 1928–31. (Scales are so made that the adjusted percentage for all ages represents an interval on the vertical percentage scale that corresponds to 40 years on the horizontal age scale.)

age the distribution of persons according to the number of times sick, and figure 4 shows some of the data graphically. The proportions who were not sick, which might be called the age curve of good health, reached a maximum at 15–19 years, with minima at the two extremes of life. The curve for persons sick three or more times shows the ages when individuals are likely to be ill more frequently than the average; infancy and early childhood, and 25 to 35 years of age are the two periods when individuals are most likely to suffer repeated illnesses during the year. The adult peak is probably due to childbearing and its attendant illnesses.

TABLE 2.—*Age variation in the proportions of persons sick and not sick during the year under observation—canvassed white families in 18 States during 12 consecutive months, 1928–31*

Times sick during 12 months	All ages			Age									
	Number of persons	Crude	Adjusted [1]	Under 5	5–9	10–14	15–19	20–24	25–34	35–44	45–54	55–64	65 and over
		Percentage of persons who were sick the specified number of times											
Not sick	18,201	47.4	48.2	32.4	41.5	54.1	58.9	55.3	48.3	50.2	51.1	46.8	39.0
Sick once	12,352	32.1	32.1	34.7	33.6	31.1	28.7	30.2	32.1	31.4	30.8	33.1	39.1
Sick twice	5,210	13.6	13.2	19.8	16.3	10.7	8.8	9.7	12.6	12.7	12.6	14.2	15.8
Sick three or more times	2,658	6.9	6.5	13.1	8.6	4.1	3.6	4.8	7.0	5.7	5.5	5.9	6.1
Number of persons under observation [2]		38,421		5,102	5,739	4,584	3,101	2,179	5,683	5,948	3,365	1,494	1,049

[1] Percentages for all ages are adjusted to the age distribution of the white population of the death registration States, 1929–30.

[2] All except 1.5 percent were under observation during the whole 12 months; births during the study are excluded.

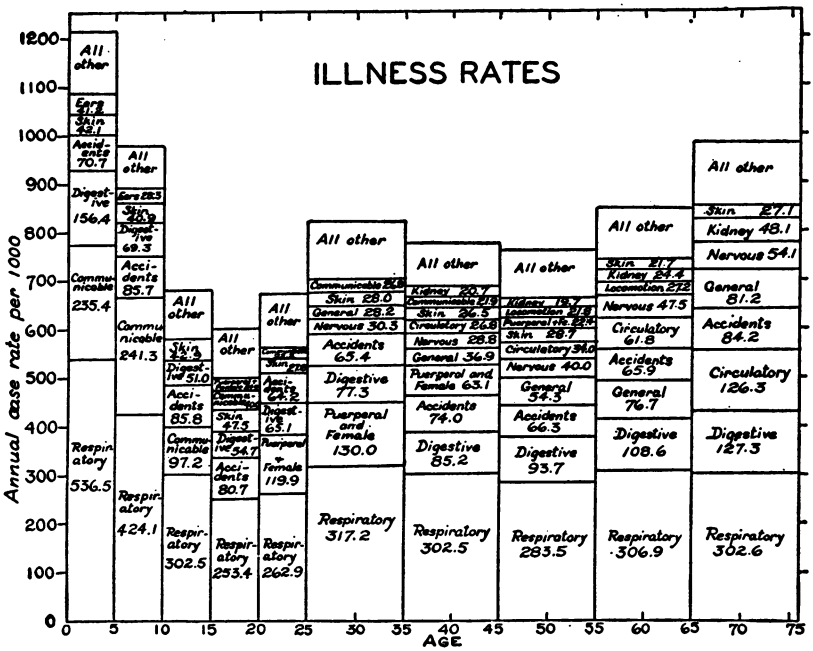
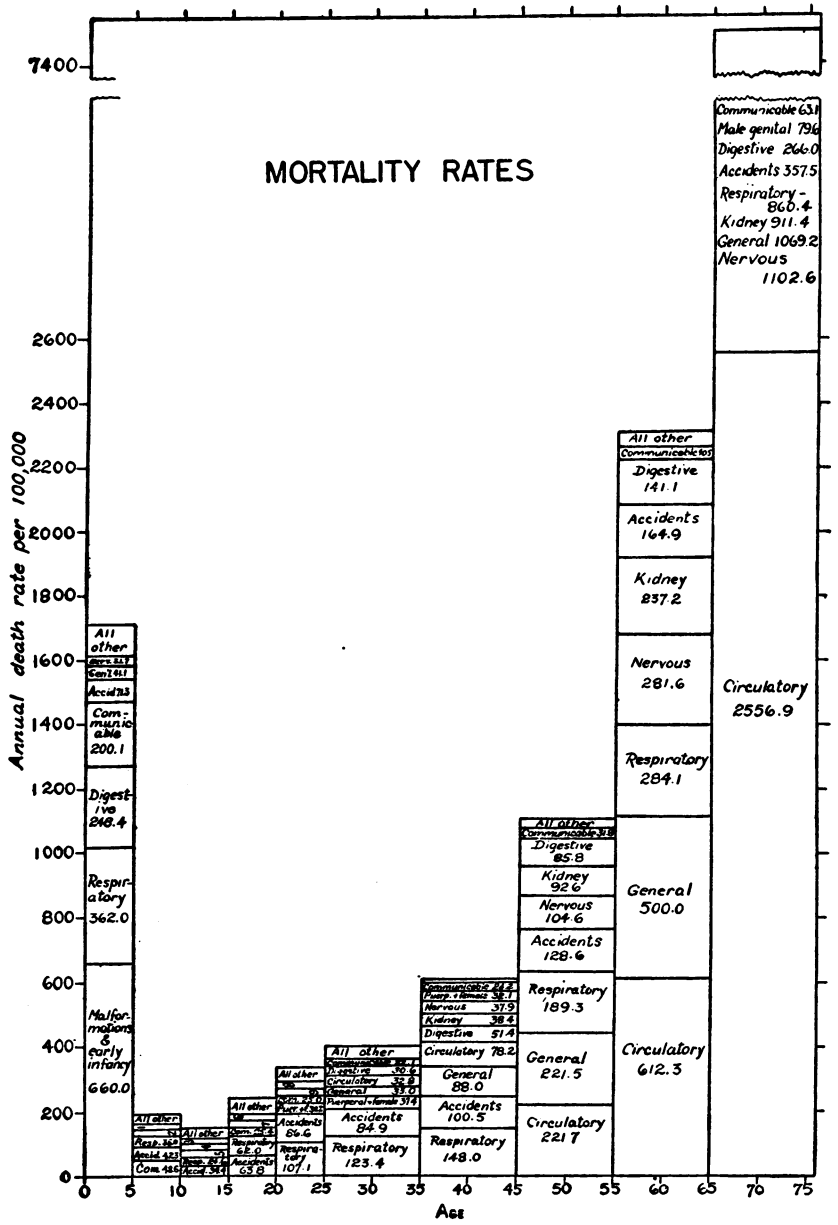


FIGURE 5.—Illness rates and the broad diagnostic composition of the case load at different ages—canvassed white families in 18 States during 12 consecutive months, 1928–31. (Chart shows all diagnosis groups with rates of 20 or more per 1,000.)

THE PRINCIPAL DISEASE GROUPS THAT ENTER INTO THE TOTAL ILLNESS AND MORTALITY RATES AT DIFFERENT AGES

The total sickness and the total death rates and also the major causes of illness and mortality vary considerably with age. Figures 5 and 6 are intended to portray the general aspects of both of these phases of morbidity and mortality, respectively.



NOTE.—The numbers in the blank spaces represent the following causes and rates:

Ages 5–10: 1—General, 11.3.
2—Digestive, 21.3.
Ages 10–15: 3—Circulatory, 15.7.
4—Digestive, 17.5.
5—Communicable, 23.3.
Ages 15–20: 6—Circulatory, 19.5.
7—Digestive, 20.7.
Ages 20–25: 8—Circulatory, 22.0.
9—Digestive, 23.1.

FIGURE 6.—Death rates and the broad diagnostic composition of the mortality load at different ages—white population of the registration States, 1929–30. (Chart shows all diagnosis groups with rates of 20 or more per 100,000 and other rates to give a minimum of 5 principal causes for each age.)

In figure 5 the total height of the bar or rectangle for a given age group represents the total sickness rate per 1,000 persons of that age, and these rectangles are subdivided into smaller rectangles that represent sickness rates for the various disease classes. They thus indicate the diagnostic composition of the sickness load at the various ages. The order of the diseases varies in the different age groups; the arrangement is according to the size of the rate, all diagnoses being shown that have a frequency of 20 or more per 1,000 persons observed. For example, circulatory diseases appear as third in importance in the age group over 65 years, as seventh among persons 35–44, and do not appear under 5 years because the rate is less than 20 per 1,000.

Considering all illness regardless of cause, the highest rates are found among children. Persons under 5 years suffer more frequent attacks of illness than those at any other age, and those 5 to 9 are sick about as frequently as persons over 65 years. The lowest rate occurs at 15–19 years. While there is some increase in sickness among older persons, the rise with age is not as great as might be expected. It should be remembered, however, that the data in this and other charts in this report refer to frequency of cases and not to the duration of sickness or disability or time in bed.

Respiratory diseases are an overwhelming part of the sickness burden at every age; accidents and digestive disorders are also frequent at all ages. The communicable diseases are important, but they become less frequent after 20 years of age and are replaced in adult ages by female diseases and puerperal conditions and in the older ages by the cardio-renal, the nervous, and other presumably noninfectious general diseases commonly referred to as the degenerative group.

Figure 6 for mortality is set up like figure 5 for sickness. The total height of the bars or rectangles represents the total death rate per 100,000 for that age, and the subdivisions indicate the diagnostic composition of the mortality load at the various ages. All disease groups are shown that have a rate of 20 or more per 100,000 and enough with smaller rates to give a minimum of five principal causes of death for each age group.

The chief interest in mortality at the moment is for comparison with sickness. Considering the principal affections among persons of specific ages, one finds that for children under 5 years the main causes of death are malformations and diseases of early infancy, which are relatively unimportant as causes of illness. Aside from these causes, the important diagnoses in both mortality and sickness are respiratory, communicable, digestive, and accidents.

From 10 to 20 years of age, accidents are the most frequent causes of death; persons in this period seem to possess much resistance and deaths from diseases are not frequent. Respiratory affections are

frequent as causes of illness, and accidents occupy third place at 10–14, and second place at 15–19 years.

From 20 to 45 years, respiratory diseases are the most important causes of both illness and death; tuberculosis is high at these ages and puts the respiratory group at the top of the death list; the minor respiratory affections are the important element in the high respiratory sickness rate.

After 45 years the circulatory diseases take first place as causes of death; among persons 65 years old and over the death rate from circulatory diseases alone exceeds the total rate from all causes at 55–64 years.

Further comparisons need not be made; figures 5 and 6 afford data on the most frequent causes of sickness and death for all of the several age groups in the life span. Age curves for specific affections and disease groups will be presented in later papers. Figures 5 and 6 are intended to give only a general view of the kinds of illness and the causes of death that are important at the different ages.

RELATIVE IMPORTANCE OF VARIOUS DISEASE GROUPS AS CAUSES OF ILLNESS AND DEATH AT DIFFERENT AGES

Sickness and particularly mortality rates vary so much at the different ages that it is hard to get from figures 5 and 6 a clear idea of the proportion of cases and deaths that are due to specified causes. Figures 7 for illness and 8 for mortality are arranged to show the relative importance of given diagnosis groups in terms of the percentage of cases and deaths, respectively, that are credited to the various disease classes.

Unlike the former charts, the order of arrangement of the diseases does not change in the different ages and a given disease can be followed through the several ages. The percentages are plotted cumulatively, so the slopes of the lines bounding an area that represents a given diagnosis have no meaning—in fact, the diseases have been put in an order that makes these lines as near horizontal as is consistent with keeping like causes together. The sole item to be noted in interpreting the graphs is the width of the band representing the disease at the different ages indicated on the horizontal scale.

In the illness chart, affections of the teeth and gums, of the eyes, and of the bones and organs of locomotion have all been put in the miscellaneous group with other and ill-defined disorders, since they include only a small proportion of the cases at any age. For the same reasons these and the diseases of the skin, of the ears, and of the male genital organs are put in the miscellaneous class in the death chart. The order of the disease groups is approximately the same in the two figures.

At the bottom of the charts are the classes composed largely of the degenerative diseases—the nervous disorders (including cerebral hemorrhage), the kidney and bladder diseases, the heart and circulatory ailments, and the general diseases (including cancer and diabetes). Under 5 years, the total of these diseases amounts to only 4 percent of the cases of illness and 8 percent of the deaths; at the oldest ages they cause a third of the illnesses and three-fourths of the deaths. The communicable diseases are mostly confined to the ages under 20 years as causes both of illness and death. Female diseases occur largely in the ages of and immediately following childbearing.[7]

Respiratory affections are represented by a wide band equaling more than two-fifths of the illnesses among school and preschool

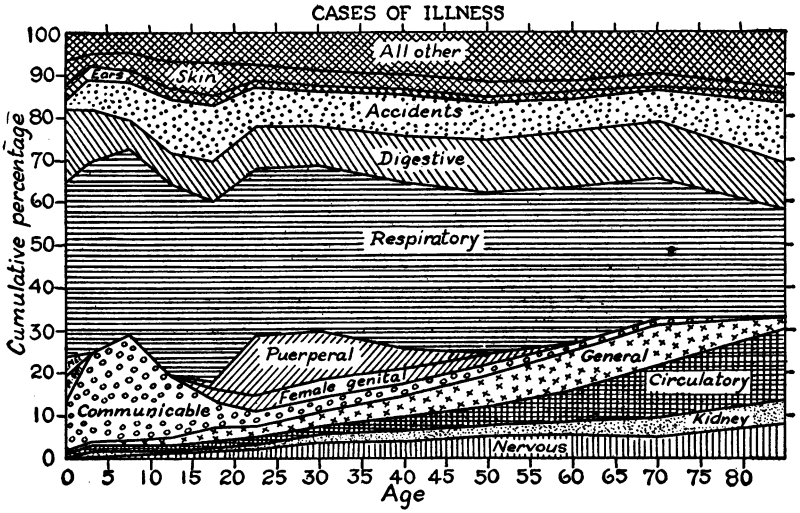


FIGURE 7.—Percentage of illnesses at specific ages that are due to each broad disease group—canvassed white families in 18 States during 12 consecutive months, 1928-31. ("M. Gen." refers to male genital conditions, chiefly circumcision, and "M. E. I." refers to malformations and diseases of early infancy.)

children, but narrowing to about a third of the cases among old people. As a cause of mortality the respiratory diseases (largely pneumonia and tuberculosis) are particularly important in the young adult ages, where they account for a third of all the deaths—more than any other disease group in these ages; in the oldest ages they are surpassed by several of the degenerative disease groups as causes of death. Digestive diseases and accidents are also important at every age as causes of death as well as causes of sickness. These groups are responsible for about the same proportion of illnesses at the different ages, but

[7] The female and the puerperal groups would appear as approximately double in importance among the illnesses of females, but in this chart and throughout this paper all illness is related to the total population or to the total cases in both sexes. This procedure was chosen because the problem under consideration is the importance of a given disease as a part of the sickness load at a specific age, regardless of what elements of the population bear the burden. A later paper will consider illness among males and females separately.

accidents and to a lesser extent digestive diseases cause a higher proportion of deaths among children and young adults than in the older ages.

SUMMARY

Records of illness were obtained on 8,758 white families in 130 localities in 18 States for a period of 12 consecutive months between February 1928 and June 1931. Each family was visited at intervals of 2 to 4 months to obtain the data.

The surveyed families include representation from nearly all geographic sections, from rural, urban, and metropolitan areas, from all income classes, and of both native- and foreign-born persons. The

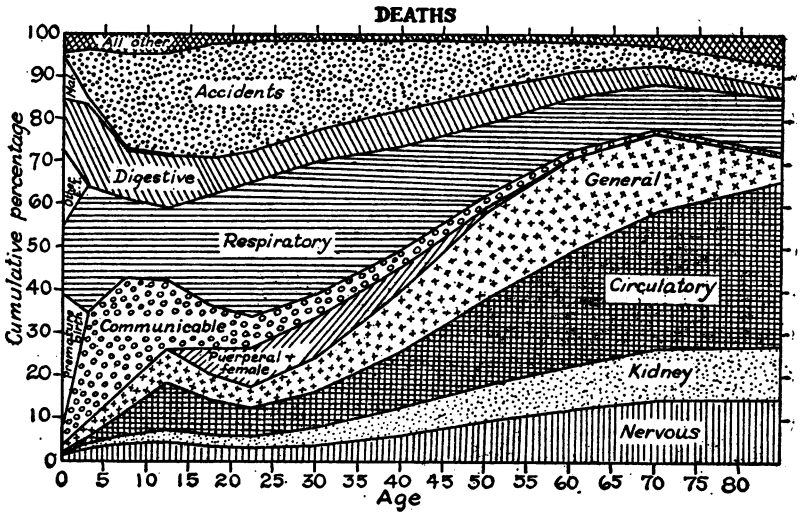


FIGURE 8.—Percentage of deaths at specific ages that are due to each broad disease group—white persons in the registration States, 1929–30. ("Mal." refers to malformations, and "Other E. I." refers to diseases of early infancy except premature birth.)

proportions of these various elements included are not identical with those in the population of the United States, but the variations are not generally large. In other respects also the surveyed group is not dissimilar to families in the general white population of the United States.

Mortality in the white population of the registration States for the years 1929–30 is used to supplement the sickness data. A comparison with the deaths in the canvassed families indicated that the use of the larger mortality experience was justifiable.

The major causes of death are not the most frequent causes of illness. The respiratory diseases are outstanding as causes of illness whether nondisabling or disabling; the degenerative diseases are more important as causes of death (fig. 1).

When illness is divided into nondisabling and disabling, and into cases in bed and not in bed, the variation with age is about as great in one class as another. The more severe cases that were in bed show a considerable peak from 20 to 40 years of age that reflects the illnesses associated with childbearing (fig. 2).

Illness is most frequent under 5 years and least frequent at 15–19 years of age. The frequency is about the same among persons 5–9 and 65 years and over. Deaths are least frequent at 10–14 and most frequent in the oldest ages (fig. 3).

Death rates vary with age far more than illness rates of any severity (fig. 3). Cases of illness per death range from 511 at 5–9 years to 13 at 65 years and over.

The proportion of the individuals who were sick 3 or more times during the 12-month period of observation varies from 13.1 percent for children under 5 years to 3.6 percent at 15–19 years (fig. 4).

At specific ages the major causes of death are not generally the most frequent causes of illness (figs. 5 and 6). The proportions of the cases of illness that are due to certain causes varies a great deal with age; similar proportions for deaths vary still more with age (figs. 7 and 8).

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EPIDEMIOLOGICAL STUDY OF PLAGUE IN THE HAWAIIAN ISLANDS

A study of the epidemiology of plague in the Hawaiian Islands, the report of which has recently been published by the Public Health Service,[1] was instituted primarily to determine the reasons why two entirely different types of plague infection have occurred in the Hawaiian Islands since the introduction of the disease in 1899. In order to secure the necessary data, a survey of rodents and their fleas was conducted in four regions, or sectors. Two of these were the urban communities of Honolulu, on the Island of Oahu, and of Hilo, on the Island of Hawaii, where the duration of their plague epidemics was limited to 12 years, and the other 2 were the rural regions of Hamakua district, on the Island of Hawaii, and the central part of the Island of Maui, where plague is apparently as well entrenched today as it was at the time these districts were orginally infected many years ago—2 rural localities where the infection may be considered as being endemic at the present time.

During the year covered by this survey (April 1932–March 1933), 59,062 fleas were found on 19,755 rats trapped alive. Seven species of fleas were obtained from five species of rats and from mice and mongooses. Some of the observations made from tabulations of the material collected are briefly outlined in the following:

(1) The percentage of rats infested with different species of fleas was found to have as much significance as the usual form of index representing the average number of fleas per rat, and to be somewhat more reliable in judging the degree of flea infestation.

(2) *Xenopsylla cheopis* was found to be more widely distributed than any other species of fleas. This species was present in all localities where plague has occurred, and in the urban communities of Honolulu and Hilo it was the only rodent flea found in sufficient numbers to account for the transmission of rodent plague. The most noteworthy

[1] Epidemiological study of plague in the Hawaiian Islands, by C. R. Eskey. Public Health Bulletin No. 213. Government Printing Office, Washington, 1934.

information secured regarding rodent infestation with *X. cheopis* was that showing the prevalence of these fleas on rats to be directly dependent upon the relation to buildings of the place in which the animals were trapped. In all localities *X. cheopis* was found in greatest numbers on rats trapped within the shelter of buildings; while in all regions where plague has occurred, so few of these fleas were found on rats caught over 100 feet from buildings that they could not have caused plague epizootics among field rats such as are known to have occurred both in Hamakua district and in central Maui. Evidence showed that high temperatures and excessive dampness adversely affected the existence of *X. cheopis* on rats trapped outside buildings, but had little effect upon the degree of infestation of rats trapped inside buildings. It was concluded that the chief breeding places of *X. cheopis* were located within the shelter of buildings, and that rodent infestation with this species was chiefly derived from their contact with buildings.

(3) *Xenopsylla hawaiiensis* (Jordan 1932) was discovered during this survey. The natural host of this species is the field rat, *Rattus hawaiiensis*. It was also found in considerable numbers on *R. norvegicus*, but members of the *Rattus rattus* family were only slightly infested. *X. hawaiiensis* was rarely found on rats trapped inside buildings, and was present in greater numbers on animals caught in the fields than on those trapped close to buildings. In the Honolulu and Hilo sectors, where plague infection ran a limited course, very few *X. hawaiiensis* were found, even on field rats; but in Hamakua district, on the Island of Hawaii, and in Central Maui these fleas were collected from field rats in sufficient numbers to account for the continuous transmission of plague among animals in the fields. In localities where the monthly precipitation was high and in those that were very dry because of lack of rain, there was a low degree of *X. hawaiiensis* infestation of field rodents. The comparatively slight infestation of rats caught within buildings, and the fact that *X. hawaiiensis* larvae could not be raised in the laboratory until green grass was provided for food, indicate that green vegetation is required for the multiplication of this species, and that, therefore, its breeding places are outside of buildings.

(6) *Nosopsyllus fasciatus* (*C. fasciatus*) and *Leptopsylla segnis* (*L. musculi*) were found in considerable numbers on rats caught at altitudes of over 2,500 feet and 1,000 feet, respectively. They were not present on rats caught in the seaports of Honolulu and Hilo. No evidence was collected to implicate these fleas in the transmission of plague in the Hawaiian Islands.

Echidnophaga gallinacea was frequently found on rats in enormous numbers, particularly in the relatively dry localities.

Ctenocephalides felis felis was present on rats caught in all four sectors.

Only seven *Pulex irritans* were found on rats.

(7) *Rattus hawaiiensis*, a species very similar to *R. concolor* of Asia, was found in all areas where trapping operations were conducted. In regions where endemic plague exists, this species comprised 25 percent or more of the rats trapped. They were least prevalent in the drier zones where vegetation for food was least abundant, which were also the regions where few *X. hawaiiensis* were found. A few of these rats were caught inside buildings, but no nests were found in buildings or in trees. *Rattus norvegicus* was not found in the localities in central Maui where plague has occurred, but was trapped in other parts of this island. It was less frequently encountered in the fields than any other rodents.

Rattus rattus, *Rattus rattus alexandrinus* type, and *Rattus rattus frugivorus* were present in all localities. These rats were caught in considerable numbers in the fields. They were found to nest in trees, under buildings, and even in underground burrows.

(8) Experiments conducted in the laboratory revealed very similar biological characteristics in *X. cheopis* and *X. hawaiiensis*. Their developmental stages were the same; both species died following starvation in about the same number of days, and young fleas of both species raised in the laboratory survived starvation longer than those collected from trapped rats. The reactions following their bites were identical, and included itching only in the same 2 individuals out of 20 tested. *X. hawaiiensis* were raised more successfully from eggs deposited in test tubes than were *X. cheopis*, but the former did not multiply as readily on white rats. A female *X. cheopis* fed on human blood lived at room temperature for 203 days, while a female *X. hawaiiensis* lived in this manner for 293 days.

(9) The eradication of plague from the two rural regions where the infection is now endemic in the Hawaiian Islands presents almost insurmountable difficulties. Here, rat proofing of buildings and trapping do not offer much hope of accomplishing any results. The intensive and constant use of poisons, such as thallium sulphate and arsenic, with an assortment of baits prepared with whole grains, appears to offer the most practicable means for reducing the exterior rodent population to a point where the infection may disappear. It is believed that from 3 to 5 years must elapse after the last evidence of rodent or human plague before the disease may be considered eradicated.

COURT DECISION ON PUBLIC HEALTH

Provisions of city ordinance regulating hours of opening and closing barber shops held void.—(Washington Supreme Court; *Patton* v. *City of Bellingham et al.*, 38 P. (2d) 364; decided December 6, 1934.) An ordinance of the city of Bellingham provided that it should be unlawful to open a barber shop earlier than 8 a. m. or to close the same later than 6 p. m. on weekdays other than Saturday or to close later than 7 p. m. on Saturday or days preceding a holiday. Provision also was made for the inspection of barber shops by a sanitary inspection board or any of its members for the purpose of ascertaining the sanitary condition of such shops.

The validity of the provisions of the ordinance relating to the hours of opening and closing was attacked and, concerning such provisions, the supreme court said that it was of the view that they were unreasonable and arbitrary and, consequently, void. The court also said that it had no hesitancy in saying that the provisions relative to the inspection of barber shops constituted a valid exercise of the city's police power and, as such, were reasonable and proper.

DEATHS DURING WEEK ENDED FEB. 2, 1935

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

	Week ended Feb. 2, 1935	Corresponding week, 1934
Data from 86 large cities of the United States:		
Total deaths	9,104	8,793
Deaths per 1,000 population, annual basis	12.7	12.3
Deaths under 1 year of age	624	624
Deaths under 1 year of age per 1,000 estimated live births	57	58
Deaths per 1,000 population, annual basis, 5 weeks of year	13.2	12.5
Data from industrial insurance companies		
Policies in force	67,211,803	67,435,280
Number of death claims	14,497	14,546
Death claims per 1,000 policies in force, annual rate	11.2	11.2
Death claims per 1,000 policies, 5 weeks of year, annual rate	11.1	11.1

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

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended Feb. 9, 1935, and Feb. 10, 1934

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 9, 1935, and Feb. 10, 1934

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934
New England States:								
Maine	2	-------	1	6	238	-------	0	0
New Hampshire	-------	-------	-------	-------	4	181	0	0
Vermont	1	1	-------	-------	4	75	0	0
Massachusetts	10	9	-------	-------	612	1,906	0	1
Rhode Island	-------	2	5	-------	26	6	0	0
Connecticut	6	8	9	18	617	33	1	0
Middle Atlantic States:								
New York	23	31	[1] 38	[1] 30	1,313	860	4	4
New Jersey	11	20	30	17	219	226	1	2
Pennsylvania	45	56	-------	-------	2,541	1,835	6	2
East North Central States:								
Ohio	60	33	40	14	516	407	7	3
Indiana	33	38	111	45	628	405	4	3
Illinois	59	29	72	48	2,101	436	13	8
Michigan	6	12	6	8	501	64	0	0
Wisconsin	1	6	187	121	1,279	865	0	1
West North Central States:								
Minnesota	12	5	41	-------	2,135	177	1	0
Iowa	11	17	214	14	1,023	119	0	1
Missouri	25	-------	396	26	457	980	0	1
North Dakota	5	7	33	38	152	203	0	0
South Dakota	2	-------	-------	4	74	459	0	0
Nebraska	7	6	20	11	520	86	5	0
Kansas	11	10	61	4	1,139	84	2	2
South Atlantic States:								
Delaware	4	1	-------	-------	-------	136	0	0
Maryland [2]	8	13	180	45	59	173	4	0
District of Columbia	18	6	7	4	11	324	2	1
Virginia	24	37	-------	-------	930	785	2	2
West Virginia	23	18	371	55	529	32	11	0
North Carolina	23	23	198	67	778	2,375	4	1
South Carolina [3]	3	21	1,022	591	17	495	0	0
Georgia [3]	4	23	535	177	-------	2,122	0	0
Florida	3	8	80	4	36	55	0	0
East South Central States:								
Kentucky	23	33	383	31	666	183	5	0
Tennessee	17	15	351	207	18	794	6	1
Alabama [3]	21	24	2,392	288	256	579	1	0
Mississippi [2]	8	14	-------	-------	-------	-------	1	0
West South Central States:								
Arkansas	2	8	31	123	13	529	5	0
Louisiana	46	26	63	19	71	89	0	0
Oklahoma [4]	12	12	279	156	59	300	2	0
Texas [3]	56	133	901	493	123	878	2	8

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 9, 1935, and Feb. 10, 1934—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934
Mountain States:								
Montana	2	4	503	34	223	27	1	0
Idaho	-------	-------	1	1	74	63	1	0
Wyoming	-------	2	-------	-------	210	12	1	0
Colorado	3	17	-------	-------	586	64	0	3
New Mexico	5	7	80	10	20	114	1	1
Arizona	1	7	214	26	10	14	1	0
Utah [2]	-------	-------	-------	-------	10	939	0	0
Pacific States:								
Washington	-------	1	33	-------	107	765	3	1
Oregon	-------	2	181	50	81	53	1	0
California	54	40	461	34	282	1,187	6	2
Total	690	785	9,530	2,819	21,268	22,494	104	48

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934
New England States:								
Maine	1	0	18	16	0	0	2	1
New Hampshire	0	0	10	24	0	0	0	0
Vermont	0	0	17	10	0	0	0	1
Massachusetts	0	0	169	245	0	0	1	2
Rhode Island	0	0	12	17	0	0	0	0
Connecticut	0	0	49	58	0	0	0	2
Middle Atlantic States:								
New York	3	2	699	692	0	0	5	7
New Jersey	0	0	138	203	0	0	1	3
Pennsylvania	1	0	647	695	0	0	9	10
East North Central States:								
Ohio	0	0	867	528	2	1	4	7
Indiana	0	1	269	235	1	2	1	2
Illinois	1	1	954	600	2	2	9	4
Michigan	0	2	319	597	0	0	6	6
Wisconsin	0	0	627	199	35	32	3	2
West North Central States:								
Minnesota	0	0	122	76	2	11	1	2
Iowa	0	2	101	84	2	6	2	1
Missouri	2	0	119	121	4	12	5	2
North Dakota	0	0	-------	45	0	0	0	0
South Dakota	0	0	10	16	2	4	2	1
Nebraska	0	0	39	17	27	3	0	0
Kansas	0	0	108	112	3	9	0	1
South Atlantic States:								
Delaware	0	0	22	4	0	0	0	0
Maryland [2]	0	0	97	72	0	0	4	3
District of Columbia	0	0	25	19	0	0	2	0
Virginia	0	1	78	70	0	0	3	11
West Virginia	2	0	157	52	0	0	1	3
North Carolina	1	0	26	64	0	0	0	1
South Carolina [3]	0	1	10	9	0	4	4	18
Georgia [3]	0	0	3	10	0	0	2	4
Florida	0	0	16	5	0	0	0	1
East South Central States:								
Kentucky	0	1	61	68	0	3	4	7
Tennessee	1	0	26	45	1	2	3	4
Alabama [3]	1	0	15	34	0	0	0	2
Mississippi [3]	0	0	21	26	0	2	3	5
West South Central States:								
Arkansas	0	0	15	11	3	1	1	1
Louisiana	1	0	25	25	0	1	15	4
Oklahoma [4]	0	0	32	27	1	1	5	1
Texas [3]	1	0	79	142	93	20	16	22

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 9, 1935, and Feb. 10, 1934—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934	Week ended Feb. 9, 1935	Week ended Feb. 10, 1934
Mountain States:								
Montana	0	0	15	25	9	0	0	3
Idaho	0	0	10	4	0	4	0	3
Wyoming	0	1	19	6	12	0	0	0
Colorado	0	1	291	52	0	2	1	1
New Mexico	0	0	18	38	1	0	1	3
Arizona	0	0	35	44	0	0	2	2
Utah [2]	0	0	85	9	0	0	0	0
Pacific States:								
Washington	0	0	51	46	34	5	2	2
Oregon	0	1	59	58	2	7	0	1
California	8	9	227	266	5	5	4	13
Total	23	23	6,812	5,821	241	139	124	169

[1] New York City only.
[2] Week ended earlier than Saturday.
[3] Typhus fever, week ended Feb. 9, 1935, 10 cases, as follows: South Carolina, 1; Georgia, 2; Alabama, 1; Texas, 6.
[4] Exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week.

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
January 1935										
Connecticut	2	23	626		2,144		1	252	0	6
Delaware		5	25		3		0	79	0	2
District of Columbia	5	31	88		52	1	1	109	0	3
Florida	2	34	251	16	113	3	1	47	0	4
Georgia	7	49	4,986	83	79	15	0	73	0	11
Indiana	5	202	687		1,744		0	793	10	12
Vermont		3			91		2	113	0	0

January 1935

	Cases
Actinomycosis:	
Connecticut	1
Chicken pox:	
Connecticut	888
Delaware	54
District of Columbia	317
Florida	184
Georgia	183
Indiana	529
Vermont	216
Conjunctivitis:	
Connecticut	1
Delaware	1
Georgia	1
Dengue:	
Florida	7
Georgia	55
Dysentery:	
Connecticut (bacillary)	8
Delaware	1
Georgia (amoebic)	4
Georgia (bacillary)	1
Epidemic encephalitis:	
Connecticut	1
Florida	1
Indiana	3

January 1935—Continued

	Cases
German measles:	
Connecticut	33
Delaware	8
Hookworm disease:	
Georgia	876
Lead poisoning:	
Connecticut	1
Mumps:	
Connecticut	193
Delaware	25
Florida	110
Georgia	104
Indiana	32
Vermont	6
Paratyphoid fever:	
Connecticut	1
Rabies in animals:	
Connecticut	1
Indiana	46
Screw-worm infection:	
Georgia	1
Septic sore throat:	
Connecticut	22
Georgia	30
Trachoma:	
Georgia	1

January 1935—Continued

	Cases
Trichinosis:	
Connecticut	3
Tularaemia:	
Georgia	1
Typhus fever:	
Florida	1
Georgia	14
Undulant fever:	
Connecticut	4
Delaware	1
District of Columbia	1
Georgia	3
Vermont	1
Whooping cough:	
Connecticut	359
Delaware	19
District of Columbia	25
Florida	72
Georgia	90
Indiana	174
Vermont	302

WEEKLY REPORTS FROM CITIES

City reports for week ended Feb. 2, 1935

[This table summarizes the reports received regularly from a selected list of 121 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference]

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tubrculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Maine:											
Portland	0	------	0	0	4	2	0	0	0	9	28
New Hampshire:											
Concord	0	------	0	0	4	0	0	0	0	0	15
Nashua	0	------	0	0	0	0	0	0	0	0	--------
Vermont:											
Barre	0	------	0	0	0	0	0	1	0	0	3
Burlington	0	------	0	0	0	9	0	0	0	0	8
Massachusetts:											
Boston	0	------	1	12	41	39	0	6	0	19	285
Fall River	0	------	0	305	2	0	0	1	0	9	31
Springfield	0	------	0	27	1	2	0	1	0	7	42
Worcester	0	------	0	0	13	8	0	2	0	11	56
Rhode Island:											
Pawtucket	1	------	0	0	0	0	0	0	0	0	13
Providence	1	------	0	8	8	7	0	4	0	12	83
Connecticut:											
Bridgeport	0	3	3	1	6	4	0	2	0	0	36
Hartford	2	2	0	122	3	8	0	2	1	11	42
New Haven	0	------	1	29	3	0	0	1	0	0	40
New York:											
Buffalo	0	------	2	135	27	56	0	13	1	23	153
New York	30	28	14	194	127	274	0	86	6	258	1,553
Rochester	0	------	0	144	4	11	0	0	0	10	80
Syracuse	0	------	0	1	3	8	0	1	0	25	49
New Jersey:											
Camden	2	1	0	0	3	2	0	6	0	0	35
Newark	0	17	1	18	6	15	0	5	0	33	91
Trenton	0	4	0	22	5	8	0	1	0	0	45
Pennsylvania:											
Philadelphia	7	8	7	8	47	89	0	22	2	145	522
Pittsburgh	2	19	11	106	24	22	0	5	1	19	213
Reading	1	------	1	6	1	6	0	0	0	27	15
Scranton	0	------	------	71	------	0	0	------	0	0	--------
Ohio:											
Cincinnati	12	------	2	3	14	26	0	6	0	7	164
Cleveland	4	106	3	76	22	29	0	7	0	43	192
Columbus	7	3	3	50	10	29	0	2	0	2	104
Toledo	2	2	2	30	5	30	0	3	0	17	65
Indiana:											
Fort Wayne	3	------	2	0	6	7	0	0	0	0	28
Indianapolis	10	------	2	2	17	21	0	6	0	8	--------
South Bend	0	1	1	57	3	4	0	0	0	0	14
Terre Haute	0	1	1	0	8	1	0	1	0	2	31
Illinois:											
Chicago	6	13	6	308	59	444	0	35	0	84	728
Springfield	0	1	0	1	10	9	0	0	0	3	27
Michigan:											
Detroit	5	22	3	190	28	142	0	13	1	68	259
Flint	0	------	0	72	9	8	0	0	0	6	32
Grand Rapids	0	------	1	27	0	12	0	1	0	8	41
Wisconsin:											
Kenosha	0	------	0	86	0	33	0	1	0	21	9
Milwaukee	0	2	0	254	7	322	0	7	0	46	100
Racine	0	------	0	4	1	7	0	1	0	4	12
Superior	0	------	1	27	1	0	0	0	0	0	9
Minnesota:											
Duluth	0	------	0	320	2	0	0	0	0	0	20
Minneapolis	1	------	0	1,749	12	44	0	2	2	11	120
St. Paul	0	2	2	12	6	24	2	2	0	9	62
Iowa:											
Davenport	3	------	------	12	------	1	0	------	0	0	--------
Des Moines	2	------	------	24	------	11	0	------	0	0	44
Sioux City	2	------	------	7	------	0	0	------	0	2	--------
Waterloo	1	------	------	9	------	10	0	------	0	1	--------
Missouri:											
Kansas City	1	------	0	40	22	13	0	5	0	2	123
St. Joseph	1	------	0	6	10	3	0	3	0	1	62
St. Louis	------	------	------	------	------	------	------	------	------	------	--------

City reports or week ended Feb. 2, 1935—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
North Dakota:											
Fargo	0		0		1	6	0	0	0	1	4
Grand Forks	0					7	0		0	0	
South Dakota:											
Aberdeen	0			18		0	0		0	5	
Sioux Falls	0			0		0	0		0	0	8
Nebraska:											
Omaha	2		0	8	14	17	1	2	0	0	73
Kansas:											
Topeka	0		1	4	11	4	0	0	0	4	37
Wichita	1		0	76	6	2	0	1	0	3	33
Delaware:											
Wilmington	1		0	1	2	2	0	3	0	0	30
Maryland:											
Baltimore	0	17	6	9	31	71	0	13	0	14	248
Cumberland	0		1	16	0	3	0	1	0	0	14
Frederick	0		0	0	3	0	0	1	0	0	7
District of Columbia:											
Washington	7	4	5	7	20	22	0	9	1	2	161
Virginia:											
Lynchburg	3		0	283	3	2	0	0	0	1	12
Norfolk	7	1	0	12	3	3	0	1	0	13	32
Richmond	0		0	71	1	5	0	4	0	0	58
Roanoke	0		2	5	2	2	0	2	0	0	18
West Virginia:											
Charleston	2		0	12	2	1	0	0	0	5	19
Huntington	3			3		2	0		0	0	
Wheeling	0		1	10	6	34	0	1	0	8	26
North Carolina:											
Raleigh											
Wilmington	0		0	1	3	0	0	1	0	0	15
Winston-Salem	1	3	2	1	4	2	0	0	0	37	21
South Carolina:											
Charleston	0	59	1	0	1	0	0	0	0	0	30
Columbia	0		0	0	4	0	0	0	0	0	15
Greenville	0		0	0	2	0	0	1	0	1	18
Georgia:											
Atlanta	5	38	3	0	12	6	0	3	0	17	90
Brunswick	0	1	1	0	1	0	0	0	0	0	9
Savannah	0	40	1	0	5	1	0	1	0	0	35
Florida:											
Miami	0	2	1	0	1	0	0	2	0	0	29
Tampa	0	2	2	0	0	7	0	2	0	0	32
Kentucky:											
Ashland	1			0		1	0		0	0	
Lexington	0	7	0	10	5	1	0	1	0	0	21
Tennessee:											
Memphis	4		1	0	12	2	0	3	0	1	85
Nashville	2		4	2	5	5	0	2	0	4	61
Alabama:											
Birmingham	0	70	5	13	13	5	0	4	2	2	85
Mobile	0	8	2	0	3	1	0	1	0	1	29
Montgomery	0	6		3		0	0		1	0	
Arkansas:											
Fort Smith	0		0	0		1	0		0	1	
Little Rock	2		1	2	3	2	0	2	0	0	
Louisiana:											
New Orleans	25	8	3	11	19	8	0	10	1	0	153
Shreveport	0		0	14	9	6	0	2	0	0	41
Oklahoma:											
Oklahoma City	1		0	0	9	4	0	2	0	0	58
Texas:											
Dallas	5	9	9		17	7	0	1	2	0	83
Fort Worth	3		0	0	3	2	0	0	0	0	34
Galveston	10		0	0	1	1	1	0	0	0	19
Houston	5		3	1	17	15	1	7	0	0	91
San Antonio	3		3	1	7	0	0	8	0	0	77
Montana:											
Billings	0		0	14	0	1	0	0	0	0	5
Great Falls	0		0		2	0	1	0	0	0	13
Helena	0		0	56	0	0	0	0	0	1	4
Missoula	0	30	0		6	0	0	0		0	14
Idaho:											
Boise	0		0	0	2	1	0	0	0	0	8

City reports for week ended Feb. 2, 1935—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Colorado:											
Denver	6	41	4	368	14	167	1	5	0	0	79
Pueblo	2	------	3	41	3	2	0	0	1	0	15
New Mexico:											
Albuquerque	2	------	0	5	3	0	0	4	0	8	13
Utah:											
Salt Lake City	1	------	0	4	7	70	0	1	0	37	30
Nevada:											
Reno	0	------	0	0	0	2	0	0	0	0	6
Washington:											
Seattle	------	------	------	------	------	------	------	------	------	------	------
Spokane	0	1	1	218	5	10	0	1	0	0	33
Tacoma	0	------	0	4	3	1	15	0	0	1	23
Oregon:											
Portland	0	3	1	36	6	7	0	2	0	0	79
Salem	0	3	------	0	------	1	0	------	0	0	------
California:											
Los Angeles	20	277	6	11	29	64	8	18	0	10	388
Sacramento	11	------	0	8	6	2	0	2	0	2	40
San Francisco	1	53	2	4	21	21	0	11	0	4	194

State and city	Meningococcus meningitis		Poliomyelitis cases	State and city	Meningococcus meningitis		Poliomyelitis cases
	Cases	Deaths			Cases	Deaths	
New York:				Virginia:			
New York	3	4	0	Richmond	0	2	0
New Jersey:				West Virginia:			
Newark	1	1	0	Charleston	1	0	0
Pennsylvania:				Wheeling	0	1	0
Philadelphia	2	1	0	Kentucky:			
Pittsburgh	1	0	0	Lexington	1	1	0
Ohio:				Tennessee:			
Cincinnati	6	1	0	Memphis	4	1	0
Illinois:				Nashville	0	1	0
Chicago	8	2	0	Arkansas:			
Wisconsin:				Little Rock	2	1	0
Milwaukee	1	0	0	Louisiana:			
Minnesota:				New Orleans	0	1	0
St. Paul	1	0	0	Oklahoma:			
Iowa:				Oklahoma	2	1	0
Des Moines	1	0	0	Utah:			
Missouri:				Salt Lake City	1	0	0
Kansas City	1	1	0	Oregon:			
St. Joseph	3	1	0	Portland	1	0	0
Nebraska:				Salem	0	0	1
Omaha	0	2	0	California:			
Maryland:				Los Angeles	0	0	7
Baltimore	3	1	0	Sacramento	1	1	1
District of Columbia:				San Francisco	1	0	0
Washington	8	0	1				

Dengue: Miami, 1 case.
Epidemic encephalitis.—Cases: New York, 3; Philadelphia, 1; Norfolk, 5.
Pellagra.—Cases: Winston-Salem, 1; Atlanta, 1; Dallas, 1; San Francisco, 1.
Typhus fever.—Cases: New York, 1; Baltimore, 1; Charleston, S. C., 1.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended January 26, 1935.—During the 2 weeks ended January 26, 1935, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada, as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis		2			4				2	8
Chicken pox		3	5	498	635	126	150	18	142	1,577
Diphtheria		6		27	26	23				82
Dysentery				2						2
Erysipelas				17	5	5	2	1		30
Influenza		7		7	159	2			20	195
Measles		246	238	692	1,283	730	1,016	31	24	4,260
Mumps		31			428	45	1	5	41	551
Pneumonia		4			32				44	80
Poliomyelitis				1	2				1	4
Scarlet fever		11	28	276	404	41	23	22	54	859
Trachoma									2	2
Tuberculosis	2	2	13	101	113	16		3	21	271
Typhoid fever		1	1	46	2	2		1		53
Undulant fever				1	1					2
Whooping cough		2	256	295	265	74	55	6	51	1,004

ITALY

Communicable diseases—4 weeks ended August 19, 1934.—During the 4 weeks ended August 19, 1934, certain communicable diseases were reported in Italy, as follows:

Disease	July 23–29		July 30–Aug. 5		Aug. 6–12		Aug. 13–19	
	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected
Anthrax	41	31	34	31	32	24	32	29
Cerebrospinal meningitis	7	7	13	11	10	9	8	7
Chicken pox	146	79	90	70	78	49	90	50
Diphtheria and croup	342	195	290	290	309	196	407	209
Dysentery	49	21	23	15	54	29	43	27
Lethargic encephalitis	1	1			2	2	2	2
Measles	1,201	283	842	237	785	227	589	196
Poliomyelitis	34	27	36	30	26	23	26	15
Scarlet fever	210	98	151	82	169	91	239	109
Typhoid fever	921	459	927	480	956	521	1,209	552

PUERTO RICO

Notifiable diseases—4 weeks ended January 26, 1935.—During the 4 weeks ended January 26, 1935, cases of certain notifiable diseases were reported in Puerto Rico, as follows:

Disease	Cases	Disease	Cases
Chicken pox	48	Ophthalmia neonatorum	1
Diphtheria	39	Pellagra	2
Dysentery	25	Poliomyelitis	6
Erysipelas	1	Ringworm	2
Filariasis	1	Syphilis	34
Framboesia	10	Tetanus, infantile	3
Influenza	37	Tuberculosis	572
Malaria	1,402	Typhoid fever	11
Measles	34	Whooping cough	273
Mumps	65		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Hygiene, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following table must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Sept. 30–Oct. 27, 1934	Week ended— November 1934				December 1934					January 1935			
						3	10	17	24	1	8	15	22	29	5	12	19	26
China:																		
Amoy	C	[1] 1																
Hankow	C	2																
Shanghai	C	2	1															
India	C	39,308	58,347	53,096	19,160	3,233	3,563	4,724	4,656	5,069	5,640	2,974	1,962					
	D	21,179	29,499	26,643	9,524	1,627	1,943	2,494	2,495	2,547	2,829	1,497	1,009					
Assam	C				43	39	17	56	215	105	243	297						
	D					18	8	21	86	64	83	127						
Bassein	C									1	1	4	5	4	2	2	2	2
	D											2	4	3	2	3	1	3
Bombay Presidency	C	2,955	11,364	5,974	1,973	270	129	256	217	205	181	117		33	26			
	D	1,005	4,125	2,355	925	105	66	115	97	70	88	50		17	16			
Bombay	C	1	1	2														
Calcutta	C	294	182	183	110	28	15	18	17	25	10	46	36	49	53	30	30	61
Chittagong	C	9	2	1	1				1	1	3	3	1	4				
Madras Presidency	C	2,463	6,883	3,647	1,098	300	418	511	672	996		2,452						
	D	1,093	3,184	1,695	526	134	203	255	303	469		1,201						
Madras	C	5	145	60	7	16	27	14	2	3	3	8	5	8	2	5	9	9
	D	3	55	29	5	3	14	13	2	1		3	4	4	1	5	4	7
Porto Novo	C												P					
Moulmein	C																	1
Negapatam	C					[2] 1										12		
Punjab	C			35														
	D			25														
Rangoon	C			1						1						2	1	18
Tuticorin	C																1	
Vizagapatam	C		4	6														
India (French)																		
Chandernagor	D	6		1	1													
Karikal	C	1	16	47	5			2					4	7				
Pondichery	C	6	105	59		10					2	3	3	21				

[1] Suspected.
[2] Imported.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

CHOLERA—Continued

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Sept. 30–Oct. 27, 1934	Week ended— November 1934				December 1934					January 1935			
						3	10	17	24	1	8	15	22	29	5	12	19	26
Indo-China (see also table below):																		
Kandal	C															2		
Pnom-Penh	C		2									1	1					
	D	1																
Siam	C	1																
On vessels:																		
S. S. *Khostan* at Calcutta from Karachi	C	1																
S. S. *Erinpura* at Port Swettenham	C		1															
S. S. *Aronda* at Rangoon from Calcutta	C			1														

Place		July 1934			August 1934			September 1934			October 1934			November 1934	
		1–10	11–20	21–31	1–10	11–20	21–31	1–10	11–20	21–30	1–10	11–20	21–31	1–10	11–20
Indo-China (French) (see also table above):															
Cambodia [1]	C	1	1		2						1			3	
	D	1	1		1						1			3	
Cochin-China [1]	C	4	2	6	1		2			1				1	2
	D	4	2	4	1		1			1				1	2

[1] Reports incomplete.

PLAGUE [1]

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Sept. 30–Oct. 27, 1934	Week ended— November 1934				December 1934					January 1935			
						3	10	17	24	1	8	15	22	29	5	12	19	26
Argentina (see also table below): Santiago de Estero Province—Frias	C										1							
Azores. (See table below.)																		
Belgian Congo	C	8					8	2	4						1	2		
Brazil:																		
Alagoas State	C											5						
	D											2						
Ceara State	C										2							
British East Africa (see also table below):																		
Kenya	C	1	5	13	1	1	2	2		1	3				17			
Uganda	C	131	101	70	89	18	16	23	22	33	13	16	38	22				
	D	122	101	69	85	16	16	21	22	34	13	16	33	18				
Ceylon: Colombo	C	1		1				1	1					1				
	D	1						1	1	1								
Plague-infected rats				1		3												
China (see also table below):																		
Fort Bayard [2]																		
Manchuria [3]	D	22	8															
Mansantun [4]	D													4				
Dutch East Indies:																		
Java—Batavia	C				5													
	D				5													
West Java	C	1,148	1,721	2,201	1,684	453	402	390										
	D	1,144	1,720	2,201	1,684	453	402	390										
Egypt:																		
Alexandria—Plague-infected rats		P	P	P	P		P		P		P		P		P			
Asyut	C								2									
Beni-Suef	C					1												
Gharbiya	C	22																
	D	6																
Girga	C																	1

[1] Including plague in the United States and its possessions.
[2] During the week ended June 2, 1934, suspected cases of plague were reported in Fort Bayard, Kwangchowan Territory, China.
[3] A report dated Oct. 30, 1934, states that from June to Oct. 25, 1934, deaths from plague had been reported in Manchuria, China, as follows: Fengtien Province—Liaoyuan 30, Shuangshan 21, Tungliao 41; Kirin Province—Changling 12, Chienan 26, Fuyu 32, Hsinking City 1, Nungan 168.
[4] Up to Jan. 5, 1935, 44 cases of plague with 35 deaths were reported at Mansantun, Manchuria, China.

108729°—35——3

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Sept. 30–Oct. 27, 1934	Week ended— November 1934 3	10	17	24	December 1934 1	8	15	22	29	January 1935 5	12	19	26
Hawaii Territory:																		
Hawaii Island—Hamakua district—																		
Kalopa—Plague-infected rats					1	1			2									
Paauhau	C					1												
	D					1												
Plague-infected rats					1													
Pohakea—Plague-infected rats					1													
Maui Island—Makawao district—																		
Kahului (9 miles from)—Plague-infected rats					2													
Paia—Plague-infected rats					1													
India	C	921	3,032	6,640	5,642	1,117	826	1,043	1,181	1,059	964	817	865					
	D	578	1,777	3,981	3,114	607	509	613	695	597	587	521	532					
Bassein	C	5	5	1	2		2	1						1				
Plague-infected rats		1	3	3	1				1									
Bombay Presidency	C	379	1,464	2,929	2,759	741	406	485	461	372	300	220		214	232			
	D	220	842	1,760	1,626	278	235	286	310	230	176	134		137	138			
Bombay	C	1		1													1	
Plague-infected rats				2	1													
Madras Presidency	C	194	333	553	309	45	19	55	111	119		63						
	D	98	165	296	183	19	10	21	42	63		24						
Moulmein	C		1															
	D		1															
Punjab	C				29	13	8	29	3	10	17	8	11	13	9	5	11	
	D				17	8	6	20	1	8	13	7	6	11	5	2	5	
Rangoon	C	1	1	3											1			
Plague-infected rats			1							1								
Indo-China (see also table below):																		
Bentre	C		1															
Pnom-Penh	C		1	3	2				1			1	1					
Saigon and Cholon	C	1	1	1			1	1										
Iraq: Baghdad	C	1																
Madagascar. (See table below.)																		
Morocco: Tangier	C					4	3											
Peru (see also table below).																		

Senegal. (See table below.)																			
Siam:																			
Prachin—Nagara Nayok	C														4				
Rajpuri	C															1			
South-West Africa.[5]																			
Union of South Africa: Orange Free State	C				3			2	1				2						
United States: California: Plague-infected ground squirrels: Modoc County		2																	
On vessel: S. S. *Barjora* at Rangoon from Moulmein	C			1															
	D			1															

Place		July 1934	August 1394	September 1934	October 1934	November 1934	December 1934
Argentina (see also table above)	C	2	6	11			
Azores	C	5	5	2			
British East Africa (see also table above):							
Kenya	C		13	5	1	6	
Uganda	C		103	54			
China: Kwangchowan	C	10	3			3	
	D	4	3			3	
Indo-China (see also table above):							
Cambodia	D	2	3	3	4	4	
Cochin-China	C	8	2	1		2	

Place		July 1934	August 1934	September 1934	October 1934	November 1934	December 1934
Madagascar (central region)	C	97	160	291	444	431	381
	D	96	158	283	422	410	364
Peru (see also table above)	C		1			2	5
Lima department	C			2	3	1	1
Senegal:							
Dakar[6]	C	55	52	17	13	4	2
	D	47	47	19	11	3	2
Diourbel[6]	C		5	1			
	D		3	1			
Rufisque[6]	C	33	42	18	8	4	
Thiès[6]	C	50	39	6	6		
Tivaouane[6]	C	27	82	26	21	3	1

[5] From January to June 30, 1934, 20 cases of plague were reported in Ovamboland, South-West Africa.
[6] Reports incomplete.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER AND YELLOW FEVER—Continued

SMALLPOX

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Sept. 30–Oct. 27, 1934	Week ended— November 1934 3	10	17	24	December 1934 1	8	15	22	29	January 1935 5	12	19	26
Algeria:																		
Algiers Department	C	1			1													
Constantine Department	C			1	1													
Angola. (See table below.)																		
Belgian Congo (see also table below)	C	1	2	5			102											518
Bolivia. (See table below.)																		
Brazil:																		
Porto Alegre (alastrim)	C	2	5	2	1							1						
Recife	C																	
Sergipe State	C						P											
British East Africa:																		
Kenya	C	93	169	116	30	11	1	4	1	5	5			2				
Tanganyika	C	2	6	43	18		12	2		20	19	15	5	4				
British Somaliland	C	16		7	7	2			3									
British South Africa:																		
Northern Rhodesia	C			16														
Southern Rhodesia	C		2	1	2					1								
Cameroun (French). (See table below.)																		
Canada:																		
Alberta	C							1	1	1								
British Columbia	C		[1] 1															
Manitoba	C			[1] 1	[1] 1													
Saskatchewan	C				2	[1] 1												
Canary Islands: Santa Cruz de Tenerife	C									2	1							
Ceylon: Colombo	C			17	3	2	1	3	5		10	1	1		1	1	10	3
China:																		
Amoy	C	6	3			1									1			
Canton	C						1		2		2	3		4	1	3	2	1
Dairen	C	6		2						1								
Foochow	C	P	P	P	P	P		P		P		P		P		P		
Hangchow	C	2																
Hankow	C			1	1				1	1	1		4	9				
Hong Kong	C			1		1		[1] 1					1	1	1	2	1	4
Macao	D					1		1	1	4	10	4	15	10	12	17	13	5
Nanking	C											1						
Shanghai	C	8	3	1	2				1		2	3	1	2				

Swatow	C		1															
Tientsin	C	2			2		2		1	1	1	3						
Tsingtao	C		1		1			2	1					2				
Chosen. (See table below.)																		
Colombia	C															[1] 11		
Dahomey. (See table below.)																		
Ecuador. (See table below.)																		
Egypt:																		
Alexandria	C		2															
Aswan	C	4																
Cairo	C	1	4	1														
Faiyum	C	2		1														
Girga	C	4																
Minya	C	15	3	2														
Sharkiya	C				74													
Provinces	C	39	31	13	46	3							2					
Eritrea	C		1															
Finland. (See table below.)																		
Formosa	C															P		
France. (See table below.)																		
Great Britain:																		
England and Wales	C	3		1	1		1											
London	C				1													
London and Great Towns	C			1	1													
Greece: Salonika	C	7	8		3													
Guatemala. (See table below.)																		
Honduras:																		
Tegucigalpa	C		4	2														
Tela	C										5	1	1		1		1	
India	C	16,344	12,684	8,838	4,421	1,365	1,555	1,856	2,387	2,782	3,147	3,473	3,544					
	D	3,966	3,269	2,108	846	261	318	370	482	509	920	862	883					
Bassein	C	1	1															1
	D	1	1															2
Bombay Presidency	C	1,000	1,134	1,102	628	267	130	346	502	413	473	602		559	704			
	D	249	237	200	132	34	12	72	86	67	113	107		142	173			
Bombay	C	5	4	14	8	1	1	3			4	1	8	9	7	28	23	29
	D	2	3	6	5	1	1	2			2		3	6	5	12	15	9
Calcutta	C	23	7	16	3			4			5	10	22	14	14	12	19	34
	D	18	8	9				1			3	5	15	9	10	9	11	22
Cochin	C																2	
Karachi	C	13	6	3									4	3		6		5
Madras Presidency	C	3,576	3,397	2,920	2,708	658	739	685	671	989		950						
	D	588	616	515	414	96	94	123	133	132		153						
Madras	C	34	19	22	16		2	1	2		7	8	2	2	5	7	12	12
Negapatam	C	7	4	3	8		1	1	1		2	10	2	10	9	10	6	8
Punjab	C				5	11	20	16	13	21	80	38	86	50	127	43	73	
Rangoon	C	6	3	2	3		2	1			1			2	2	4	10	10
Tuticorin	C	6		3	2						2	1					3	1
Vizagapatam	C	3	8	1				5	11		11	8	5	4	54	4	11	23

[1] For 2 weeks.
[2] Imported.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Sept. 30–Oct. 27, 1934	Week ended— November 1934 3	10	17	24	December 1934 1	8	15	22	29	January 1935 5	12	19	26
India (French):																		
Chandernagor	D	1	2	1														
Karikal	C			1	1			1		2		1	1	9				
Pondichery	C	131	170	236	99	35		36	18	34	30	7	34	27				
	D	78	103	147	81	10		19	16	22	31	6	20	20				
India (Portuguese)	C		27															
Indo-China (see also table below):																		
Haiphong	C			1											1			
Pnom-Penh	D		1															
Tourane	C	17	9	3	4		3			1			1	3	1	1		
Iraq	C	13	5	11	3				1	10		8	13	2				
Arbil	C	15		6	2					1				2				
Baghdad	C		2	[3]1	1													
Basra	C										1		5					
Italy:																		
Genoa	C		8	2														
Milan	C			2														
Ivory Coast. (See table below.)																		
Japan	C	6						1		26	55	33						
Aomori Prefecture	C	3																
Kobe	C	1																
Liberia.[3]																		
Mexico:																		
Allende.[4]																		
Chihuahua	C	1		1			2			1	2	2	7	5		5	1	1
Mazatlan.[5]																		
Mexico, D. F	C	5	6	8	6					1			6					
Monterrey	C		1															
San Luis Potosi	D	1								1								
Teitipac.[5]																		
Morocco. (See table below.)																		
Mozambique. (See table below.)																		
Nigeria	C		239	215	159		115				142		74					
Lagos	C	2	3	5														
Nyasaland. (See table below.)																		
Palestine	C									1								2
Persia	C	2	3	2	7	1	3			1								
Teheran	C	7	1				1	1		1	1							
Peru. (See table below.)	D			1	1	1												

Poland	C	1		1	1			1										
Portugal (see also table below):																		
Lisbon	C	4			2	1	1							1				
Oporto	O			1		1						1						
Portuguese East Africa. (See table below.)																		
Salvador	C	[1] 21	30	12	13	9			1			[6] 27	1					
Siam	C	6		32	4	13							20		8	3	12	1
Sierra Leone	C	67	80	385	214		[1] 60				[1] 129		[1] 43					
Somaliland (French): Jibuti	C																5	
Spain	C	54	47	29	22	36	54	8	7	7	29	15	14	13	7	4		
Straits Settlements: Singapore	C				2													
Sudan (Anglo-Egyptian)	C	3	4	1	1				1			1		11	2	5	5	1
Syria:																		
Beirut	C		2															
Damascus	C							26	7	26	19		4			6		
Provinces	C	50	32	78	51	15	35	39	27	49	30		18	17	1	18	9	
Trans-Jordan	C	1					[2] 1											
Tunisia	C															5		
Turkey. (See table below.)																		
Union of South Africa	C	P	P	P														
Union of Soviet Socialist Republics. (See table below.)																		

On vessels:

S. S. *Rohna* at Penang from Madras — 1 case — July 12, 1934
S. S. *Tacoma* at Moji from Dairen — 1 case — July 28, 1934
S. S. *Ethiopa* at Rangoon from Madras — 1 case — Sept. 3, 1934
S. S. *Usuri Maru* at Kobe from Dairen — 1 case — Sept. 24, 1934

On vessels—Continued.

S. S. *Rohna* at Penang from Madras — 1 case — Oct. 4, 1934
S. S. *Erinpura* at Rangoon from Madras — 1 case — Oct. 8, 1934
S. S. *Kwang-Si* at Jibuti — 1 case — Nov. 24, 1934
S. S. *Varela* at Basra — 1 case — Dec. 8, 1934

Place		July 1934	August 1934	September 1934	October 1934	November 1934	December 1934
Angola	C	72	65				
Belgian Congo (see also table above)	C	360	204	183	184	110	
Bolivia	C	82	136	70			
Cameroun (French)	C	1					
Chosen	C	18	5	15	40	38	
Dahomey	C	83	31	10	6	1	
Ecuador	C	1					
Finland	C	1					
France	C		3	2	3	53	57
Guatemala	C		1		2	1	2
Indo-China (see also table above)	C	192	150	87	202	259	280
	D	29	39	18	89	22	25
Ivory Coast	C	2					
Morocco	C	5	2	8		7	5
Mozambique	C	3	4	6	1	36	
Nyasaland	C	31	16	29	17	29	11
Peru	C	24	100	12			
Portugal (see also table above)	C	70	60	36			
	D	4	6	2	21		
Portuguese East Africa	C	3	4	6	1	36	
Turkey	C	17	4	16	2		
Union of Soviet Socialist Republics	C	388	408				

[1] For 2 weeks.
[2] Imported.
[3] A report states that from February to Sept. 10, 1934, 233 cases of smallpox, with 79 deaths, had been reported in Sanoyea, Liberia. All sanitary measures have been taken.
[4] A report dated Dec. 28, 1934, states that about 48 cases of smallpox, with 5 or 6 deaths, had been reported at Allende, Mexico.
[5] A report dated Aug. 27, 1934, states that smallpox has appeared in the suburbs of Mazatlan, Sinaloa, Mexico; the report also states that 104 deaths from smallpox have occurred in Teitipac, Oaxaca, Mexico.
[6] For 3 weeks.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Week ended— October 1934 6	13	20	27	November 1934 3	10	17	24	December 1934 1	8	15	22	29	January 1935 5	12	19
Algeria:																				
Algiers Department	C	1	1		1			3	2	1	1				2			2	1	1
Constantine Department	C	32	12	5	1			3					1			8	5	3	4	2
Bone	C		1	1																
Constantine	C							2				2	1						1	
Oran Department	C	2	10										1	1						
Basutoland	C			20	17	12	7	10												
Belgian Congo	C	135	108	62	4	7	6	3	4	4	1	3		2		2		1	3	
Bolivia. (See table below.)																				
British East Africa: Uganda	C		1						10					1						
Bulgaria	C	2					2	5			5	2		4	3	4				
Chile	C	1,180	1,188	1,408																
Concepcion	C	13		14																
Iquique	C				[1] 4															
Santiago	C	365	185	430																
Tarapaca Province.[2]																				
Tocopilla	C			1																
Valparaiso	C	30	21	21		6	3	8	10	9	6	8	16	15	15	8	14	4	11	6
China:																				
Hankow	C				1															
Shanghai	C			1										2			1			
Chosen. (See table below)																				
Czechoslovakia. (See table below.)																				
Egypt:																				
Alexandria	C	2	1				1					2	2	1	1				1	
Aswan	C																			
Asyut	C	1																		
Beheira	C	52	31	1									3		2	4	8	8	14	
Cairo	C	2										1					1		1	
Dakahliya	C	17	7									1							4	
Damietta	D	1				1									1					
Faiyum	C					1														
Gharbiya	C	71	22	3		1						6		1		2	3		4	
Girga	C		1																1	
Minufiya	C	26	5								4	11	4	2	3	11	1	1	2	
Minya	C		1																	
Port Said	C									1		1				1	1			
Qena	C	1	6			1	2					1		2	2		2			
Sharkiya	C	15	3	1										1					1	
Provinces	C	176	98	35	2	3	3	2	2		5	22	9	7	9	18	16	9	27	

Estonia	C		1																	
Greece (see also table below): Salonika	C		6	2	1	1		1	1	1	1	1	1	1	1	1	1			
Guatemala. (See table below.)																				
Hungary	C			1									6		1		1			1
Iraq:																				
Baghdad	C		3	1	1									1						
Mosul liwa	C	14	3	3																
Irish Free State:																				
Cork County—Castletown	C	5																		
Waterford County—Lismore	C			1	1															
Wicklow County—Altidore	C	7																		
Italy:																				
Leghorn	C		2	4				1												
Palermo	C	1																		
Japan:																				
Aomori Prefecture	C		3	1																
Kobe	C				1															
Nagasaki	D			1																
Latvia. (See table below.)																				
Lithuania	C	17	7	2		2		1		1			1	8	4		3	3	7	
Mexico:																				
Guadalajara	D			1																
Mexico, D. F	C	38	34	26	8	6							3	18	7	8				
Saltillo	D			2		1														
San Luis Potosi	D	1			1		1													
Torreon	C	1	1			1		4			1					1	1			
Morocco	C	18	43	1					1				7	2	6	1	1		3	3
Palestine	C	5	1	3	1	1	2											2		
Haifa	C	[1] 1	1	1	1	[1] 1	[1] 1	[1] 1			[1] 2	[1] 2		2		1	1			
Persia	C	112	49	47	4	8		7	10	5		3	5	10	25	19	9	22		
Teheran	C	25	7	10	1															
Peru. (See table below.)																				
Poland	C	148	77	53	13	9	13	13	14	12	16	19	27	12	38	33	14			
	D	12	6	1	3	1		1	2	1	3	3	4	3	1	1	1			
Portugal (see also table below):																				
Oporto	C	1		1										2						
Tarouca (near)	C																		26	
Rumania. (See table below.)																				
Spain	C			1																
Straits Settlements: Singapore	C	2																		
Syria: Beirut	C		1																	
Trans-Jordan	C	4	4																	
Tunisia:																				
Tunis	C	1	1			1			1				3				1			
Provinces	C	46	14	18	2		4	16	18	1	14	2	10	1	8	21	16	9	2	18
Turkey. (See table below.)																				
Union of South Africa. (See table below.)																				
Union of Soviet Socialist Republics. (See table below.)																				
Yugoslavia. (See table below.)																				

[1] Imported.

[2] A report dated July 13, 1934, states that 41 cases of typhus fever with 7 deaths have been reported in the villages of Usmagama and Pachica, Tarapaca Province, Chile.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

TYPHUS FEVER—Continued

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

Place		July 1934	August 1934	September 1934	October 1934	November 1934	December 1934
Bolivia	C	39	91	33			
Chosen	C	41	23	7	22	41	
Czechoslovakia	C	3					7
Greece	C	9	10	7	6	5	
Guatemala	C	24	36	31	18	18	21
Latvia	C				3		
Peru	C	43	24	63			
Portugal	C		4	7			
Rumania	C	16	24	16	48	85	
Turkey	C	9	22	10	16	20	3
Union of South Africa:							
Cape Province	C	289	272	437	407	223	
Natal	C	26	15	6	29	4	
Orange Free State	C	709	510	492	403	309	
Transvaal	C	24	12	105	32	39	
Union of Soviet Socialist Republics	C	1,343	1,297				
Yugoslavia	C	58	27	12	31	3	17

YELLOW FEVER

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

Place		July 1–28, 1934	July 29–Aug. 25, 1934	Aug. 26–Sept. 29, 1934	Week ended— October 1934				November 1934				December 1934					January 1935		
					6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19
Brazil:																				
Amazonas State—Fonte Boa	C	1																		
Ceara State:																				
Iguatu	D	1	1																	
Novo Oriente	C	1																		
Mato Grosso State: Coronel Ponce.[1]																				
Colombia: Intendencia of Meta—Restrepo	D											3						1		
French West Africa—Guinea—Kindia	C			1																
Gambia:																				
Bathurst	C										1					2		1		
St. Mary's Island	C										[2]									
Gold Coast:																				
Aperadi	C																		2	1
	D																		1	
Kokobee	C											1								

N'Kaw Kaw	C	1																				
Oda	C																				1	
Ivory Coast:																						
Abidjan	C			1																		
	D	1		1																		
Agboville	C			1																		
Banguoanou.[3]																						
Bingerville	C		1																			
Bobo-Diolasso	D						[2] 1															
Dibro	C														3							
	D														1							
Diekekro	C															1						
Dimbokro	C																					1
Tirailleur	C							1														
Toumodi	C														15			1				
	D														10							
Zuenoula	C														1							
Nigeria: Kano	C															2			1			
Niger Territory:																						
Maradi	C			1																		
Zinder	C	1	5			1															1	
	D	1	4			1																
Sierre Leone: Hill Station (near Freetown)	C																				[2] 1	

[1] During the month of October 1934, 1 case of yellow fever was reported at Coronel Ponce, Mato Grosso State, Brazil.
[2] Suspected.
[3] For the week ended Feb. 2, 1935, 1 case of yellow fever with 1 death was reported at Bangouanou, Ivory Coast.