

AN INVENTORY OF THE SERIOUS DISABILITIES OF THE URBAN RELIEF POPULATION¹

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THE question, "Who is on relief?", is one which has been of public concern for some time. This interest is natural enough in view of the fact that provision for the care of the millions of people whose own resources have been exhausted by prolonged unemployment has become a national burden of staggering proportions. The question is of interest from the standpoint both of indicating how these particular people came to need public support and of indicating something about the probable permanence of the relief problem. Accordingly, this report will present the information in regard to the prevalence of disabilities in the relief population, which was gathered in a recent survey.

In May, 1934, the Federal Emergency Relief Administration undertook a house-to-house survey of the occupational characteristics of the members of more than 165,000 relief families living in seventy-nine cities.² For each of these families the enumerators filled out a schedule on which was entered twenty-six items of information about each person in the family who had reached the age of 16 years, and a lesser amount for younger persons. The data for persons 16 or more years old included such items as age, sex, race, marital status, amount of education, employment status, present occupation (if employed), usual and alternate occupation, length of experience at usual and at alternate occupation, length of longest job with one employer, date last job at usual occupation and at any occupation ended (for the unemployed), and a notation of any serious disability which the person might have. All this information was obtained by trained enumerators in the

¹ From the Office of Statistical Investigations, United States Public Health Service.

² The interpretations in this paper are solely those of the writers.

course of an interview with some responsible member of the family.

METHOD AND SCOPE OF SURVEY

Before embarking upon a description of the disability data collected in this survey, it is pertinent that we review certain facts about the scope and methods of the survey and about other characteristics of the population studied. The seventy-nine cities in which the survey was localized were selected to give a good geographic spread and a range of city size in each geographic area. The proportion of all relief cases which were studied in each city was such that the cases studied were distributed in cities of various sizes in the same proportions as were all relief cases in urban United States. The disability data therefore should not be biased by any relationship which may exist between the degree of urbanization and the amount and types of ailments found in a population. The geographic spread of the cities assured the collection of data for both Negroes and whites, at the same time that it assured data unbiased by atypical climatic conditions. Furthermore, a wide variety of industries is to be found in the survey cities. All of these facts support the assumption that the data we are to describe are representative for the urban relief population.

Characteristics of the Surveyed Population. The relief population, of course, differs in a number of important respects from the nonrelief population. Figure 1 shows graphically some of the differences between these two groups in one city—Dayton, Ohio, in which the survey was extended to cover the entire population. The differences shown are those which might reasonably be expected.

Those groups made up of marginal workers, those who are the first to be laid off and the last to be rehired whether because of race, age, or physical condition, and those made up of low-income families naturally form a larger proportion of the

relief than of the nonrelief population. All of these factors are related to health. It is to be anticipated, therefore, that the relief population will have a rather high disability rate.

Survey Technique. In considering the results of the F. E. R. A. survey, the method of obtaining the information must be borne in mind. The data were obtained in the course of interviews with a responsible member of each household, by an enumerator who had been given a brief period of preliminary training and provided with a set of written instructions.

The disability question on the schedule was stated as follows: "Has person any serious physical or mental disability? (Specify.)" The disability data are therefore the result of the mass inter-

pretation of this question as asked by the enumerator. Both written and verbal instructions to the enumerator stressed the fact that only serious physical or mental disabilities were to be recorded, and a list of the principal types of disabilities was given him in order to facilitate recognition and recording. A grave difficulty, however, is presented by the uncertainty of what constitutes a serious physical or mental disability. Physical impairment shades

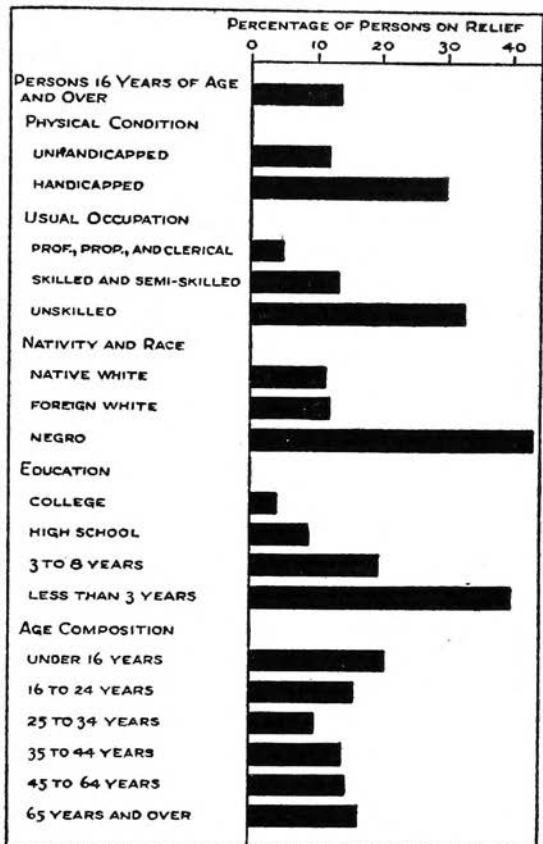


Fig. 1. Percentage on relief for groups of persons classified by physical condition, usual occupation, nativity and race, education, and age, in Dayton, Ohio, July, 1934.

off from normality on the one side to bed-ridden invalidity on the other. Since the main purpose of the survey was to discover employability, enumerators were asked to evaluate the seriousness of a disability according to its effect on the individual's chances for procuring and keeping a job. An impairment did not have to be accompanied by illness to be recorded, but did have to be chronic.³ While the opinion of the field supervisors varies as to the degree of handicap represented by the reported disabilities, the general feeling seems to be that only handicaps of a serious and permanent nature were recorded. When more than one disability was present in an individual, the enumerator was instructed to record the principal one. The information collected was relative to disability on the day of the visit; thus the data show the prevalence and not the incidence of impairments. Questions as to disabilities were asked only in regard to persons 16 years of age and over.

Organization of the Report. The F. E. R. A. disability data will be presented according to the following outline: (1) the prevalence of serious disability in the relief population, its total amount, and its distribution in geographic areas; (2) the correlation of disability with race, sex, age, employment status, occupation, and relief status; and (3) the specific diagnoses recorded.

THE PREVALENCE OF SERIOUS DISABILITIES

Total Amount of Disability in the Relief Population. Of the 450,000 persons 16 years of age and over, enumerated in the seventy-nine cities, 21.2 per cent reported a serious physical or mental disability. Is this figure too high or too low? The enu-

³ The instructions to enumerators on this point read, "Enter physical or mental disabilities which are apparent to the interviewer or which the person interviewed reports on being questioned and which might be a handicap to a worker.—"

"Enter the name of any apparent or obvious permanent physical or mental defect sufficient to handicap the person in procuring work, such as: infantile paralysis, loss of one or both arms or legs, marked mental defect or nervous condition. Enter the name of any chronic or periodic illness to which the person is subject and which is of sufficiently serious nature to be likely to interfere with his getting or keeping work, such as, tuberculosis, heart disease, epilepsy."

merators were instructed to explain to their informant that the survey was in no way connected with the relief status of the household, and that the data would be kept confidential. Still it is likely that some people were fearful of losing opportunities to be placed on work projects and accordingly suppressed accounts of their illnesses, while others may have exaggerated minor ailments or reported nonexistent ones by way of rationalizing their position on the relief rolls. It is reasonable, however, to assume that these opposing errors of over-reporting and under-reporting offset each other in the mass data.

This assumption is substantiated by the results of a series of medical examinations given to 3,342 individuals for whom schedules were taken in Chicago, Illinois. These examinations⁴ were given in connection with assigning relief clients to work projects. The physicians found 20.0 per cent seriously handicapped by their physical condition, whereas 16.7 per cent of those examined had reported themselves as handicapped.

Disability and Geographic Distribution. The per cent of persons reporting disabilities varied from one geographic area to the next as follows:

<i>All Areas</i>	21.2
Eastern	17.8
Central	23.5
Southern	24.3
Western	18.7

These differences are not due to differences between the sections in race and age composition, for adjustment to the age and race composition of all areas makes little difference in the rates which become: Eastern area, 19.5 per cent; Central area, 22.8 per cent; Southern area, 25.6 per cent; and Western area, 18.3 per cent. The differences in rates might be thought to be due to differences

⁴ Since this series of work-relief medical examinations will be referred to from time to time throughout this paper in connection with the interpretation of the survey data, a few details as to the purpose and method of these examinations are given in the Appendix, p. 240.

in occupational composition, except that, if this factor were responsible, the sections should be expected to differ in types as well as in the amount of disability reported. This they do not do. The Southern area, for example, which reported the highest rate for all disabilities also exhibited the highest rate for specific types of disability such as eye defects, respiratory diseases, and orthopedic deficiencies. (See Table 1.) It is more likely that regional differences in the type of cases accepted for relief, and in the thoroughness and care with which the survey was conducted are responsible for the geographic variations in the proportion of persons who are handicapped by physical and mental disability.

THE RELATION BETWEEN DISABILITY AND RACE, SEX, AGE, AND VARIOUS SOCIAL AND ECONOMIC INDICES

Disability and Sex and Race. Surprisingly, Negroes in the relief

Table 1. Number and proportion of persons 16 years of age and over reporting disabilities, classified by the type of disability reported and by survey area.

NATURE OF DISABILITY	ALL AREAS	EASTERN	CENTRAL	SOUTHERN	WESTERN
TOTAL, ALL PERSONS	447,874	143,572	149,020	91,430	63,852
TOTAL HANDICAPPED	94,732	25,576	34,973	22,237	11,946
	RATE PER 1,000 PERSONS				
<i>All Disabilities:</i> Crude	211.5	178.1	234.7	243.2	187.1
Adjusted	—	194.5	228.3	255.9	183.3
Orthopedic	37.0	30.8	40.9	40.7	36.2
Hernia	11.2	9.6	14.9	8.9	9.7
Eye defects	13.4	10.9	14.4	16.9	11.9
Impaired hearing	6.3	5.5	7.8	5.2	6.5
Mental and nervous	13.2	13.1	13.9	14.5	9.9
Respiratory	15.6	13.0	17.0	17.6	15.2
Digestive	11.6	10.2	13.5	12.9	8.6
Rheumatism	20.2	17.5	22.8	23.4	15.5
Heart and circulatory	33.2	30.6	35.4	39.3	25.1
Kidney and bladder	6.4	4.8	6.5	10.3	4.6
Cancer and tumor	3.6	2.9	4.1	4.2	3.2
Diabetes	3.0	3.2	3.7	2.2	1.9
Senility	20.9	15.6	21.4	25.9	24.2
All other	15.9	10.4	18.4	21.2	14.4

population report but a slightly higher proportion of their numbers as suffering from serious disabilities than do white persons. Negro males reported less disability than white males, and Negro females more than white females. "Other races" reported the lowest disability rate for either sex.⁵ Women uniformly reported more disability than men. The per cent reporting serious disability varies with race and sex, thus:

	<i>Both Sexes</i>	<i>Male</i>	<i>Female</i>
<i>All Races</i>	21.2	20.2	22.2
White	21.1	20.7	21.6
Negro	22.4	18.3	25.6
Other	13.5	12.7	14.3

Disability and Age. As should be expected, the proportion of persons reporting handicaps increases with age. Figure 2 and Appendix Table 2 show the rapid increase in prevalence of all disabilities and of specific types of defect with age. Orthopedic defects, the degenerative diseases,⁶ rheumatism, eye and ear defects, and senility naturally increase continuously with age since they represent the cumulative result⁷ of the impact of the environment on the individual (as in the orthopedic cases), or the wearing out of the body mechanism as in the degenerative diseases. Tuberculosis, however, and diseases of the digestive system show a peak in the age group 55-64 years. The data indicate that in some instances the prevalence of an impairment between the age groups 25-34 and 55-64 does not rise as sharply with age as in others. Thus, rheumatism is reported by 6.9 persons per 1,000 in the former class and by 54.1 in the latter, an eight-fold increase.

⁵ The rate for "other races," both sexes, is 13.5, and when adjusted to the age composition of "all races" in the relief population is 15 per cent. Similar adjustment for "Negroes" gives a figure of 25 per cent. Thus age differences are not responsible for the lower rate of impairment reported by the other races. Language, however, and lack of cooperativeness probably account for some of the disparity.

⁶ Here are grouped heart disease, high blood pressure and arteriosclerosis, kidney and bladder diseases, cancers and tumors, and diabetes. The classification was made for purposes of convenience in handling the age distribution of disabilities.

⁷ Except in instances of fatality or recovery from the disease.

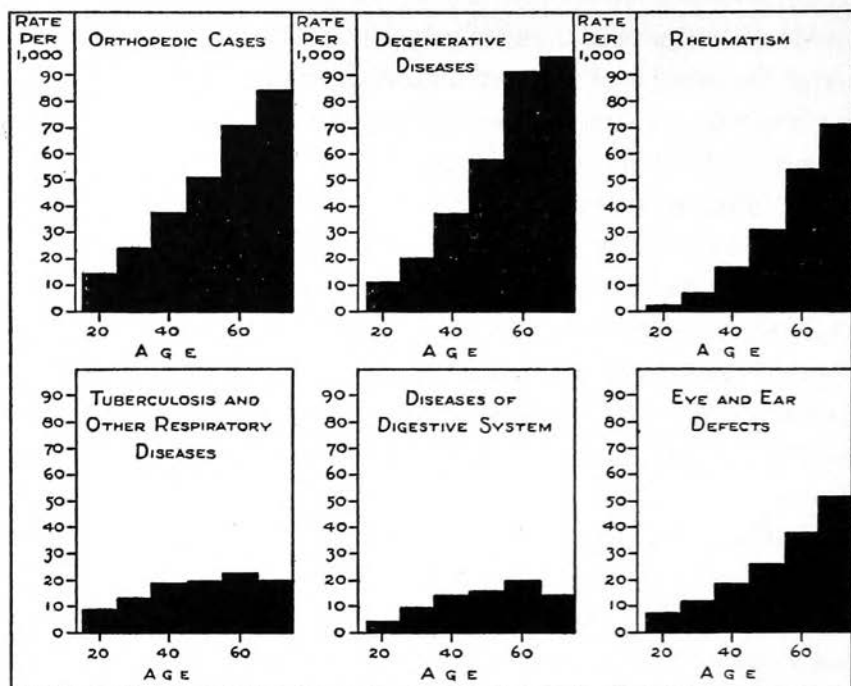


Fig. 2. AGE PREVALENCE OF DISABILITIES. Number with disabilities per 1,000 relief population in specific age groups (16 years of age and over), disabilities classified in broad diagnosis groups, for all areas in the Occupational Characteristics survey of the urban relief population, May, 1934.

The orthopedic cases, on the other hand, display a three-fold increase between the two classes, the degenerative diseases a four-fold increase, eye and ear defects a three-fold increase, and digestive diseases a two-fold increase. The respiratory diseases (including tuberculosis) exhibit the greatest uniformity in frequency throughout the age groups. For these diseases the figure reported by the 25-34 year group is 13.5 cases per 1,000 while the 55-64 year group reports 22.2 cases per 1,000, an increase of 64 per cent.

Disability and Employment Status. All persons 16 or more years of age have been grouped into three major employment classes: (1) workers, persons 16 to 64 years old who are either employed or seeking work; (2) persons 16 to 64 years old who are not seeking work; and (3) persons who have reached the age of

65 years. Class 1 is subdivided according to work status, the employed, the work-seekers who are employed on work relief projects, and the work-seekers who are entirely unemployed. The percentage of persons reporting disabilities was 13.5 in class 1, 26.5 in class 2, and 68.5 in class 3. The high rate for the older age group (class 3) is to be expected. The two-fold excess of disability in class 2 over class 1 is related in part to age differences between the two groups, and in part to the fact that physical disability is a major factor in placing an individual in the group not seeking work (class 2).

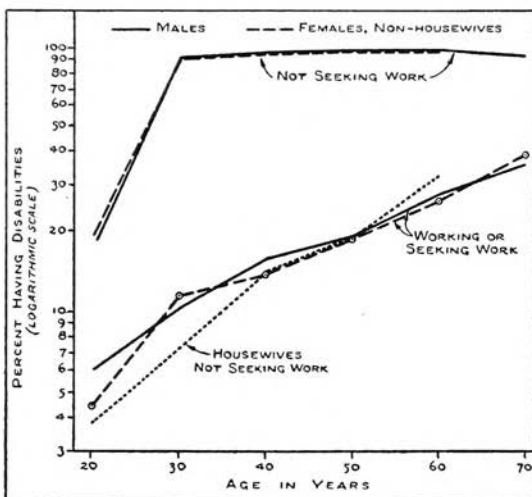


Fig. 3. DISABILITY AND WORK STATUS AT VARIOUS AGES. Age prevalence of disabilities among relief persons 16 years of age and over, classified by sex and employment status. (Based on a 5 per cent sample of schedules from the survey of Occupational Characteristics of the urban relief population, May, 1934.)

Figure 3, showing the prevalence of disabilities at each age level, supports this interpretation. The same upward trend of the disability rate with age as found in the preceding section is found among workers of both sexes and among housewives,⁸ but among all non-work-seekers beyond the school ages (16-24), the disability rate is nearly 100 per cent at each age.

Among the workers, work relief employees report the smallest proportion with disabilities, and those who are without work of any kind the highest proportion. (See Figure 4 and Table 2.)

Among workers, the highest per cent of disability is reported

⁸ The data for Figure 3 were taken from a special tabulation of a 5 per cent sample of the schedules, since it was not possible to separate housewives from other non-work-seekers in the final tabulation. This figure undoubtedly represents closely the situation that would have been shown by tabulating 100 per cent of the schedules, since other data drawn from the 5 per cent tabulation closely parallel the final results.

RACE AND SEX	TOTAL ALL CLASSES	PERSONS 16-64 YEARS OF AGE					65 YEARS AND OVER	
		Total 16-64 Years	Employed or Seeking Work			Not Seek- ing Work ¹		
			Total	Non- relief Work	Work Relief			Seek- ing Work
ALL RACES	21.2	18.0	13.5	12.4	11.3	14.5	26.5	68.5
Male	20.2	17.2	14.4	13.2	11.5	16.1	46.6	63.5
Female	22.2	18.8	11.5	11.3	9.1	11.7	23.6	73.7
White	21.1	18.0	14.1	12.6	11.7	15.4	24.7	67.1
Male	20.7	17.7	15.2	13.6	12.0	17.1	45.0	63.1
Female	21.6	18.2	11.1	10.6	8.6	11.4	21.9	71.6
Negro	22.4	19.3	12.1	12.3	9.6	12.7	41.2	75.3
Male	18.3	15.5	11.5	10.8	9.4	12.5	56.2	65.9
Female	25.6	22.3	12.9	13.0	13.6	12.8	38.4	82.7
Other Races	13.5	10.6	6.8	6.5	5.7	7.1	16.8	73.8
Male	12.7	10.1	7.3	7.6	5.9	7.7	38.2	66.9
Female	14.3	11.1	5.6	4.9	3.7	5.9	14.0	80.1

¹ The data for women are from the final tabulation and are for all women not seeking work, including housewives.

Table 2. Prevalence of disabilities among urban relief population 16 years of age and over, classified by race, sex, and by employment status in the group 16-64 years of age. (Per cent of persons reporting disabilities.)

by white males, and the next highest by Negro females. Among whites, men report a considerably higher rate than women in each of the subgroups composing this employment class. The rates for Negro males and females show considerable resemblance.

The highest disability rate among those not seeking work is reported by Negro males and the next highest by white males, women consistently reporting a lower prevalence of handicaps than men. The lower disability rate for women is the result of influences other than physical and mental disabilities which operate to keep women out of the labor market, notably the status of housewife. The per cent of those not seeking work who are not seeking work on account of disabilities makes this evident:⁹

⁹ The percentages are obtained by dividing the number of persons 25 to 64 years old who are not seeking work *on account of* a physical or mental disability by the total number of non-work-seekers 25 to 64 years old. Other non-work-seekers also have disabilities, but their disabilities are not the significant factor in their failure to seek work. The non-work-seekers under 25 years of age have been omitted because so high a proportion of them were not seeking work on account of school attendance that their work status has not the same significance as that of older persons.

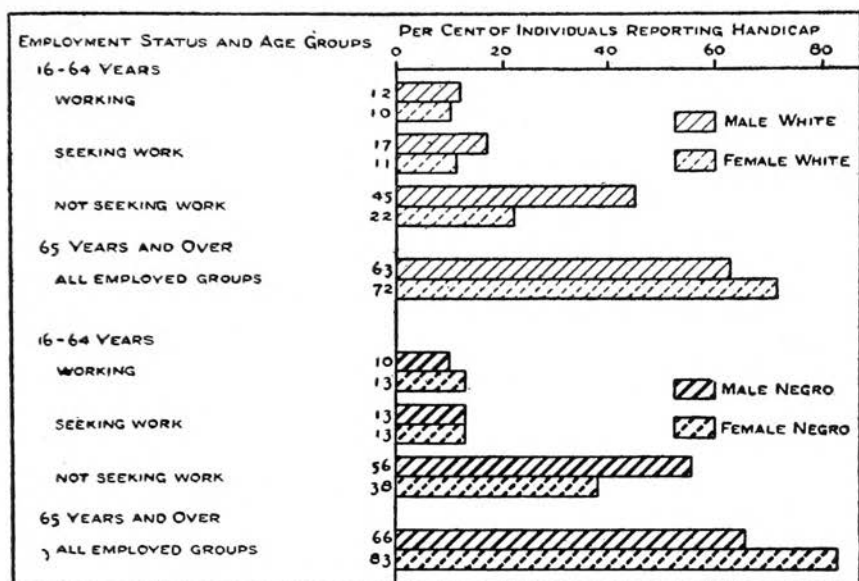


Fig. 4. DISABILITY AND EMPLOYMENT STATUS. Percentage of persons with disabilities for groups of persons on relief 16 years of age and over classified according to specific age, sex and employment status, for all areas in the Occupational Characteristics survey of the urban relief population, May, 1934.

	Males	Females
White	95	48
Negro	97	77 ¹⁰

Disability and Occupational Class. Impairment rates in the relief population vary less from one socio-economic type of occupation to another than would be expected from a knowledge of the general population. They display, in fact, with the one exception of a rate of 18 per cent (adjusted for age) in the proprietary group, a remarkable uniformity. (See Table 3.) In the nonrelief population, however, it is probable that there is considerable gradation in the proportion of handicapped persons from a high among unskilled laborers to a low in the white-collar groups. This view is confirmed by the results of the Dayton survey (Table 6). Here the proportion of handicapped persons among

¹⁰ It is a well-known fact that custom bars many less Negro than white housewives from the labor market.

SOCIO-ECONOMIC STATUS	ALL PERSONS		PERCENTAGE OF PERSONS REPORTING HANDICAP	
	Number	Per Cent	Crude Rate	Adjusted for Age ¹
TOTAL	275,185	100.0	13.6	13.7
Professional	5,827	2.1	12.4	12.3
Proprietary	8,397	3.1	22.8	18.1
Clerical	28,599	10.4	11.6	14.0
Skilled	46,219	16.8	15.5	13.2
Semi-skilled	70,814	25.7	14.2	14.9
Unskilled	95,185	34.6	13.7	13.2
Never worked	20,144	7.3	5.7	10.7

¹ Adjusted to the age schedule of the gainfully employed, United States, 1930, aged 16-64 years.

Table 3. Proportion of relief persons 16-64 years of age, working or seeking work, reporting disability, classified according to socio-economic type of usual occupation.

unskilled laborers in the nonrelief population was twice as great as among the professional group. The condition of the relief population is, then, the reverse of normal.

The unusual uniformity within the relief population may result from a greater need for rationalization on the part of white-collar people since theirs is the greater loss of social status. A more likely explanation, however, appears to be that among the white-collar occupations, illness and physical impairments are relatively a more frequent cause of dependency than among labor-

Table 4. Per cent of examined population with serious disabilities, classified by socio-economic type of usual occupation, and by source of information. Chicago.

Socio-economic Type of Occupation	Occupational Characteristics Schedules	Medical Exams ¹
ALL OCCUPATIONS	16.6	20.1
Professional	16.4	22.8
Proprietary	28.2	28.5
Clerical	17.0	16.7
Skilled	17.0	18.6
Semi-skilled	15.3	20.0
Unskilled	15.4	21.1

¹ "Serious disability" in the sense of assignment to classes C and D. (See Appendix.)

ers. Among unskilled laborers where income is always low and adaptability to new conditions and suitability for new or changed employment is limited, reasons of a purely economic nature often

put the family on relief, but among the more adaptable white-collar classes the family can more frequently meet new economic conditions unless handicapped by physical impairment.

For a more detailed occupational classification, see Appendix Table 3.

The section of the relief population to which medical examinations were given was too homogeneous with respect to race, sex, and employment status to permit an analysis of differentials in impairment rates associated with these factors. The physicians' findings can be related to occupational differentials, however. Table 4 shows what similarity there is in the relationships between disability and occupation, as found by a house-to-house survey, and by a series of physical examinations.

Disability and Relief Status. In Dayton, Ohio, where the occu-

Table 5. Per cent of the population of Dayton, Ohio, July, 1934, reporting disabilities, classified according to relief status, employment status, race, and sex.

AGE GROUP EMPLOYMENT STATUS AND SEX	ALL RACES		WHITE		NEGRO	
	Relief	Nonrelief	Relief	Nonrelief	Relief	Nonrelief
TOTAL, ALL CLASSES	21.1	7.9	22.1	7.8	18.0	9.3
Male	22.3	8.5	24.0	8.5	17.3	9.1
Female	19.9	7.3	20.3	7.1	18.6	9.5
Total 16-64 years	15.7	4.8	16.2	4.6	14.4	7.3
Male	17.7	5.9	18.9	5.7	14.1	7.8
Female	13.8	3.8	13.4	3.6	14.8	6.9
Employed or seek- ing work	11.0	3.6	12.3	3.6	8.2	4.0
Male	13.2	4.4	14.5	4.4	9.7	4.5
Female	5.6	1.6	5.5	1.5	5.7	3.1
Not seeking work	23.0	6.6	21.7	6.2	27.6	15.4
Male	49.0	24.2	50.3	23.0	45.3	41.0
Female	18.1	4.8	16.6	4.5	23.6	10.9
65 years and over	66.9	41.4	65.2	41.0	78.1	54.9
Male	63.5	41.2	63.1	41.2	65.5	43.5
Female	70.1	41.4	67.0	0.84	93.6	64.3

pational survey was made for the entire population of the City, both relief and nonrelief, a considerable excess of disabilities is found throughout the entire relief group.¹¹ In Table 5 it can be

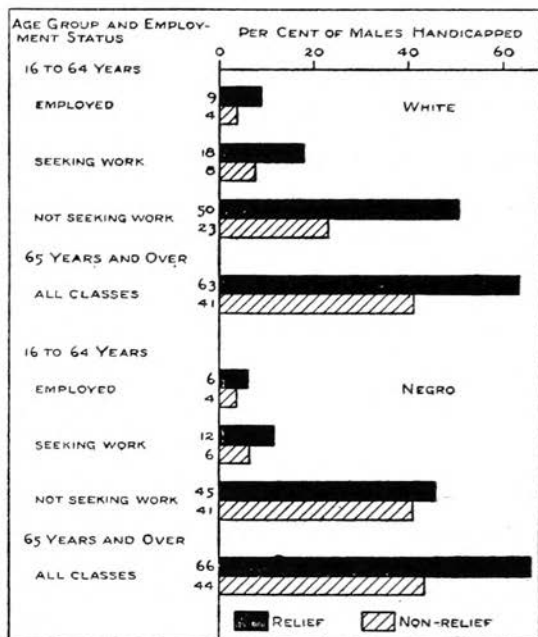


Fig. 5. DISABILITY AND RELIEF STATUS. Percentage with disabilities for males classified by color, relief status, age, and employment status from the survey in Dayton, Ohio, July, 1934.

seen that whereas 21.1 per cent of the relief group (this figure coincides with that of the seventy-nine city average of the occupational survey) reported disabilities, only 7.9 per cent in the nonrelief group did. In other words, almost three times as many people receiving relief considered themselves handicapped by some physical impairment as their self-supporting neighbors. The same relation is found in subdivisions of the relief and nonrelief populations; except that among Negroes the ratio of impairments in the relief and nonrelief populations drops to 2 to 1, and that among the Negroes who are not seeking work the rates are almost equal for relief and nonrelief persons. (Figure 5.)

Although in the nonrelief population, particularly among persons of working age, more Negroes than whites report disabilities, the reverse is true in the relief population. The peculiar disability status of the Negro on relief can be understood when we

¹¹ The tabulations of the survey are based on a random sample of 19 per cent of the total number of schedules collected and include records of 53,130 persons.

consider that in Dayton, 11 per cent of whites between 16 and 64 years of age and 43 per cent of Negroes were being assisted at the time of the survey. Since Negroes occupy a lower economic status than whites, and since they are somewhat more apt to become unemployed than whites—by virtue of being Negroes—a larger proportion of them are receiving relief. Hence, although a larger proportion of all Negroes than of all whites may become dependent because of disability, the number of Negroes who are dependent because of disability is a smaller proportion of the total number receiving relief, because other factors producing unemployment, namely, occupational level and race, contribute to make the total number on relief so large.

When wage-earners are classified by socio-economic type of usual occupation evidence of the same type of selective process is again the most noteworthy aspect of the data. Unskilled white male laborers not on relief, for example, report a prevalence of disabilities about 65 per cent higher than that reported by the proprietary group, whereas for those on relief the difference is only about 20 per cent. (*See* Table 6.) This fact, together with the fact that 33 per cent of the unskilled group in contrast to 4 per cent

Table 6. Prevalence of disabilities among all workers and white male workers in Dayton, Ohio, classified by socio-economic type of usual occupation.

SOCIO-ECONOMIC CLASS	PER CENT REPORTING DISABILITIES				POPULATION			
	All Races Both Sexes		White Males		All Races Both Sexes		White Males	
	Relief	Non-relief	Relief	Non-relief	Relief	Non-relief	Relief	Non-relief
ALL CLASSES	10.7	3.6	13.3	4.1	3,776	24,409	2,047	17,243
Professional	5.3	2.3	3.1	2.8	83	1,667	33	1,025
Proprietary	11.5	3.5	12.4	3.6	77	1,867	61	1,690
Clerical	10.5	2.9	12.5	3.8	363	5,950	216	3,460
Skilled	12.8	4.1	12.5	4.1	890	4,817	761	4,621
Semi-skilled	10.9	3.8	14.2	4.4	1,093	7,525	661	5,551
Unskilled	9.2	4.5	14.8	5.9	1,270	2,583	315	896

of the proprietary group were on relief in Dayton, denotes that unskilled laborers need relief for many other reasons besides physical impairment, whereas physical disability is one of a fewer number of hazards to which white-collar workers are subject.

The relative prevalence of disabilities in the several occupational groups for all workers does not present as clear a picture as the prevalence among white males does, due to the existence of racial differentials in impairment rates and to the greater proportion of Negroes in the relief than in the general population.

Further tabulations also indicate that the relief-nonrelief differentials found here are due chiefly to differences in economic status. This conclusion is derived from the fact that the difference between the disability rates, specific for sex and race, in the relief and nonrelief populations becomes very small when the rates are adjusted for income and age. The rates (16-64 years) adjusted for age and family income compare with the crude rates as follows:

<i>Sex and Race</i>	<i>Adjusted Rates</i>		<i>Crude Rates</i>	
	<i>Relief</i>	<i>Nonrelief</i>	<i>Relief</i>	<i>Nonrelief</i>
<i>White</i>	8.0	6.0	16.2	4.6
Male	9.3	7.7	18.9	5.7
Female	6.8	4.4	13.4	3.6
<i>Negro and Others</i>	7.1	8.0	14.4	7.3
Male	6.9	8.2	14.1	7.8
Female	7.3	7.9	14.8	6.9

Thus, making an adjustment for differences in the incomes of relief and nonrelief families cuts the difference between the relief and nonrelief disability rates from an excess in the relief population of 250 per cent to an excess of only 33 per cent for whites, and for Negroes from an excess of 97 per cent to a deficiency of 13 per cent. This correction for differences in disability rates which are associated with differences in income level is a valid one because disability rates increase regularly with decreases

in income within both the relief and nonrelief populations. (See Appendix Table 4.) It is, therefore, safe to conclude that the disproportionately large number of persons on the relief rolls who are vocationally handicapped by physical and mental disabilities is associated more closely with their low incomes than with their relief status *per se*.

DIAGNOSES REPORTED IN THE OCCUPATIONAL CHARACTERISTICS SURVEY

Specific Types of Disability Reported. When the material is further analyzed as to prevalence of specific types of impairments, the following information is obtained: Among males, orthopedic cases¹² constitute the most important source of handicap with a rate of 49 cases per 1,000 persons, which means that 5 per cent of the male relief population 16 years of age and over have this type of handicap. Heart, circulatory, and blood diseases rank next with a rate of 24 cases per 1,000. Hernia handicaps 19 out of every 1,000 persons. Next in order of descending frequency are respiratory diseases, including tuberculosis; rheumatism; eye defects; infirmities of old

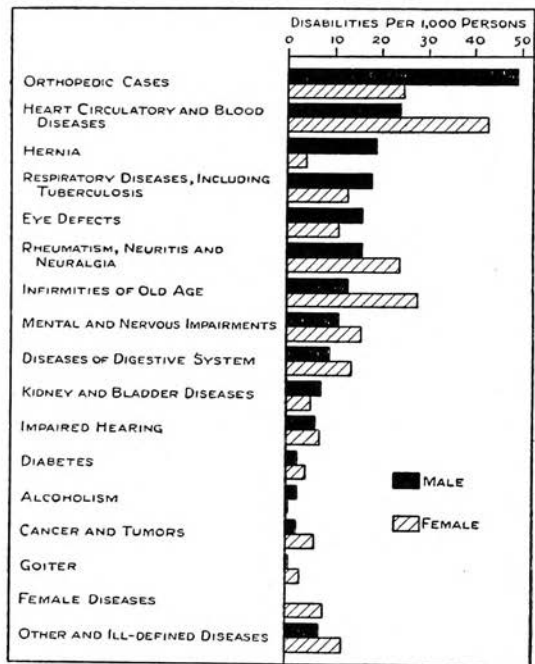


Fig. 6. SEX AND THE PREVALENCE OF BROAD CATEGORIES OF DISABILITIES. Number with disabilities per 1,000 relief population 16 years of age and over, classified by sex, and disabilities classified in broad diagnosis groups for all areas in the Occupational Characteristics survey of the urban relief population, May, 1934.

¹² "Orthopedic cases" and "orthopedic defects" are used interchangeably through the paper and refer to results of amputation, paralysis, congenital defects, or injury of the trunk or limbs, except hernia and eye and ear defects, which are listed separately.

age; mental and nervous diseases; diseases of the digestive system; impaired hearing; and kidney and bladder diseases.

Among females, the heart, circulatory, and blood group of diseases is the most prevalent source of disability with a rate of 43 cases per 1,000 females 16 years of age and over. The group of indefinite impairments classified as infirmities of old age, with a

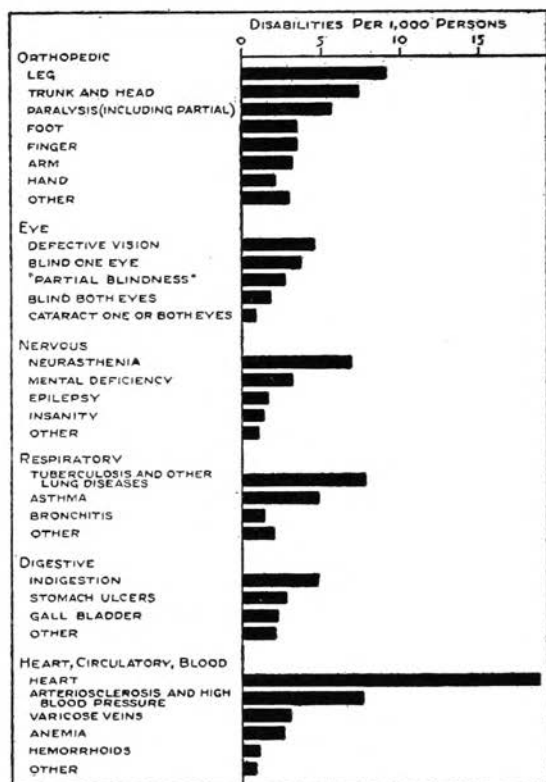


Fig. 7. PREVALENCE OF SPECIFIC TYPES OF DISABILITIES. Number with disabilities per 1,000 relief persons 16 years of age and over, disabilities classified in detailed diagnosis groups, for all areas in the Occupational Characteristics survey of the urban relief population, May, 1934.

rate of 28 cases per 1,000, ranks next in frequency.

The third group is that of orthopedic cases (which ranked first as a cause of disability among males) with a rate of 25 cases per 1,000 women, while the group comprising rheumatism, neuritis and neuralgia, with a rate of 24 cases per 1,000, ranks fourth. The importance of other diseases can be seen in Figure 6.

In Figure 7, some of the broad categories shown in Figure 6 have been subdivided to show in more detail the nature and frequency of the defects included.

(Further detail is shown in Appendix Table 1.)

Specific Types of Disability and Employment Status. In Figure 8 is shown the relative importance of various types of handicap

as reasons for not seeking work, for males between 16 and 64 years of age. The bars represent the ratio of males not seeking work because of a specific handicap to all males reporting the handicap. The chart indicates that total blindness, paralysis, insanity, cancer, and senility were considered very serious by the informants since from 65 to 78 per cent of all persons who reported having these disabilities therefore felt unable to search for employment. Defects that are considered of relatively minor importance are impaired arms, hands, feet, and fingers, defective vision or blindness in one eye, speech defects, and impaired hearing. Less than 10 per cent of the persons reporting these handicaps were prevented from seeking work because of the disability.

Since the various types of disabilities differ in the extent to which they keep people from looking for jobs, the configuration of disabilities reported by persons 16 to 64 years old who are working or seeking work differs somewhat from that for the population group not seeking work in the same age period. (See Table 7.)

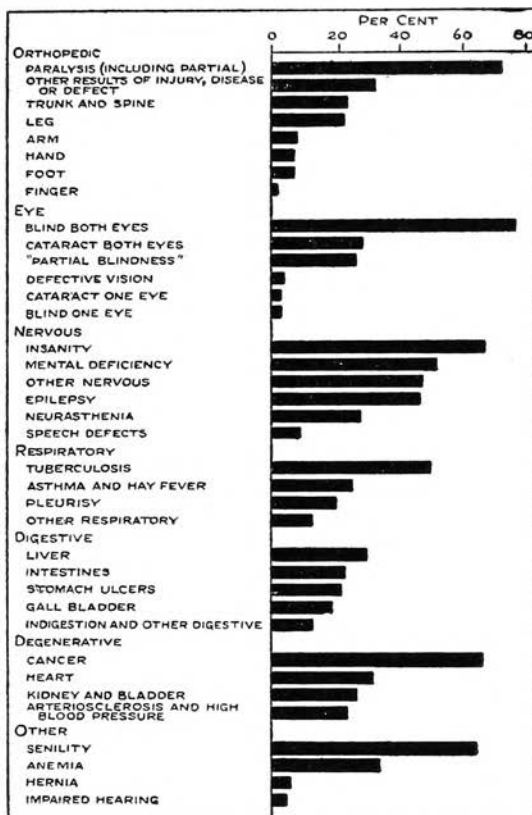


Fig. 8. VOCATIONAL SIGNIFICANCE OF VARIOUS DISABILITIES. Percentage that males not seeking work because of a specific handicap were of all males 16 to 64 years of age who reported the handicap.

working or seeking work differs somewhat from that for the population group not seeking work in the same age period. (See Table 7.)

Types of Disabilities Found by Examining Physicians. For the 3,432 applicants for work relief jobs who were given physical examinations in Chicago, Illinois, it is possible to compare the prevalence in the examined population of serious cases of specific disabilities, as obtained from self-reports, and as discovered upon examination. The medical report form was so drawn up that in a good many cases the examining physicians found and recorded more than one disability. In these cases of multiple disability, one had to be selected for tabulation if the results were to be at all comparable to those obtained from the survey, since the Occupational Characteristics schedule permitted entry of only one disability for each person. A disability was selected for tabulation first, according to its correspondence to the one entered on the survey schedule, and next, when there was no correspondence, according to the rules of the *Manual of the Joint Causes of Death*. It was believed that these were the best criteria to use since the schedule entries were limited

Table 7. Rank order of disability according to its prevalence among persons working or seeking work and among those not seeking work.

NATURE OF DISABILITY	MALES		FEMALES	
	Working or Seeking Work	Not Seeking Work	Working or Seeking Work	Not Seeking Work
Orthopedic cases	1	1	2	2
Hernia	2	8	12	13
Heart, blood, and circulatory diseases	3	3	1	1
Eye defects	4	6	7	7
Respiratory diseases (including tuberculosis)	5	2	6	6
Rheumatism, neuritis, and neuralgia	6	5	3	3
Diseases of the digestive system	7	7	4	5
Mental and nervous impairments	8	4	5	4
Impaired hearing	9	12	8	11
Kidney diseases	10	9	9	9
Alcoholism	11	14	15	15
Diabetes	12	13	13	12
Cancer and other tumors	13	11	10	10
Infirmities of old age	14	10	14	8
Goiter	15	15	11	14
Ill-defined diseases	—	—	—	—

to serious disabilities (or the most serious in cases of multiple disabilities), while the medical reports were not so limited and often did not indicate the severity of the individual conditions noted.

It is quite evident from Table 8 that the diagnosis varies with the source of the information. The difference in the prevalence of the separate diagnoses is so great, indeed, that in all cases but three it exceeds the actual prevalence as shown by one or the other of the sources.

For the most part, the differences shown in Table 8 are of the sort that should be expected. In general, those diagnoses which depend for recognition upon examination with technical equipment (*e.g.*, degenerative diseases [most of which may be classified as heart ailments], and hernia) are low on the survey schedules, while those which require good case histories but are rather

Table 8. Comparison of per cent of persons medically examined who were seriously affected by certain disabilities as shown by reports on Occupational Characteristics schedules and by reports of medical examinations.¹

TYPE OF DISABILITY	REPORTED ON		DIFFERENCE ²
	Survey Schedules	Medical Blanks	
ALL CLASSES	16.7	20.0	-3.3
Orthopedic	4.2	1.9	2.3
Hernia	2.0	4.4	-2.4
Eye	1.5	1.5	—
Ear	.7	.3	.4
Mental and nervous	.9	0.0	.9
Respiratory	1.5	.4	1.1
Digestive	1.0	.1	.9
Rheumatism, neuritis, etc.	1.5	.5	1.0
Degenerative diseases	1.9	7.6	-5.7
Other circulatory diseases	.4	.7	-.3
Senility	0.0	.5	-.5
Teeth and gums	.1	.1	—
Venereal diseases	.1	1.1	-1.0
Skin diseases	.2	.1	.1
All others	.7	.2	.5

¹ Per cent of total rated by physicians as fit for light or no work and as having a given disability (only one disability per case allowed).

² Difference: survey data minus medical data.

easily recognized by the sufferers (such as digestive disorders and mental and nervous troubles) are high on the survey schedules and low on the medical report forms.

It is probable that the chief value of the diagnosis information from this study is to indicate what the relief population thinks is wrong with it. Likewise it is probable that the information drawn from the medical examinations is an inadequate statement of the disabilities of the examinees. For one thing, diagnostic standards vary so widely that two independent medical diagnoses of the same individual often result in quite different reports.¹³ For another, the absence of a thorough case history would make it impossible to diagnose some kinds of conditions. The differences in the amount of disability from various diagnoses revealed by self-reports and medical examination suggest that the total amount of disability found by both methods was some understatement of the prevalence of serious disabilities.

The foregoing discussion of discrepancies in diagnoses drawn from different sources leads to the conclusion that different techniques than used in this survey or in the series of medical examinations, are necessary if accurate information on physical handicaps is to be obtained. A later paper will analyze these discrepancies in greater detail, and will suggest a survey technique which shows promise of yielding more reliable disability data.

SUMMARY

In the F.E.R.A. survey, 21 per cent of all relief persons 16 years of age and over reported handicaps which they considered serious. In the group of wage-earning age, that is, 16 to 64 years, 12 per cent of those who were employed at nonrelief work and 11 per cent of those who were employed on work projects had disabilities, 15 per cent of those who were seeking work, and 27

¹³ Buck, C. E.: The Standardization of School Medical Inspection. *American Journal of Public Health*, December, 1923, xiii, No. 12, p. 1021.

per cent of those who were not seeking work. (This latter proportion would have been much higher if it had been possible to exclude from this class women who were not seeking work because of home duties.) Of the group 65 years of age and over, 68 per cent reported a serious physical or mental disability.

The usual racial and occupational differentials in impairment rates are not found in the relief population. Thus, white males on relief show a higher prevalence of disabilities than Negroes, and relief persons in the professional and proprietary groups report as high a proportion of handicaps as those in other occupations. This is evidence that physical impairment is an important cause of unemployment and dependency among groups of persons that would otherwise be likely to remain employed by reason of favorable racial or occupational characteristics.

Comparison of the data for relief with that for nonrelief persons indicates a concentration of handicapped persons in the relief population. In Dayton, Ohio, the occupational survey included nonrelief as well as relief persons and showed that the prevalence of disabilities among relief persons was three times as great as among nonrelief persons. This differential was associated chiefly with differences in the economic status of the two groups.

APPENDIX

Description of Medical Examination Given in Chicago

Physical examinations were given to 3,432 individuals who had been included in the Occupational Characteristics survey under the auspices of the Illinois Work Relief Administration as a preliminary to placing them on work projects. The examining physicians were instructed "to bear constantly in mind that the spirit of this survey is to adapt applicants to work and not to exclude them from it. The abnormalities disclosed in the course of the examination must be noted for the protection of the applicant against assign-

(Continued on page 240)

total population 10 years of age and over, classified by sex and age.
 total population 10 years of age and over, classified by sex and age.
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NATURE OF DISABILITY	BOTH SEXES			MALES			FEMALES		
	Total 16 Years and Over	16-64 Years	65 Years and Over	Total 16 Years and Over	16-64 Years	65 Years and Over	Total 16 Years and Over	16-64 Years	65 Years and Over
TOTAL POPULATION ¹	447,874	419,919	27,955	224,852	210,507	14,345	223,022	209,412	13,610
HANDICAPPED PERSONS	94,732	75,584	19,148	45,329	36,217	9,112	49,403	39,367	10,036
HANDICAPPED PERSONS PER 1,000 POPULATION									
ALL DISABILITIES	211.5	180.0	685.0	201.6	172.1	635.2	221.5	188.0	737.4
<i>Orthopedic Cases</i>	37.0	33.8	84.2	49.3	45.4	107.3	24.5	22.2	59.8
Trunk	6.7	6.3	13.5	8.6	8.1	16.4	4.8	4.4	10.4
Head and face	0.6	0.6	0.7	0.8	0.8	1.1	0.3	0.3	0.4
Arm	3.1	3.0	5.2	4.3	4.1	7.1	1.9	1.8	3.2
Hand	2.0	1.9	3.9	2.7	2.5	5.9	1.3	1.3	1.8
Fingers lost or impaired	3.4	3.4	4.0	6.3	6.2	7.0	0.6	0.6	0.9
Leg	9.1	8.3	21.3	12.4	11.4	27.3	5.9	5.4	14.9
Foot and ankle	3.6	3.3	5.2	4.4	4.2	7.0	2.5	2.4	3.2
Other and ill-defined injuries and defects	8.5	7.0	30.4	9.8	8.1	35.5	7.2	6.0	25.0
<i>Hernia</i>	11.2	10.0	30.1	18.8	16.5	52.0	3.7	3.4	6.9
<i>Eye Defects</i>	13.4	11.9	35.9	16.2	14.5	40.4	10.6	9.3	31.2
Lost one eye	1.5	1.4	2.5	2.5	2.4	3.8	0.5	0.4	1.2
Blind one eye	2.1	1.9	4.2	3.0	2.9	5.8	1.1	1.0	2.5
Blind both eyes	1.7	1.2	10.0	2.0	1.4	11.2	1.5	1.0	8.6
Blind, partial	3.0	2.1	10.6	2.9	2.3	11.6	2.2	1.9	9.5
Cataract, one eye	0.4	0.3	1.1	0.4	0.3	1.3	0.3	0.3	1.0
Cataract, both eyes	0.4	0.3	1.1	0.4	0.3	1.2	0.4	0.3	1.1
Defective vision, vaguely described	3.9	4.3	5.7	4.5	4.5	4.9	4.2	4.0	6.5
Other eye impairment and diseases	0.4	0.4	0.7	0.5	0.4	0.6	0.4	0.4	0.8
<i>Impaired Hearing</i>	6.3	5.6	15.2	7.2	6.4	18.1	5.5	5.1	12.1
Deaf, total	0.2	0.2	0.5	0.2	0.2	0.7	0.3	0.2	0.4
Deaf, partial	5.0	4.3	13.8	5.8	5.0	16.3	4.1	3.8	11.0
Deaf and dumb	0.8	0.8	0.8	0.8	0.8	1.0	0.9	0.9	0.5
Other ear impairments and diseases	0.3	0.3	0.1	0.4	0.4	0.1	0.2	0.2	0.2
<i>Mental and Nervous Impairments</i>	13.2	13.3	12.2	10.7	10.8	10.0	15.7	15.8	14.5
Insanity	1.2	1.1	2.3	1.1	1.1	2.1	1.2	1.1	2.4
Nervous disorders not specified	6.7	6.8	6.6	4.0	3.9	5.2	9.5	9.6	8.4
Mental deficiency	2.9	3.0	1.9	2.9	3.1	1.3	2.8	2.9	2.5
Epilepsy	1.5	1.5	0.8	1.7	1.7	0.8	1.3	1.3	0.7
Speech defects	0.5	0.5	0.3	0.7	0.7	0.3	0.4	0.4	0.2
Other nervous and mental impairments	0.4	0.4	0.3	0.3	0.3	0.3	0.5	0.5	0.3
<i>Respiratory Diseases</i>	15.6	15.3	19.5	18.0	17.6	23.9	13.1	13.0	14.8
Tuberculosis, all forms	6.0	6.2	3.4	7.3	7.5	4.2	4.9	4.9	2.4
Other lung diseases	1.6	1.6	0.6	2.0	2.1	1.1	1.1	1.2	0.2
Asthma and hay fever	4.7	4.3	11.4	5.1	4.5	13.1	4.3	4.0	9.5
Bronchitis	1.3	1.3	2.3	1.6	1.5	2.9	1.0	1.0	1.7
Pleurisy	0.5	0.5	0.5	0.5	0.5	0.8	0.4	0.4	0.2
Nose, throat and tonsils	1.2	1.2	0.9	1.2	1.2	1.2	1.2	1.3	0.7
Other respiratory diseases	0.3	0.2	0.4	0.3	0.3	0.6	0.2	0.2	0.1
<i>Diseases of Digestive System</i>	11.7	11.5	14.3	9.4	9.2	11.9	13.9	13.7	16.9
Indigestion	4.8	4.6	7.0	3.6	3.5	5.9	5.9	5.7	8.2
Stomach ulcers	2.7	2.8	1.8	3.8	3.8	2.2	1.6	1.6	1.3
Gall bladder	2.2	2.1	3.5	0.7	0.7	1.8	3.7	3.6	5.3
Liver	0.3	0.3	0.5	0.2	0.2	0.5	0.4	0.4	0.6
Intestines	0.7	0.7	1.0	0.5	0.4	1.0	1.0	1.0	1.1
Appendicitis (chronic and not specified)	0.8	0.8	0.4	0.5	0.5	0.5	1.0	1.1	0.2
Other abdominal diseases	0.2	0.2	0.1	0.1	0.1	—	0.3	0.3	0.2
<i>Rheumatism, Arthritis, Neuralgia, Neuritis</i>	20.2	16.9	70.5	16.5	13.2	64.1	24.0	20.5	77.2
Rheumatism	14.5	11.7	57.0	12.1	9.3	54.0	17.0	14.0	60.2
Arthritis	2.7	2.5	5.9	2.2	2.0	4.4	3.2	3.0	7.5
Lumbago (and other muscular pains)	0.6	0.6	1.3	0.9	0.8	1.7	0.4	0.4	0.8
Neuralgia, neuritis	2.4	2.1	6.3	1.3	1.1	4.0	3.4	3.1	8.7

¹ Persons with unknown employment status are omitted from this tabulation.

Appendix Table 1—Continued

NATURE OF DISABILITY	BOTH SEXES			MALES			FEMALES		
	Total 16 Years and Over	16-64 Years	65 Years and Over	Total 16 Years and Over	16-64 Years	65 Years and Over	Total 16 Years and Over	16-64 Years	65 Years and Over
<i>Heart, Circulatory and</i>									
<i>Blood Diseases</i>	33.2	30.3	76.2	23.7	20.7	68.3	42.7	40.0	84.6
Heart diseases ²	18.4	16.8	42.2	14.8	13.1	41.1	22.1	20.7	43.5
High blood pressure, arteriosclerosis	7.5	6.5	23.2	4.2	3.2	17.8	10.9	9.7	28.9
Low blood pressure	0.6	0.5	0.9	0.4	0.4	1.1	0.7	0.7	0.7
Varicose veins and other diseases of the veins	2.9	2.7	6.2	1.6	1.4	4.2	4.1	3.9	8.2
Hemorrhoids	1.0	1.0	1.4	1.5	1.4	2.3	0.6	0.6	0.4
Anemia	2.5	2.5	2.0	0.9	0.9	1.4	4.0	4.1	2.7
Other circulatory and blood diseases	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2
<i>Genito-Urinary</i>									
<i>Diseases</i>	10.4	10.0	16.3	5.9	5.0	19.0	14.9	15.0	13.4
Kidney diseases ²	5.3	4.9	11.7	4.9	4.2	14.9	5.9	5.7	8.4
Bladder diseases ²	0.6	0.5	2.2	0.5	0.4	2.2	0.7	0.6	2.2
Ill-defined genito- urinary diseases	0.5	0.5	0.6	0.2	0.2	0.8	0.7	0.8	0.4
Female diseases other than venereal	3.6	3.8	.1	—	—	—	7.3	7.6	2.2
Complications of pregnancy and child birth	0.2	0.2	0.1	—	—	—	0.3	0.3	0.2
Male diseases other than venereal	0.2	0.1	0.6	0.3	0.2	1.1	—	—	—
<i>Venereal Diseases</i>	0.7	0.6	0.4	0.8	0.7	0.6	0.6	0.6	0.2
Syphilis and its effects	0.6	0.5	0.4	0.7	0.6	0.6	0.5	0.5	0.2
Gonorrhea and other venereal diseases	0.1	0.1	—	0.1	0.1	—	0.1	0.1	—
<i>Skin Diseases</i>	1.0	0.9	2.2	0.9	0.9	1.9	1.1	1.0	2.6
Abscesses, ulcers, and boils	0.4	0.4	1.2	0.4	0.4	0.8	0.4	0.3	1.6
Other skin diseases	0.6	0.5	1.0	0.5	0.5	1.1	0.7	0.7	1.0
<i>Endocrine Disturbances</i>	1.9	2.0	1.4	0.6	0.6	0.7	3.3	3.3	2.2
Goiter	1.6	1.7	1.2	0.4	0.4	0.3	3.0	3.0	2.2
Other glandular disturbances	0.3	0.3	0.2	0.2	0.2	0.4	0.3	0.3	—
<i>Chronic Poisoning and</i>									
<i>Intoxication</i>	1.6	1.7	1.0	3.0	3.1	1.7	0.3	0.3	0.2
Alcoholism	1.0	1.1	0.6	1.9	1.9	0.8	0.2	0.2	0.2
Other poisoning due to organic sub- stances	0.1	0.1	—	0.1	0.1	0.1	0.1	0.1	—
Poisoning due to mineral sub- stances	0.3	0.3	0.3	0.6	0.6	0.5	—	—	—
Silicosis, miners' asthma	0.2	0.2	0.1	0.4	0.5	0.3	—	—	—
<i>Cancer and Other</i>									
<i>Tumors</i>	3.6	3.3	8.8	1.7	1.3	7.3	5.6	5.3	10.4
Cancer	1.6	1.4	6.5	1.1	0.8	6.3	2.3	2.0	6.8
Brain tumor	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tumor	1.7	1.6	1.9	0.4	0.3	0.8	3.0	3.0	3.1
Growth (not stated as to malignancy)	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.4
<i>Miscellaneous and Ill-</i>									
<i>defined Diseases:</i>									
Diabetes	3.0	2.7	7.7	1.7	1.5	4.8	4.2	3.8	10.7
Pellagra	0.4	0.4	0.1	0.2	0.2	0.2	0.6	0.6	0.1
Malaria	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mouth, teeth, and gums	0.4	0.5	0.3	0.5	0.5	0.4	0.4	0.4	0.2
Senility	20.9	3.7	279.2	13.5	1.2	193.9	28.4	6.0	369.0
Malnutrition	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Dwarf or midget	0.1	0.1	0.1	0.1	0.1	0.1	—	—	0.2
Obesity	0.2	0.3	0.1	0.1	0.1	0.1	0.4	0.5	0.1
Other infectious diseases	0.1	0.1	1.1	0.2	0.1	1.1	0.1	0.7	1.2
Vaguely defined illnesses, not specifically stated	5.2	4.8	8.0	2.4	2.3	7.2	7.7	7.3	8.7

² Either specifically or vaguely defined.

disabilities in the urban relief population, classified by type of disability reported and age, disabilities in the urban relief population, classified by type of disability reported and age, disabilities in the urban relief population, classified by type of disability reported and age, disabilities in the urban relief population, classified by type of disability reported and age, disabilities in the urban relief population, classified by type of disability reported and age.

NATURE OF DISABILITY	ALL AGES	16-64	16-24	25-34	35-44	45-54	55-64	65+
TOTAL, ALL PERSONS	449,464	421,509	112,046	96,965	95,697	74,665	42,136	27,955
TOTAL HANDICAPPED	94,944	75,787	8,470	11,781	18,727	19,905	16,904	19,157
	RATE PER 1,000 PERSONS							
ALL DISABILITIES	211.2	179.8	75.6	121.5	195.7	266.6	401.2	685.3
Degenerative diseases	39.2	35.6	11.7	20.3	37.4	57.6	90.1	96.9
Orthopedic	36.9	33.8	14.7	23.8	37.2	50.5	70.8	84.2
Rheumatism	20.2	16.8	2.2	6.9	16.6	30.8	54.1	70.6
Eye and ear defects	19.7	17.6	8.5	11.6	18.6	26.3	38.0	51.1
Respiratory (including tuberculosis)	15.6	15.3	9.1	13.5	18.4	19.1	22.2	19.5
Mental and nervous	13.2	13.2	11.6	11.6	14.7	15.5	13.9	12.2
Hernia	11.2	9.9	2.7	5.1	10.9	16.9	25.7	30.0
Digestive diseases	11.6	11.4	4.3	9.2	14.6	16.3	19.8	14.3
Senility	20.8	3.7	—	—	—	2.3	32.5	279.2
All other diseases	22.8	22.5	10.8	19.5	27.3	31.3	34.1	27.3

Appendix Table 3. Prevalence of disabilities in the urban relief population 16-64 years of age and employed or seeking work, classified by usual occupation. (Rate = per cent of population reporting disabilities.)

OCCUPATION	POPULATION	ADJUSTED RATE ¹	CRUDE RATE
ALL OCCUPATIONS	255,041	13.8	14.2
<i>Professional and Semi-Professional Persons</i>	5,827	12.3	12.4
Professional Persons	5,385	11.8	11.8
Actors and showmen	514	17.3	16.1
Artists, sculptors and teachers of art	221	16.7	15.8
Designers, draftsmen and architects	493	13.8	13.0
Musicians and teachers of music	993	14.3	14.5
Physicians, dentists, veterinarians and osteopaths	63	7.6	15.9
Teachers (school and college)	1,200	8.5	7.8
Technical engineers and chemists	637	5.9	7.1
Trained nurses	466	11.1	10.5
Other professional persons ²	798	13.2	14.3
Semi-Professional Persons	442	17.9	19.2
Proprietors, managers and officials in recreational pursuits	131	17.2	19.1
Other semi-professional and recreational workers	311	18.0	19.3
<i>Proprietors, Managers and Officials</i>	8,397	18.1	22.8
Agricultural proprietors and managers	2,339	17.6	23.1
Builders and building contractors	838	14.9	19.6
Hotel and restaurant keepers and managers	514	13.4	18.9
Manufacturers, proprietors, managers and officials (n.e.c.) ³	1,453	16.0	20.8
Wholesale and retail dealers	3,253	20.4	24.9
<i>Clerical Persons</i>	28,599	14.0	11.6
Clerical	13,821	12.6	10.1
Bookkeepers, cashiers and accountants	2,663	11.6	11.0
Clerical workers (proper)	6,831	13.4	11.5
Quasi-clerical workers; express and railway clerks, etc.	247	18.6	17.0
Office boys, telegraph and other messengers	1,309	17.3	8.3
Stenographers and typists	2,771	8.8	5.8
<i>Sales People</i>	13,689	15.2	13.4
Advertising agents	117	15.5	19.7
Agents, collectors and credit men	454	16.0	18.1
Commercial travelers	767	18.6	22.0
Newsboys	516	21.3	12.4
Real estate and insurance agents	985	14.7	19.9
Salesmen and saleswomen (proper)	10,850	14.7	12.0
<i>Telephone, telegraph and radio operators</i>	1,089	10.1	8.5
Telephone operators	898	9.0	7.3
Telegraph and radio operators	191	13.7	14.1

¹ The crude rate has been adjusted to the age distribution of all gainful workers in the United States in 1930.

² Clergymen, authors, editors, reporters, lawyers, judges, etc.

³ Not elsewhere classified.

Appendix Table 3—Continued

OCCUPATION	POPULATION	ADJUSTED RATE ¹	CRUDE RATE
<i>Skilled Workers</i>	46,219	13.2	15.5
Blacksmiths, forgemen and hammermen	906	12.1	18.3
Boilermakers	442	11.2	16.3
Brick and stone masons and tile layers	2,676	7.7	9.5
Cabinet makers	563	11.6	14.2
Carpenters	7,369	10.6	15.0
Electricians	1,662	13.2	12.1
Engineers (stationary), cranemen, hoistmen, etc.	1,870	12.8	16.3
Locomotive engineers and firemen	830	13.3	12.8
Machinists, millwrights and tool makers	3,032	13.7	16.8
Mechanics (not otherwise specified)	4,378	16.0	14.7
Molders, founders and casters (metal)	1,202	12.5	16.2
Painters, enamellers, varnishers (building) and paper hangers	6,393	15.8	17.8
Painters, glaziers, enamellers and varnishers in factories	1,199	14.1	14.7
Pattern and model makers	135	23.4	17.8
Plasterers and cement finishers	2,594	9.0	11.1
Plumbers and gas and steam fitters	2,310	10.0	12.7
Rollers and roll hands (metal)	211	15.3	16.1
Roofers and slaters	508	14.3	15.4
Sawyers	648	20.2	22.1
Shoemakers and cobblers (not in factory)	521	18.7	21.9
Structural iron workers (building)	695	10.7	13.4
Tailors and tailoresses	579	15.1	23.0
Tinsmiths and coppersmiths	790	14.5	15.6
Upholsterers	362	12.3	12.2
Skilled workers in printing, publishing and engraving	881	16.4	15.7
Foremen, overseers and inspectors ⁴	1,967	16.8	19.4
Skilled workers (n.e.c.) ³	1,487	17.0	20.2
<i>Semi-Skilled Workers</i>	70,814	14.9	14.2
<i>Operatives</i>	46,148	15.0	14.3
Operatives in building trades	452	12.1	13.3
Operatives in cigar factories	1,883	13.2	12.3
Operatives in clothing factories	5,962	16.3	14.6
Other operatives	33,246	14.6	13.9
Sailors, deck hands, boatmen and canalmen	361	13.2	13.9
Switchmen, flagmen and yardmen	554	18.2	22.7
Telegraph and telephone linemen	250	16.4	17.6
Watchmen, guards and doorkeepers	500	30.7	35.0
Other workers (semi-skilled)	2,940	15.9	14.5
<i>Other</i>	24,666	14.8	14.0
Bakers	1,088	16.5	15.6
Barbers, hairdressers and manicurists	1,529	19.6	20.9
Boarding and lodging housekeepers	385	17.6	29.4
Boiler washers and engine hostlers	208	11.0	11.5
Brakemen	570	14.1	18.4
Chauffeurs, deliverymen, truck and tractor drivers	14,423	13.3	11.0
Assistants and attendants to professional persons	141	16.5	13.5
Other attendants and helpers	797	17.1	10.8
Laborers (professional service, recreation and amusement)	177	13.2	12.4
Dressmakers, seamstresses and milliners	2,071	16.0	19.3
Filers, grinders, buffers and polishers (metal)	898	15.0	7.0
Housekeepers, stewards and practical nurses	2,190	16.9	20.1
Oilers of machinery	189	11.5	11.6
<i>Unskilled Workers</i>	95,185	13.2	13.7
<i>Laborers</i>	53,522	12.4	13.3
Draymen, teamsters and expressmen	922	17.4	21.6
Farm laborers	6,460	16.2	15.2
Firemen (except locomotive and fire department)	1,487	17.0	19.4
Fishermen and oystermen	608	18.0	16.9
Furnacemen, smeltermen, heaters and puddlers	637	10.1	13.5
Longshoremen and stevedores	1,342	10.0	12.5
Lumbermen, raftsmen and woodchoppers	1,894	13.4	8.7
Miners, oil, gas and salt well operatives	10,391	10.9	13.0
Laborers (not elsewhere classified)	29,781	12.0	12.6
<i>Servants and Allied Workers</i>	41,663	14.5	14.2
Bootblacks	378	18.3	15.9
Charwomen, cleaners and laundresses	5,904	14.4	17.3
Elevator tenders	762	20.8	16.9
Janitors and sextons	2,254	14.8	17.2
Porters	1,367	15.2	15.4
Servants	27,093	14.1	13.1
Waiters, waitresses and bartenders	3,905	16.5	13.5

¹ The crude rate has been adjusted to the age distribution of all gainful workers in the United States in 1930.

³ Not elsewhere classified.

⁴ Except inspectors and foremen in lumber camps, factories, laundries, and cleaning establishments.

INCOME ¹	RELIEF		NONRELIEF	
	Population	Per Cent Reporting Disability	Population	Per Cent Reporting Disability
ALL CLASSES	6,987	21.3	32,553	8.0
Under \$5	5,395	24.0	4,404	21.2
\$5- 9	299	15.1	574	11.7
10-14	392	13.3	1,931	9.9
15-19	378	11.6	3,907	8.2
20-24	217	7.8	4,495	6.7
25-34	213	10.8	7,453	5.3
35+	93	8.6	9,789	4.1

¹ It is probable that the earnings reported by many of the relief families in the higher income brackets were simply the weekly wage to be received at a new job, and that they did not represent sums actually in hand during the week in which relief was received. Relief agencies often carry a family until the first pay day after the wage earner has found a job.

Appendix Table 4. Prevalence of disability among the relief and nonrelief populations of Dayton, Ohio, classified according to weekly income of family. (July, 1934)

ment to duty incompatible with such disability as may be present." In keeping with this admonition, and to facilitate the heeding of it, some rather specific directions were given concerning the conditions to be especially looked for in the various sections of the examination. The methods of examination included observation of physical abnormalities, lesions, and growths, stethoscopic examination of heart and lungs, counting pulse rate, and measuring degree of vision. Mental abnormality was defined as obvious lack of mental balance; and deafness as inability to hear ordinary conversation in the course of the examination.

The physical examination was supplemented by a very meager case history.

The instructions to the physicians for classifying the more seriously disabled follow:

Assignment to Class C (light work which requires special placement) shall be based on findings such as the following: poor nutrition; old-age; serious defective vision or hearing; seizures of vertigo or epilepsy; diabetes, arteriosclerosis; compensated cardio-vascular

conditions which are not suitable for Class B; moderately high blood pressure (about 170); past history of tuberculosis; hernias which are not well supported; recent operations, injuries or illnesses; partial paralysis; deformities not suitable for Class B. Such men may be either assigned to work on the ground or to work not involving any continuous muscular exertion, such as clerical and other white-collar work; flagmen, timekeepers, etc.; skilled trades, to which the man is accustomed, not involving any considerable muscular exertion. Placement of every Class C man must be based on physician's report and recommendation.

Any individual should be assigned to Class D who is physically or mentally unadapted for any available work relief and who, if employed, would be a menace to himself, to his fellow workers, or to property.