

# Public Health Reports

Vol. 56 • NOVEMBER 14, 1941 • No. 46

---

## PAN AMERICAN HEALTH DAY

For some time representative public health men of the different American Republics have pointed out the desirability of setting aside a day for the commemoration on a Pan American scale of the health activities of the past, and for emphasizing present problems and the work in progress.

This idea was put forward at the Tenth Pan American Sanitary Conference (Bogotá, Colombia, 1938), and afterward more formally discussed at the Fourth Pan American Conference of National Directors of Health (Washington, D. C., May 1940), at which time a resolution for the celebration of such a day was adopted.

In keeping with this resolution, the President of the United States, in November 1940, issued the following proclamation designating December 2, the date selected by the Pan American Directors of Health, as Pan American Health Day.

### A PROCLAMATION BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

WHEREAS the Fourth Pan American Conference of National Directors of Health, held in Washington in May 1940, adopted a resolution recommending "that a 'Health Day' be held annually in the countries of the Pan American Union"; and

WHEREAS the National Health Authorities of the American Republics have agreed upon the second day of December 1940, as the date for the first celebration of Pan American Health Day, inasmuch as this is the anniversary of the opening date of the First Pan American Sanitary Conference, in 1902, marking the beginning of inter-American cooperation in one of the fields most important to progress, civilization, and the general well-being—that of public health; and

WHEREAS the Director of the Pan American Sanitary Bureau and the Surgeon General of the United States Public Health Service have requested that the United States Government and the people render their fullest cooperation and support to this new demonstration of the unity of interests and ideals of the countries of the Western Hemisphere:

NOW, THEREFORE, I, FRANKLIN D. ROOSEVELT, President of the United States of America, do hereby designate the second day in December of this and of each succeeding year as Pan American Health Day, and do hereby call upon the citizens of our country to celebrate the day appropriately, do invite similar action

on the part of the Governors of the several States, Territories, and island possessions of the United States, and, in order that our people may become better informed concerning the importance of Pan American cooperation in the field of public health and of the work which has been and is being done in this field, do invite the medical, sanitary, dental, pharmaceutical and nursing professions, the scientific groups, all organs of opinion, including the press, radio, and the motion picture industry, and all agencies and individuals interested in health, and especially public health and school authorities, to join with each other and with similar bodies in our sister Republics in the celebration of Pan American Health Day, thus emphasizing once more the ties that bind our countries together.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE at the City of Washington this 23d day of November, in the year of our Lord nineteen hundred and forty, and of the Independence of the United States of America the one hundred and sixty-fifth.

FRANKLIN D. ROOSEVELT

By the President:

SUMNER WELLES

*Acting Secretary of State.*

Similar resolutions and decrees were issued by all the American Republics.

The celebration is in general on a threefold basis: Commemoration of Pan American public health cooperation, medical progress, and public health workers of the past; emphasis on problems and activities of the present, often with such concrete demonstrations as visits to public health clinics and the opening of new public health centers; and announcement of plans for the future. The date selected, December 2, is that of the opening of the First Pan American Sanitary Conference in 1902, thus marking the beginning of an international cooperation which has become ever more firmly established, which has achieved much in the past and promises to achieve more in the future.

The ceremonies in the various countries include such different types of celebrations as special meetings and lectures in all countries; radio broadcasts in at least 10 countries (Costa Rica, Cuba, Chile, Dominican Republic, Ecuador, Guatemala, Haiti, Nicaragua, Uruguay, and Venezuela); in Colombia, a visit to the tombs of the great sanitarians of the past, and awarding of decorations to a group of those of the present; in Costa Rica, issue of a special series of postage stamps and inauguration of a Museum of Hygiene; in Guatemala, unveiling of a bronze plaque in the building of the Department of Health, on which are engraved the names of the President of the Republic, General Jorge Ubico, Mr. John D. Rockefeller, and Dr. Hugh S. Cumming, Director of the Pan American Sanitary Bureau; in Haiti, religious ceremonies, and a Presidential address over the radio; in Chile, radio broadcasts, lectures, and movies; in Colombia, Mexico, and Peru,

special sessions of the National Academies of Medicine; in Guadalajara, Mexico, offering of free consultations to the public by the medical profession; in Nicaragua, opening of a health center; in Paraguay, declaration of December 2 as a national holiday; in Peru, an official program in the auditorium of the Ministry of Public Health, Labor and Social Welfare, attended by the President of the Republic, opening of the Workers' Hospital of Lima, and other celebrations; in the United States, messages from the health officers to their colleagues in other Republics, offers on the part of the principal scientific societies of their best cooperation in Pan American work, and special programs in medical schools; in Uruguay, a reception given by the Ministry of Health, and radio program; and in Venezuela, opening of all health offices to the public, with explanations of the services offered therein.

In honor of Pan American Health Day, the Pan American Sanitary Bureau is issuing a special number of its Bulletin, containing messages from the Directors of Health of the various Latin American Republics and the United States, as well as other pertinent matter. It has also prepared a Pan American public health quiz for distribution to medical students.

## BLINDNESS, AS RECORDED IN THE NATIONAL HEALTH SURVEY—AMOUNT, CAUSES, AND RELATION TO CERTAIN SOCIAL FACTORS<sup>1</sup>

By ROLLO H. BRITTEN, *Senior Statistician, United States Public Health Service*

### CONTENTS

	Page		Page
Introduction.....	2191	Color.....	2205
Gross prevalence.....	2193	Geographic area and size of city.....	2207
Sex and age.....	2193	Economic status.....	2208
Causes of blindness.....	2197	Employment status.....	2209
Cause and sex.....	2202	Summary.....	2214
Cause and age.....	2202		

### INTRODUCTION

In the National Health Survey,<sup>2</sup> special consideration was given to the subject of blindness, this item being carried on the schedule form. A record was made of the presence of this impairment (both eyes and one eye only) in the canvassed population, the cause of the condition, and other pertinent data. Since the survey included questions on certain population and social characteristics, it has been possible to arrive at a comprehensive picture of the prevalence of

<sup>1</sup> From the Division of Public Health Methods, National Institute of Health. Assistance in the preparation of these materials was furnished by the personnel of Work Projects Administration Official Projects Nos. 712159-658/9999 and 765-23-3-10.

<sup>2</sup> For a description of the scope, method, and general definitions of the National Health Survey, see *The National Health Survey: Scope and method of a Nation-wide canvass of sickness in relation to its social and economic setting*. By George St. J. Perrott, Clark Tibbitts, and Rollo H. Britten. *Pub. Health Rep.*, 54: 1663 (1939). Reprint No. 2098.

blindness in various population groups. That is the primary purpose of the present article.<sup>3</sup>

The National Health Survey was a house-to-house canvass of 703,092 urban families in 18 States (and 36,801 families in certain rural areas) made to determine the frequency of serious disabling illness, medical care received in connection with such illness, and the relation of these items to social and economic conditions. The survey was patterned on previous ones conducted by the United States Public Health Service and in general followed the established techniques developed in such surveys, information being collected by trained enumerators from the housewife or other responsible member of the household. The data were obtained (usually) by means of a single visit to each household, visits being made from November 1935 to March 1936. The present analysis is confined to 2,498,180 white and colored persons (of known ages) in surveyed urban areas. The urban sample was chosen to be representative in general of cities in the United States according to geographic region and size. In large cities (100,000 or more population in 1930) the households to be canvassed were determined by a random selection of many small districts based on those used in the United States Census of 1930. In the smaller cities selected for study the population was enumerated completely. The surveyed urban population totalled 2,502,391 persons. (The rural sample covered 16 counties in Georgia, 4 in Michigan, and 3 in Missouri, with a total surveyed population of 140,418.) It is the extent of the National Health Survey that lends particular value to the findings on blindness, since the numbers encountered in previous studies have been insufficient to permit adequate comparisons.

As enumerated in the Health Survey, the blind represent persons with vision impaired to a degree which the lay informant considered blindness. The enumerator made no query concerning persons with defective vision of severe degrees not designated as blindness; i. e., the burden of reporting was placed on the family informant. The enumerator was not expected to elicit additional information by use of questions concerning ability to read or distinguish objects, etc.

Specific instructions to the enumerator were as follows:

If a person is blind, indicate whether the blindness is in one eye or in both eyes by entering "Yes" in *one* of the two allotted spaces. Do not ask if anyone is partially blind, but enter it (indicating by "Yes" in the allotted space) when that information is voluntarily given you. Defective vision, unless causing almost complete blindness, is not included.

It may be assumed, therefore, that the cases of blindness (both eyes) recorded in the Health Survey represent persons who were

<sup>3</sup> A preliminary report on blindness was prepared by Kenneth W. Revell of the Health Survey staff: *The National Health Survey: Blindness—amount, causes, and relation to certain social factors. Preliminary Reports, Sickness and Medical Care Series, Bulletin No. 10.* National Institute of Health, Division of Public Health Methods, Washington, D. C., 1938.

totally blind or had vision sufficient merely to distinguish between light and dark. Even for this group the figures are to be considered a minimum, both because of the recognized incompleteness of data obtained in general studies of the character of the Health Survey and the exclusion of most institutionalized cases.<sup>4</sup>

A separate entry was made on the schedule for blindness in one eye only, and this category yields data of a novel and important nature. The figures must be regarded as an understatement, but of value from a relative point of view.

The category "partial blindness," although it lacked specificity and therefore does not constitute a group properly subject to statistical analysis, served the purpose for which it was intended, namely, to prevent the inclusion under the "blind" of many persons who had seriously defective vision but were able to use their eyes for certain purposes. Among the 2,498,180 white and colored persons of known ages, there were 4,896 cases of partial blindness recorded, as against 2,068 for blindness in both eyes and 8,137 for blindness in one eye only. Because of the absence of any precise definition of "partial blindness" and the fact that the enumerator was instructed not to inquire in regard to it, this group has been omitted from consideration in this report.

#### GROSS PREVALENCE <sup>5</sup>

The number of persons per 100,000 recorded as being blind in both eyes (in the urban population surveyed) was 83, the number blind in one eye only 326, and the number blind in one or both eyes 409. <sup>6</sup>

#### SEX AND AGE

The prevalence of blindness <sup>7</sup> was greater among males than among females, as is shown in table 1, the difference being particularly marked for blindness in one eye only. As will be brought out later, these differences are associated with a higher rate of blindness due to

<sup>4</sup> There were 18 persons, blind in both eyes, recorded as being in institutions for the care of disease for the entire 12 months immediately preceding the visit.

<sup>5</sup> The term "prevalence" is used in this article to express the proportion of any population group who were reported as blind at the time of the Health Survey.

<sup>6</sup> No representative figures can be given for the rural population (i. e., persons living in places of less than 2,500 population) because of the fact that the surveyed rural areas cannot be regarded as an adequate sample of rural United States. However, the gross prevalence rates are given as a point of interest:

	Rate per 100,000		
	Both eyes	1 eye only	1 or both eyes
Michigan—rural parts of 4 counties.....	109	685	794
Missouri—rural parts of 3 counties.....	157	722	879
Georgia—16 counties.....	100	380	480

<sup>7</sup> When not qualified, the terms "the blind" and "blindness" are to be understood as referring to groups comprising persons who were either blind in both eyes or were blind in one eye only.

accidents among males than among females (however, see discussion at the end of this section relative to differences in incidence rates by sex).

TABLE 1.—*Prevalence of blindness according to sex*

Sex	Rate per 100,000			Number of cases			Population
	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only	1 or both eyes	
Both sexes.....	83	326	409	2,068	8,137	10,205	2,498,180
Male.....	87	444	531	1,045	5,332	6,377	1,200,728
Female.....	79	216	295	1,023	2,805	3,828	1,297,452

The concentration of the blind in the higher age groups is indicated in table 2. It will be noted that more than one-fourth of all the blind (both eyes) recorded in the Health Survey were over 75 years of age; that two-thirds were over 55 years of age; and that practically all were past or within the working ages.

TABLE 2.—*Percentage distribution and prevalence of blindness according to age*

Age (years)	Percentage distribution			Rate per 100,000			Number of cases	
	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only
All ages.....	100.0	100.0	100.0	83	326	409	2,068	8,137
Under 15.....	3.4	5.5	8.1	12	75	86	71	450
15-24.....	3.1	7.4	6.5	15	134	149	65	599
25-34.....	5.5	9.2	8.5	27	177	203	114	751
35-44.....	9.4	15.0	13.9	49	308	358	195	1,220
45-54.....	13.2	16.7	16.0	90	449	539	274	1,360
55-64.....	16.5	16.1	16.2	187	718	905	342	1,312
65-74.....	22.6	17.2	18.3	458	1,372	1,830	468	1,402
75-84.....	18.5	10.4	12.0	1,096	2,418	3,514	382	843
85 and over.....	7.6	2.5	3.5	2,916	3,714	6,630	157	200

The proportion of persons at any age who were blind is also presented in the table (and is shown graphically in fig. 1). Among children (persons under 15 years of age) the rate was 12 per 100,000 for blindness in both eyes and 86 per 100,000 for blindness in one or both eyes. In each succeeding age group there was found a marked increase in the rate, which reached the extreme figure of 2,916 (both eyes) and 6,630 (one or both eyes) among persons 85 or more years of age.

Since few blind persons recover their sight, the curves in figure 1 for both eyes and for one or both eyes may be taken as representing the accumulation of blind persons in the living population during the attained lifetime. If it be assumed that, over a period of years, there has been no material change in the prevalence of blindness at specific ages and that the mortality rate of the blind does not differ very greatly from that of the total population, an estimate can be made of the rate of development of new cases of blindness at specified

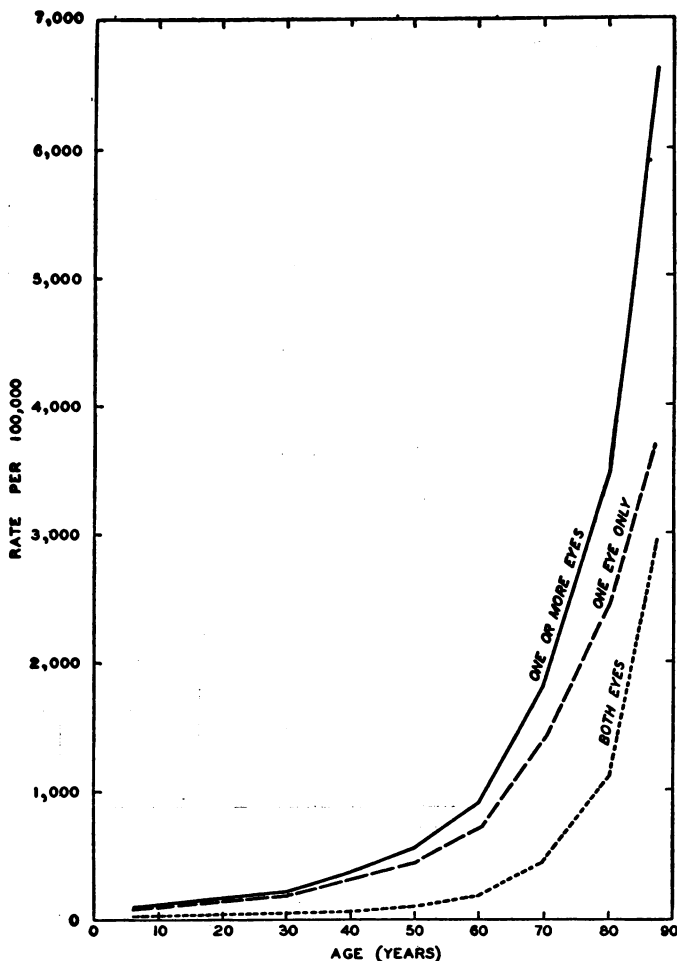


FIGURE 1.—Prevalence of blindness, according to age.

ages. For instance, the prevalence rate of 49 in table 2 for the age group 35–44 would indicate that 49 persons in each 100,000 had become blind (both eyes) by the time they had reached about 40 years of age. Similarly the rate of 90 for the age group 45–54 would indicate that 90 persons in each 100,000 had become blind by the time they reached about 50 years of age. Then the difference between these rates (41) gives the number per 100,000 who became blind during the 10-year period during which they were between 40 and 50 years of age. The average annual frequency of new cases for this age group (40–49) would be obtained by dividing the 41 by 10 (the number of years in the period).<sup>8</sup> A similar calculation for each age group results in the series of figures presented in table 3.<sup>9</sup>

<sup>8</sup> The term "incidence" will be used in this article to distinguish this type of rate from that of prevalence. (See footnote 5.)

<sup>9</sup> Incidence rates are not presented for one eye only. For this group the assumptions made in the text do not hold, since persons may shift from the group blind in one eye only to that blind in both eyes.

TABLE 3.—*Estimated annual incidence of new cases of blindness per 100,000 persons, according to age*

Age (years)	Both eyes	1 or both eyes	Age (years)	Both eyes	1 or both eyes
All ages.....	6.6	23.6	40-49.....	4.1	18.1
Under 7½.....	1.6	11.5	50-59.....	9.7	36.6
7½-19.....	2.2	5.0	60-69.....	27.1	92.5
20-29.....	1.2	5.4	70-79.....	63.8	168.4
30-39.....	2.2	15.5	80-89.....	182.0	311.6

<sup>1</sup> Congenital and hereditary causes are, of course, included.

The incidence rate for all ages combined is reached by weighting the age specific rates by the population in each age group.<sup>10</sup>

This approximation yields an estimated annual incidence of new cases of blindness (both eyes) of 6.6 per 100,000 population. It will be seen that the rate of development of new cases increased very rapidly with age.

The prevalence of blindness according to sex and age is shown in table 4 and figure 2. In order that the relative differences may be

TABLE 4.—*Prevalence of blindness according to sex and age*

Age (years)	Rate per 100,000						Number of cases			
	Both eyes		1 eye only		1 or both eyes		Both eyes		1 eye only	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
All ages.....	87	79	444	216	531	295	1,045	1,023	5,332	2,805
Under 15.....	14	10	94	55	108	65	42	29	285	165
15-24.....	21	9	202	76	223	85	43	22	417	182
25-34.....	34	21	263	102	297	123	67	47	518	233
35-44.....	62	37	472	155	535	192	119	78	903	317
45-54.....	105	78	647	251	752	327	159	115	980	380
55-64.....	213	163	960	495	1,173	658	187	155	841	471
65-74.....	522	405	1,790	1,025	2,311	1,430	242	226	830	572
75-84.....	942	1,213	3,060	1,930	4,002	3,143	142	240	461	382
85 and over.....	2,010	3,536	4,431	3,223	6,441	6,758	44	113	97	103

more clearly indicated, the vertical scale of the chart has been arranged in accordance with the logarithms of the rates. It will be noted that the males showed a higher prevalence of blindness in both eyes up to about 75 years of age; above that age the prevalence was greater among females. Blindness in one eye only showed much greater relative differences by sex, and the rate for males was greater than that for females in each age group without exception.

As in the case of the rates for both sexes combined, a calculation of the estimated annual incidence of new cases was made for the two sexes separately. The result is shown in table 5. Perhaps of chief

<sup>10</sup> I. e., by determining the estimated number of cases in each age group  $\left( \frac{\text{rate times population}}{100,000} \right)$ , adding the cases together, and dividing the total ( $\times 100,000$ ) by the population for all ages.



interest is the fact that the annual incidence of new cases of blindness (both eyes), all ages combined, is greater for females than for males—this phenomenon offering a contrast with the prevalence figures. The apparent contradiction is due to the fact that differences between the sexes in the incidence of new cases at the younger ages have a relatively greater effect on the prevalence figures than differences at the older ages.<sup>11</sup> In the case of blindness in one or both eyes, although both the incidence and prevalence rates are greater for males, the excess is much greater in the latter case. The ratio of the rate for

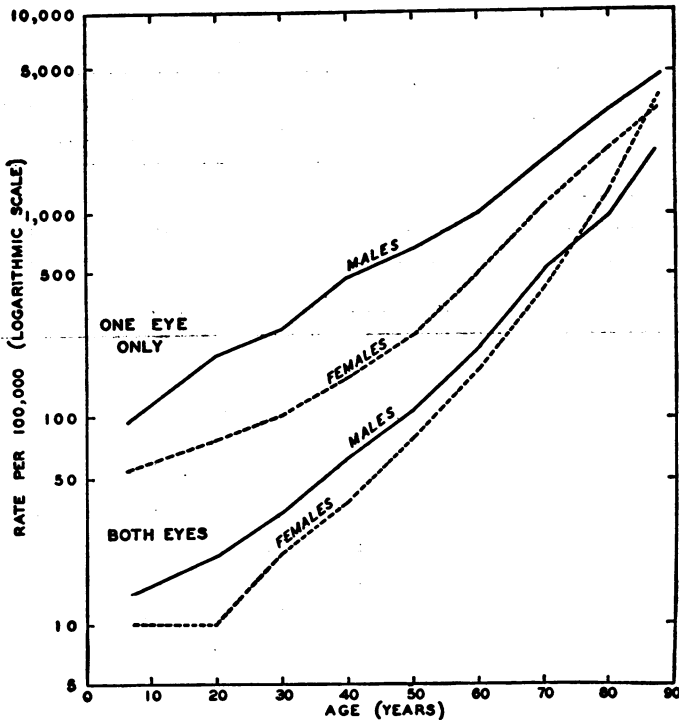


FIGURE 2.—Prevalence of blindness, according to sex and age.

males to that for females was 1.8 for the prevalence data and 1.4 for the incidence data.

Males showed a higher annual incidence of new cases in both eyes up to about 70 years of age; above that age the incidence was greater among females. The incidence of blindness in one or both eyes showed much greater relative differences by sex. Unlike the prevalence data, the rate for blindness in one or both eyes among females exceeded the rate among males in the advanced ages.

#### CAUSES OF BLINDNESS

The enumerator was instructed to inquire as to the cause of the blindness. As was to be expected, in many instances the family did

<sup>11</sup> The corresponding rates adjusted to the age composition of the total urban surveyed population are: Prevalence, male 80, female 76; incidence, male 6.2, female 6.9.

not know what the cause was and sometimes was undoubtedly mistaken. However, as a first approximation, the information on causes of blindness is regarded as being sufficiently reliable to be of great interest and value. The point is to be made again that the cases are an accumulation over the attained lifetime of the population. In regard to cause they may not be representative of new cases of blindness occurring today.

TABLE 5.—*Estimated annual incidence of new cases of blindness per 100,000, according to sex and age*

Age (years)	Both eyes		1 or both eyes	
	Male	Female	Male	Female
All ages.....	6.0	7.2	27.9	19.9
Under 7½.....	1.8	1.3	14.4	8.6
7½-10.....	.56	.48	9.2	1.6
20-29.....	1.3		7.4	3.8
30-39.....	2.8	1.6	23.8	6.9
40-49.....	4.3	3.9	21.7	13.5
50-59.....	10.8	8.7	42.1	33.1
60-69.....	30.9	24.2	113.8	77.2
70-79.....	42.0	80.8	169.1	171.3
80-89.....	106.8	232.3	243.9	361.5

In figure 3 is presented the percentage distribution of cases of blindness classified according to certain broad cause groups. Since cases with no cause reported are much more likely to be due to disease than to accident, and since blindness is sometimes erroneously ascribed to accidents because they occurred at a time when blindness due to disease had first become manifest, it may be felt that the percentages given in the chart for accident causes are not too low and may actually be somewhat too high. Accident was recorded as the cause in one-sixth of the cases of blindness in both eyes and in one-half of the cases of blindness in one eye only. The remainder—five-sixths for blindness in both eyes and one-half for blindness in one eye only—may perhaps be ascribed to disease and to congenital causes or causes associated with early infancy. It is difficult to say how far the latter causes are underrepresented in the percentages given in figure 3, but the difficulty of drawing a sharp line here is evident.

In table 6 the cases caused by disease have been classified in such detail as seems justified by the source and type of the information.<sup>12</sup> Cataract, glaucoma, or other diseases of the eye were recorded as the cause in more than half of the cases of blindness reported as due to disease. Degenerative disease was the major cause for diseases which did not originate in the eye. A somewhat different picture was presented for blindness in one eye only than for both eyes, cataract having a relatively more important role in the former case.

<sup>12</sup> Acknowledgment is made to Ralph E. Wheeler, Surgeon (R), U. S. Public Health Service, for assistance in making this classification.

Comment is to be made on the fact that syphilis and gonorrhea do not appear in the list of diseases given as causes. Although it is recognized that these diseases have been and are responsible for many cases of blindness it was to be expected that, because of the nature of the survey, in only a few cases would a venereal disease be given as the cause of blindness.

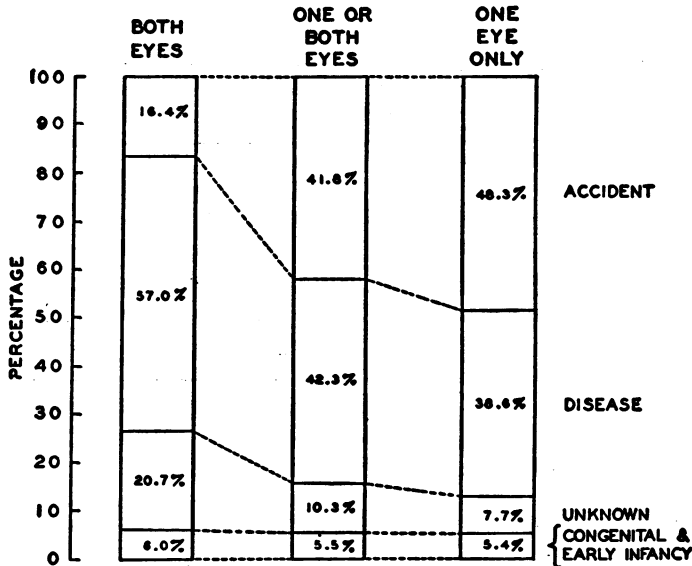


FIGURE 3.—Percentage distribution of cases of blindness according to broad cause groups (cases caused by nonaccidental injuries excluded).

TABLE 6.—Percentage distribution and prevalence of blindness according to disease cause

Disease cause	Percentage			Rate per 100,000		
	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only	1 or both eyes
All disease causes.....	100.0	100.0	100.0	47.1	124.7	171.8
Cataract.....	33.5	41.1	39.0	15.8	51.2	67.0
Glaucoma, etc. <sup>1</sup> .....	18.0	12.0	13.7	8.5	15.0	23.5
Ocular infections.....	3.2	5.1	4.5	1.5	6.3	7.8
Tumors <sup>2</sup> .....	1.3	3.1	2.6	.6	3.9	4.5
Localized infections (except ocular).....	2.1	6.5	5.3	1.0	8.1	9.1
General infectious diseases.....	10.6	10.7	10.7	5.0	13.4	18.4
Degenerative diseases.....	23.1	15.2	17.4	10.9	19.0	29.9
Occupational hazards.....	1.9	1.6	1.7	.9	2.0	2.9
Ill-defined diseases.....	6.2	4.7	5.1	2.9	5.8	8.7

<sup>1</sup> Includes noninfectious eye diseases except cataract.

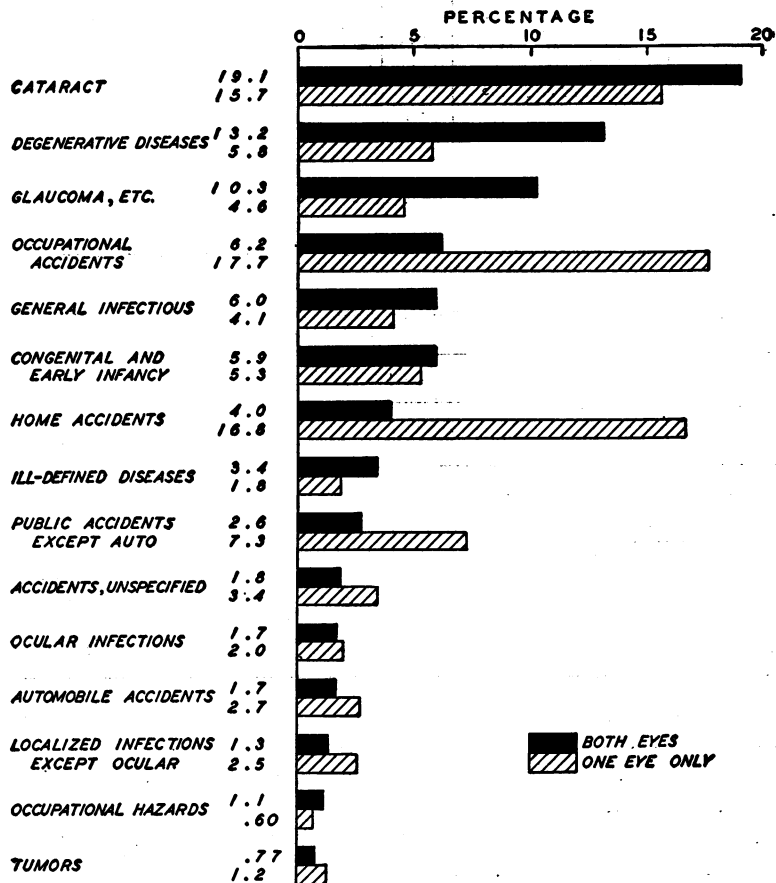
<sup>2</sup> Malignant or benign.

Whenever blindness was recorded as due to an accident, the enumerator was required to record the place where the accident occurred (home, in a public place, at work) and also whether a motor vehicle was involved. In table 7 the cases of blindness recorded as due to accident have been so classified.

**TABLE 7.**—*Percentage distribution and prevalence of blindness due to accident according to place of occurrence of the accident*

Place of accident	Percentage			Rate per 100,000		
	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only	1 or both eyes
All accident causes.....	100.0	100.0	100.0	13.5	156.1	169.6
Home.....	24.3	35.0	34.1	3.3	54.6	57.9
Public:						
Motor vehicle.....	10.4	5.6	6.0	1.4	8.8	10.2
Other.....	16.0	15.2	15.3	2.2	23.8	26.0
Occupational.....	38.2	37.0	37.1	5.2	57.8	63.0
Unspecified place.....	11.2	7.1	7.4	1.5	11.1	12.6

More than a third of the cases of blindness due to accident (either both eyes or one eye only) were recorded as having resulted from occupational accidents. As stated, the figures represent an accumulation over the attained lifetime of the population and do not necessarily reflect conditions under which new cases of blindness arise today.

**FIGURE 4.**—Percentage distribution of cases of blindness according to specific cause for (a) both eyes and (b) one eye only.

The importance of home accidents in producing blindness has not been sufficiently appreciated. A fourth of all cases of blindness in both eyes and a third of all cases in one eye only which were caused by accidents were due to home accidents.

The data on motor vehicle accidents resulting in blindness must be viewed in the light of the fact that this hazard is relatively new. If it had existed throughout the lifetime of all the persons surveyed, the percentages due to this cause would be considerably greater.

By way of summary, figure 4 gives the percentage of blindness

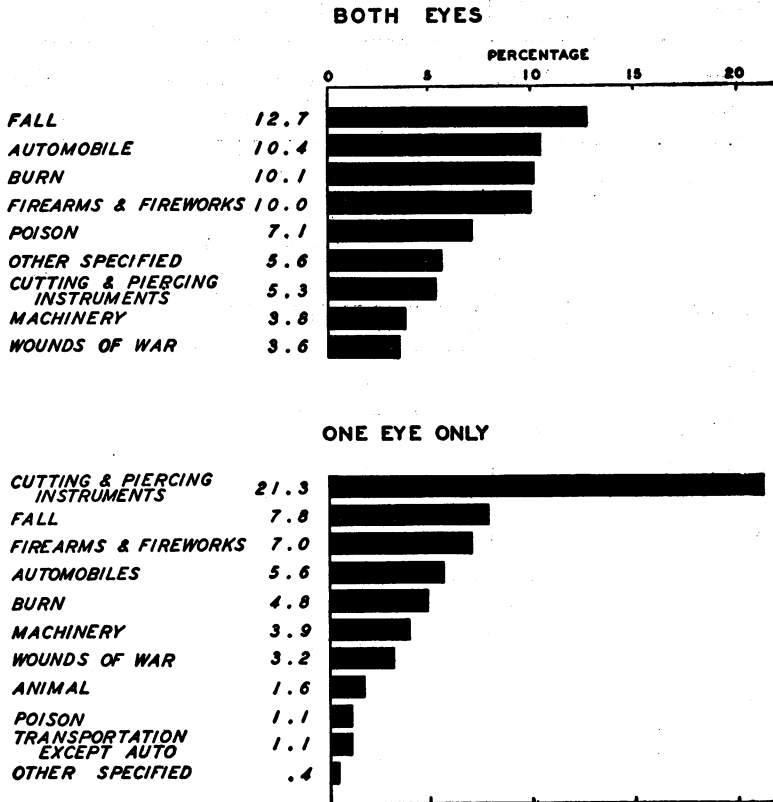


FIGURE 5.—Percentage distribution of cases of blindness due to accident, by means of injury.

(both eyes and one eye only) by specific cause. Here 100 percent is taken as the total group of cases. As a cause of blindness in both eyes, cataract ranks first, whereas for blindness in one eye only, occupational accidents rank first; second position is held by degenerative diseases and home accidents, respectively; third position by glaucoma and cataract, respectively.

Where the cause of blindness was an accident, the enumerator not only recorded the place of occurrence of the accident but also the means of injury. In view of the long interval, on the average, between

the time of the accident resulting in blindness and that of the Health Survey, it would be expected that the information obtained in this manner would be somewhat incomplete. As a matter of fact, no report as to means of injury was given for 31 percent of the accident cases resulting in blindness in both eyes; for blindness in one eye only this percentage was 42. In spite of this fact, the data seem worth reproducing (fig. 5). No attempt was made to allocate the percentages for the cases with unspecified means of injury.

For blindness in both eyes, falls, motor vehicles, burns, and firearms and fireworks were the principal means of injury; for blindness in one eye only cutting and piercing instruments were by far the most important means.

#### CAUSE AND SEX

Consideration of figure 6 will reveal that the higher rate of blindness in males is due to the greater frequency of accidents among them.

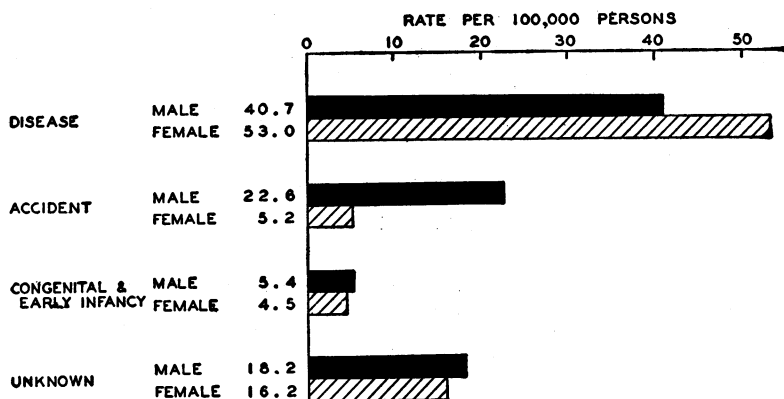


FIGURE 6.—Prevalence of blindness (both eyes) according to sex and broad cause group (cases caused by nonaccidental injuries excluded).

The chart is limited to blindness in both eyes, but a similar relation is shown for blindness in one eye only. This fact is brought out in table 8, which presents the rates for specific causes as well as for the broad groups and the place of occurrence for accident causes. The ratio of the rate for one sex to that for the other is also given. The contrast offered between disease and accident causes is striking.

It may be noted that for blindness in both eyes due to accident the ratio of the rate for males to that for females was 4.4, and that for blindness in one eye only the ratio was 5.5.

#### CAUSE AND AGE

In studying the relation between causes of blindness and age, it is most fruitful to deal with the data in terms of the age at which the cases occurred, i. e., in terms of the estimated annual incidence of new cases, as calculated previously. Owing to relatively small

numbers, only broad comparisons are practicable. Tables 9 and 10 present the prevalence and the estimated annual incidence of blindness due to accident and the corresponding rates for blindness due to disease. In table 9 a separate column is provided for cases with unknown cause. The similarity in form between the cases due to disease and those with unknown cause suggests that the latter are largely due to disease.

TABLE 8.—Prevalence of blindness, by sex, specific cause, and place of accident (for accident causes)

Cause	Both eyes				1 or both eyes			
	Rate per 100,000		Ratio		Rate per 100,000		Ratio	
	Male	Female	Male to female (female=100)	Female to male (male=100)	Male	Female	Male to female (female=100)	Female to male (male=100)
All causes.....	87.0	78.8	110	-----	531.1	295.0	180	-----
Diseases.....	40.7	53.0	-----	130	163.2	179.7	-----	110
Cataract.....	13.3	18.1	-----	136	65.4	68.4	-----	105
Glaucoma, etc.....	7.7	9.2	-----	119	22.0	24.8	-----	113
Ocular infection.....	1.3	1.5	-----	115	8.0	7.7	104	-----
Tumors (malignant or benign).....	.50	.77	-----	154	4.7	4.4	107	-----
Localized infections (except ocular).....	1.0	1.1	-----	110	7.7	10.3	-----	134
General infections diseases.....	4.9	5.1	-----	104	17.9	18.8	-----	105
Degenerative diseases.....	7.3	14.3	-----	196	23.1	36.2	-----	157
Occupational hazards.....	1.4	.46	304	-----	5.2	.77	675	-----
Ill-defined diseases.....	3.2	2.5	128	-----	9.3	8.2	113	-----
Accidents.....	22.6	5.2	435	-----	294.0	54.6	538	-----
Home.....	4.2	2.4	175	-----	83.1	34.5	241	-----
Occupational.....	10.5	.23	4,565	-----	128.9	1.9	6,784	-----
Public.....	-----	-----	-----	-----	-----	-----	-----	-----
Automobile.....	2.2	.69	319	-----	14.9	5.9	253	-----
Other.....	3.3	1.1	300	-----	45.5	7.9	576	-----
Unspecified place.....	2.3	.77	299	-----	21.6	4.3	502	-----
Nonaccidental injuries.....	.17	-----	-----	-----	4.6	1.3	354	-----
Congenital and early infancy.....	5.4	4.5	120	-----	24.3	20.4	119	-----
Unknown cause.....	18.2	16.2	112	-----	45.0	39.1	115	-----

The relatively greater importance of accidents in the younger ages and the relatively greater importance of diseases in the older ages may be more clearly seen from the percentage of cases, at any one age, which were recorded as due to accident. These percentages, based on the estimated annual incidence of new cases, were:

	Percentage <sup>1</sup>			Percentage <sup>1</sup>	
	Both eyes	1 or both eyes		Both eyes	1 or both eyes
Under 7½.....	-----	45	50-59.....	13	24
7½-19.....	-----	74	60-69.....	11	18
20-29.....	31	52	70-79.....	5.5	14
30-39.....	29	64	80-89.....	-----	-----
40-49.....	21	39	-----	-----	-----

<sup>1</sup>Numerator from table 10, denominator from table 3.

TABLE 9.—Prevalence of blindness, according to age, by broad cause groups

Age (years)	Both eyes				1 eye only				1 or both eyes			
	Acci- dent	Dis- ease	Con- genital and early infancy	Un- known	Acci- dent	Dis- ease	Con- genital and early infancy	Un- known	Acci- dent	Dis- ease	Con- genital and early infancy	Un- known
Rate per 100,000												
All ages.....	14	47	4.9	17	156	125	17	25	170	172	22	42
Under 15.....	.83	3.8	4.5	2.7	37	19	12	5.1	38	23	17	7.8
15-24.....	3.4	5.4	3.4	2.5	80	31	15	7.2	83	36	19	9.6
25-34.....	7.1	8.9	4.7	6.1	103	41	16	14	110	50	21	20
35-44.....	13	18	5.3	13	194	65	21	25	207	83	26	37
45-54.....	22	39	6.3	23	256	130	18	41	278	169	24	64
55-64.....	35	100	6.6	45	327	304	22	56	362	404	29	102
65-74.....	66	302	5.9	84	464	769	26	109	530	1,072	32	193
75-84.....	97	809	8.6	178	663	1,561	43	143	760	2,370	52	321
85 and over.....	97	2,396	-----	446	663	2,786	37	204	760	5,181	37	650
Cases <sup>1</sup>												
All ages.....	338	1,177	123	428	3,900	3,114	434	619	4,238	4,291	557	1,047
Under 15.....	5	23	27	16	226	115	75	31	231	138	102	47
15-24.....	15	24	15	11	356	137	68	32	371	161	83	43
25-34.....	30	38	20	26	437	175	68	61	467	213	88	87
35-44.....	52	71	21	50	767	258	83	97	819	329	104	147
45-54.....	66	118	19	70	776	394	55	123	842	512	74	193
55-64.....	64	183	12	83	597	555	41	103	661	738	53	186
65-74.....	67	309	6	86	474	786	27	111	541	1,095	33	197
75-84.....	97	282	3	62	544	1,500	15	50	306	826	18	112
85 and over.....	39	129	-----	24	267	150	2	11	306	279	2	35

<sup>1</sup> 72 cases of blindness caused by nonaccidental injuries have been excluded: 2 cases, blind in both eyes, 70 cases blind in 1 eye only.

TABLE 10.—Estimated annual incidence of new cases of blindness per 100,000 according to age, by broad cause groups <sup>1</sup>

Age (years)	Both eyes		1 or both eyes	
	Accident <sup>2</sup>	Disease <sup>3</sup>	Accident <sup>2</sup>	Disease <sup>3</sup>
All ages.....	0.75	4.7	7.0	14.3
Under 7½.....	.11	1.1	5.2	5.3
7½-19.....	.20	.04	3.7	1.2
20-29.....	.37	.49	2.8	1.6
30-39.....	.63	.96	9.9	3.9
40-49.....	.87	2.2	7.1	8.4
50-59.....	1.3	6.1	8.8	23.9
60-69.....	3.1	20.2	16.3	67.1
70-79.....	3.5	50.9	23.8	131.7
80-89.....	-----	157.8	-----	279.7

<sup>1</sup> Rates for unknown causes are omitted.

<sup>2</sup> Includes nonaccidental injuries.

<sup>3</sup> Includes congenital and early infancy causes.

In the section on sex and age, it was pointed out that the females, at all ages combined, showed a lower prevalence of blindness than the males, but a higher annual incidence of new cases. This fact was obviously associated with the higher rate of blindness due to accidents among males. Hence, it could be expected that a corresponding difference between prevalence and incidence rates would be shown in



comparing disease and accident causes. Consideration of tables 9 and 10 will show this to be true. Whereas, in the prevalence rates, 16 percent of the cases of blindness in both eyes were due to accident, the incidence rates showed 11 percent due to accident. In the case of blindness in one or both eyes, the corresponding percentages were 42 and 30.

For blindness in one or both eyes, there was a sufficient number of cases to permit a subdivision of the incidence estimates for blindness due to accident by place of occurrence of the accident. The estimated annual rate of new cases was as follows:

	<i>Incidence per 100,000</i>
All.....	7. 0
Home.....	2. 0
Public:	
Motor vehicle.....	. 38
Other.....	. 86
Occupational.....	3. 1

Although these small numbers prevent exact comparisons by age, it may be said that the incidence rates for home and public accidents resulting in blindness were relatively high in childhood and in old age; occupational accidents naturally showed an inverse tendency. The prevalence rates are given in table 11 by broad age groups.

TABLE 11.—*Prevalence of blindness (1 or both eyes) due to accident, according to place of the accident*

Age (years)	Rate per 100,000					Cases				
	Home	Public		Occupational	Unspecified	Home	Public		Occupational	Unspecified
		Auto	Other				Auto	Other		
All ages.....	58	10	26	63	13	1,446	255	649	1,573	315
Under 15.....	23	3.8	9.1	-----	1.7	141	23	55	2	10
15-34.....	44	6.3	23	19	4.2	384	55	200	162	37
35-54.....	71	13	31	95	26	499	91	220	657	184
55-74.....	111	25	45	218	23	316	79	129	622	65
75 and over.....	263	40	112	298	47	106	16	45	120	19

#### COLOR

Blindness was much more prevalent in the colored<sup>13</sup> than in the white populations of urban areas. For blindness in both eyes the rate was 146 per 100,000 among the colored as against 76 among the white; for blindness in one eye only the corresponding rates were 327 and 325. It is likely that blindness in one eye was not as completely recorded for the colored population as for the white and therefore, in the further discussion, attention will be confined to blindness in both eyes. In table 12 are given the rates in the white and in the colored

<sup>13</sup> Colored, as used here, refers largely to Negro, but the term is used because of the inclusion of small populations of other colored races.

population by geographic area<sup>14</sup> and sex, with the ratio of the colored rate to the white. The rates have been adjusted to the age composition of the total surveyed urban population to eliminate the effect of differences due to dissimilar age compositions in the various regions.

The excess in the rates for the colored population is maintained in each area, but is greatest in the South. The excess of the rate for colored over that for white persons is consistently greater among males than among females. (See also fig. 7.)

TABLE 12.—*Prevalence<sup>1</sup> of blindness (both eyes) according to color, geographic area, and sex*

Area and color	Rate per 100,000			Cases		
	Both sexes	Male	Female	Both sexes	Male	Female
South:						
White.....	74	75	72	211	99	112
Colored.....	217	257	183	206	107	99
Northeast:						
White.....	70	74	65	614	297	317
Colored.....	152	176	131	54	30	24
North Central:						
White.....	81	88	73	636	326	310
Colored.....	207	245	167	90	51	9
	Ratio of colored rate to white (white=100)					
South.....	293	343	254			
Northeast.....	217	238	202			
North Central.....	256	278	229			

<sup>1</sup> Rates adjusted to the age composition of the total urban surveyed population.

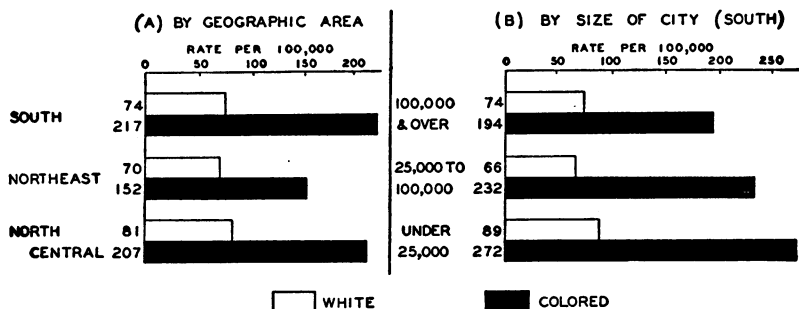


FIGURE 7.—Prevalence of blindness (both eyes) according to (A) color and geographic area and (B) color and size of city in the South. (Rates adjusted to the age composition of the total urban surveyed population.)

In table 13 a similar comparison is made by size of city (for the South only, where the numbers in the colored population justify the comparison). The excess in the rates for colored over those for white persons is greatest in cities below 100,000. (See also fig. 7.)<sup>15</sup>

<sup>14</sup> For the States comprising the geographic areas under consideration see footnote 16. The West is omitted from the comparison by color, since the canvassed colored population in that area was of a different make-up from that in the rest of the country.

<sup>15</sup> It may be noted that the rates of blindness (both eyes) in the rural survey of 16 counties of Georgia were for white and colored, 85 and 121, respectively.

The relative excess in the rate for colored over that for white persons is not constant at different ages but shows a tendency to rise rapidly with advancing age. (See table 14.)

TABLE 13.—*Prevalence<sup>1</sup> of blindness (both eyes) according to color, size of city, and sex, South only*

Size of city and color	Rate per 100,000			Cases	
	Both sexes	Male	Female	Male	Female
All sizes:					
White.....	74	75	72	99	112
Colored.....	217	257	183	107	99
100,000 and over:					
White.....	74	78	68	58	61
Colored.....	194	225	168	53	51
25,000-100,000:					
White.....	66	66	67	24	28
Colored.....	232	309	172	31	25
Under 25,000:					
White.....	89	81	94	17	23
Colored.....	272	303	245	23	23
	Ratio of colored rate to white (white = 100)				
100,000 and over.....	262	288	247		
25,000-100,000.....	352	468	257		
Under 25,000.....	306	374	261		

<sup>1</sup> Rates adjusted to the age composition of the total urban surveyed population.

TABLE 14.—*Prevalence of blindness (both eyes) according to color and age*

Age (years)	Rate per 100,000		Ratio of colored rate to white (white = 100)	Cases	
	White	Colored		White	Colored
All ages.....	76	146	192	1,700	368
Under 15.....	11	14	127	61	10
15-24.....	14	23	164	55	10
25-44.....	33	77	233	238	71
45-64.....	107	353	330	480	136
65 and over.....	647	1,648	255	866	141

#### GEOGRAPHIC AREA <sup>16</sup> AND SIZE OF CITY

No wide differences in the prevalence rates of blindness (both eyes) were observed in the four geographic areas. (See table 15 in which the rates are again adjusted to the age composition of the total urban surveyed population.)

There was, however, some trend with size of city. For all geographic areas combined, the rates increased from 74 for cities of 500,000 and over, to nearly 100 in cities below 100,000. This trend was observable in all geographic areas except the West.

<sup>16</sup> The Northeast area comprised surveyed cities in Massachusetts, New Jersey, New York, and Pennsylvania; the North Central, those in Illinois, Michigan, Minnesota, Missouri, and Ohio; the South, those in Alabama, Georgia, Louisiana, Texas, and Virginia; the West, those in California, Oregon, Utah, and Washington. See Perrott, Tibbitts, and Britten, *op. cit.*, for list of cities surveyed.

TABLE 15.—*Prevalence<sup>1</sup> of blindness (both eyes) according to geographic area and size of city*

Size of city	All areas	North-east	North Central	South (white) <sup>2</sup>	West
Rate per 100,000					
All sizes.....	83	73	88	74	69
500,000 and over.....	74	69	81	-----	70
100,000-500,000.....	84	78	74	74	78
25,000-100,000.....	100	87	119	66	67
Under 25,000.....	89	74	96	89	58
Cases					
All sizes.....	2,068	668	726	211	257
500,000 and over.....	750	385	300	-----	65
100,000-500,000.....	647	134	164	119	126
25,000-100,000.....	365	67	171	52	19
Under 25,000.....	306	82	91	40	47

<sup>1</sup> Rates adjusted to age composition of total urban surveyed population.<sup>2</sup> See table 13 for data for colored population.

## ECONOMIC STATUS

Although the economic status of the blind is a changing phenomenon owing to the rapid expansion of the social security program, it is of interest to indicate what the position of the blind was in 1935, prior to such expansion. It is to be recalled that the rates here considered are largely exclusive of persons in schools or institutions for the blind.

In the Health Survey, families were classified by income received during the 12 months preceding the interview and also by whether relief had been received during that time. Persons in families<sup>17</sup> with annual incomes under \$1,000 comprised about 40 percent of the surveyed group; about 65 percent were in families with annual incomes under \$1,500; and 80 percent were in families with incomes under \$2,000.

Families were identified as having received relief if at any time during the 12 months immediately preceding the visit of the enumerator one or more members had received aid such as work relief and other public assistance,<sup>18</sup> mothers' pension, pension for the blind, or a grant for any similar purpose from public funds administered by the Federal, State, or local government. About 18 percent of the surveyed population fell in this relief group.

Two-thirds of the blind (both eyes) were in families with annual incomes under \$1,000. (See table 16.) More than three-fifths of persons blind in one eye only were in the same income group.

<sup>17</sup> For the purpose of this report, all persons living in a household were classified according to the total income of the related members of that household. See Perrott, Tibbitts, and Britten, *op. cit.*, for precise definition of what was meant by income.

<sup>18</sup> Includes work relief against a relief budget and employment on work relief projects at security wages for persons taken from relief rolls.

Table 17 and figure 8 show that the income group below \$1,000 had rates of blindness (both eyes) about four times as great as that of the group with incomes of \$5,000 or more. There were also markedly higher rates for the low income groups in the case of blindness in one eye only. The differences were greater for males than for females. (See table 18.)

TABLE 16.—*Percentage of the blind who were in specified economic status groups*

Annual family income and relief status	Percentage <sup>1</sup>			Cases		
	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only	1 or both eyes
All incomes.....				2,068	8,137	10,205
All known incomes.....	100	100	100	1,989	7,877	9,866
Relief.....	31	31	31	621	2,407	3,028
Nonrelief:						
Under \$1,000.....	37	32	33	738	2,494	3,232
\$1,000 to \$1,500.....	14	17	16	287	1,324	1,611
\$1,500 to \$2,000.....	9.3	11	11	185	859	1,044
\$2,000 to \$3,000.....	5.3	6.8	6.5	106	538	644
\$3,000 to \$5,000.....	1.6	2.3	2.1	31	181	212
\$5,000 and over.....	1.1	.94	.96	21	74	95
Unknown.....				79	260	339

<sup>1</sup> Percentages based on known income.

TABLE 17.—*Prevalence <sup>1</sup> of blindness according to economic status, and ratio to rate in families with income of \$5,000 and over*

Annual family income and relief status	Rate per 100,000			Ratio to rate in \$5,000 income group		
	Both eyes	1 eye only	1 or both eyes	Both eyes	1 eye only	1 or both eyes
All incomes <sup>2</sup> .....	83	326	409			
Relief.....	163	618	781	494	511	507
Nonrelief:						
Under \$1,000.....	110	390	500	333	322	325
\$1,000 to \$1,500.....	59	260	319	179	215	207
\$1,500 to \$2,000.....	53	228	281	161	188	182
\$2,000 to \$3,000.....	41	195	236	124	161	153
\$3,000 to \$5,000.....	27	150	177	82	124	115
\$5,000 and over.....	33	121	154	100	100	100

<sup>1</sup> Adjusted to the age composition of the total urban surveyed population.

<sup>2</sup> Includes unknown income.

Although in every age group there were higher rates of blindness in the low income groups, the excess reached a maximum in middle adult life (45–64), where the ratio to the income group of \$2,000 and more reached a peak of 966 to 100. The rates are shown by age in tables 19 and 20.

#### EMPLOYMENT STATUS

The employment status of the surveyed population was determined as of the day of the visit. The categories to be used in the present comparisons are:

TABLE 18.—*Prevalence<sup>1</sup> of blindness according to sex and economic status and ratio to rate in families with income of \$3,000 and over*

Annual family income and relief status	Both eyes		1 eye only		1 or both eyes	
	Male	Female	Male	Female	Male	Female
Rate per 100,000						
All incomes <sup>2</sup> .....	89	76	451	212	540	288
Relief.....	179	147	837	410	1,016	557
Nonrelief:						
Under \$1,000.....	128	96	558	247	686	343
\$1,000 to \$1,500.....	62	55	360	168	422	223
\$1,500 to \$2,000.....	50	54	320	140	370	194
\$2,000 to \$3,000.....	35	45	253	138	288	183
\$3,000 and over.....	26	32	196	92	222	124
Ratio to rate in families with income of \$3,000 and over						
All incomes <sup>2</sup> .....						
Relief.....	688	459	427	446	458	449
Nonrelief:						
Under \$1,000.....	492	300	285	268	309	277
\$1,000 to \$1,500.....	238	172	184	183	190	180
\$1,500 to \$2,000.....	192	169	163	152	167	156
\$2,000 to \$3,000.....	135	141	129	150	130	148
\$3,000 and over.....	100	100	100	100	100	100
Cases						
All incomes <sup>2</sup> .....	1,045	1,023	5,332	2,805	6,377	3,828
Relief.....	337	284	1,591	816	1,928	1,100
Nonrelief:						
Under \$1,000.....	378	360	1,605	889	1,983	1,249
\$1,000 to \$1,500.....	144	143	880	444	1,024	587
\$1,500 to \$2,000.....	88	99	590	269	676	368
\$2,000 to \$3,000.....	45	61	344	194	389	255
\$3,000 and over.....	22	30	168	87	190	117

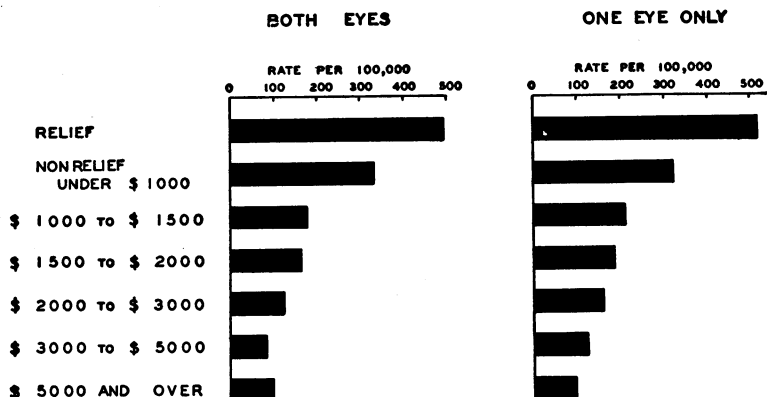
<sup>1</sup> Adjusted to the age composition of the total urban surveyed population.<sup>2</sup> Includes unknown income.

FIGURE 8.—Ratio of rates of blindness in specific economic status groups to rate in group with annual family income of \$5,000 and over. (Rates adjusted to age composition of total urban surveyed population.)

(a) *Employed workers*.—Persons employed in private industry or in regular government work whether or not at the usual occupation and whether the wages were paid in money or in kind.<sup>19</sup>

(b) *"Unemployable" males*.—An item on the schedule gave some information as to physical status. The question was whether the person, if not employed and not seeking work, was prevented from so doing by physical or mental disability.<sup>20</sup> The group was made up

TABLE 19.—*Prevalence of blindness (both eyes) according to age and economic status, and ratio to rate in families with incomes of \$2,000 and over*

Annual family income and relief status	Under 25 years	25-44	45-64	65 and over
	Rate per 100,000			
All incomes <sup>1</sup> .....	13	38	127	707
Relief.....	15	75	309	1,241
Nonrelief:				
Under \$1,000.....	19	66	188	775
\$1,000 to \$1,500.....	11	22	79	558
\$1,500 to \$2,000.....	11	15	64	533
\$2,000 and over.....	6.3	13	32	411
	Ratio to rate in families with incomes of \$2,000 and over			
All incomes <sup>1</sup> .....				
Relief.....	238	577	966	302
Nonrelief:				
Under \$1,000.....	302	508	588	189
\$1,000 to \$1,500.....	175	169	247	136
\$1,500 to \$2,000.....	175	115	200	130
\$2,000 and over.....	100	100	100	100
	Number of cases			
All incomes <sup>1</sup> .....	136	309	616	1,007
Relief.....	37	89	221	274
Nonrelief:				
Under \$1,000.....	45	122	216	355
\$1,000 to \$1,500.....	24	41	77	145
\$1,500 to \$2,000.....	17	22	50	96
\$2,000 and over.....	10	20	32	96

<sup>1</sup> Includes unknown income.

largely of individuals with severe chronic disease or incapacitating impairments (of which blindness is an excellent example); hence the term "unemployable" may be applied, with some reservations, to the group. All blind males (both eyes) who were not employed or not on work relief jobs have been assumed to be "unemployable" for the purpose of these comparisons.

<sup>19</sup> This group included persons who were absent from work on the day of the visit because of illness, temporary disability, vacation, strike, etc., but who had jobs to which they expected to return; persons not actually working on the day of the visit because their work was part time or irregular; all workers employed on P. W. A. projects; and those workers on W. P. A. projects who were in administrative or supervisory positions or who were paid at "security" wages but who were not taken from relief rolls. Persons on relief jobs, paid at "security" wages and taken from relief rolls, were not classified as "employed."

<sup>20</sup> Enumerators were instructed not to include as "unemployables," "persons who have an acute illness at present \* \* \* and will return to work or will seek work on recovery."

TABLE 20.—Prevalence of blindness (one eye only) according to age and economic status, and ratio to rate in families with incomes of \$2,000 and over

Annual family income and relief status	Under 15 years	15-24	25-44	45-64	65 and over
Rate per 100,000					
All incomes <sup>1</sup> .....	75	134	240	550	1,717
Relief.....	97	232	487	1,130	3,043
Nonrelief:					
Under \$1,000.....	85	141	305	706	1,895
\$1,000 to \$1,500.....	66	109	189	436	1,354
\$1,500 to \$2,000.....	66	129	164	343	1,183
\$2,000 and over.....	34	58	126	276	1,054
Ratio to rate in families with incomes of \$2,000 and over					
All incomes <sup>1</sup> .....					
Relief.....	285	400	387	409	289
Nonrelief:					
Under \$1,000.....	250	243	242	256	180
\$1,000 to \$1,500.....	194	188	150	158	128
\$1,500 to \$2,000.....	194	222	130	124	112
\$2,000 and over.....	100	100	100	100	100
Number of cases					
All incomes <sup>1</sup> .....	450	599	1,971	2,672	2,445
Relief.....	152	193	582	808	672
Nonrelief:					
Under \$1,000.....	111	144	560	811	868
\$1,000 to \$1,500.....	86	102	357	427	352
\$1,500 to \$2,000.....	58	88	233	267	213
\$2,000 and over.....	28	45	196	278	246

<sup>1</sup> Includes unknown income.

TABLE 21.—Percentage of all the blind (both eyes) who were classified as employed, according to age and sex

Sex	All ages	Under 15 years	15-24	25-34	35-44	45-64	55-64	65 and over
Percentage								
Both sexes.....	10	-----	15	30	25	20	12	2.9
Male.....	19	-----	21	48	35	30	20	6.3
Female.....	2.2	-----	4.3	-----	9.2	6.1	1.9	.34
Employed blind								
Both sexes.....	217	-----	10	34	49	54	41	29
Male.....	195	-----	9	32	42	47	38	27
Female.....	22	-----	1	2	7	7	3	2
Total blind								
Both sexes.....	2,068	71	65	114	195	274	342	1,007
Male.....	1,045	42	43	67	119	159	187	428
Female.....	1,023	29	22	47	76	115	155	579

Ten percent of the blind (both eyes) were recorded as being employed. (See table 21.) It is to be realized that such employment as they had was of a different character than that in the case of persons



who were not physically handicapped. Some of the blind were employed in industrial establishments provided for them; some worked in private industry; but it is doubtful whether many had earning power sufficient to make them economically independent. As an indication of the type of employment which they followed, the employed blind (both eyes), aged 15-64, are classified in table 22 by their usual occupation. In some cases the occupation is that followed prior to the development of blindness.

TABLE 22.—Percentage distribution of employed blind persons (both eyes), 15-64 years of age, by specific occupation (usual)

Occupation	Number	Per cent	Occupation	Number	Per cent
Professional persons.....	31	16.5	Clerks and kindred workers—Con.		
Musicians and teachers of music.....	14		Newsboys.....	5	
Others.....	17		Clerks, except in stores.....	8	
Retail dealers.....	32	17.0	Others.....	3	
Candy, books, stationery, tobacco, etc.....	14		Skilled workers and foremen.....	14	7.5
Hucksters, peddlers.....	12		Piano tuners.....	6	
Others.....	6		Others.....	8	
Proprietors, managers, and officials, except retail dealers.....	9	4.8	Semiskilled workers.....	51	27.1
Clerks and kindred workers.....	38	20.2	In manufacturing industries:		
Salesmen, real estate and insurance agents.....	7		Broom and brush.....	22	
Canvassers.....	4		Furniture and woodworking.....	13	
Commercial travelers.....	11		Other.....	13	
			Other semiskilled workers.....	3	
			Unskilled workers <sup>1</sup> .....	13	6.9
			Total.....	188	100.0

<sup>1</sup> Includes 7 persons of unknown occupation.

TABLE 23.—Prevalence of blindness (both eyes) among employed males and females and among "unemployable" males, according to age

Employment status and sex	All ages, 15-64	15-24	25-34	35-44	45-54	55-64
Rate per 100,000						
Employed:						
Both sexes.....	24	6.7	15	24	37	58
Male.....	29	11	20	27	40	65
Female.....	8.9	1.4	2.8	16	27	25
"Unemployable": <sup>1</sup> Male.....	188	28	141	355	481	633
Cases						
Employed:						
Both sexes.....	188	10	34	49	54	41
Male.....	168	9	32	42	47	38
Female.....	20	1	2	7	7	3
"Unemployable": <sup>1</sup> Male.....	401	34	35	76	109	147
Population						
Employed:						
Both sexes.....	796,689	148,652	231,399	201,835	144,255	70,548
Male.....	573,059	78,882	160,513	156,956	117,927	58,781
Female.....	223,630	69,770	70,886	44,879	26,328	11,767
"Unemployable": <sup>1</sup> Male.....	213,339	121,213	24,808	21,424	22,660	23,234

<sup>1</sup> All males blind in both eyes who were not employed or on work relief have been classified as "unemployable."

Another point of view is emphasized in table 23 which gives, according to age, the prevalence of blindness (both eyes) among employed persons, by sex, and among "unemployable" males. Nearly 2 percent of the "unemployable" males, aged 15-64, were blind in both eyes.

#### SUMMARY

This report presents the data on blindness obtained among the urban population of the National Health Survey, a house-to-house canvass of more than 700,000 urban families (2,498,180 white and colored persons of known age) in 18 States, made from November 1935 to March 1936. The data were obtained in a group of 83 cities selected to be representative by geographic area and size of city of urban United States.

1. The number of persons per 100,000 recorded as being blind in both eyes was 83, the number blind in one eye only 326, and the number blind in one or both eyes 409.

2. The prevalence of blindness was greater among males than among females.

3. More than one-fourth of all the blind (both eyes) were over 75 years of age and two-thirds were over 55 years of age.

4. The rates varied markedly with age. Among children (under 15 years of age) the rate of blindness was 12 per 100,000 for both eyes and 86 for one or both eyes. With each succeeding age group there was a marked increase in the rate, which reached the extreme figure of 2,916 (both eyes) and 6,630 (one or both eyes) for persons 85 or more years of age.

5. The estimated annual incidence of new cases of blindness was 6.6 per 100,000 population.

6. Males showed a higher prevalence of blindness (both eyes) up to 75 years of age; above that age the prevalence was greater among females. Blindness in one eye only showed much greater difference by sex; the rate for males was greater than that for females in each age group without exception.

7. The estimated annual incidence of new cases of blindness (both eyes) was higher among females than among males. The reverse was true for blindness in one or both eyes.

8. Diseases were the major cause of blindness in both eyes, accidents having been recorded as the cause in only one-sixth of the cases; for blindness in one eye only accidents played a much more important role, being recorded as the cause in about one-half of these cases.

9. Cataract, glaucoma, or other diseases of the eye were recorded as the cause in more than half of the cases of blindness due to disease. Of those diseases which did not originate in the eye, degenerative disease was the major cause.

10. More than a third of the cases of blindness due to accident (either both eyes or one eye only) were recorded as having resulted from occupational accidents.

11. A fourth of all cases of blindness in both eyes and a third of all cases in one eye only which were the result of accidents were due to home accidents.

12. For blindness in both eyes, falls, motor vehicles, burns, firearms, and fireworks were the principal means of injury; for blindness in one eye only, cutting and piercing instruments were by far the most important means.

13. The prevalence of blindness due to accident was about five times as great among males as among females (the ratio being 4.4 for blindness in both eyes and 5.5 for blindness in one eye only).

14. Estimates of the annual incidence of new cases of blindness by age and cause demonstrated the relatively greater importance of accidents as a cause of blindness in the younger ages and the relatively greater importance of disease as a cause in the older ages.

15. Sixteen percent of the cases of blindness in both eyes were due to accident; for blindness in one or both eyes the percentage was 42.

16. The incidence of blindness resulting from home and public accidents was relatively high in childhood and old age; for blindness due to occupational accidents there was an inverse tendency.

17. Blindness was much more prevalent in the colored than in the white populations, the rates being, respectively, 146 and 76 per 100,000 for blindness in both eyes. This contrast was noted in each geographic area and in each city-size group in the South.

18. No wide differences in the prevalence of blindness (both eyes) were observed in the four geographic areas.

19. The prevalence of blindness was greater in cities under 100,000 population than in large cities.

20. Two-thirds of the blind (both eyes) were in families with annual incomes under \$1,000.

21. The rate in the group with incomes under \$1,000 was about four times as great as that in families with incomes of \$5,000 or more.

22. The excess rate of blindness in the low income groups reached a maximum in middle adult life (age group 45-64).

23. Ten percent of the blind (both eyes) were recorded as being employed.

24. The prevalence of blindness (both eyes) was relatively low among the employed workers, a large proportion of the blind being in the "unemployable" group. Nearly 2 percent of the "unemployable" males, aged 15-64, were blind in both eyes.

## TREATMENT OF DIETARY LIVER CIRRHOSIS IN RATS WITH CHOLINE AND CASEIN<sup>1</sup>

By J. V. LOWRY, *Passed Assistant Surgeon*, FLOYD S. DAFT, *Senior Biochemist*, W. H. SEBRELL, *Surgeon*, L. L. ASHBURN, *Passed Assistant Surgeon*, and R. D. LILLIE, *Senior Surgeon*, *United States Public Health Service*

Cirrhosis of the liver has been produced in rats under various dietary conditions by a number of workers (1-6). Three groups of these workers (3, 5, 6) have reported the prevention of cirrhosis by specific substances. György, Poling, and Goldblatt (5) stated that dietary liver injury (cirrhosis, necrosis, or a combination of both) was prevented to a large extent by casein or by a combination of cystine and choline. An earlier paper by György and Goldblatt (2) reported that 10 to 20 mg. of choline daily reduced the incidence and severity of the liver injury but not to a great extent. Blumberg and McCollum (3) reported the development of cirrhosis (with or without necrosis) on a high fat diet and its prevention by the addition of 10 mg. of choline per gram of diet. The cirrhotic process was slowed but not prevented by 25 mg. of methionine per rat per day. Daft, Sebrell, and Lillie (6) reported the consistent production of a dietary liver cirrhosis in rats and its apparent prevention by means of choline, methionine, or casein. Their diet No. 545 had the following composition: Leached casein 4 percent, cystine 0.5 percent, cod-liver oil 2 percent, Wesson oil 3 percent, Osborne and Mendel salt mixture 4 percent, and corn starch 86.5 percent. A supplement of 100 micrograms of thiamin chloride, 50 micrograms of riboflavin, 20 micrograms of pyridoxine, 50 micrograms of calcium pantothenate, and 1 mg. of nicotinic acid was given to each rat daily. Some of their animals received 20 percent alcohol instead of water as a source of fluid. Cirrhosis occurred in both groups.

The results of the treatment of rats with liver cirrhosis produced by the above regime of Daft, Sebrell, and Lillie are reported here.

### EXPERIMENTAL

Albino rats at weaning were started on diet No. 545 with the vitamin supplements given above. In about half of the animals 20 percent alcohol replaced water as a source of fluid. After 7 to 12 weeks on this regime the rats were anesthetized with ether, and a small portion of liver was removed. After this biopsy, 21 of the animals were treated as follows: Nine rats continued on the cirrhosis-producing regime with the addition of 40 mg. of choline to each daily supplement; seven rats continued to receive the same daily vitamin supplement but the diet was replaced by diet No. 582<sup>2</sup> containing 50 percent of casein;

<sup>1</sup> From the Divisions of Chemotherapy and Pathology, National Institute of Health.

<sup>2</sup> Diet No. 582 had the following composition: Leached casein 50 percent, cod-liver oil 2 percent, Wesson oil 3 percent, salt mixture 4 percent, cerelese 41 percent.

five rats were given the 50 percent casein diet No. 582 with the addition of 40 mg. of choline to the daily vitamin supplements. All of the animals had water as a source of fluid after the initial diagnostic biopsy. Second biopsy specimens were obtained from the livers of six of the rats after periods of treatment varying from 14 to 33 days. Two of these animals were then sacrificed after a total treatment period of 35 and 42 days in order to obtain the entire liver. The liver was obtained at autopsy in the other 15 rats after periods of treatment varying from 1 to 17 days.

The gross appearance of the livers at the initial diagnostic biopsy before treatment was started was quite uniform. A constant finding was a marked enlargement to approximately two or three times the usual size for a normal rat of similar weight. The color was changed from the normal reddish-brown to amber, frequently with bronze patches. The surface of the liver was rough, and the tissue was firm and abnormally resistant to cutting. The bronze-colored areas had a wrinkled appearance and were found most commonly on the superior surface approximating the diaphragm, on the under surfaces of the liver lobes, and on the lobes overlying the stomach. Two of the animals had ascites. On microscopic examination the biopsy specimens of the livers of 18 of the 21 rats showed cirrhosis. The biopsy specimens of the livers of the remaining 3 rats showed marked fatty changes and subsequent examination of the entire liver showed cirrhosis in other areas.

The typical hepatic cirrhosis showed coarse and fine trabeculation which divided the parenchyma into large and small, often irregularly shaped nodules. The trabeculae were formed of collagen fibers enmeshing numerous phagocytes filled with homogeneous globules which stain brownish orange with Sudan IV and blue, bluish green, or greenish yellow with Giemsa. Frequently one or more medium sized areas were present in which there was subtotal obliteration of parenchyma. In such areas single or small groups of liver cells were often isolated. Fat globules in the liver cells were a prominent part of the process. Fat was present as large globules near the trabeculae and as fine droplets in other parts of the lobule. The amount varied but was commonly very marked. This process was the same as that previously described by Lillie, Daft, and Sebrell (4).

#### RESULTS OF TREATMENT

Regenerative changes in the liver occurred in animals on all three of the treatment regimes. There was, however, a marked difference in the rate of growth. The animals that were changed from diet No. 545 to the high casein diet No. 582 showed a marked increase in the rate of gain in weight as compared to the rate of gain prior to treatment. The rate of gain of those that continued on the cirrhosis-producing diet with the addition of choline was not greatly increased.

Ten animals were treated for 6 days or less. There was no discernible change in the gross appearance of the livers, but microscopic

examination showed the following changes: In 3 days there was very slight but appreciable decrease in the amount of fat in the liver cells. By the sixth day this change was fairly prominent and there was evidence of liver cell hyperplasia. Eleven animals were treated for 14 to 42 days. In this group there was a striking decrease in the size of the livers as well as a marked change in consistency and color. The areas that were bronze at the time of the diagnostic biopsy remained, but elsewhere the color had changed to a dark gray-red or the dark reddish brown characteristic of the normal rat liver. Histologically the picture was quite different after treatment as compared with the initial biopsy specimen. In most animals fat had completely disappeared from the liver cells; in an occasional liver it was present in very small amounts. Liver cells were very large, had wide zones of amphophilic granular cytoplasm and large and more deeply stained vesicular nuclei. Cells with two to six nuclei were not infrequently seen. In these multinucleate cells one nucleus was occasionally much larger and more deeply stained than the others. Round nodules of hyperplastic liver cells were present in the large areas of fibrosis. Another indication of hyperplasia was the absence of angular liver cell nodules. The margins of the nodules were convex and sharply outlined against the trabeculae which not infrequently appeared compressed. These changes were distinct in all of the animals in the group. None of the animals showed any decrease in number or change in distribution of the fat-containing phagocytes and there was no recognizable effect on the fibrous tissue.

#### DISCUSSION

The above findings demonstrate that extensive regeneration of liver cells occurs in this type of cirrhotic liver in rats when they are treated with choline, a high casein diet, or both. (The presence in casein of methionine, a precursor of choline, must, of course, be kept in mind.) There was obvious improvement in the gross appearance of the liver, and microscopic examination showed that there was almost total disappearance of manifest liver cell fat and definite hyperplastic regeneration of liver parenchyma. The trabeculation was still present after 42 days of treatment.

Because of the great improvement in the livers during this brief period of treatment it seemed desirable to report these findings. It is recognized that longer treatment of this liver cirrhosis may have an important bearing on the evaluation of dietary therapy.

The possible relation of choline deficiency to human liver cirrhosis is at present unknown. However in view of what is known of the physiological action of choline this possibility must be kept in mind. It is of interest to note that Patek (7) and Patek and Post (8) have reported beneficial results in the treatment of human liver cirrhosis

with a high vitamin diet and supplements rich in the vitamin B complex.

It follows that the desirability of conducting a clinical trial of choline and casein therapy in human liver cirrhosis should be considered.

#### SUMMARY

Rats with liver cirrhosis produced on a low choline, low casein diet with added cystine showed marked improvement in the gross appearance of the liver and hyperplastic regeneration of liver cells following treatment with choline, a high casein diet, or choline with a high casein diet. There was no recognizable effect on the fibrous tissue.

#### REFERENCES

- (1) Earle, D. P., and Victor, J.: Cirrhosis of the liver caused by excess dietary cystine. *J. Exp. Med.*, **73**:161 (1941).
- (2) György, P., and Goldblatt, H.: Experimental production of dietary liver injury (necrosis, cirrhosis) in rats. *Proc. Soc. Exp. Biol. and Med.*, **46**:492 (1941).
- (3) Blumberg, H., and McCollum, E. V.: The prevention by choline of liver cirrhosis in rats on high fat, low protein diets. *Science*, **93**:598 (1941).
- (4) Lillie, R. D., Daft, F. S., and Sebrell, W. H., Jr.: Cirrhosis of the liver in rats on a deficient diet and the effect of alcohol. *Pub. Health Rep.*, **56**:1255 (1941).
- (5) György, P., Poling, E. C., and Goldblatt, H.: Necrosis, cirrhosis, and cancer of liver in rats fed a diet containing dimethylaminoazobenzene. *Proc. Soc. Exp. Biol. and Med.*, **47**:41 (1941).
- (6) Daft, F. S., Sebrell, W. H., and Lillie, R. D.: The production and apparent prevention of a dietary liver cirrhosis in rats. *Proc. Soc. Exp. Biol. and Med.* (In press).
- (7) Patek, A. J., Jr.: Treatment of alcoholic cirrhosis of the liver with high vitamin therapy. *Proc. Soc. Exp. Biol. and Med.*, **37**:329 (1937).
- (8) Patek, A. J., Jr., and Post, J.: Treatment of cirrhosis of the liver by a nutritious diet and supplements rich in vitamin B complex. *J. Clin. Invest.*, **20**:481 (1941).

## THE TOXICITY AND POTENTIAL DANGERS OF NITROUS FUMES <sup>1</sup>

### A Review

This publication is a review of the literature, contained in 125 papers, on the toxicity and potential dangers of nitrous oxide, nitrogen oxide, and nitrogen dioxide, the latter being the most important of the three oxides of nitrogen. The discussion covers its determination in the air, the sources of exposure, the concentrations encountered under different conditions, the toxicity for animals with regard to acute and late effects, its effect on the blood pigment, the incidence of fatalities, the clinical picture, and pathologic changes observed with nitrogen dioxide poisoning in man. This résumé is followed by

<sup>1</sup> Public Health Bulletin No. 272, same title as above, by W. F. von Oettingen. U. S. Government Printing Office, 1941. Available from the Superintendent of Documents, Washington, D. C., at 10 cents per copy.

a discussion of measures for the prevention of poisoning from nitrous fumes and the treatment of such poisonings. In regard to treatment, the importance of absolute rest and the necessity for medical care, even in cases which do not appear to be seriously affected, is emphasized. For alleviation of the irritation of the upper respiratory tract the inhalation of a mist of a 5-percent solution of sodium bicarbonate is recommended, and the treatment of incipient pulmonary edema is outlined. The use of atropine and morphine is discouraged. Pain may be alleviated with codeine or barbiturates. In cases of imminent cardiac failure cardiac stimulants may become necessary. Attention is also directed to possible late complications.

### DEATHS DURING WEEK ENDED NOVEMBER 1, 1941

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

	Week ended Nov. 1, 1941	Correspond- ing week, 1940
<b>Data from 88 large cities of the United States:</b>		
Total deaths.....	7,987	7,906
Average for 3 prior years.....	7,882	
Total deaths, first 44 weeks of year.....	367,614	368,911
Deaths per 1,000 population, first 44 weeks of year, annual rate.....	11.7	11.7
Deaths under 1 year of age.....	571	556
Average for 3 prior years.....	496	
Deaths under 1 year of age, first 44 weeks of year.....	23,237	22,070
<b>Data from industrial insurance companies:</b>		
Policies in force.....	64,581,852	64,821,760
Number of death claims.....	10,738	10,433
Death claims per 1,000 policies in force, annual rate.....	8.7	8.4
Death claims per 1,000 policies, first 44 weeks of year, annual rate.....	9.4	9.6



# PREVALENCE OF DISEASE

---

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

---

## UNITED STATES

---

### REPORTS FROM STATES FOR WEEK ENDED NOVEMBER 8, 1941

#### Summary

A sharper decline was recorded in the incidence of poliomyelitis than in the preceding week, with 191 cases reported for the current week as compared with 285 cases for last week. The largest decreases were reported in New York, from 67 to 39, New Jersey, from 20 to 8, Pennsylvania, from 14 to 6, Tennessee, from 23 to 14, and Alabama, from 22 to 6. Only 3 States reported 15 or more cases, namely, New York, 39, Ohio, 15 (9 last week), and Illinois, 15 (20 last week).

The number of reported cases of influenza increased from 1,553 to 2,308. This increase was almost entirely accounted for by the increase in the number of cases in Texas from 759 to 1,392. The number of cases reported in Virginia increased from 70 to 157, and in California from 48 to 108, while the incidence in South Carolina decreased from 293 to 221.

According to reports from the State health officer, an epidemic of pneumonitis has prevailed in Texas during the past summer, a majority of the cases being reported in the southern part of the State. During the period May to October a total of 2,626 cases of pneumonia has been reported in the State, as compared with 1,102 cases for the corresponding period last year.

Only 4 cases of smallpox were reported, 1 case each in Indiana, Michigan, Georgia, and Idaho. Of 76 cases of endemic typhus fever, 30 occurred in Georgia, 20 in Texas, and 7 in Alabama. During the week ended October 25, 2 cases were reported among troops at Ft. Riley, Kansas.

The death rate for the current week for 88 large cities is 11.4 per 1,000 population, as compared with 11.2 for the preceding week and a 3-year (1938-40) average of 10.7.

*Telegraphic morbidity reports from State health officers for the week ended November 8, 1941, and comparison with corresponding week of 1940 and 5-year median*

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended		Med- ian 1936- 40	Week ended		Med- ian 1936- 40	Week ended		Med- ian 1936- 40	Week ended		Med- ian 1936- 40
	Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940	
NEW ENG.												
Maine.....	0	1	2	-----	3	-----	54	106	21	0	0	0
New Hampshire.....	1	0	0	-----	0	-----	1	0	3	0	0	0
Vermont.....	0	0	0	-----	0	-----	0	3	3	0	0	0
Massachusetts.....	3	2	2	-----	2	-----	79	227	105	2	2	1
Rhode Island.....	3	0	0	-----	0	-----	6	0	1	0	0	0
Connecticut.....	0	0	3	1	3	3	51	4	7	0	0	0
MID. ATL.												
New York <sup>1</sup> .....	26	14	15	12	16	18	116	262	139	4	2	4
New Jersey.....	5	6	16	4	-----	4	18	112	48	3	2	2
Pennsylvania.....	9	15	28	-----	-----	-----	237	518	60	2	2	4
E. NO. CEN.												
Ohio.....	19	11	56	11	16	6	36	30	14	2	0	2
Indiana.....	20	18	18	13	2	10	5	7	7	0	1	1
Illinois.....	25	34	34	20	1	30	47	218	16	1	0	0
Michigan <sup>1</sup> .....	11	10	15	3	3	1	29	330	54	0	1	1
Wisconsin.....	5	1	3	16	21	30	95	285	59	0	1	0
W. NO. CEN.												
Minnesota.....	1	1	6	1	4	1	1	45	31	0	1	0
Iowa.....	6	1	11	-----	1	1	20	31	6	0	1	0
Missouri.....	4	19	20	6	-----	4	8	26	9	0	0	1
North Dakota.....	2	7	3	4	1	1	91	0	1	1	0	0
South Dakota.....	5	3	2	1	-----	-----	1	2	2	0	0	0
Nebraska.....	7	0	1	-----	-----	-----	2	5	1	0	0	0
Kansas.....	2	2	10	9	4	4	53	8	5	1	0	0
SO. ATL.												
Delaware.....	0	0	0	-----	-----	-----	1	1	1	0	0	0
Maryland <sup>1</sup> .....	22	16	14	1	3	5	28	3	7	2	0	0
Dist. of Col.....	0	2	6	2	-----	2	1	0	1	0	0	0
Virginia <sup>1</sup> .....	36	25	66	157	74	74	62	23	8	1	2	2
West Virginia.....	16	12	17	9	2	14	179	7	10	1	0	1
North Carolina <sup>1</sup> .....	94	58	89	1	4	4	53	6	74	1	2	1
South Carolina <sup>1</sup> .....	23	11	21	221	144	220	22	9	5	0	0	0
Georgia <sup>1</sup> .....	32	13	40	36	31	31	14	4	4	0	0	0
Florida <sup>1</sup> .....	5	4	6	7	1	1	5	1	4	0	0	0
E. SO. CEN.												
Kentucky.....	22	8	31	4	7	7	24	51	25	1	3	3
Tennessee.....	7	14	36	7	25	28	4	30	8	0	1	2
Alabama <sup>1</sup> .....	34	13	36	49	27	59	12	14	3	1	3	2
Mississippi <sup>1</sup> .....	16	17	17	-----	-----	-----	-----	-----	-----	2	0	1
W. SO. CEN.												
Arkansas.....	15	15	24	42	17	17	9	5	3	0	0	0
Louisiana <sup>1</sup> .....	9	12	19	13	2	11	0	1	1	2	0	1
Oklahoma.....	14	19	12	35	33	33	31	1	1	0	0	0
Texas <sup>1</sup> .....	79	28	57	1,392	220	170	44	38	22	1	1	1
MOUNTAIN												
Montana.....	6	7	0	5	1	3	15	1	2	1	0	0
Idaho.....	0	1	1	-----	-----	3	3	1	17	0	0	0
Wyoming.....	1	0	0	7	-----	-----	2	3	3	0	0	0
Colorado.....	23	3	8	21	7	7	21	20	13	0	0	0
New Mexico.....	2	0	5	-----	1	1	5	19	5	0	0	0
Arizona.....	5	5	2	76	84	46	54	23	5	0	0	0
Utah <sup>1</sup> .....	0	0	1	14	15	2	9	2	23	0	0	0
Nevada.....	0	1	-----	-----	-----	-----	0	0	-----	0	0	-----
PACIFIC												
Washington.....	0	1	4	3	2	1	1	4	21	0	0	0
Oregon.....	12	4	4	10	-----	13	15	10	10	0	0	0
California.....	14	16	28	103	22	22	228	21	28	4	1	1
Total.....	641	441	926	2,308	787	867	1,792	2,517	1,746	33	26	41
45 weeks.....	13,303	13,073	22,738	579,637	176,684	159,002	843,229	242,029	275,341	1,768	1,478	2,553

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended November 8, 1941, and comparison with corresponding week of 1940 and 5-year median—Con.

Division and State	Pollomyelitis			Scarlet fever			Smallpox			Typhoid and para-typhoid fever		
	Week ended		Med-ian 1936-40	Week ended		Med-ian 1936-40	Week ended		Med-ian 1936-40	Week ended		Med-ian 1936-40
	Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940	
NEW ENG.												
Maine.....	0	1	0	7	10	10	0	0	0	1	2	2
New Hampshire.....	0	1	0	9	15	2	0	0	0	0	0	0
Vermont.....	2	0	0	1	5	5	0	0	0	0	0	0
Massachusetts.....	4	1	1	190	95	95	0	0	0	1	0	1
Rhode Island.....	1	0	0	5	6	8	0	0	0	0	0	0
Connecticut.....	1	0	0	17	15	32	0	0	0	1	0	0
MID. ATL.												
New York <sup>1</sup> .....	39	7	6	151	173	222	0	0	0	7	9	9
New Jersey.....	8	5	3	65	80	54	0	0	0	0	0	3
Pennsylvania.....	6	6	6	133	120	213	0	0	0	9	8	14
E. NO. CEN.												
Ohio.....	15	23	5	219	124	251	0	0	0	9	4	6
Indiana.....	0	24	2	36	109	109	1	0	3	1	4	3
Illinois.....	15	28	4	2	213	248	0	3	3	0	6	7
Michigan <sup>1</sup> .....	6	30	4	94	140	242	1	0	1	2	1	2
Wisconsin.....	12	23	4	115	93	138	0	2	3	0	2	2
W. NO. CEN.												
Minnesota.....	10	12	4	49	66	85	0	0	2	0	0	0
Iowa.....	2	12	3	45	50	66	0	1	6	0	1	2
Missouri.....	0	18	2	39	67	67	0	1	1	4	7	5
North Dakota.....	1	0	0	4	7	24	0	0	0	0	0	1
South Dakota.....	1	3	3	12	23	23	0	0	0	0	3	2
Nebraska.....	0	6	1	11	10	10	0	1	1	0	0	0
Kansas.....	1	7	3	71	53	101	0	0	1	2	3	4
SO. ATL.												
Delaware.....	0	0	0	2	4	6	0	0	0	1	0	0
Maryland <sup>1</sup> .....	2	0	0	33	32	35	0	0	0	7	0	4
Dist. of Col.....	2	0	0	13	6	6	0	0	0	0	0	0
Virginia <sup>1</sup> .....	8	13	1	70	36	53	0	0	0	12	12	10
West Virginia.....	1	13	4	62	31	84	0	0	0	1	3	7
North Carolina <sup>1</sup> .....	1	1	1	80	131	96	0	0	0	2	2	4
South Carolina <sup>1</sup> .....	1	0	0	16	21	20	0	0	0	3	0	2
Georgia <sup>1</sup> .....	2	1	2	31	32	32	1	0	0	3	7	7
Florida <sup>1</sup> .....	0	1	1	1	1	5	0	0	0	1	5	1
E. SO. CEN.												
Kentucky.....	5	7	1	53	72	74	0	0	0	7	9	8
Tennessee.....	14	1	0	26	92	76	0	0	0	1	7	7
Alabama <sup>1</sup> .....	6	1	1	22	24	29	0	0	0	0	4	4
Mississippi <sup>1</sup> .....	4	2	2	6	12	14	0	0	0	2	1	5
W. SO. CEN.												
Arkansas.....	0	1	1	6	9	11	0	1	1	8	5	7
Louisiana <sup>1</sup> .....	0	7	1	4	11	16	0	1	1	5	7	7
Oklahoma.....	3	1	1	17	14	15	0	1	1	1	8	8
Texas <sup>1</sup> .....	4	4	4	47	32	39	0	3	3	17	16	22
MOUNTAIN												
Montana.....	3	0	0	26	26	33	0	0	4	0	1	2
Idaho.....	2	4	0	8	19	19	1	0	0	1	2	2
Wyoming.....	0	2	0	17	7	6	0	0	1	1	0	0
Colorado.....	0	0	0	13	39	39	0	0	2	1	2	2
New Mexico.....	0	0	0	5	6	8	0	0	0	0	5	5
Arizona.....	0	0	0	1	10	6	0	0	0	0	1	1
Utah <sup>1</sup> .....	3	3	0	6	17	22	0	0	0	0	1	0
Nevada.....	0	0	---	3	0	---	0	---	---	0	---	---
PACIFIC												
Washington.....	1	11	2	52	16	28	0	1	1	0	3	4
Oregon.....	0	0	1	10	15	31	0	3	1	0	0	1
California.....	5	2	11	83	89	133	0	0	1	3	3	7
Total.....	191	282	165	1,993	2,288	3,021	4	18	41	114	154	196
45 weeks.....	8,361	8,995	6,630	107,335	135,828	160,475	1,256	2,132	9,001	7,692	8,735	12,019

See footnotes at end of table.

*Telegraphic morbidity reports from State health officers for the week ended November 8, 1941, and comparison with corresponding week of 1940—Con.*

Division and State	Whooping cough		Division and State	Whooping cough	
	Week ended			Week ended	
	Nov. 8, 1941	Nov. 9, 1940		Nov. 8, 1941	Nov. 9, 1940
NEW ENG.			SO. ATL.—continued		
Maine.....	16	43	North Carolina <sup>1</sup> .....	113	124
New Hampshire.....	13	1	South Carolina <sup>1</sup> .....	84	12
Vermont.....	17	27	Georgia <sup>1</sup> .....	19	9
Massachusetts.....	172	185	Florida <sup>1</sup> .....	17	5
Rhode Island.....	18	4			
Connecticut.....	66	94			
MID. ATL.			E. SO. CEN.		
New York <sup>1</sup> .....	459	450	Kentucky.....	123	59
New Jersey.....	173	137	Tennessee.....	16	70
Pennsylvania.....	250	541	Alabama <sup>1</sup> .....	8	5
			Mississippi <sup>1</sup> .....		
E. NO. CEN.			W. SO. CEN.		
Ohio.....	222	213	Arkansas.....	16	22
Indiana.....	9	13	Louisiana <sup>1</sup> .....	6	6
Illinois.....	215	165	Oklahoma.....	4	16
Michigan <sup>1</sup> .....	257	256	Texas <sup>1</sup> .....	115	89
Wisconsin.....	252	195			
W. NO. CEN.			MOUNTAIN		
Minnesota.....	45	86	Montana.....	43	0
Iowa.....	27	27	Idaho.....	4	5
Missouri.....	3	79	Wyoming.....	2	4
North Dakota.....	9	16	Colorado.....	32	17
South Dakota.....	26	5	New Mexico.....	7	7
Nebraska.....	6	8	Arizona.....	25	9
Kansas.....	56	57	Utah <sup>1</sup> .....	27	27
			Nevada.....	1	0
SO. ATL.			PACIFIC		
Delaware.....	0	26	Washington.....	98	37
Maryland <sup>1</sup> .....	45	90	Oregon.....	24	12
Dist. of Col.....	6	14	California.....	142	265
Virginia <sup>1</sup> .....	87	30			
West Virginia.....	64	29	Total.....	3,388	3,591
			45 weeks.....	184,322	142,679

<sup>1</sup> Typhus fever, week ended Nov. 8, 1941, 76 cases, as follows: New York, 3; Virginia, 4; North Carolina, 1; South Carolina, 5; Georgia, 30; Florida, 1; Alabama, 7; Louisiana, 5; Texas, 20.

<sup>2</sup> New York City only.

<sup>3</sup> Period ended earlier than Saturday.

## WEEKLY REPORTS FROM CITIES

City reports for week ended October 25, 1941

This table lists the reports from 130 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Maine:											
Portland	0		0	0	1	5	0	0	0	8	15
New Hampshire:											
Concord	0		0	0	0	0	0	1	0	0	8
Nashua	0		0	0	0	0	0	0	0	1	8
Vermont:											
Barre	0			2		0			0	0	
Burlington	0		0	0	0	0	0	0	0	0	8
Rutland	0		0	0	0	0	0	0	0	0	8
Massachusetts:											
Boston	0		1	6	15	15	0	9	2	13	198
Fall River	1		0	1	0	6	0	0	0	2	26
Springfield	0		0	6	0	12	0	1	0	7	21
Worcester	1		0	0	7	20	0	0	1	16	57
Rhode Island:											
Pawtucket	0		0	1	0	1	0	0	0	0	11
Providence	0		0	6	4	3	0	1	0	27	56
Connecticut:											
Bridgeport	0		0	0	1	3	0	1	0	4	32
Hartford	0		0	0	2	1	0	0	0	0	39
New Haven	0		0	13	1	1	0	0	0	7	39
New York:											
Buffalo	0		0	1	7	11	0	6	0	29	138
New York	15	4	0	12	64	35	0	55	6	196	1,353
Rochester	0		0	0	1	3	0	0	0	0	65
Syracuse	0		0	0	1	1	0	1	1	21	42
New Jersey:											
Camden	4		0	0	1	2	0	0	2	8	31
Newark	0	2	0	4	0	9	0	8	1	55	87
Trenton	0		0	0	0	2	0	3	0	2	41
Pennsylvania:											
Philadelphia	2	1	0	4	12	27	0	17	5	56	362
Pittsburgh	2		0	1	10	3	0	7	0	10	155
Reading	0		0	0	0	0	0	1	0	2	26
Scranton	0			0		0			0	0	
Ohio:											
Cincinnati	1	1	0	1	4	13	0	0	0	18	121
Cleveland	1	4	0	1	11	17	0	11	1	26	220
Columbus	1	1	1	0	2	8	0	3	0	4	90
Toledo	0		1	0	1	2	0	4	0	19	72
Indiana:											
Anderson	0		0	0	0	0	0	1	0	0	9
Fort Wayne	0		0	0	2	1	0	0	0	0	34
Indianapolis	1		0	0	12	11	0	2	0	11	104
Muncie	0		0	0	2	1	0	0	0	0	14
South Bend	0		0	0	0	0	0	0	0	0	14
Terre Haute	0		0	0	2	0	0	0	0	0	17
Illinois:											
Alton	0		0	0	1	0	0	0	0	1	9
Chicago	8	2	1	17	29	66	0	38	1	121	647
Elgin	0	1	0	0	1	0	0	0	0	0	13
Moline	0		0	1	0	1	0	0	0	11	5
Springfield	0		0	0	1	2	0	0	0	0	20
Michigan:											
Detroit	3		1	8	4	44	0	9	0	56	235
Flint	0		0	0	4	4	0	1	1	11	28
Grand Rapids	0		0	3	0	0	0	0	0	4	28
Wisconsin:											
Kenosha	0		0	0	0	2	0	0	0	7	4
Madison	0		0	6	0	1	0	0	0	5	26
Milwaukee	2	1	1	1	3	16	0	1	0	85	96
Racine	0		0	0	0	9	0	0	0	7	12
Superior	0		0	2	0	1	0	0	0	0	7
Minnesota:											
Duluth	0		0	0	0	1	0	0	0	7	27
Minneapolis	0		0	2	1	5	0	0	0	25	89
St. Paul	0		0	1	3	3	0	0	0	26	54

## City reports for week ended October 25, 1941—Continued

State and city	Diph- theria cases	Influenza		Mea- sles cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Iowa:											
Cedar Rapids	0			0		1	0		0	0	
Davenport	0			0		2	0		0	0	
Des Moines	0		0	0	0	7	0	0	0	0	35
Sioux City	2			0		0	0		0	0	
Waterloo	0			0		2	0		0	0	
Missouri:											
Kansas City	0		0	0	6	10	0	2	0	10	84
St. Joseph	1		0	6	2	2	0	0	0	0	18
St. Louis	1	2	0	1	5	6	0	5	0	7	174
North Dakota:											
Fargo	0		0	0	0	2	0	0	0	0	8
Grand Forks	0			0		0	0		0	0	
Minot	0		0	1				0		1	4
South Dakota:											
Aberdeen	0			0		0	0		0	3	
Sioux Falls	0		0	0	0	0	0	0	0	0	9
Nebraska:											
Lincoln	0			2		1	0		0	0	
Omaha	2		0	0	0	2	0	2	0	0	47
Kansas:											
Lawrence	0		0	0	0	0	0	0	0	0	5
Topeka	0		0	0	0	3	0	0	0	1	17
Wichita	0		0	2	1	2	0	0	0	1	36
Delaware:											
Wilmington	1		0	0	3	6	0	0	1	2	34
Maryland:											
Baltimore	3	4	0	3	7	12	0	10	1	35	204
Cumberland	0		0	1	1	1	0	0	0	0	14
Frederick	0		0	0	0	1	0	0	0	0	2
Dist. of Columbia:											
Washington	1	1	1	1	5	13	0	15	0	14	231
Virginia:											
Lynchburg	0		0	0	1	0	0	1	0	0	10
Norfolk	1		0	0	0	2	0	0	1	0	20
Richmond	1		0	0	1	0	0	1	0	1	42
Roanoke	0		0	0	0	1	0	0	1	5	9
West Virginia:											
Charleston	0		0	0	2	0	0	0	0	1	16
Huntington	1			0		1	0		0	0	
Wheeling	0		0	14	0	1	0	0	0	2	20
North Carolina:											
Gastonia	0			0		0	0		0	0	
Wilmington	2		0	5	1	0	0	1	0	9	12
Winston-Salem	7		0	26	1	4	0	0	0	0	16
South Carolina:											
Charleston	1	1	1	0	1	0	0	0	1	0	24
Florence	0		0	0	2	0	0	0	1	0	9
Greenville	0		0	0	0	1	0	0	0	0	18
Georgia:											
Atlanta	1	1	0	0	0	7	0	6	1	0	79
Brunswick	0		0	0	0	0	0	0	0	0	4
Savannah	0		0	0	1	2	0	0	0	0	27
Florida:											
Miami	0		0	1	0	1	0	2	0	6	43
St. Petersburg	0		0	0	0	0	0	0	0	0	13
Kentucky:											
Ashland	3		0	0	0	0	0	0	0	2	4
Covington	1		0	0	1	3	0	2	0	0	16
Lexington	0		0	0	0	0	0	2	0	2	12
Tennessee:											
Knoxville	0		0	0	0	0	0	1	0	0	27
Memphis	0		0	2	1	5	0	1	1	9	83
Nashville	0		0	0	2	2	0	1	1	3	61
Alabama:											
Birmingham	2	6	1	0	3	5	0	5	0	1	73
Mobile	2		3	0	1	0	0	1	0	0	31
Montgomery	0			0		0	0		0	1	
Arkansas:											
Fort Smith	0			0		1	0		0	0	
Little Rock	0		0	0	3	0	0	0	0	1	32
Louisiana:											
New Orleans	1	6	0	0	7	3	0	0	4	2	139
Shreveport	1		0	0	2	0	0	1	1	0	28
Oklahoma:											
Oklahoma City	2	6	0	0	2	0	0	0	0	0	43
Tulsa	1		0	44	3	2	0	2	0	3	26

## City reports for week ended October 25, 1941—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Texas:											
Dallas.....	4		0	0	2	1	0	1	0	10	59
Fort Worth.....	5		0	0	1	0	0	1	0	2	37
Galveston.....	1		0	0	0	1	0	0	0	1	18
Houston.....	1		0	0	6	1	0	7	0	1	84
San Antonio.....	0	1	0	1	3	8	0	10	0	10	55
Montana:											
Billings.....	1		0	0	1	0	0	0	0	0	11
Great Falls.....	0		0	3	2	5	0	0	0	2	13
Helena.....	0		0	0	0	0	0	0	0	0	2
Missoula.....	0		0	1	0	0	0	0	0	3	4
Colorado:											
Colorado Springs.....	0		0	0	0	0	0	0	0	5	7
Denver.....	4	12	0	4	2	2	0	1	0	23	71
Pueblo.....	0		0	24	0	0	0	1	0	2	5
New Mexico:											
Albuquerque.....	0		0	0	1	1	0	0	0	0	7
Utah:											
Salt Lake City.....	0		0	1	3	5	0	0	1	5	32
Washington:											
Seattle.....	0		0	0	5	3	0	8	0	23	93
Spokane.....	0		0	0	4	6	0	0	0	0	31
Tacoma.....	0		0	0	1	1	0	1	0	0	38
Oregon:											
Portland.....	3	2	0	1	8	1	0	2	1	0	90
Salem.....	0			0		0	0		0	0	
California:											
Los Angeles.....	4	13	0	25	7	28	0	13	2	23	332
Sacramento.....	0		0	0	3	2	0	0	0	1	38
San Francisco.....	1	2	0	0	5	6	0	9	0	10	179

State and city	Meningitis, meningococcus		Polio- mye- litis cases	State and city	Meningitis, meningococcus		Polio- mye- litis cases
	Cases	Deaths			Cases	Deaths	
Connecticut:				Delaware:			
Bridgeport.....	0	0	1	Wilmington.....	0	0	
New York:				Maryland:			
Buffalo.....	0	0	1	Baltimore.....	3	0	
New York.....	0	0	12	District of Columbia:			
Rochester.....	0	0	7	Washington.....	0	0	
Syracuse.....	0	0	1	Virginia:			
New Jersey:				Norfolk.....	0	0	
Newark.....	0	0	2	West Virginia:			
Pennsylvania:				Huntington.....	0	0	
Philadelphia.....	3	0	4	South Carolina:			
Pittsburgh.....	1	0	0	Charleston.....	0	0	
Ohio:				Tennessee:			
Cincinnati.....	1	0	1	Memphis.....	0	0	
Cleveland.....	0	0	2	Nashville.....	0	0	
Toledo.....	0	0	1	Oklahoma:			
Illinois:				Tulsa.....	0	0	
Chicago.....	1	0	11	Texas:			
Michigan:				San Antonio.....	0	0	
Detroit.....	1	0	6	Montana:			
Minnesota:				Great Falls.....	0	0	
Duluth.....	0	0	2	Colorado:			
Minneapolis.....	0	0	5	Denver.....	0	0	
St. Paul.....	0	0	2	Washington:			
Iowa:				Seattle.....	0	0	
Des Moines.....	1	0	0	California:			
Missouri:				Los Angeles.....	0	0	
St. Louis.....	0	0	1	San Francisco.....	1	0	
South Dakota:							
Aberdeen.....	0	0	1				

*Encephalitis, epidemic or lethargic.*—Cases: New York, 1; Philadelphia, 1; Sioux City, 1; Baltimore, 1; Norfolk, 1. Deaths: New York, 1.

*Pellagra.*—Cases: Charleston, S. C., 4; New Orleans, 1; Dallas, 1.

*Typhus fever.*—Cases: New York, 1; Norfolk, 1; Savannah, 2; Miami, 2; Mobile, 3; New Orleans, 3; Houston, 2.

*Rates (annual basis) per 100,000 population for a group of 87 selected cities (population, 1940, 33,747,694)*

Period	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases
		Cases	Deaths							
Week ended Oct. 25, 1941...	13.13	10.04	1.70	32.76	47.28	80.60	0.00	43.11	5.56	168.26
Average for week, 1936-40...	21.86	11.40	4.22	65.11	61.68	101.65	0.62	48.72	6.26	151.62



## FOREIGN REPORTS

### CANADA

*Provinces—Communicable diseases—Week ended October 4, 1941.—*  
During the week ended October 4, 1941, 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	-----	3	-----	1	8	-----	1	2	4	19
Chickenpox	-----	2	-----	37	68	19	5	3	22	156
Diphtheria	-----	15	3	39	3	3	-----	-----	-----	63
Dysentery	-----	-----	-----	26	3	-----	-----	-----	-----	29
Influenza	-----	3	-----	-----	-----	1	15	-----	48	67
Lethargic encephalitis	-----	-----	-----	-----	-----	-----	14	-----	-----	14
Measles	-----	4	-----	110	33	2	20	5	9	183
Mumps	-----	-----	-----	104	51	12	15	-----	27	209
Pneumonia	-----	6	-----	-----	6	2	-----	-----	3	17
Poliomyelitis	-----	2	25	2	11	5	5	3	2	55
Scarlet fever	-----	22	2	130	98	12	28	12	18	322
Tuberculosis	-----	12	3	77	42	2	20	-----	-----	163
Typhoid and paratyphoid fever	7	-----	-----	-----	-----	-----	-----	-----	-----	-----
Whooping cough	-----	3	2	166	103	2	11	1	13	301

<sup>1</sup> Encephalomyelitis.

### CUBA

*Habana—Communicable diseases—4 weeks ended October 18, 1941.—*  
During the 4 weeks ended October 18, 1941, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	10	1	Scarlet fever	1	-----
Leprosy	1	-----	Tuberculosis	2	1
Malaria	11	-----	Typhoid fever	24	1
Measles	17	-----			
Poliomyelitis	1	-----			

### FINLAND

*Communicable diseases—August 1941.—*During the month of August 1941, cases of certain communicable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Diphtheria	142	Poliomyelitis	6
Dysentery	4	Scarlet fever	129
Influenza	268	Typhoid fever	43
Paratyphoid fever	185		

## INDIA

*Rangoon—Vital Statistics, 1940.*—During 1940, a total of 13,569 deaths were registered in Rangoon, or 33.9 per 1,000 population, as compared with 11,327 deaths in 1939, giving a death rate of 28.3. (Rates calculated on the census population of 1931.)

The numbers of deaths due to certain specific diseases were as follows (1939 figures in parentheses): Smallpox 354 (68)—average for 10 preceding years, 97; plague 7 (6); beriberi 60 (116); pulmonary tuberculosis 743 (632); diarrhea and dysentery 1,141 (728); malaria 157 (121); acute respiratory diseases 3,211 (2,648).

The number of births reported was 12,519 as compared with 11,511 in 1939, the respective birth rates being 31.3 and 28.8 per 1,000 population (1931 census). The infant mortality rate was 275.0 as compared with 270.5 for the preceding year.

## SCOTLAND

*Vital statistics—Quarter ended June 30, 1941.*—Following are provisional vital statistics for Scotland for the quarter ended June 30, 1941:

	Num- ber	Rate per 1,000 popula- tion		Num- ber	Rate per 1,000 popula- tion
Marriages.....	12,378	9.7	Deaths from—Continued.		
Births.....	23,420	18.3	Influenza.....	117	.10
Deaths.....	18,998	15.4	Lethargic encephalitis.....	3	
Deaths under 1 year of age.....	1,965	1.84	Measles.....	22	.02
Deaths from:			Nephritis, acute and		
Appendicitis.....	52		chronic.....	382	
Cancer.....	2,160	1.79	Pneumonia (all forms).....	858	.70
Cerebral hemorrhage and			Poliomyelitis.....	4	
apoplexy.....	1,163		Puerperal sepsis.....	44	
Cerebrospinal fever.....	113	.09	Scarlet fever.....	7	.006
Cirrhosis of the liver.....	33		Senility.....	603	
Diabetes mellitus.....	175		Suicide.....	116	
Diarrhea and enteritis (un- der 2 years of age).....	169		Syphilis.....	59	
Diphtheria.....	117	.10	Tetanus.....	2	
Dysentery.....	9		Tuberculosis (all forms).....	1,190	.96
Erysipelas.....	4		Typhoid and paratyphoid		
Heart disease.....	4,209		fever.....	8	.007
Homicide.....	1		Whooping cough.....	269	.22

<sup>1</sup> Per 1,000 live births.

NOTE.—All deaths in the above table are for civilians only.

## SPAIN

*Typhus fever, 1941.*—The following figures showing the number of cases of typhus fever reported from the various provinces of Spain during the first 8 months of 1941 have been furnished by Dr. John H. Janney, of the International Health Division of the Rockefeller Foundation:

*Cases of typhus fever reported in Spain by provinces, for 1941 through the last week in August*

(C represents capital of the province; P, province outside the capital)

Locality		Total cases, Jan.-Aug. 29	First case reported, week ended—	Last case reported, week ended—
Alava.....	C	80	June 7	June 22
Albacete.....	P	1		
Alicante.....	P	1		
Almeria.....	P	22	Apr. 26	May 19
Avila.....	C	194	Mar. 1	Aug. 23
Badajoz.....	P	157	Mar. 29	Aug. 16
Barcelona.....	C	2	June 15	June 22
Burgos.....	P	20	Aug. 2	Aug. 16
Cadiz.....	C	6	May 3	May 19
Algeciras.....	P	19	June 29	Aug. 2
Province.....	P	1		
Ciudad Real.....	C	32	Apr. 5	May 19
Cordoba.....	P	299	Apr. 12	Aug. 28
Cuenca.....	P	179	May 12	Aug. 23
Granada.....	C	17	Apr. 12	Aug. 9
Gulpuzcoa.....	P	113	May 3	Aug. 23
Huelva.....	C	202	Apr. 5	Aug. 23
Jaen.....	P	46	May 19	Aug. 9
Leon.....	C	2	May 24	July 19
Madrid.....	P	15	June 7	Aug. 2
Malaga.....	P	431	Mar. 1	Aug. 23
Mallilla.....	P	473	Mar. 22	Aug. 23
Murcia.....	C	1		
Palencia.....	P	19	May 19	Aug. 9
Santander.....	P	16	May 31	June 26
Segovia.....	P	119	Apr. 26	Aug. 23
Seville.....	C	26	June 29	Aug. 23
Teruel.....	C	2,243	Feb. 15	Aug. 23
Toledo.....	P	145	Mar. 8	Apr. 26
Valencia.....	P	1,793	Mar. 22	Aug. 23
Valladolid.....	P	63	Apr. 5	Aug. 23
Vizcaya.....	C	302	Apr. 26	Aug. 23
Zamora.....	P	140	Feb. 1	June 29
Zaragoza.....	C	125	Feb. 1	Aug. 2
	P	18	Aug. 9	Aug. 23
	C	1		
	C	2	Apr. 5	May 3
	C	1,108	Mar. 29	Aug. 23
	P	87	Apr. 12	Aug. 16
	P	3	May 24	May 31
	P	3		
	C	270	Apr. 19	Aug. 16
	P	98	Apr. 19	Aug. 23
	C	2	May 3	May 19
	C	1	May 29	
	P	5	Apr. 26	May 29
	C	1	June 15	
	P	3	June 15	Aug. 2
Total.....		8,906		

## SWITZERLAND

*Notifiable diseases—June-July 1941.*—During the months of June and July 1941, cases of certain notifiable diseases were reported in Switzerland as follows:

Disease	June	July	Disease	June	July
Cerebrospinal meningitis.....	15	19	Mumps.....	70	84
Chickenpox.....	192	233	Paratyphoid fever.....	11	12
Diphtheria.....	44	51	Poliomylitis.....	23	113
Dysentery.....	1	—	Scarlet fever.....	221	190
German measles.....	265	96	Tuberculosis.....	331	344
Influenza.....	9	7	Typhoid fever.....	9	9
Lethargic encephalitis.....	1	3	Undulant fever.....	14	16
Malaria.....	1	—	Whooping cough.....	193	207
Measles.....	417	236			

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

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

A cumulative table showing the reported prevalence of these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday of each month.

#### Cholera

*India—Burma.*—During the 5-week period ended August 30, 1941, 1,036 new cases of cholera, with 751 deaths were reported in Burma. A severe epidemic of cholera was stated to have broken out in the Akyab and Kyankpyn Districts, where several villages were reported to have been seriously affected. An epizootic among cattle was also reported, which was stated to have caused the death of more than 1,000 head.

#### Plague

*Brazil—State of Bahia.*—Several cases of plague have recently been reported in the State of Bahia, Brazil, occurring at Conquista, Condeuba, and Irece (formerly Carahyba). All of these localities are in the interior. No cases have been reported at the port of Bahia. Four deaths from plague were reported in the State of Bahia during the period January–May 1941.

#### Yellow Fever

*French Guinea—Kissidougou.*—On October 28, 1941, 1 fatal case of yellow fever was reported in Kissidougou, French Guinea.

*Sudan (French).*—Yellow fever was reported in French Sudan as follows: November 2, 1941, 1 suspected case in Kati, and on October 31, 1941, 1 suspected case in Kouremale.