

Health of the Negro¹

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Part I

*Disabling Illness among Negroes and
Low-Income White Families in New York
City—A Report of a Sickness Survey in the
Spring of 1933*

The Central Harlem and Lower East Side districts of New York City are areas of low average economic status, the Central Harlem district being populated largely by Negroes, while in the Lower East Side persons of foreign birth or parentage predominate. Both districts are areas of high mortality, the death rate for all causes in each area in the period 1929–1933 showing an excess of approximately 4 per 1,000 over the rate for the entire City (1). In the same period, the tuberculosis death rate in Central Harlem was over three times as high as the rate for the City, exceeding the rate for all other health districts, and its infant and mortality rates were the highest observed. In the Lower East Side, mortality was excessive for diseases common to adults—the cardiovascular-renal diseases, cancer, diabetes, and pneumonia—reflecting the effect of the higher average age of its population.

The high mortality rates and low average economic level common to the two districts assure comparability of the districts in respect to these factors. We thus have for experimental observation Negro and white groups in which certain variables are, to some extent, constant. The

¹From the Division of Public Health Methods, National Institute of Health.

The Milbank Quarterly, Vol. 83, No. 4, 2005 (pp. 1–37)

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Reprinted from The Milbank Memorial Fund Quarterly, Vol. 16, No. 1, 1938 (pp. 5–38).
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relative health status of the Negroes of Central Harlem and the predominantly foreign-born population of the Lower East Side as indicated by their illness rates is therefore of special interest. Data for such a comparative study were obtained in sickness surveys conducted by the United States Public Health Service and the Milbank Memorial Fund in the spring of 1933. The basic data for Negroes relate to 1,348 families in Health Area 12 of Central Harlem and were collected by the Milbank Memorial Fund in collaboration with the Emergency Work and Relief Bureau of New York City.² Comparable data for white families were obtained in a sickness survey conducted by the United States Public Health Service and the Milbank Memorial Fund and relating to 7,436 families in poor areas of eight large cities, including 1,225 in the Lower East Side of New York City. A detailed description of the method and scope of the survey has been published previously (2). In both investigations a complete record of illness occurring during the three months prior to the date of the survey was obtained for each member of the family. The beginning dates of the three-month periods for the illness record extended approximately from December 20, 1932, to February 15, 1933. Information concerning continuity of employment, wages earned, and other income received by each member of the family was secured for each year from 1929 through 1932. The present report on the results of this survey in the Central Harlem and Lower East Side districts of New York City summarizes in part data previously published (3). Certain results of the survey of white wage-earning families in eight cities—Baltimore, Birmingham, Cleveland, Detroit, Pittsburgh, Syracuse, and New York City—are presented for comparison, including some data not previously published.

Composition and Characteristics of the Population

The comparability of the surveyed groups in Central Harlem and the Lower East Side from the standpoint of occupational composition,

²The complete survey covered 2,256 families and extended over a period of about nine months in 1933. In order to avoid bias arising from seasonal variations, the present Negro sample is restricted to 1,348 families enumerated contemporaneously with white families included in a sickness survey conducted during the spring of 1933. For a description of the Harlem survey, see Kiser, C.V.: Fertility of Harlem Negroes. *The Milbank Memorial Fund Quarterly*, July, 1935, Vol. 13, No. 3, pp. 273–285.

TABLE 1
 Percentage Distribution of Surveyed Families by (1) Occupational Status of Chief Wage-Earner, (2) Number of Wage-Earners in Family in 1929, 1932, (3) Families on Relief at Any Time during 1932

Classification	Percentage Distribution of Families		
	Central Harlem Negro	Lower East Side White	Eight Cities ¹ White
Occupational Status of Chief Wage-Earner ²			
White Collar	16	19	21
Skilled Labor	57	55	58
Unskilled Labor	27	26	21
Wage-Earners in Family ³			
1929			
All Unemployed	0.7	3.3	3.8
Having Income or Pension	0.5	3	3
All Other	0.2	0.3	0.8
One or More Part-Time, No Full-Time	9	12	14
One or More Full-Time	90	84	82
1932			
All Unemployed	3	14	16
Having Income or Pension	2	8	6
All Other	1	6	10
One or More Part-Time, No Full-Time	32	28	36
One or More Full-Time	65	58	48
Families on Relief			
1929	0.3	0.7	1
1932	8	13	20
Number of Families Observed	1,348	1,225	7,436

¹Weighted average. The cities include: Baltimore, Birmingham, Brooklyn, Cleveland, Detroit, New York (Lower East Side), Pittsburgh, Syracuse.

²Excludes unknown occupations. The term "white-collar" is here used to include all workers other than skilled and unskilled laborers, that is, professional, proprietary, and clerical. "Skilled" includes "semiskilled." Farm laborers were present to a negligible extent and have been included with unskilled laborers. Household heads living on income or pension are not included with the unemployed in 1932 and are excluded from the population in making this computation.

³Welfare work, when the sole occupation, was considered "unemployed."

economic level, and depression history is indicated by figures shown in Table 1, in which data for the total number of white surveyed families in eight cities are included for comparison. Skilled workers predominated among the wage-earners of the Negro families of Central Harlem and the white families of the Lower East Side. Both areas were affected similarly by the period of the economic depression, approximately two-thirds of the chief wage-earners in both districts being employed on full

TABLE 2
 Percentage Distribution of Surveyed Families by Income Range, Based on per
 Capita Family Income, 1932

Income Class ¹	Percentage Distribution of Families			Number of Families		
	Central Harlem Negro	Lower East Side White	Eight Cities White	Central Harlem Negro	Lower East Side White	Eight Cities White
All Incomes	100	100	100	1,348	1,225	7,436
Poor	25	33	36	341	405	2,690
Moderate	34	37	43	457	450	3,181
Comfortable	41	30	21	550	370	1,565

¹See footnote 5, p. 9.

time in 1932, while the proportion of full-time workers in 1929 was between 80 and 90 per cent.

The distribution of the surveyed families according to per capita family income for the year 1932 shows a somewhat higher proportion of the "poor," and a lower proportion of the "comfortable," in the Lower East Side than in the Central Harlem district (Table 2). In interpreting the Negro-white comparisons of morbidity, therefore, it should be remembered that the whites do not represent an "average" white group but were drawn from poorer areas.

The Incidence of Disabling Illness

The disabling³ illness rate from all causes for the three-month survey period among Negroes of Central Harlem was 143 per 1,000 persons, this rate showing a small excess, 4 per cent, over the rate for the white population of the eight large cities, which was 138 per 1,000 (2). In the white population of the Lower East Side, the disabling illness rate was 157 per 1,000, representing an excess of 9 per cent over the Negro rate, and 14 per cent, over the rate for the eight large cities.

³Cases of illness which caused disability of any duration are included. Disability was defined as inability to carry on usual activities.

When age adjusted rates are compared, the slight excess in the disabling illness rate of Central Harlem over the eight-city rate disappears, the age adjusted rate for Central Harlem, 136 per 1,000, being 1 per cent lower than the white rate for the eight cities combined. Age adjustment increases the rate for the Lower East Side to 159 per 1,000, which is 17 per cent higher than the age adjusted rate for Central Harlem, and 15 per cent higher than the eight-city rate.

Variation with Age and Sex. The above gross comparisons, however, conceal the true situation. The higher case rate in the Lower East Side than in Harlem arises in large part from the excess in rates for children under 10 years of age. The several groups of data used in this report suggest a fairly uniformly lower rate of sickness among Negro children under 15 than among comparable white children. It will appear later that the very high rate among surveyed children in the Lower East Side was due in part to the prevalence of measles in this area at the time of the survey. However, the rate for Negro children was lower than the average rate for white children in the eight cities.

From Figure 1 it will be seen that after the age of 15 the case rates for disabling illness in Harlem were uniformly higher than those for both of the white surveyed groups. In the adult ages, rates for the Lower East Side show close agreement with those for the eight cities. The higher rates for Negroes accrued from the consistently excessive age-specific rates among Negro females. In fact, the rates of Harlem Negro males exceeded those among Lower East Side males only during the ages 15–24. (Table 3.) Expressed in summary fashion, the adjusted⁴ rate among Harlem males, 15 years of age and over, was approximately 12 per cent lower than among comparable white males in the Lower East Side and nearly 9 per cent lower than among adult males included in the surveys for eight cities. On the other hand, the corresponding sickness rate among Negro females 15 years of age and over in Harlem was 36 per cent higher than that observed among white women of comparable ages in the Lower East Side and about 28 per cent higher than that found for white females in the eight cities.

The three surveyed groups showed the excess in the disabling illness rate for females, compared with that of males, which has been frequently observed. However, the excess in the rate for female Negroes in Central

⁴Adjusted to the age-sex distribution of white individuals included in the combined sample for the eight cities.

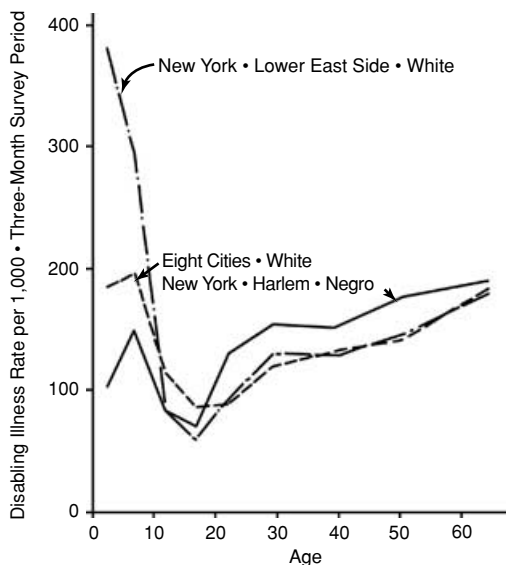


FIGURE 1. Age-Specific Rate of Disabling Illness during a Three-Month Period in the Early Spring of 1933 among Persons in Negro and White Families in New York City and White Families in Eight Large Cities (Baltimore, Birmingham, Cleveland, Detroit, Pittsburgh, Syracuse, New York, and Brooklyn)

Harlem over that of Negro males was very much greater than the excess for females in both of the white groups.

Disabling Illness by Cause. The respiratory diseases were found to be the most frequent cause of illness in each of the three surveyed areas, the disabling illness rate due to these causes varying from 61, in the Lower East Side, to 72, in the Central Harlem district. (Figure 2 and Table 4.) For this group of diseases, the rate for Negroes thus exceeded the rates for both of the white surveyed groups. The digestive diseases and injuries due to accidents also appeared in higher rates among Negroes than among whites in the samples considered. On the other hand, the rate for the group of epidemic diseases among Negroes was notably low. In non-epidemic periods, Negro children appear to show low susceptibility to certain acute communicable diseases. In the Lower East Side, the rate for the epidemic diseases was over twice as high as that for the eight large cities; examination of the incidence of these diseases by specific cause indicated that measles was unduly prevalent in the area, the rate for this

TABLE 3
Disabling Illness Rate by Age and Sex—Three-Month Survey Period—1933—Central Harlem, the Lower East Side, and Eight Cities Compared

Sex and Age	Disabling Illness Rate per 1,000 for Three- Month Survey Period			Population Observed		
	Central Harlem Negro	Lower	Eight Cities White	Central Harlem Negro	Lower	Eight Cities White
		East Side White			East Side White	
Males						
All Ages—Crude	101.9	146.4	123.6	1,707	2,261	15,717
All Ages—Adjusted ¹	102.6	150.5				
15 and over—Crude	97.6	112.2	107.0	1,260	1,622	10,812
15 and over—Adjusted ¹	97.5	111.0				
Under 5	106.9	340.4	177.9	159	141	1,231
5-9	144.7	314.5	199.9	152	248	1,836
10-14	88.2	92.0	108.3	136	250	1,838
15-19	51.6	42.8	73.2	97	257	1,666
20-24	82.5	78.1	73.1	97	192	1,272
25-34	88.6	89.6	85.6	395	279	2,220
35-44	94.4	128.0	120.8	360	375	2,343
45-54	122.5	153.3	122.2	204	300	1,850
55 and over	149.5	169.0	166.3	107	219	1,461
Females						
All Ages—Crude	179.6	168.1	151.8	1,982	2,278	15,913
All Ages—Adjusted ¹	163.3	167.7				
15 and over—Crude	196.2	138.1	145.8	1,580	1,578	10,975
15 and over—Adjusted ¹	186.5	137.0				
Under 5	96.3	417.1	192.0	135	175	1,255
5-9	155.8	276.9	191.1	154	260	1,805
10-14	79.6	75.5	122.5	113	265	1,878
15-19	86.0	76.9	101.2	93	234	1,640
20-24	158.5	113.6	103.5	164	132	1,266
25-34	201.8	165.6	152.9	570	326	2,426
35-44	205.7	128.1	143.9	384	367	2,335
45-54	222.2	133.9	162.2	234	254	1,665
55 and over	222.2	188.7	198.4	135	265	1,643
Number of Disabling Illnesses, All Ages						
Males	174	331	1,942			
Females	356	383	2,416			

¹Adjusted to the age-sex distribution of the white population observed in the eight cities.

cause alone being 28.4 per 1,000 persons, compared with a rate of 6.0 per 1,000 for the Central Harlem district.

Age Incidence for Certain Broad Disease Groups. Classification of the disabling illnesses in broad disease groups according to age reveals certain

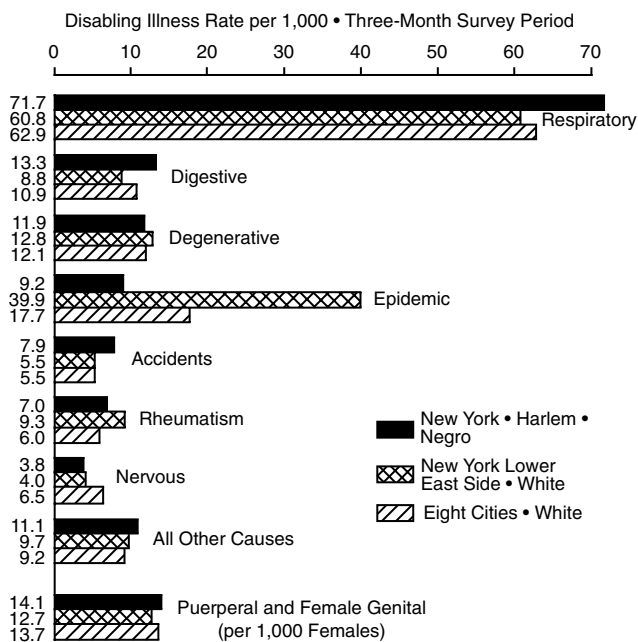


FIGURE 2. Rate, during a Three-Month Period, of Disabling Illness Classified in Broad Diagnosis Groups: Negro and White Families in New York City and White Families in Eight Large Cities Surveyed in the Early Spring of 1933—Sole or Primary Causes Only

important differences between the age incidence of certain diseases in the Negro and white surveyed groups. The figures, shown in Table 4, indicate that the excess in the disabling illness rate for respiratory diseases among the Negroes of the Central Harlem district arises from the higher Negro rates observed between the ages 25 and 54 years. The rates among Negro children were lower than among whites. This fact, together with the lower frequency of the epidemic diseases among Negro children, accounts for their relatively low incidence rate from all causes of illness, previously shown in Figure 1. The age-specific rates for Negroes for the group of chronic diseases, including the degenerative and nervous diseases, and rheumatism, show a slight excess over the white rates in the age periods 10 to 14 and 15 to 24 years. On the whole, however, the disabling illness rates for the chronic diseases among Negroes are low in consideration of their high mortality from certain of these causes.

TABLE 4
Age Incidence of Disabling Illness Classified in Broad Disease Groups—Three-Month
Survey Period

Disease Group	All Ages	Age Groups							
		0-4	5-9	10-14	15-24	25-34	35-44	45-54	55 and over
Respiratory Diseases									
Negro—C. Harlem	71.7	71.4	81.4	39.7	42.1	84.9	75.3	89.0	53.7
White—L. East Side	60.8	98.1	98.4	52.4	29.3	56.2	64.7	50.5	53.7
White—8 Cities	62.9	90.9	90.6	64.6	45.7	59.6	60.7	55.5	55.4
Epidemic Diseases									
Negro—C. Harlem	9.2	17.0	65.1	7.9	2.2	4.1	1.3	2.3	
White—L. East Side	39.9	272.2	175.2	5.8	1.2	3.3			
White—8 Cities	17.7	66.4	76.6	18.3	3.6	2.8	1.5	1.7	0.3
Digestive Diseases									
Negro—C. Harlem	13.3	3.4		11.9	15.5	11.4	18.8	16.0	24.8
White—L. East Side	8.8		3.9	1.9	4.9	8.3	8.1	25.3	16.5
White—8 Cities	10.9	6.4	3.8	8.1	9.4	9.0	13.7	18.5	19.0
Degenerative and Nervous Diseases and Rheumatism									
Negro—C. Harlem	22.7	3.4	3.3	11.9	13.3	12.4	30.9	41.1	82.6
White—L. East Side	26.0	3.2	2.0	9.7	11.0	18.2	36.4	46.9	78.5
White—8 Cities	24.6	7.6	8.2	9.7	9.8	17.2	30.1	45.5	82.2
Accidents									
Negro—C. Harlem	7.9	3.4		4.0	8.9	14.5	6.7	4.6	8.3
White—L. East Side	5.5	3.2	5.9	5.8	3.7	8.3	4.0	3.6	10.3
White—8 Cities	5.5	2.4	5.8	5.1	3.9	5.4	6.6	6.0	8.7
Puerperal and Female Genital Diseases¹									
Negro—C. Harlem	14.1				15.6	22.8	23.4	8.5	
White—L. East Side	12.7				8.2	58.3	10.9	3.9	7.5
White—8 Cities	13.7				15.8	41.2	22.3	9.0	3.0
All Other Causes²									
Negro—C. Harlem	11.1	3.4		7.9	13.3	14.5	6.7	18.3	20.7
White—L. East Side	9.7	6.3	9.8	7.8	8.6	3.3	9.4	16.2	16.5
White—8 Cities	9.2	11.3	10.4	9.7	7.4	5.2	8.6	9.7	15.8

¹Rates per 1,000 females.

²Exclusive of puerperal and acute female genital diseases.

Illness Rates according to Income and Employment Status. Although the total Negro and white groups represented in this survey were fairly comparable with regard to average low economic status, it is of interest to compare disabling illness rates between groups of Negroes and whites classified with respect to actual income⁵ and employment status. When this is done, as in Figures 3 and 4, several very interesting situations emerge. The occurrence of an epidemic of measles in the Lower East Side

⁵The range in per capita income for six cities: Baltimore, Birmingham, Cleveland, Detroit, Pittsburgh, and Syracuse, was as follows: comfortable, \$425 and over; moderate, \$150-\$424; poor, under \$150. For the Central Harlem and Lower East Side districts of Manhattan, and for Brooklyn, the range was as follows: comfortable, \$500 and over; moderate, \$250-\$499; poor, under \$250.

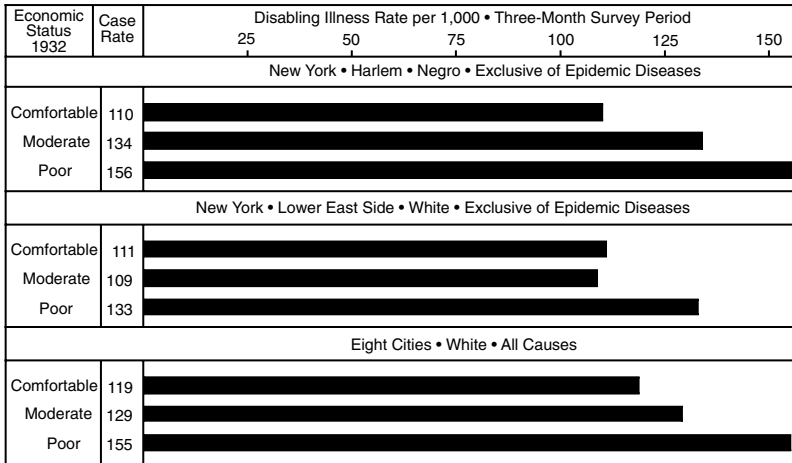


FIGURE 3. Rate of Disabling Illness during a Three-Month Period among Persons Classified by Family Economic Status: Negro and White Families in New York City and White Families in Eight Large Cities Surveyed in the Early Spring of 1933. Rates adjusted for age. Illness rates are simple averages of rates in the eight cities.

during the survey period resulted in an abnormally high illness rate. For the purpose of the subsequent comparison, the disabling illness rates for both the Negro and white population of New York have therefore been determined after the exclusion of illnesses due to epidemic diseases.

From Figure 3 it is clearly evident that increase of sickness rates with lowering of income status holds true among Negroes as well as among whites. It also appears that the excess of Negro rates over those among whites does not persist in the groups classed as “comfortable,” but is restricted to those in the “moderate” and “poor” income groups.

In the grouping of data with reference to employment status of wage-earners (Figure 4), it is seen that illness rates among Negro families consistently exceed those among white families of corresponding status. Nevertheless, there is again shown among Negroes as well as among whites the inverse association between illness and economic status or employment status. Perhaps the chief point of importance yielded by Figures 3 and 4 is the sensitiveness of illness rates to slight changes in income and employment status, even when all data are confined to neighborhoods which would be judged as “poor” by present-day housing standards.

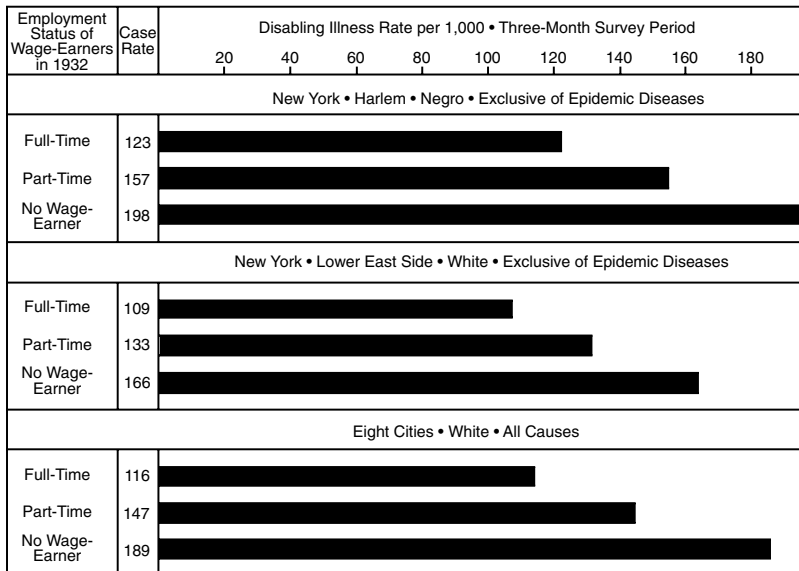


FIGURE 4. Rate of Disabling Illness during a Three-Month Period among Persons Classified by Family Employment Status: Negro and White Families in New York City and White Families in Eight Large Cities Surveyed in the Early Spring of 1933. Rates adjusted for age. Illness rates are simple averages of rates in the eight cities.

Summary

A survey of illness among Negro families in Central Harlem and white families in the Lower East Side districts of New York City was made by the Milbank Memorial Fund and the United States Public Health Service in the early spring of 1933. Both districts are areas of low average economic status and high mortality. The results indicated an excess of disabling illness among Negroes in the adult ages, but a lower illness rate for Negro children under 15 years of age than for white children. This relation was due to the lower incidence of certain epidemic diseases among the Negro children. The same inverse relation between the disabling illness rate and economic status was observed among Negroes as among whites, indicating the importance of such factors as standard of living and occupation in evaluating racial differences in morbidity and mortality rates.

Part II

A Preliminary Report on a Study of Disabling Illness in a Representative Sample of the Negro and White Population of Four Cities Canvassed in the National Health Survey, 1935–1936

The marked excess in the mortality rate of urban Negroes compared with that of the white population (4) supports the *a priori* assumption of a proportionate excess in their illness rate. The results of previous studies of illness among Negroes in the general population have contributed somewhat inconclusive evidence of this relation due to limitation of scope of the investigations, or to paucity of the sample. In the National Health Survey conducted by the United States Public Health Service in 1935–1936,⁶ records of illness in a twelve-month period were obtained for approximately 230,000 Negroes. While the analysis of records for the entire surveyed group has not yet been completed, the results for a group of 30,652 Negroes and 140,263 white persons canvassed simultaneously in four large cities are of sufficient interest to justify their presentation in this preliminary report.

The surveyed group comprises a sample taken from two Southern cities, Atlanta, Georgia, and Dallas, Texas; one Northern city, Newark, New Jersey; and one city of the East North Central section, Cincinnati, Ohio. A representative sample was obtained by an arbitrary division of the Census Enumeration districts into units having an average population of 750, a random sample of such units being completely canvassed.

The distribution of the surveyed population in each city by color is shown in Table 5, with comparative figures for the total population as enumerated in the Federal Census of 1930. “Negro” as used in this survey includes also persons of other color or race. The number of such persons is negligible in each of these cities except Dallas, in which the total of 5,707 “Negro” persons includes also one per cent Mexicans.

The proportion of children under 15 years of age was somewhat higher, and the proportion of persons 65 years of age and over slightly lower, among the surveyed Negro population than the white (Appendix Table A1). The proportion of males in the Negro population was lower

⁶A preliminary announcement of the survey contained a reproduction of the survey schedule and the original list of cities to be canvassed. See *The New Health Survey. Journal of the American Medical Association*, October 5, 1935, 105, p. 1127.

TABLE 5
 Percentage Distribution of the Surveyed Population by Color, with
 Comparative Figures for the Total Population from the Federal Census of
 1930—Atlanta, Cincinnati, Dallas, Newark, and the Four Cities Combined

Enumeration	Four Cities	Atlanta	Cincinnati	Dallas	Newark
	Percentage Distribution				
Health Survey 1935-1936					
Negro	18	36	12	16	11
White	82	64	88	84	89
Federal Census 1930					
Negro	16	33	11	17	9
White	84	67	89	83	91
	Number of Persons				
Health Survey 1935-1936					
Negro	30,652	14,027	4,930	5,707	5,988
White	140,263	24,578	36,048	31,033	48,604

than in the white population, the ratio of males to females (females being taken as 100) being 80 for the Negro and 92 for the white population of the four cities combined.

The major difference between the surveyed groups is found in their dependency and economic status. Persons receiving relief during the year preceding the survey represented 42 per cent of the Negro group, compared with 15 per cent for the white. The distribution of the surveyed population of the four cities by color according to family income received in the year preceding the survey date is shown in Table 6, and the distribution for each city is given in Appendix Table A4.

Negroes in surveyed families with an annual income of \$1,000 or less comprised 88 per cent of the total Negro population while only 34 per cent of the white population was in this income class. In the white population, 24 per cent of all persons were in families with an annual income of \$2,000 or more; Negroes in this income class represented only 1 per cent of the total.

The implications of this divergence in economic level of the Negro and white surveyed populations of these four cities must be borne in mind in the interpretation of the subsequent comparison of their sickness experience. In Part I of this report, the data relate to Negro and white groups, both of which represent samples of low-income families taken from the

TABLE 6
 Percentage Distribution of the Surveyed Population by Color, according to Family Income and Relief Status during the Twelve-Month Period prior to the Survey Date, 1935–1936, Four Cities Combined

Relief Status and Family Income	Percentage Distribution		Number of Persons	
	Negro	White	Negro	White
All Incomes	100	100	30,652	140,263
Under \$1,000	88	34	26,835	47,742
Relief	42	15	12,811	21,548
Nonrelief	46	19	14,024	26,194
\$1,000–\$1,999	10	40	3,097	55,663
\$2,000–\$2,999	.9	15	263	20,498
\$3,000 and over	.4	9	126	12,803
Income Unknown	1.0	2	331	3,557

poorer districts of the surveyed communities. In the present section, we are concerned with samples of Negro and white populations which are, in general, representative of the total Negro and white population of the four surveyed cities, and necessarily differ in economic composition.

Method of Analysis

In general, the magnitude of the mortality rate is determined by the chronic diseases, which have become the leading causes of death. On the other hand, the magnitude of the incidence rate of illness is determined by the acute diseases, many of which are epidemic in nature. Inter-city variation in the incidence rate of illness for a single year is therefore not significant, since it may arise in part from local variation in the prevalence of epidemic diseases.⁷ With the effect of this variable recognized,

⁷Specific illustration of the point may be drawn from the experience of two cities included in this study. The year 1935, to which most of the illness records obtained in the National Health Survey relate, was an epidemic year for measles in Newark. For the City as a whole, 6,907 cases were reported to the Health Department in 1935, compared with 491 cases, for the preceding year (5). In Cincinnati, cerebro-spinal meningitis was epidemic in 1935, 238 cases being reported, compared with an average of 26 cases for the period 1931–1934 (6). In Cincinnati in 1935, there occurred also an epidemic of myalgia, or pleurodynia, a disease prevalent among children and young adults, of which 282 cases were reported. The number of cases of these diseases enumerated in the total surveyed population was relatively small, but their concentration in the period of childhood is a factor to be recognized in the interpretation of illness rates for children under 15 years of age in these cities.

however, the validity of certain internal relations of the illness rate for each city is not altered, and comparison may be made of the relative variation of the rates for Negro and white surveyed groups according to age, sex, cause, and economic status. In the present report, therefore, the practice has been adopted of showing the ratio, or index, of the various measures of illness for individual cities, the absolute values of rates being presented only for the combined population of the four surveyed cities.

Variations in Illness Rates for All Causes

On the day of the canvass, which was made in the winter months between October, 1935, and April, 1936, the average prevalence rate of illness in the combined Negro population of the four surveyed cities was 5.9 per cent, compared with a rate of 4.5 per cent for the white population. These rates are somewhat higher than those previously reported (8, 9), including in the present survey disabling gross impairments not usually recorded. In the twelve-month period prior to the date of the survey, illnesses disabling for seven consecutive days or longer⁸ occurred at a rate of 183 per 1,000 population among Negroes, the rate for the white population being 163. In the surveyed Negro group the disability rate, derived from the total days of disability experienced in a twelve-month period arising from illnesses of the category previously defined, distributed over the total surveyed population, including the sick and the well, represented an average of 12.6 days of disability per person; for the white population, the comparable figure was found to be 8.9 days per person. The severity rate, or the average duration per case within the survey year, was 69 days for the average case among Negroes, and 54 days for the average case in the white population. In the Negro population, 4.4 deaths were reported for every 100 cases of disabling illness, the case fatality rate for the white being 3.8. The death rate in a twelve-month period for Negro persons surveyed was 8.1 per 1,000 compared with a rate of 6.2 for the white group, the rates for both groups being lower than recorded death rates for the total population of these cities, a deficiency usually observed in the house-to-house enumeration of deaths. The actual death rate in the combined total population of these four cities for

⁸In this category are included all confinement, hospital, and fatal cases without reference to the duration of disability. "Disabling" is used in the sense of inability to work or pursue usual activities.

the period 1930 to 1932 was 21.0 for Negroes, and 12.2 for the white population.

In Table 7, the ratios of the Negro to the white rates for these various measures of morbidity and mortality are presented for each surveyed city, and for the four cities combined.

It will be observed that the largest and most consistent excess in the rates for Negroes occurs in the related⁹ prevalence and disability rates, the magnitude of which is determined largely by the chronic diseases. On the other hand, the excess for Negroes is lowest, and shows the greatest inter-city variation, for the disabling illness rate, and the ratio of deaths to disabling illnesses (the case fatality rate), both of which are weighted by the high frequency of acute diseases. Within individual cities, it will be noted that these related rates are consistently correlated, the former directly, the latter inversely.

Variation with Age

The excess observed in the *prevalence rate* of Negro compared with white persons of all ages is accounted for by the higher rates of Negro adults, Negro children under 15 years of age showing lower rates than white children. (Figure 5.) Examination of prevalence rates for diseases classified broadly as "acute" and "chronic" on the basis of duration of symptoms¹⁰ (Appendix Table A1) indicates that the low average rate of Negro children is due to the relatively low prevalence of acute diseases among them, the prevalence rates for the chronic diseases more closely approximating those of white children. The excessive death rates of Negroes

⁹The annual disability rate divided by 365 gives the average daily prevalence rate, the closeness of agreement between this derived prevalence rate and the observed prevalence rate depending on the effect of seasonality on the latter.

¹⁰In the present survey, the causes of illness were classified by two methods: (1) by specific diagnosis, as measles, pneumonia, rheumatism—permitting broad grouping of diseases as "infectious," "acute diseases of the respiratory system," and "chronic diseases," etc.; (2) by duration of disease symptoms in classes as "less than three months," and "three-months duration or longer"—permitting a broad classification of diseases as "acute," i.e., those with symptoms of less than three-months duration, and "chronic," i.e., those with symptoms of three-months duration or longer. The effective separation of acute and chronic diseases by the latter method has been shown in a preliminary report (*See* reference 10). In the present report, the variation of prevalence and disabling illness rates by age in detailed classes is shown by cause broadly classified as acute or chronic on the basis of duration of disease symptoms (Appendix Table A1).

TABLE 7
A Comparison of Various Measures of Morbidity and Mortality, by Color, Expressed as Rates, for the Four Cities Combined, and as Ratios of Negro to White Rates for Atlanta, Cincinnati, Dallas, and Newark

Rate	Four Cities Rate		Ratio, Negro to White Rate (White Rate = 100)				
	Negro	White	Four Cities	Atlanta	Cincinnati	Dallas	Newark
Prevalence Rate, Day of Canvass ¹	5.9	4.5	131	125	155	104	134
Twelve-Month Survey Period							
Disabling Illness Rate ²	183.2	163.3	112	97	134	103	125
Disability Rate ³	12.6	8.9	143	131	146	108	140
Severity Rate ⁴	69.0	54.3	127	134	109	105	112
Case Fatality Rate ⁵	4.4	3.8	117	136	97	135	82
Death Rate per 1,000	8.1	6.2	131	133	130	139	102
Annual Death Rate per 1,000	21.0	12.2	172	190	159	198	163
1930-1932 (Total Population)							

¹ Persons disabled on the day of the canvass per 100.
² The rate of occurrence, in a twelve-month period, of illnesses disabling for seven consecutive days or longer, per 1,000 persons. See also footnote 8, p. 15.
³ The days of disability per person, in a twelve-month period, arising from illnesses as defined in (2) above.
⁴ The days of disability per case of disabling illness as defined in (2) above.
⁵ Deaths per 100 illnesses disabling for seven consecutive days or longer. See also footnote 8, p. 15.

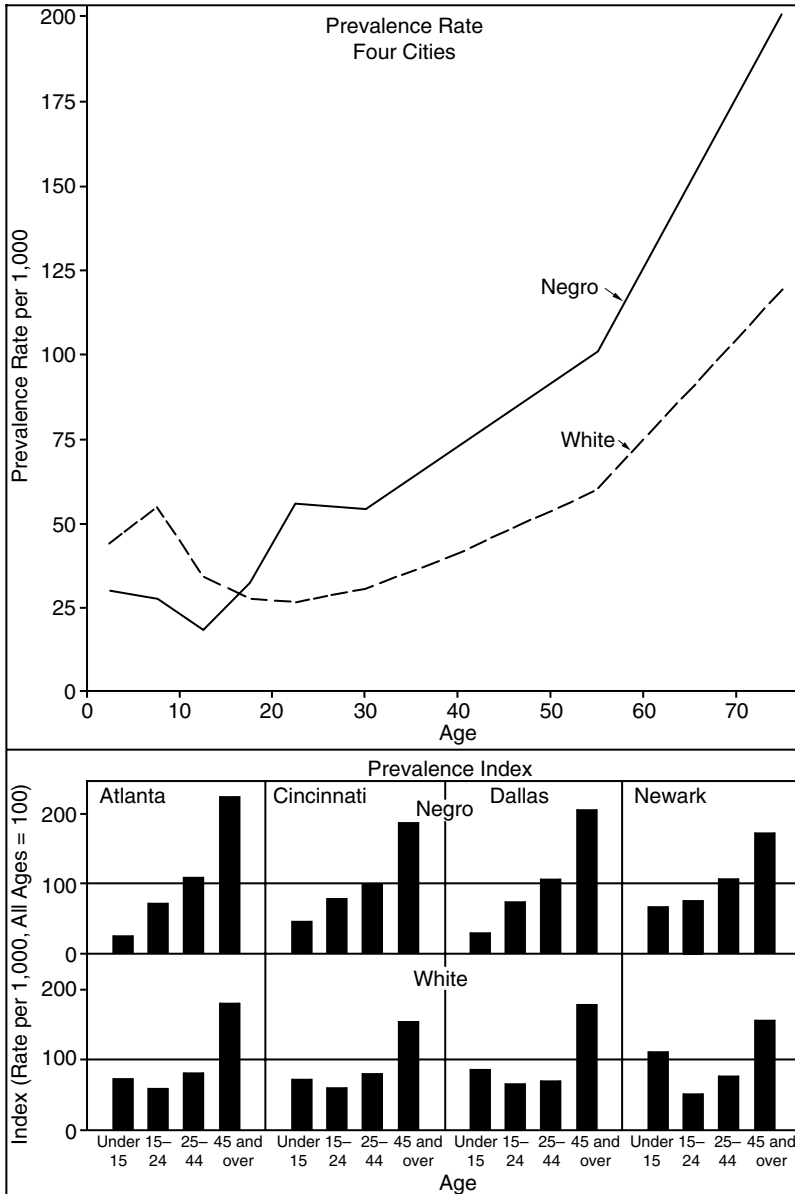


FIGURE 5. Prevalence of Disabling Illness by Age among Persons in Negro and White Families in Four Large Cities Canvassed in the Winter of 1935-1936 as Part of the National Health Survey

TABLE 8
Prevalence Ratios of Negro to White Rates, Classified by Age in Broad
Groups for Atlanta, Cincinnati, Dallas, Newark, and the Four Cities
Combined. (Based on the prevalence rate, all ages, i.e., persons disabled on the
day of the canvass, 1935-1936.)

Age Period	Prevalence Ratio (White Rate = 100)				
	Four Cities	Atlanta	Cincinnati	Dallas	Newark
All Ages	131	125	155	104	134
Under 15	56	44	97	38	80
15-24	162	148	198	112	189
25-44	177	164	183	155	181
45 and over	164	151	188	118	147

in infancy and early childhood, compared with the white, suggest that their lower average prevalence rates in this age period may result in part from incomplete enumeration of their illnesses.

The pattern of the age variation of the prevalence rate for the Negro and white surveyed groups of the four cities combined is reflected by the prevalence index (ratio of the rate at a given age to the rate at all ages) for each of the surveyed cities. (Figure 5.) In Newark, both Negro and white children under 15 years of age formed a higher proportion of those sick on the day of the canvass than in the three remaining cities, due to the epidemic prevalence of measles during the period of the survey.

While the prevalence rate for Negro children under 15 was lower than the rate for white children in each city (Table 8), the excess in the white rate was notably less in both Cincinnati and Newark, indicating the effect of the epidemics previously noted on children of both racial groups.

In the disabling illness rate, likewise, the excess observed in the Negro rate for persons of all ages compared with the white arises from the excess in the rate for adults. (Figure 6.) The peak in the disabling illness rate of white children, occurring in the age period 5 to 9, is not observed in the curve for Negro children, due to the lower frequency of the acute diseases among Negro children; on the other hand, the disabling illness rates for the chronic diseases among Negro children, while lower than the white, show a less marked difference between the two races. (Appendix Table A1.) The sharp rise in the disabling illness rate of Negroes after

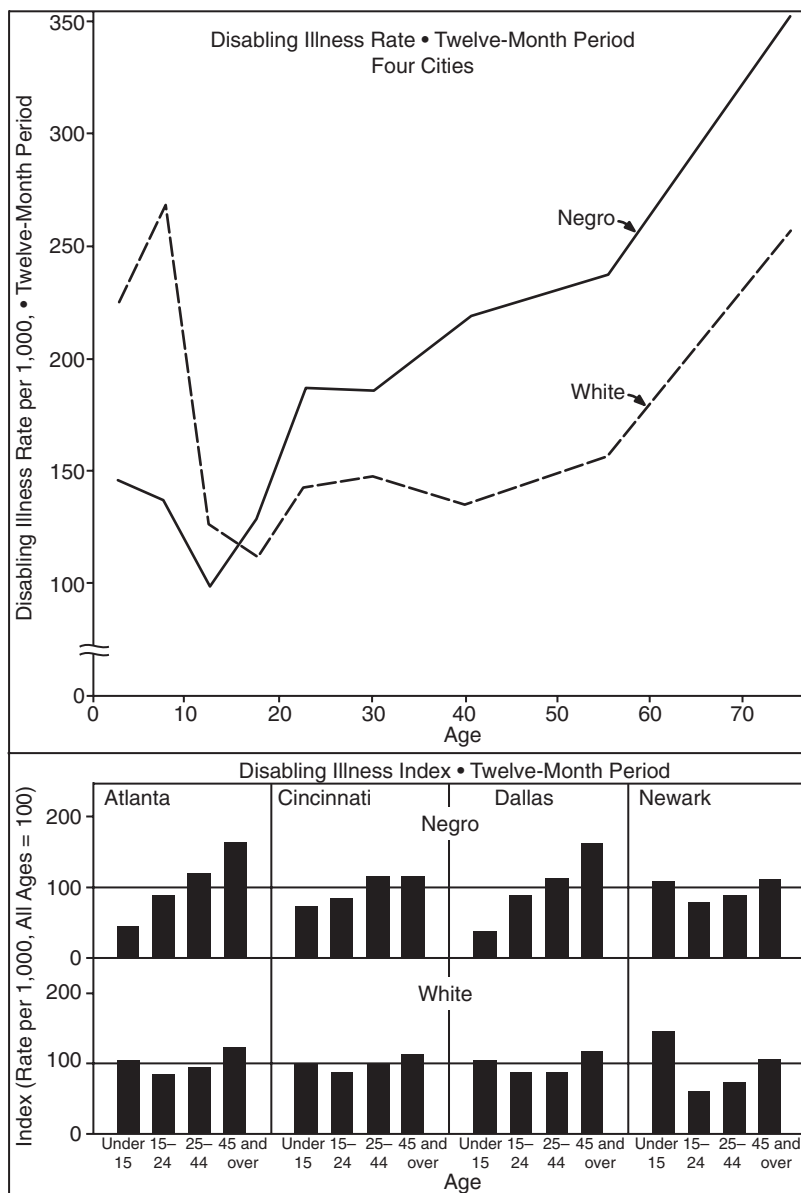


FIGURE 6. Annual Rate of Disabling Illness by Age among Persons in Negro and White Families in Four Large Cities Canvassed in the Winter of 1935-1936 as Part of the National Health Survey

TABLE 9

Disabling Illness Ratios of Negro to White Rates Classified by Age in Broad Groups for Atlanta, Cincinnati, Dallas, Newark, and the Four Cities Combined. (Based on the disabling illness rate, all ages, i.e., the rate of occurrence, in a twelve-month period, of illnesses disabling for seven consecutive days or longer.)

Age Period	Disabling Illness Ratio (White Rate = 100)				
	Four Cities	Atlanta	Cincinnati	Dallas	Newark
All Ages	112	97	134	103	125
Under 15	62	44	103	38	93
15-24	124	101	129	105	161
25-44	141	122	160	130	146
45 and over	143	128	137	142	135

15 years of age is notable; the period of youth, (15 to 24 years) in which the illness rate of the white population reaches a minimum, is a period of a relatively high sickness rate for the Negro. The average disabling illness rate among Negroes at this age period in the four surveyed cities was 24 per cent higher than the rate for the white population, the excess being greater in the ages upward from 25 years. (Table 9.)

Sex Variation. The excess observed in the prevalence rate of illness among Negroes compared with the white population in the four surveyed cities is common to both sexes, the excess being somewhat higher for females (Table 10). On the other hand, the disabling illness rate of Negro and white males was found to be approximately the same, the excess observed among Negroes of both sexes compared with the white population being accounted for by a higher disabling illness rate among Negro females, the rate exceeding the rate for white females by 19 per cent. The disabling illness rates for all causes, however, conceal the fact that both male and female Negroes show a marked excess in disabling illness due to the chronic diseases (Appendix Table A1), compared with white persons of the same sex.

The sex differential in both prevalence and disabling illness rates was found to be similar for both Negro and white surveyed groups, the rates for females exceeding that for males, a relation commonly observed in illness rates, although reversed in mortality rates. The ratio of the prevalence rate for Negro females was 133, compared with a ratio of 119 for white females, the male rate being taken as 100. The comparable

TABLE 10

Prevalence and Disabling Illness Ratios of Negro to White Rates, by Sex, and Prevalence and Disabling Illness Ratios of Female to Male Rates, by Color, in Atlanta, Cincinnati, Dallas, Newark, and the Four Cities Combined. (Based on prevalence and disabling illness rates, all ages, specific for sex. For rates in the four cities combined, *see* Appendix Table A1.)

Rate	Four Cities				
	Atlanta	Cincinnati	Dallas	Newark	
	Ratio, Negro to White Rate (White Rate = 100)				
Prevalence Rate ¹					
Males	121	114	133	87	126
Females	136	132	172	115	139
	Ratio, Female to Male Rate (Male Rate = 100)				
Negro	133	122	137	150	148
White	119	106	106	114	134
	Ratio, Negro to White Rate (White Rate = 100)				
Disabling Illness Rate ²					
Males	99	84	117	88	114
Females	119	104	144	111	131
	Ratio, Female to Male Rate (Male Rate = 100)				
Negro	155	157	157	167	151
White	129	126	127	132	131

¹Persons disabled on day of the canvass.

²The rate of occurrence, in a twelve-month period, of illnesses disabling for seven days or longer.

ratios for the disabling illness rates were 155 for Negro females, and 129 for white females. The sex differential in the disabling illness rate for Negroes is marked at ages 10 to 14 years, the excess for females at this age period being accounted for largely by their higher rate for the chronic diseases. In the white population, the sex differential is not marked until the succeeding age period (15 to 19 years) is reached (Appendix Table A1).

The Relative Frequency and Severity of Illness among Negro and White Surveyed Groups, by Cause

The average amount of disability per person (sick and well) in an annual period (disability rate) is the product of two factors: the average annual duration per case of illness (severity rate), and the average number of cases of illness per person in an annual period (frequency, or disabling

illness rate). The excess observed in the disability rate of Negroes in the four cities for all causes of illness (Table 7) thus follows from the fact that both their severity and frequency rates are higher than the comparable rates for the white population. We may now proceed to a consideration of these rates by cause in broad diagnosis groups in order to define the diseases which account for the greater severity of illness among Negroes.

Considering Negroes of the adult ages (Table 11),¹¹ it is seen that the excess in the disability rate of Negroes from all causes of illness is the resultant of the longer average duration and the higher frequency of cases of all disease groups, the single exception occurring among the acute diseases of the digestive system, in which the effect of a shorter average duration per case is offset by a higher frequency of cases. However, differences may be observed in the degree to which the various disease groups contribute to the excess in the disability rate. The average duration of a case of chronic disease in the twelve-month period among Negro adults was 138 days, the longest duration observed; the average Negro adult had .078 cases of chronic disease, a frequency exceeding that of all other disease groups. The disability rate due to the chronic diseases is, therefore, at a maximum, amounting to approximately eleven days for the average Negro adult. Among white adults, the chronic diseases likewise showed the highest disability rate, but the absolute magnitude of the rate for Negroes is greater, due to the higher severity and frequency rates among Negroes for the chronic diseases.

Among Negro children under 15 years of age, the duration of the average case of disabling illness from all causes was 18 per cent higher than that of the average white case. However, the frequency of cases among Negro children was 38 per cent lower than among white children, with the result that the average Negro child was disabled approximately

¹¹In Table 11 the severity rates, disabling illness rates, and disability rates are shown by cause as determined by specific diagnosis, with the following exception: the classification of disabling illnesses of three disease groups—respiratory, digestive, and female genital—as acute or chronic was made on the basis of duration of disease symptoms by the method described in footnote 10. Within two of these groups, however, certain causes were tabulated by specific diagnosis: in the respiratory group, pneumonia, respiratory tuberculosis, asthma and hay fever, and sinusitis; in the digestive group, appendicitis, ulcer of the stomach or duodenum, diseases of the gall bladder or liver, and hernia, the broad classification as “acute” or “chronic” being applied therefore to residual groups representing “other respiratory diseases” except those noted, and “other digestive diseases” except those noted. This procedure was made necessary by the limitations of tabulating facilities for this preliminary report. It should be noted however that the majority of diseases in the chronic group were classified by specific diagnosis. See Appendix Table A2 for a complete list of diseases comprising the chronic group.

TABLE 11
 Disability, Severity, and Frequency Rates for a Twelve-Month Period and Ratios of Negro to White Rates, by Cause, for Broad Disease Groups for Persons under 15 Years of Age and 15 Years and over: Four Cities Combined

Diagnosis Group	Disability Rate				Severity Rate ¹				Disabling Illness Rate per 1,000 Persons			
	(Days of Disability per Person)		(Days of Disability per Case)		Under 15 Years		15 Years and over ²		Under 15 Years		15 Years and over ²	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
All Causes	3.83	5.27	15.84	9.97	30.8	26.1	77.5	65.9	124.6	201.8	204.7	151.3
Infectious	0.94	1.72	0.20	0.19	22.2	22.8	42.2	40.4	42.5	75.7	4.8	4.6
Acute Respiratory	0.85	1.20	1.06	0.70	16.5	15.5	21.2	17.9	51.3	77.4	50.1	39.0
Acute Digestive	0.09	0.25	0.41	0.37	22.8	27.1	30.7	34.9	4.0	9.4	13.4	10.6
Puerperal and Acute Female Genital	0.003	0.003	0.67	0.51	*	*	26.7	25.8	0.12	0.18	25.0	19.9
Accidents	0.23	0.34	0.94	0.74	34.3	30.8	51.1	46.6	6.7	11.0	18.3	15.8
Chronic Diseases ³	1.32	1.10	10.75	6.46	129.1	96.8	138.4	127.6	10.2	11.4	77.7	50.6
All Other Causes	0.40	0.65	1.81	1.01	40.7	38.9	118.6	94.7	9.8	16.8	15.3	10.7
Puerperal and Acute Female Genital ⁴	0.006	0.006	1.17	0.97	*	*	26.7	25.8	0.24	0.36	43.7	37.8

	Disability Ratio (White Rate = 100)	Severity Ratio (White Rate = 100)	Disabling Illness Ratio (White Rate = 100)
All Causes	73	118	62
Infectious	55	97	56
Acute Respiratory	71	107	66
Acute Digestive	36	84	43
Puerperal and Acute Female Genital	*	*	67
Accidents	68	112	61
Chronic Diseases ³	119	133	90
All Other Causes	62	105	58
Puerperal and Acute Female Genital ⁴	*	*	67

*Not shown because of the small number of cases.

¹Based on cases with duration of disability known. The number of cases of unknown duration for the four cities combined was 7 for the Negro and 19 for the white.

²Includes a small number of unknown ages.

³For the diseases included in this group, see Appendix Table A2.

⁴Based on female persons or cases.

four days in the twelve-month period, compared with a rate of five days for the average white child. Among Negro children, a lower frequency rate of disabling illness occurs consistently in all disease groups. The frequency rate for the chronic diseases, however, is only slightly lower than that for white children, and the excess observed in their severity rate from these causes operates to produce a somewhat higher disability rate for chronic disease among Negro children.

Disability and frequency rates for certain specific causes of illness are shown in Appendix Table A2, by age in broad groups. It is notable that the average amount of disability per Negro adult due to respiratory tuberculosis is only slightly higher than that for the average white adult, due to the shorter average duration per case of this disease among Negroes. An interesting racial difference is observed between the disability rates for appendicitis and "other acute digestive diseases," Negroes showing a definitely lower rate for appendicitis, but a marked excess for other acute diseases of the digestive system.

Disability, severity, and frequency ratios of Negro to white rates by cause in broad disease groups for persons of all ages are shown for each city in Appendix Table A3. A marked excess in the disability rate for the chronic diseases among Negroes is observed in three of the four surveyed cities, the excess varying from 42 per cent for Newark, to 60 per cent for Cincinnati. In Newark, the disability rate for the infectious diseases among Negroes was only 8 per cent lower, and in Cincinnati, 20 per cent higher than the white rate, indicating that in epidemic periods Negroes and whites show equal susceptibility to certain of the acute communicable diseases.¹²

Disabling illness rates for specific causes of illness for persons of all ages in the combined population of the four cities are shown in Figure 7.¹³ Comparable disability rates for certain of these causes are shown

¹²The disabling illness rate for measles among Negroes surveyed in Newark was 14.0 per 1,000, compared with a rate of 13.8 for the white surveyed group. Mumps, which also showed a relatively high prevalence in Newark in 1935 and 1936, showed a disabling illness rate for surveyed Negroes of 4.5 per 1,000, the white rate being 2.5.

¹³In Figure 7, all disabling illness rates shown are determined by specific diagnosis. Thus, the combined rate for the specific acute diseases of the respiratory system as presented in this figure necessarily differs from the rate for the acute respiratory disease group shown in Table 11 because of the difference in method of classification. The combined rate for the specific acute digestive diseases in Figure 7 likewise differs from the rate for the acute digestive disease group shown in Table 11. Discrepancies of a similar nature will be observed in the rate for "other chronic respiratory diseases" in Figure 7, and the rate for "other chronic respiratory diseases" as shown in Appendix Table A2.

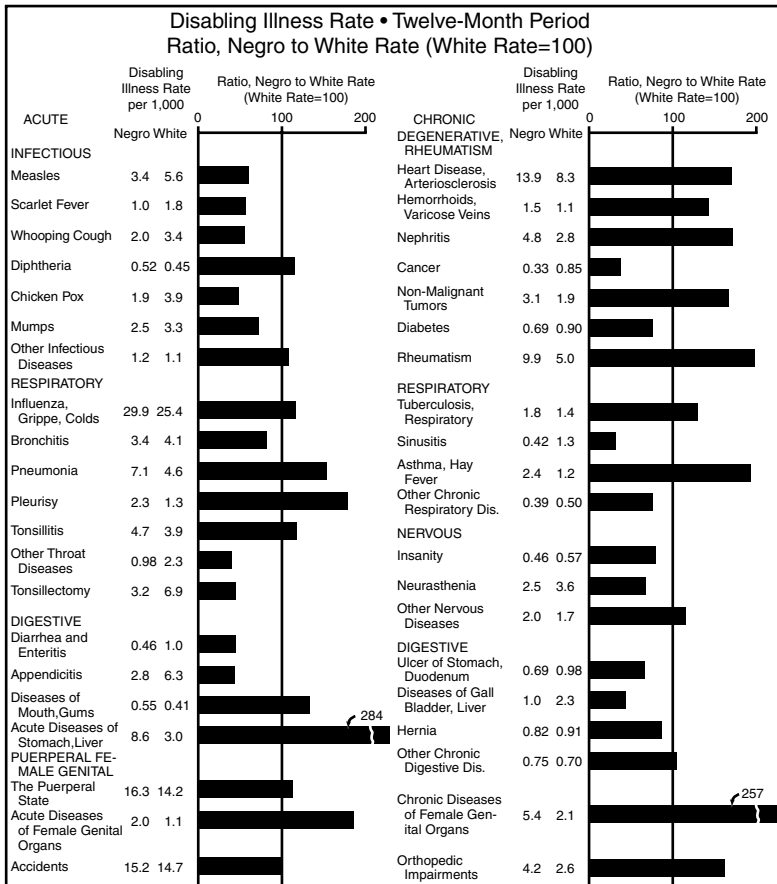


FIGURE 7. Comparison of Negro and White Annual Rate of Disabling Illness for Specific Causes in Four Large Cities Surveyed in the Winter of 1935-1936 as Part of the National Health Survey

in Appendix Table A2. The excess observed in the disabling illness rate for tonsillitis among Negroes, and their lower rate for tonsillectomy is of interest, the latter suggesting the effect of the low economic status of the Negro on his ability to obtain specialized surgical treatment. The frequency rate for each of the acute communicable diseases of childhood except diphtheria is found to be lower among Negroes in the combined experience of the four cities, the effect of the higher rates for infectious diseases among Negroes in Cincinnati and Newark being offset by the lower rates observed in Atlanta and Dallas. The excess in the Negro rate

for diphtheria is based on a comparison of rates, the difference between which is not statistically significant. The excess observed in the Negro rates for the group of chronic diseases is seen to be due largely to the higher rates for the cardiovascular-renal diseases, rheumatism, asthma and hay fever, and the chronic diseases of the female genital organs.

The Association between Illness and Economic Status

In the experience of the four surveyed cities, it was found that the average Negro suffered a larger amount of disability in the survey year than the average white person, this relation arising from the fact that the average duration of a case was longer, and the number of cases more frequent among Negroes than in the white population. Since the Negro and white groups have been shown to vary widely in average economic status, it is important to consider such questions as the following: (1) to what extent does a rising level of income increase the Negro's health status; and (2) does the excess observed for certain measures of illness among Negroes persist among Negro and white groups of similar income classes?

Data available for this report permit classification of the Negro and white surveyed groups by dependency status only (i.e., relief, nonrelief) rather than income, which invalidates to some extent the comparison of nonrelief Negro and white groups, the average income of the latter being obviously higher. The various measures of illness specific for relief status indicate that Negroes in the combined population of the cities do, in fact, show a relief-nonrelief differential of the same general tendency as the whites, the disabling illness rate, the disability rate, and the severity rate being higher in the relief than in the nonrelief groups of both races (Table 12).

When the various measures of illness are compared for Negro and white groups on relief, the excess observed in the disabling illness rate of Negroes of all income classes disappears, the rate being 8 per cent lower than the rate for the white relief population. The excess in the disability rate for Negroes persists, but is reduced in magnitude, an excess of 43 per cent being observed in the disability rate of Negroes of all income classes, the excess being 10 per cent for Negroes, compared with whites, on relief.

Considering the ratios of Negro to white rates for the relief groups of individual cities, it is of interest that in Cincinnati and Dallas the

TABLE 12
 Frequency, Disability, and Severity Rates for the Four Surveyed Cities by Color
 and Relief Status, with Corresponding Ratios of Negro to White Rates for
 Atlanta, Cincinnati, Dallas, Newark

City and Relief Status	Disabling Illness		
	Rate ¹	Disability Rate ²	Severity Rate ³
Four Cities—Negro			
All Incomes	183.2	12.6	69.0
Relief	224.0	17.7	79.1
Nonrelief	153.9	9.0	58.4
Four Cities—White			
All Incomes	163.3	8.9	54.3
Relief	242.7	16.1	66.5
Nonrelief	148.9	7.5	50.6
	Ratio (White Rate = 100)		
Four Cities			
All Incomes	112	143	127
Relief	92	110	119
Nonrelief	103	119	115
Atlanta			
All Incomes	97	131	135
Relief	85	111	130
Nonrelief	94	107	114
Cincinnati			
All Incomes	134	146	109
Relief	102	93	92
Nonrelief	119	134	112
Dallas			
All Incomes	103	108	105
Relief	87	75	86
Nonrelief	100	107	108
Newark			
All Incomes	125	140	112
Relief	101	103	102
Nonrelief	107	105	99

¹See Table 7, footnote 2.

²See Table 7, footnote 3.

³See Table 7, footnote 4.

disability rates of Negroes on relief were somewhat lower than those for the whites of similar dependency status.

Thus when the variability arising from differences in economic level is eliminated in the comparison of the two racial groups in these surveyed

cities, it is found that differences in standard of living account in part for the higher disability rate of Negroes.

Summary

The following broad conclusions may be drawn from a comparison of Negro and white illness rates in a sample population of 30,652 Negroes and 140,263 white persons in four large cities canvassed in the National Health Survey made during 1935–1936:

1. In the twelve-month survey period, the amount of disability per person due to illnesses which incapacitated for a week or longer was 43 per cent higher in the Negro than in the white population.
2. The higher disability rate for Negroes is due chiefly to the chronic diseases, which disabled the average Negro eight days per year, compared with five days, for the average white person.
3. Among Negro children under 15 years of age, the frequency of disabling illness was lower than among white children, due to the average lower incidence of infectious and acute respiratory diseases among Negro children. However, Negro children exposed to certain acute communicable diseases in epidemic form in two of the surveyed cities showed disabling illness rates approximating those for white children.
4. Among adults, consistently higher disabling illness rates for Negroes were observed for all disease groups. Considering specific causes of illness, pneumonia was found to be almost twice as frequent among Negroes as among whites; and Negro rates for certain chronic diseases—the cardiovascular-renal group, rheumatism, asthma and hay fever, nonmalignant tumors—were notably higher than the white.
5. The improvement in standard of living which is associated with a rising income increased the health status of the Negro as measured by the various indices of illness, the average Negro in the nonrelief class experiencing only one-half as much disability per year as the average Negro on relief. Low economic status, rather than inherent racial characteristics in the reaction to disease, thus appears to account in large measure for the higher disability rate observed among Negroes. From this fact it follows that the health problems of Negroes are more serious than those of the average white population since they represent in the mass a low-income

group, unleavened, as in the white population, by any considerable number in the higher income range.

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Appendix

TABLE A1
Prevalence and Disabling Illness Rates by Age, Sex, and Color, for All Causes, and for Illness Broadly Classified as "Acute"¹ and "Chronic"²—Surveyed Population of Four Cities (Atlanta, Cincinnati, Dallas, and Newark)

	Age Group								65 & over	Number of Sick All Ages	
	All Ages	0-4	5-9	10-14	15-19	20-24	25-34	35-44			45-64
Persons Sick on the Day of the Canvass per 1,000 Persons											
<i>All Causes</i>											
<i>Males</i>											
Negro	50.1	37.2	28.5	16.5	24.6	39.8	33.8	57.4	96.8	190.9	685
White	41.3	45.2	51.1	31.6	24.3	19.1	22.1	34.2	58.5	127.7	2,776
<i>Females</i>											
Negro	66.8	22.0	26.0	19.0	37.4	65.9	67.4	86.4	105.2	208.3	1,134
White	49.0	42.0	59.1	36.1	31.3	32.1	38.3	47.2	61.6	113.2	3,579
<i>Acute¹</i>											
<i>Males</i>											
Negro	21.1	34.1	19.9	12.2	18.0	23.3	19.4	21.8	20.2	28.6	288
White	21.3	41.2	45.6	24.9	16.7	10.5	12.5	14.1	19.6	31.2	1,429
<i>Females</i>											
Negro	36.7	20.3	21.1	15.1	24.8	44.3	46.6	44.6	41.6	55.1	623
White	31.0	39.1	54.7	30.7	23.0	23.4	26.3	27.8	30.6	40.5	2,261
<i>Chronic²</i>											
<i>Males</i>											
Negro	29.1	3.2	8.5	4.3	6.6	16.5	14.4	35.6	76.6	162.3	397
White	20.0	4.0	5.5	6.7	7.5	8.6	9.6	20.2	38.8	96.5	1,347
<i>Females</i>											
Negro	30.1	1.6	4.9	3.9	12.7	21.6	20.8	41.8	63.6	133.2	511
White	18.1	3.0	4.4	5.4	8.3	8.7	12.1	19.3	31.1	72.8	1,318

	All Ages	Age Group								Number of Disabling Illnesses All Ages	
		0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-64		65 & over
Disabling Illness Rate per 1,000 Persons Twelve-Month Period											
<i>All Causes</i>											
Males	140.3	149.8	136.6	79.7	69.7	101.1	110.3	159.3	212.4	329.4	1,918
Negro	141.9	227.9	269.6	125.8	97.2	82.1	86.9	114.4	149.8	262.9	9,542
White	217.6	144.7	135.8	107.0	174.5	239.7	237.1	267.2	261.2	368.3	3,696
Females	185.0	216.7	270.5	126.6	124.7	194.6	200.3	156.5	166.9	257.5	13,360
Negro	89.1	138.7	123.0	70.4	53.3	72.9	80.3	89.9	87.9	88.3	1,218
White	101.0	214.7	251.4	111.2	80.1	61.7	64.7	72.9	74.3	91.4	6,794
Females	146.0	131.7	126.0	91.3	145.3	191.3	167.6	153.6	130.2	130.8	2,479
Negro	134.5	204.7	256.2	113.3	104.8	167.2	156.0	99.3	87.2	110.2	9,822
White	51.2	11.1	13.5	9.3	16.4	28.2	30.1	69.4	124.5	241.1	700
Females	40.9	13.2	18.3	14.6	17.0	20.5	22.1	41.5	75.5	171.6	2,748
Negro	71.7	13.0	9.9	15.8	29.2	48.4	69.6	113.6	131.0	237.5	1,217
White	48.5	12.0	14.4	13.3	19.9	27.4	44.3	57.1	79.6	147.4	3,538
Unknown Age											
<i>Population</i>											
Males	13,667	1,262	1,406	1,392	1,220	1,029	2,429	2,335	2,128	419	47
Negro	67,252	4,779	5,641	6,303	6,102	5,722	11,293	10,813	13,241	3,305	53
White	16,985	1,230	1,421	1,523	1,576	1,715	3,652	2,871	2,358	581	58
Females	73,011	4,735	5,504	6,313	6,382	6,789	13,279	11,537	14,076	4,275	121

¹Disease symptoms less than three months in duration, *see* footnote 10, p. 16.

²Disease symptoms three months or longer in duration, *see* footnote 10, p. 16.

TABLE A2
 Frequency and Disability Rates for Negro and White Populations Surveyed in Four Cities (Atlanta, Cincinnati, Dallas,
 and Newark)

Diagnosis	Disabling Illness Rate—per 1,000 ¹						Disability Rate—per Person ²					
	All Ages		Under 15 Years		15 Years and over ³		All Ages		Under 15 Years		15 Years and over ²	
	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White	Negro	White
All Causes	183.15	163.28	124.61	201.80	204.66	151.30	12.62	8.85	3.83	5.27	15.84	9.97
Infectious	14.91	21.50	42.51	75.70	4.77	4.64	.40	.55	.94	1.72	.20	.19
Pneumonia	7.08	4.58	8.99	8.96	6.38	3.22	.27	.17	.29	.32	.26	.12
Other Acute Respiratory	43.33	43.49	42.26	68.40	43.76	35.78	.73	.65	.55	.88	.80	.57
Appendicitis	2.81	6.30	1.21	4.93	3.39	6.73	.13	.25	.05	.17	.17	.28
Other Acute Digestive	8.09	3.99	2.79	4.42	10.04	3.86	.19	.09	.05	.08	.25	.09
The Puerperal State	16.31	14.20	.12	.06	22.26	18.58	.44	.36	*	*	.60	.47
Acute Diseases of Female Genital Organs	1.99	1.07	—	.12	2.72	1.36	.05	.03	—	*	.07	.04
Accidents	15.20	14.69	6.68	11.00	18.33	15.84	.75	.64	.23	.34	.94	.74
Chronic: Total	59.54	41.31	10.20	11.37	77.66	50.61	8.21	5.19	1.32	1.10	10.75	6.46
Respiratory Tuberculosis	1.76	1.35	.85	.39	2.10	1.65	.38	.36	.16	.08	.46	.44
Asthma, Hay Fever	2.38	1.23	2.19	.96	2.45	1.32	.20	.11	.15	.05	.21	.13

Other Chronic Respiratory	1.83	2.16	.49	1.11	2.32	2.49	.25	.18	*	.05	.30	.22
Chronic Digestive Diseases	4.80	5.29	.36	.84	6.42	6.68	.64	.52	*	.05	.88	.67
Neurasthenia	2.51	3.57	-	.42	3.43	4.55	.26	.42	-	.04	.35	.53
Insanity and Other Nervous	2.45	2.27	2.19	2.16	2.54	2.30	.58	.58	.28	.34	.69	.65
Cardiovascular-Renal	18.69	11.05	1.09	2.55	25.16	13.68	2.49	1.13	.12	.16	3.36	1.44
Hemorrhoids, Varicose Veins	1.50	1.06	.12	.03	2.01	1.38	.15	.06	*	*	.20	.08
Cancer	0.33	0.85	.12	-	.40	1.11	.07	.11	*	-	.09	.14
Nonmalignant Tumors	3.13	1.90	.12	.42	4.24	2.36	.34	.13	*	.02	.47	.16
Diabetes	0.69	0.90	-	.15	.94	1.13	.14	.13	-	.02	.19	.16
Rheumatism	9.85	4.99	1.09	1.35	13.07	6.12	.97	.50	.03	.08	1.31	.63
Chronic Diseases of Female Genital Organs	5.35	2.08	.24	.03	7.23	2.72	.34	.18	*	*	.46	.24
Orthopedic Impairments	4.24	2.60	1.34	.96	5.31	3.11	1.41	.78	.46	.19	1.76	.96
All Other Causes	13.87	12.13	9.84	16.83	15.34	10.67	1.43	.92	.40	.65	1.81	1.01

*Less than five cases.

¹The rate of occurrence, in a twelve-month period, of illnesses disabling for seven consecutive days or longer. In this category are included all confinement, hospital, and fatal cases without reference to the duration of disability. "Disabling" is used in the sense of inability to work or pursue usual activities.

²The days of disability per person, in a twelve-month period, arising from illnesses as defined in (¹) above.

³Includes a small number of unknown ages.

TABLE A3
Disability, Severity, and Frequency Ratios of Negro to White Rates by Cause for Broad Disease Groups for Atlanta, Cincinnati, Dallas, Newark, and the Four Cities Combined

City	All Causes	Infectious Diseases	Acute Respiratory Diseases	Acute Digestive Diseases	Puerperal and Acute Female Genital Diseases		Accidents	Chronic Diseases ¹	All Other Causes
					(a)	(b)			
Four Cities	143	73	123	97	126	117	117	158	155
Atlanta	131	58	109	64	101	95	101	145	146
Cincinnati	146	120	130	127	136	133	122	160	123
Dallas	108	66	108	121	88	84	132	106	130
Newark	140	92	128	114	146	142	138	142	188
Four Cities	127	105	118	90	104	104	112	110	136
Atlanta	134	113	132	81	90	90	128	109	143
Cincinnati	109	90	102	95	125	125	98	99	113
Dallas	105	143	96	94	86	86	128	96	106
Newark	112	88	112	93	101	101	98	103	140
Four Cities	112	69	105	106	120	113	104	144	114
Atlanta	97	52	82	79	112	105	79	134	102
Cincinnati	134	132	127	133	109	106	124	162	109
Dallas	103	46	113	129	102	96	103	110	123
Newark	125	105	115	123	145	141	141	138	135

(a) Ratios based on rates per 1,000 total persons.

(b) Ratios based on rates per 1,000 females.

¹For the diseases included in this group, see Appendix Table A2.

TABLE A4
 Percentage Distribution of the Surveyed Population of Atlanta, Cincinnati,
 Dallas, Newark by Color according to Relief Status and Family Income
 During the Twelve-Month Period Prior to the Survey Date, 1935-1936

Relief Status and Family Income	Percentage Distribution							
	Atlanta		Cincinnati		Dallas		Newark	
	Negro	White	Negro	White	Negro	White	Negro	White
All Incomes	100	100	100	100	100	100	100	100
Under \$1,000	93	36	88	38	88	33	75	30
Relief	36	17	61	17	25	8	57	18
Nonrelief	57	19	27	21	63	25	18	12
\$1,000-\$1,999	5	34	10	39	9	42	22	42
\$2,000-\$2,999	.4	15	.9	12	1	14	2	17
\$3,000 and over	.1	9	.4	9	.5	8	1	10
Income Unknown	1	6	.7	2	1	3	.4	.9