

# 1972 Survey of Disabled and Nondisabled Adults: Chronic Disease, Injury, and Work Disability

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*The Social Security Administration 1972 Survey of Disabled and Nondisabled Adults showed that an estimated 15.6 million adults aged 20-64, or 15 percent of the total noninstitutionalized population of those ages, were disabled as a result of some chronic condition or impairment. Yet more than three times as many persons (51.8 million) reported that they suffered from one or more chronic health conditions. The diseases reported most frequently by the adult population of working age were cardiovascular and musculoskeletal disorders, each with prevalence rates of 200 persons per 1,000 population. The prevalence rate for neurological disorders was only 7 persons per 1,000, their disabling potential, however, was much greater than that for the diseases with the highest prevalence rates. 80 percent of those suffering from neurological disorders were also currently disabled. For almost every disease group, older persons were more likely to suffer from a chronic condition or impairment and more likely to be disabled as a result. Women were more likely than men to report a chronic disease or impairment and more likely to be severely disabled as a result. White persons were somewhat more likely than blacks and members of other races to report one or more chronic conditions but less likely to be disabled as a result and even less likely to be severely disabled. Among the nondisabled, less than one-tenth reported a condition caused by accident or injury but close to one-fourth of the disabled reported a disease or impairment of accidental origin.*

**WORK DISABILITY** reflects the interaction between an individual's functional limitations and the availability of suitable jobs in the economy. This relationship depends on the applicant's personal characteristics, his attitudes and motivations, his job skills and experience, alternative sources of income, and a variety of similar fac-

tors.<sup>1</sup> Nevertheless, an impairment or physical or mental limitation as a result of a chronic disease or injury always underlies any disability.

In a sample survey of some 106.3 million adults in the civilian, noninstitutionalized population aged 20-64 in 1972, approximately 15.6 million reported that they were disabled, including 7.7 million who were severely disabled. Yet, in the same survey, 51.8 million persons reported that they suffered from one or more chronic health conditions or impairments.

This disparity raises some significant questions: How is disease distributed in the population? Are age, race, sex, socioeconomic characteristics, etc., related to various kinds of chronic diseases? Are some kinds of chronic conditions more likely to result in work disability than others? Do demographic characteristics affect the likelihood that a specific condition will become disabling? The answers to these questions provide significant information for the planning and administration of income-maintenance and rehabilitation programs for the disabled.

## SOURCE AND LIMITATIONS OF DATA

Information about the presence of selected chronic diseases and impairments was obtained by household interview in the 1972 Survey of Disabled and Nondisabled Adults conducted by the Social Security Administration. The population surveyed included both disabled and nondisabled adults aged 20-64 in the civilian noninstitutional population.

Survey respondents were shown a list of 38 conditions and impairments always considered to be chronic. They were asked to identify all of the listed conditions from which they suffered. Persons who could not identify any of the conditions listed<sup>2</sup> were asked to name any from which

<sup>1</sup> The list of conditions used in the survey and the rules for determining priorities are described in the technical note, page 17.

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<sup>1</sup> For a discussion of the conceptual classification used here, see S Z Nagi, "Some Conceptual Issues in Disability and Rehabilitation," in *Sociology and Rehabilitation* (M B Sussman, editor), American Sociological Association, 1965, pages 100-113, and Lawrence Haber, *Identifying the Disabled: Concepts and Methods in the Measurement of Disability* (Social Security Survey of the Disabled 1966, Report No 1), Office of Research and Statistics, Social Security Administration, December 1967.

they suffered and to describe them in their own words (As a practical matter, a maximum of five conditions was recorded and tabulated. Where six or more conditions were reported, the five most important were selected by using a predetermined set of priorities based on disease groups.)

The diagnostic data in this report can measure only approximately the total prevalence of chronic disease or impairment in the general population. Chronic conditions are generally underreported in interview surveys. Respondents tend to report only those conditions they are aware of and that they are willing to report to an interviewer. More complete reporting is likely for more serious conditions—those that have a more significant effect on the individual's health, require extensive or costly medical treatment, result in significant reduction in work capability, or significantly reduce the individual's economic status or that of his family.

Studies have shown that use of checklists of chronic conditions tends to produce more complete reporting for those listed. Since such lists give respondents a choice of conditions, however, they are more likely to designate those that are less stigmatizing or more socially acceptable. They are also more likely to omit conditions not specified on the list. Under any circumstances, the accuracy of the diagnostic designations reported depends on the information received by the respondent from his physician or other medical source and on his memory.<sup>3</sup>

## PREVALENCE OF CHRONIC DISEASE AND DISABILITY

In 1972, 15.6 million persons—about 1 in 6 of all noninstitutionalized adults aged 20-64—reported some degree of disability (work limitation) as a result of a chronic health condition or impairment lasting 3 months or longer.<sup>4</sup> Yet the

<sup>3</sup> Findings of National Center for Health Statistics studies on the completeness of survey reporting of chronic conditions are summarized in Geraldine Scott, *Prevalence of Chronic Conditions of the Genitourinary, Nervous, Endocrine, Metabolic and Blood and Blood Forming Systems and of Other Selected Chronic Conditions, United States, 1973* (Series 10, No. 109, Vital and Health Statistics), National Center for Health Statistics, 1977.

<sup>4</sup> The detailed definition of disability in the survey and its categorization into severe, occupational, and secondary are described in the technical note, page 16.

prevalence of the same chronic diseases in the population was much higher. Thus, almost half of the total population surveyed reported that they were suffering from one or more chronic conditions or impairments. The fact that, at any point in time, many, many more people suffer from chronic diseases than are disabled by them is also reflected by the figures for the nondisabled. 40 percent of the nondisabled adults surveyed reported that they had one or more chronic conditions (table 1).

The prevalence of specific chronic diseases in the population and the relative frequency of disability associated with each of them varied widely. Among major disease groupings the highest prevalence rates (expressed as the number of persons with the condition per 1,000 persons in the noninstitutionalized population aged 20-64) involved cardiovascular diseases (200 per 1,000) and musculoskeletal disorders (196 per 1,000). The lowest rate was 7 persons per 1,000 for neurological disorders.

The pattern of condition-specific prevalence rates associated with current disability was essentially similar to that for the population in general. Among the currently disabled, 89 persons per 1,000 suffered from a musculoskeletal condition. The rate was 74 persons per 1,000 for cardiovascular disorders and fell to a low of 6 per 1,000 for neurological conditions.

Although the distribution of disabling conditions probably reflects the pattern of disease or impairment in the general population, the extent to which they cause work limitation may differ. It is instructive therefore to look at the proportion reporting specific conditions who also reported that they were disabled as a result. More than 80 percent of survey respondents reporting some neurological disorder were also currently

Chronic condition group	Prevalence rate per 1,000 population aged 20-64		Disabled population as percent of total population
	Total population	Disabled population	
Total	487.1	145.4	30
Musculoskeletal	195.9	88.9	45
Cardiovascular	199.7	73.8	37
Respiratory	103.1	38.8	38
Digestive	83.4	32.6	39
Mental	45.9	29.5	64
Neurological	7.4	6.0	81
Urogenital	22.9	10.5	46
Neoplasm	24.6	10.2	41
Endocrine	45.1	15.0	33

disabled The proportions for those with musculo-skeletal or cardiovascular conditions—the two disease groups with the highest prevalence rates—were much lower (45 percent and 37 percent, respectively) Prevalence rates for the total population and for the disabled as well as the proportion in each major condition group who were severely disabled are given in the tabulation in the preceding column

### Severe Disability

The prevalence of severe disability in the population as measured by disability rates per 1,000 noninstitutionalized population aged 20–64 varied significantly with type of disease There were 72 6 severely disabled persons for every 1,000 in the total adult population (table 1) Severe disability rates were highest for musculoskeletal and cardio-

TABLE 1—Chronic conditions and impairments Number in adult population aged 20–64 and number per 1,000 population, by condition and disability status, 1972

Chronic condition	Total population		Currently disabled		Severely disabled		Nondisabled	
	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population
Total number reporting	106,628		15,550	146	7,717	72 6	90,718	853 7
With condition	51,764	487 1	15,448	145 4	7,697	72 4	36,316	341 7
With no condition	54,504	512 8	102	1 0	25	2	54,401	511 9
Musculoskeletal	20,822	195 9	9,452	88 9	4,690	44 1	11,370	107 0
Arthritis or rheumatism	11,547	108 7	5,123	48 2	2,878	27 1	6,424	60 5
Trouble with back or spine	10,291	96 8	5,169	48 6	2,211	20 8	5,122	48 2
Other	3,718	35 0	2,313	21 8	1,267	11 9	1,405	13 2
Missing legs/feet	104	1 0	82	8	43	4	22	2
Missing arms/hands	220	2 1	55	5	14	1	165	1 6
Chronic stiffness	3,155	29 7	1,919	18 1	1,034	10 0	1,236	11 6
All other	280	2 7	282	2 7	160	1 5	3	(1)
Cardiovascular	21,222	199 7	7,839	73 8	4,532	42 6	13,383	125 9
Any heart trouble	11,607	109 2	5,546	52 2	3,470	32 7	8,060	57 0
Rheumatic fever	674	6 3	308	2 9	174	1 6	366	3 4
Heart attacks	1,314	12 4	93	0 9	654	6 2	261	2 4
Heart trouble	3,324	31 3	2,244	21 1	1,504	14 2	1,080	10 2
High blood pressure	7,951	74 8	3,366	31 7	2,071	19 5	4,584	43 1
Stroke	464	4 4	290	2 7	144	1 3	74	0 7
Other arterial/vascular	11,544	108 6	3,339	31 4	1,746	16 4	8,204	77 2
Hardening of arteries	1,021	9 6	636	6 0	464	4 4	385	3 6
Varicose veins	4,612	43 4	1,394	13 1	869	8 3	3,218	30 3
Hemorrhoids or piles	6,782	63 8	1,622	15 3	823	7 7	5,160	48 6
Other	70	0 7	53	0 5	29	0 3	17	0 2
Respiratory	10,937	103 1	4,124	38 8	2,237	21 1	6,832	64 3
Tuberculosis	327	3 1	206	1 9	135	1 3	121	1 1
Chronic bronchitis	1,969	18 5	1,042	9 8	713	6 7	926	8 7
Emphysema	1,148	10 8	115	1 1	431	4 1	433	4 1
Other chronic lung trouble	673	6 3	474	4 5	280	2 6	200	1 9
Asthma	3,346	31 5	1,258	11 8	582	5 5	2,087	19 6
Respiratory allergies	5,615	52 8	1,609	15 1	696	6 5	4,006	37 7
Digestive	8,868	83 4	3,463	32 6	1,943	18 3	5,404	50 9
Gallbladder or liver trouble	1,382	13 0	688	6 5	443	4 2	694	6 5
Stomach ulcer	3,667	34 5	1,235	11 6	739	7 0	2,431	22 9
Other chronic stomach trouble	2,371	22 3	1,024	9 6	602	5 7	1,347	12 7
Hernia or rupture	2,025	19 1	778	7 3	329	3 1	1,246	11 7
Other	132	1 2	95	0 9	51	0 5	37	0 3
Mental	4,877	45 9	3,131	29 5	2,231	21 0	1,746	16 4
Mental illness	649	6 1	519	4 9	467	4 4	130	1 2
Mental retardation	338	3 2	320	3 1	259	2 4	13	0 1
Alcohol or drug problem	295	2 8	139	1 3	60	0 6	155	1 5
Chronic nervous trouble	3,874	36 5	2,398	22 6	1,672	15 7	1,476	13 9
Other	1	(1)	1	(1)	1	(1)		
Neurological	784	7 4	636	6 0	485	4 6	148	1 4
Epilepsy or seizures	504	4 7	369	3 5	299	2 8	134	1 3
Multiple sclerosis	92	0 9	82	0 8	73	0 7	10	0 1
Other	196	1 8	193	1 8	119	1 1	3	(1)
Urogenital	2,431	22 9	1,115	10 5	642	6 0	1,318	12 4
Kidney stones or kidney trouble	2,290	21 5	990	9 3	614	5 8	1,300	12 2
Other	144	1 4	127	1 2	30	0 3	17	0 2
Neoplasm	2,615	24 6	1,086	10 2	672	6 3	1,529	14 4
Tumor, cyst, or growth	1,961	18 5	678	6 4	419	3 9	1,283	12 1
Cancer	738	6 9	473	4 5	314	3 0	265	2 5
Other	29	0 3	5	(1)	3	(1)	24	0 2
Endocrine	4,791	45 1	1,594	15 0	968	9 1	3,197	30 1
Diabetes	2,237	21 1	1,046	9 8	642	6 0	1,190	11 2
Thyroid trouble or goiter	2,601	24 5	572	5 4	334	3 1	2,030	19 1
Other	10	0 1	9	0 1	9	0 1	1	(1)
Other	11,708	110 1	3,330	31 3	1,614	15 1	8,377	78 8
Nonrespiratory allergies	7,702	72 5	1,182	11 1	447	4 2	6,519	61 3
Deafness/hearing problem	2,083	19 6	746	7 0	384	3 6	1,337	12 6
Visual impairment	1,343	12 6	880	8 3	537	5 1	463	4 4
Other specified	950	9 2	728	6 9	379	3 6	252	2 4

1 Less than 0 5 per thousand

vascular disease, 44.1 per 1,000 and 42.6 per 1,000, respectively. Again, the lowest rate was 6.0 per 1,000 for neurological disorders.

It is evident that diseases with high prevalence rates in the general population also showed high severe disability rates. The variation in the rates among the various types of chronic disease was much higher, however, for total prevalence rates than for severe disability rates. The total prevalence rate for musculoskeletal disorders in the general population (195.9 per 1,000) was 28 times higher than the rate for neurological disorders (7.4 per 1,000). In contrast the severe disability rate for musculoskeletal disorders was only nine and one-half times higher than the rate for neurological disorders.

Severe disability rates for specific diseases or impairments reflect both the prevalence of the condition in the general population and its disabling potential—that is, the extent to which the condition affects functional capacities. Generally, disability rates will be higher for conditions that occur more frequently in the general population as well as for conditions with high disability potentials. It is clear from these figures that some diseases are more likely to be associated with severe disability than others.

The differential association between various chronic diseases or impairments and severe disability is shown rather clearly in table 2. More than 62 percent of the persons reporting a neurological disorder were severely disabled. Among survey respondents with mental disorders, the proportion severely disabled was 46 percent. In contrast, only about 20 percent of the persons with cardiovascular, respiratory, digestive, or endocrine disorders were classified as severely disabled.

It must be noted that these figures do not measure in any precise way the likelihood or probability that a particular chronic disease or condition will produce disability. Apart from the uncertainties produced by the reporting problems discussed earlier, the disabling propensity of various diseases will depend on such elements as the cause and natural history of the disease itself, the characteristics of those it affects, the efficacy of current medical practice in preventing or ameliorating any long-term impact on functional capacities, and the nature of the work environment and the labor market. Nevertheless, the data

do show that the association between disability and various types of chronic disease is much higher than would be expected just on the basis of the frequency with which the same condition is present in the general population.

## DEMOGRAPHIC DIFFERENCES

### Effect of Age

Age is an important factor in explaining not only the prevalence of chronic conditions and impairments in the population but also their disabling effects. Most chronic conditions and impairments take years to develop. They are the result of slow disease processes that depend on continued and sustained exposure to inimical physical environments, on long-term nutritional inadequacies, or on slow and gradual physiological changes in the body's response to infection and disease. It is not surprising, therefore, that both the prevalence of chronic diseases in the population and the frequency of the associated disability increase substantially with age.

The prevalence of chronic conditions in the adult population increased markedly with age—by two-thirds from a rate of 399.0 per 1,000 persons aged 20–44 to 662.8 per 1,000 persons aged 55–64. The prevalence of disability also rose with age, but the increase was much steeper, it went up about three and one-half times, from 84.7 per 1,000 persons aged 20–44 to 294.5 per 1,000 aged 55–64.

A similar pattern existed for all types of chronic conditions and impairments individually. According to table 3, however, both the frequency with which specific chronic conditions occurred in the adult population in general and the extent to which disability was associated with any specific condition varied substantially with age.

Table 4 shows, for specific disease groups, the differences in total prevalence rates and in disability prevalence rates. Obviously, prevalence rates increase with age regardless of the type of disease involved. For any condition group examined, the rates for persons aged 55–64 were from one and one-half to three times higher than they were for persons under age 45. Furthermore, the increase in prevalence rate with age was evi-

TABLE 2—Chronic conditions and impairments Number and percentage distribution of adult population aged 20-64, by condition and disability status, 1972

Chronic condition	Total number (in thousands)	Percentage distribution, by disability status					
		Total	Non-disabled	Currently disabled			
				Total	Severe	Occupational	Secondary work limitations
Total reporting	106,268	100 0	85 4	14 6	7 3	3 3	4 1
With condition	51,764	100 0	70 2	29 8	14 9	6 7	8 3
With no condition	54,504	100 0	99 8	2	(1)	(1)	.1
<b>Musculoskeletal</b>	20,822	100 0	54 6	45 4	22 5	10 9	11 9
Arthritis or rheumatism	11,547	100 0	55 6	44 4	24 9	9 8	9 7
Trouble with back or spine	10,291	100 0	49 8	50 2	21 5	12 9	15 9
Other	3,718	100 0	37 8	62 2	34 1	15 6	12 6
Missing legs/feet	104	100 0	21 5	78 5	41 6	15 2	21 7
Missing arms/hands	220	100 0	75 1	24 9	6 4	12 2	6 3
Chronic stiffness	3,155	100 0	39 2	60 8	33 7	15 6	11 5
All other	285	100 0	1 0	99 0	56 2	17 5	25 3
<b>Cardiovascular</b>	21,222	100 0	63 1	36 9	21 4	7 8	7 7
Any heart trouble	11,607	100 0	52 2	47 8	29 9	9 5	8 4
Rheumatic fever	874	100 0	54 3	45 7	25 9	12 5	7 4
Heart attacks	1,314	100 0	27 4	72 6	49 7	12 5	10 3
Heart trouble	3,324	100 0	32 5	67 5	45 3	11 9	10 4
High blood pressure	7,951	100 0	57 7	42 3	26 1	8 4	7 9
Stroke	464	100 0	15 9	84 1	74 1	8 6	1 4
Other arterial/vascular	11,544	100 0	71 1	28 9	15 1	6 4	7 4
Hardening of arteries	1,021	100 0	37 7	62 3	45 4	9 9	6 9
Varicose veins	4,612	100 0	69 8	30 2	14 5	7 0	8 7
Hemorrhoids or piles	6,782	100 0	76 1	23 9	12 1	5 2	6 6
Other	70	100 0	24 8	75 2	40 6	6 1	28 5
Respiratory	10,957	100 0	62 4	37 6	20 4	7 3	10 0
Tuberculosis	327	100 0	37 1	62 9	41 2	7 6	14 1
Chronic bronchitis	1,969	100 0	47 1	52 9	36 2	8 2	8 5
Emphysema	1,148	100 0	37 7	62 3	37 6	13 2	11 6
Other chronic lung trouble	773	100 0	29 7	70 3	41 6	16 0	12 8
Asthma	3,346	100 0	62 4	37 6	17 4	6 8	13 4
Respiratory allergies	5,615	100 0	71 3	28 7	12 4	5 8	10 5
Digestive	8,868	100 0	60 9	39 1	21 9	8 9	8 3
Gallbladder or liver trouble	1,382	100 0	50 2	49 8	32 0	8 7	9 1
Stomach ulcer	3,667	100 0	66 3	33 7	20 2	8 2	5 3
Other chronic stomach trouble	2,371	100 0	58 8	41 2	25 4	8 2	9 6
Hernia or rupture	2,025	100 0	61 6	38 4	16 3	12 3	9 9
Other	132	100 0	28 2	71 8	38 4	3 0	30 4
Mental	4,877	100 0	35 8	64 2	45 8	9 4	9 0
Mental illness	649	100 0	20 0	80 0	71 9	2 2	6 0
Mental retardation	338	100 0	3 9	96 1	76 7	1 2	18 1
Alcohol or drug problem	295	100 0	52 7	47 3	20 4	12 9	14 0
Chronic nervous trouble	3,874	100 0	38 1	61 9	43 1	10 6	8 1
Other	1	100 0	-----	100 0	100 0	-----	-----
Neurological	784	100 0	18 9	81 1	61 8	8 0	11 3
Epilepsy or seizures	504	100 0	26 7	73 3	59 3	3 4	10 6
Multiple sclerosis	92	100 0	11 3	88 7	78 9	7 6	2 1
Other	186	100 0	1 8	98 2	60 7	20 2	17 4
Urogenital	2,431	100 0	54 1	45 9	26 4	11 9	7 6
Kidney stones or kidney trouble	2,290	100 0	56 8	43 2	28 8	11 5	5 0
Other	144	100 0	11 8	88 4	20 7	18 9	48 8
Neoplasm	2,615	100 0	58 6	41 5	25 7	9 1	6 7
Tumor, cyst, or growth	1,961	100 0	65 4	34 6	21 4	6 2	7 0
Cancer	738	100 0	36 0	64 0	42 6	16 5	5 0
Other	29	100 0	82 2	16 8	9 0	4 3	3 5
Endocrine	4,791	100 0	66 7	33 3	20 2	7 7	5 4
Diabetes	2,237	100 0	53 2	46 8	28 7	11 8	6 2
Thyroid trouble or goiter	2,601	100 0	78 0	22 0	12 8	4 5	4 6
Other	10	100 0	9 6	90 4	90 4	-----	-----
Other	11,708	100 0	69 9	23 3	11 1	5 4	6 9
Nonrespiratory allergies	7,702	100 0	84 6	15 4	5 8	4 2	5 4
Deafness/hearing problem	2,083	100 0	64 2	35 8	18 4	7 1	10 2
Visual impairment	1,343	100 0	34 5	65 5	40 0	11 3	14 3
Other specified	980	100 0	25 7	74 3	38 7	15 2	20 4

1 Less than 0.05 percent

dent for conditions with relatively low rates as well as for those with relatively high rates in the population in general

Musculoskeletal and cardiovascular diseases, for example, had the highest prevalence rates in the population regardless of age, and they occurred with about the same frequency in each of the three age groups examined. For both these disease groups, prevalence rates rose from about

124-130 per 1,000 persons under age 45 to 349-358 per 1,000 persons aged 55-64—or almost three times. For neurological diseases—the group least frequent in the population, the prevalence rate among those aged 55-64 was about one and one-half times higher than for those under age 45—10.2 per 1,000 and 6.3 per 1,000, respectively. The result was that the relative importance of specific chronic condition groups, as ranked by prevalence

rates, showed only minor changes from one age cohort to another.

Not only were older persons more likely to suffer from a chronic condition or impairment

TABLE 3—Chronic conditions and impairments: Number in adult population aged 20-64 and number per 1,000 population, by condition, age group, and disability status, 1972

Chronic condition	Age group								
	Total population			Currently disabled			Severely disabled		
	Under 45	45-54	55-64	Under 45	45-54	55-64	Under 45	45-54	55-64
Total number (in thousands)									
Total reporting .....	63,680	23,606	18,982	5,892	4,566	5,591	2,018	2,089	3,610
With condition .....	25,407	13,776	12,581	5,330	4,530	5,588	2,001	2,083	3,608
With no condition .....	8,273	9,830	6,401	63	36	4	16	6	2
Musculoskeletal .....	7,877	6,158	6,787	2,856	2,892	3,704	1,024	1,238	2,428
Arthritis or rheumatism .....	2,486	3,992	5,069	763	1,668	2,691	361	767	1,749
Trouble with back or spine .....	4,901	2,550	2,280	1,887	1,488	1,400	589	593	860
Other .....	1,518	1,017	1,183	753	679	882	337	315	614
Cardiovascular .....	8,253	6,342	6,627	1,760	2,438	3,641	753	1,305	2,474
Any heart trouble .....	3,113	3,798	4,696	1,096	1,695	2,756	537	1,003	1,929
Heart attacks .....	152	418	744	103	301	549	84	182	388
Heart trouble .....	842	969	1,510	432	675	1,135	250	403	841
High blood pressure .....	2,100	2,718	3,132	677	1,065	1,623	307	639	1,125
Stroke .....	29	149	286	26	110	254	23	102	218
Other arterial/vascular .....	5,551	3,198	2,794	832	1,066	1,441	264	523	959
Hardening of arteries .....	116	257	648	48	140	448	14	84	367
Respiratory .....	5,425	2,414	3,118	1,208	1,074	1,843	501	507	1,189
Chronic bronchitis .....	706	413	850	261	263	519	154	168	391
Emphysema .....	170	277	702	63	149	503	25	75	331
Asthma .....	1,816	726	804	435	389	435	145	179	258
Respiratory allergies .....	3,399	1,142	1,073	646	429	535	195	209	292
Digestive .....	3,948	2,522	2,397	1,113	961	1,389	522	499	922
Stomach ulcer .....	1,780	984	902	406	338	491	225	181	333
Other chronic stomach trouble .....	1,178	633	560	443	252	329	209	154	237
Hernia or rupture .....	651	692	681	190	216	372	59	72	198
Mental .....	2,116	1,398	1,364	1,083	929	1,119	736	641	855
Neurological .....	401	190	194	303	170	164	223	135	126
Urogenital .....	1,209	574	648	442	224	450	196	122	324
Neoplasm .....	1,147	799	689	273	365	448	112	252	308
Endocrine .....	1,866	1,525	1,400	385	487	723	162	294	512
Diabetes .....	570	780	887	195	335	518	73	214	355
Thyroid trouble .....	1,300	751	551	192	158	222	88	84	162
Other .....	8,567	2,687	2,507	1,249	957	1,154	465	389	782
Nonrespiratory allergies .....	5,175	1,439	1,087	504	377	301	167	122	159
Deafness/hearing problem .....	653	700	730	193	215	338	63	70	245
Visual impairment .....	419	335	588	235	234	410	102	131	303
Other specified .....	241	252	181	245	170	179	91	76	138
Number per 1,000 population									
Total reporting .....	636.80	2360.6	1898.2	589.2	456.6	559.1	201.8	208.9	361.0
With condition .....	2540.7	1377.6	1258.1	533.0	453.0	558.8	200.1	208.3	360.8
With no condition .....	827.3	983.0	640.1	6.3	3.6	4.0	1.6	6.0	2.0
Musculoskeletal .....	787.7	615.8	678.7	285.6	289.2	370.4	102.4	123.8	242.8
Arthritis or rheumatism .....	248.6	399.2	506.9	76.3	166.8	269.1	36.1	76.7	174.9
Trouble with back or spine .....	490.1	255.0	228.0	188.7	148.8	140.0	58.9	59.3	86.0
Other .....	151.8	101.7	118.3	75.3	67.9	88.2	33.7	31.5	61.4
Cardiovascular .....	825.3	634.2	662.7	176.0	243.8	364.1	75.3	130.5	247.4
Any heart trouble .....	311.3	379.8	469.6	109.6	169.5	275.6	53.7	100.3	192.9
Heart attacks .....	15.2	41.8	74.4	10.3	30.1	54.9	8.4	18.2	38.8
Heart trouble .....	84.2	96.9	151.0	43.2	67.5	113.5	25.0	40.3	84.1
High blood pressure .....	210.0	271.8	313.2	67.7	106.5	162.3	30.7	63.9	112.5
Stroke .....	2.9	14.9	28.6	2.6	11.0	25.4	2.3	10.2	21.8
Other arterial/vascular .....	555.1	319.8	279.4	83.2	106.6	144.1	26.4	52.3	95.9
Hardening of arteries .....	11.6	25.7	64.8	4.8	14.0	44.8	1.4	8.4	36.7
Respiratory .....	542.5	241.4	311.8	120.8	107.4	184.3	50.1	50.7	118.9
Chronic bronchitis .....	70.6	41.3	85.0	26.1	26.3	51.9	15.4	16.8	39.1
Emphysema .....	17.0	27.7	70.2	6.3	14.9	50.3	2.5	7.5	33.1
Asthma .....	181.6	72.6	80.4	43.5	38.9	43.5	14.5	17.9	25.8
Respiratory allergies .....	339.9	114.2	107.3	64.6	42.9	53.5	19.5	20.9	29.2
Digestive .....	394.8	252.2	239.7	111.3	96.1	138.9	52.2	49.9	92.2
Stomach ulcer .....	178.0	98.4	90.2	40.6	33.8	49.1	22.5	18.1	33.3
Other chronic stomach trouble .....	117.8	63.3	56.0	44.3	25.2	32.9	20.9	15.4	23.7
Hernia or rupture .....	65.1	69.2	68.1	19.0	21.6	37.2	5.9	7.2	19.8
Mental .....	211.6	139.8	136.4	108.3	92.9	111.9	73.6	64.1	85.5
Neurological .....	40.1	19.0	19.4	30.3	17.0	16.4	22.3	13.5	12.6
Urogenital .....	120.9	57.4	64.8	44.2	22.4	45.0	19.6	12.2	32.4
Neoplasm .....	114.7	79.9	68.9	27.3	36.5	44.8	11.2	25.2	30.8
Endocrine .....	186.6	152.5	140.0	38.5	48.7	72.3	16.2	29.4	51.2
Diabetes .....	57.0	78.0	88.7	19.5	33.5	51.8	7.3	21.4	35.5
Thyroid trouble .....	130.0	75.1	55.1	19.2	15.8	22.2	8.8	8.4	16.2
Other .....	856.7	268.7	250.7	124.9	95.7	115.4	46.5	38.9	78.2
Nonrespiratory allergies .....	517.5	143.9	108.7	50.4	37.7	30.1	16.7	12.2	15.9
Deafness/hearing problem .....	65.3	70.0	73.0	19.3	21.5	33.8	6.3	7.0	24.5
Visual impairment .....	41.9	33.5	58.8	23.5	23.4	41.0	10.2	13.1	30.3
Other specified .....	24.1	25.2	18.1	24.5	17.0	17.9	9.1	7.6	13.8

TABLE 4—Prevalence rate (per 1,000 population) for total and disabled population aged 20–64, by age group and condition, 1972

Chronic condition group	Prevalence rate per 1,000 population						Disabled population as percent of total population		
	Total population			Disabled population			Under age 45	Aged 45–54	Aged 55–64
	Under age 45	Aged 45–54	Aged 55–64	Under age 45	Aged 45–54	Aged 55–64			
Total .....	399 0	583 6	662 8	84 7	193 4	294 5	8 5	19 3	29 5
Musculoskeletal .....	123 7	260 9	357 5	44 8	122 5	195 1	36 3	47 0	54 6
Cardiovascular .....	129 6	268 7	349 1	27 6	103 3	196 8	21 3	38 4	54 9
Respiratory .....	85 2	102 3	164 3	19 0	45 5	97 1	22 3	44 5	59 1
Digestive .....	62 0	106 8	126 3	17 5	40 7	73 2	28 2	38 1	57 9
Mental .....	33 2	59 2	71 9	17 0	39 4	59 0	51 2	66 5	82 0
Neurological .....	6 3	8 0	10 2	4 8	7 2	8 6	75 6	89 5	84 5
Urogenital .....	19 0	24 3	34 1	6 9	9 5	23 7	36 6	39 0	69 4
Neoplasms .....	17 7	33 8	36 3	4 3	15 5	23 6	24 2	45 7	65 0
Endocrine .....	29 3	64 6	73 8	6 0	20 6	38 1	20 6	31 9	51 6
Other .....	97 8	103 2	122 5	15 8	33 3	51 4	16 1	32 3	41 9

but they were also much more likely to be disabled as a result. Put another way, prevalence rates for various types of chronic conditions rose much more sharply with age among the disabled than was true in the general population. This rise occurred for almost every chronic condition group examined.

In table 4, for example, the prevalence rate of cardiovascular conditions among the disabled rose from 27.6 per 1,000 persons under age 45 to 191.8 per 1,000 persons aged 55–64—almost a sevenfold increase. This was the largest increase with age registered by any of the chronic condition groups studied. Endocrine diseases exhibited almost the same pattern, with disability prevalence rates moving from 6.0 per 1,000 for those under age 45 to 38.1 per 1,000 for those aged 55–64. In contrast, the disability rate for neurological diseases for persons aged 55–64 was less than twice as high as it was for persons under age 45—8.6 per 1,000 and 4.8 per 1,000, respectively.

It is clear from these data that age-related changes in disability rates for various chronic conditions and impairments reflect not only increases in their prevalence but also in their disabling effects—that is, in the heightened likelihood of disability. The strength of each of these factors varies from condition to condition.

Some measure of the relative contribution of each of these factors for a given condition group can be obtained by computing the following proportion—

$$C_p = \frac{TPR_{55-64}}{TPR_{\text{under } 45}} \bigg/ \frac{DPR_{55-64}}{DPR_{\text{under } 45}}$$

Where  $C_p$  equals the contribution of the increase in prevalence,  $TPR$  equals the total prevalence

rate for the age group shown in the subscript and where  $DPR$  corresponds to the disability prevalence rate for the age group subscribed. Then,  $C_p$ , the contribution of disabling effects per se, becomes  $1 - C_p$ . Obviously, the numerator and denominator themselves express the ratio of the prevalence rate of interest for the oldest age group to that for the youngest age group.

With the data in table 4 used as an illustration, it is found that 66 percent of the age-related increase in the disability prevalence rate for musculoskeletal conditions was due to their increased prevalence. Similarly, 90 percent of the rise in the disability rate for neurological impairments was also due to the increased prevalence of those conditions. In contrast, about 66 percent of the disability rate for the near-aged with neoplastic diseases was due to the disabling effects of cancer. The relative contribution of each of these two factors for each of the condition groups for which data are available is shown below.

Chronic condition group	Ratio of prevalence rate of those aged 55–64 to rate of those under age 45		Percent of disability rate increase due to—	
	Total population	Disabled population	Prevalence of condition	Disabling effects of chronic condition
Total ..	1 66	3 48	38	62
Musculoskeletal ..	2 89	4 35	66	34
Cardiovascular ..	2 69	6 94	39	61
Respiratory ..	1 93	5 11	38	62
Digestive ..	2 04	4 18	49	51
Mental ..	2 17	3 47	63	37
Neurological ..	1 62	1 79	91	9
Urogenital ..	1 79	3 43	52	48
Neoplasm ..	2 05	6 49	32	68
Endocrine .....	2 52	6 35	40	60

The increased sensitivity of persons aged 55 and over to the disabling effects of chronic dis-

ease are revealed even more drastically by similar figures for the severely disabled (table 5). Comparison of these figures with those in table 4 shows that the severe disability prevalence rate increased much more rapidly with age for every condition group studied than was true for both of the other rates examined. For both cardiovascular and endocrine diseases, for example, the severe disability rate was 11 times higher for persons aged 55-64 than for those under age 45. Moreover, except for neurological diseases, at least three-fourths of the observed increase in the severe disability rate between the two age groups was due to the disabling effects of the chronic conditions involved rather than changes in condition prevalence by age.

### Sex Differences

Women represented somewhat more than half (53 percent) of the adult population aged 20-64 covered by the survey. They also represented a somewhat greater proportion (55 percent) of the persons in the population who reported suffering from one or more chronic conditions or impairments.

Table 6 shows that not only were women more likely to report a chronic disease or impairment but that the condition was more likely to be work-limiting and much more likely to result in a severe disability. 51 percent of the women reported some chronic condition, compared with 46 percent of the men. Similarly, 15 percent of the women, compared with 14 percent of the men, were currently disabled. Furthermore, 8 percent of the women but only 6 percent of the men reported that they were severely disabled. These differences produced the following prevalence rates (number per 1,000 population):

Population	Men	Women
With chronic condition	464.7	507.3
Disabled	139.6	152.4
Severely disabled	59.0	85.0

Generally, the types of chronic conditions most prevalent among men were also most likely to occur among women. Nevertheless, some significant sex differences in the prevalence of specific

TABLE 5—Prevalence rate (per 1,000 population) for severely disabled population aged 20-64 and ratio of rates, by age group and condition, 1972

Chronic condition group	Severely disabled population				
	Prevalence rate per 1,000 population		Ratio of prevalence rate of those aged 55-64 to rate of those under age 45	Percent of disability rate increase due to—	
	Under age 45	Aged 55-64		Prevalence of condition	Disabling effects of chronic condition
Total..	31.7	190.2	6.0	17	83
Musculoskeletal	16.1	127.9	7.9	13	87
Cardiovascular..	11.8	130.3	11.0	9	91
Respiratory	7.9	61.6	7.8	13	87
Digestive	8.2	48.6	5.9	17	83
Mental..	11.6	45.0	3.9	26	74
Neurological	3.5	6.6	1.9	53	47
Urogenital	3.1	17.1	5.5	18	82
Neoplasm	1.8	16.2	9.0	11	89
Endocrine	2.5	27.0	10.8	9	91
Other	5.8	33.9	5.8	17	83

disease types were evident, both in the general population and among the disabled. Table 7 shows these differences by major disease group.

Cardiovascular diseases, mental disorders, urogenital conditions, neoplasms, and endocrine (metabolic) disorders were, obviously, much more prevalent among women. The reverse is true only for digestive diseases. Table 6 illuminates some of these differences. The higher prevalence of cardiovascular disease among women was due almost totally to significantly more frequent occurrence of peripheral vascular disorders, such as varicose veins and high blood pressure. Problems involving the heart itself were reported with almost equal frequency by both sexes. The excess of urogenital and endocrine disease among women was due to disorders of the female reproductive system and to thyroid problems, respectively.

Prevalence rates among the disabled for major condition groups followed the same sex pattern as they did in the general population. The differences between men and women for individual condition groups, however, tended to narrow in most instances. Cardiovascular disorders were much more prevalent among women than among men, but for both sexes about 37 percent with these conditions were disabled. For endocrine disorders, this narrowing of the gap between the sexes—for the disabled, compared with the general population—is indicated by the fact that

TABLE 6—Chronic conditions and impairments, by sex Number in adult population aged 20–64 and number per 1,000 population, by condition and disability status, 1972

Chronic condition	Total population				Currently disabled				Severely disabled			
	Men		Women		Men		Women		Men		Women	
	Number (in thou sands)	Number per 1,000 population	Number (in thou sands)	Number per 1,000 population	Number (in thou sands)	Number per 1,000 population	Number (in thou sands)	Number per 1,000 population	Number (in thou sands)	Number per 1,000 population	Number (in thou sands)	Number per 1,000 population
Total reporting . . . . .	50,414		55,854		7,036	139.6	8,514	152.4	2,972	59.0	4,745	85.0
With condition . . . . .	23,429	464.7	28,335	507.3	7,028	139.4	8,422	150.8	2,967	58.9	4,728	84.6
With no condition . . . . .	26,985	535.2	27,519	492.6	11	2	92	1.6	5	1	20	3.8
Musculoskeletal . . . . .	10,074	199.8	10,748	192.4	4,363	86.5	5,089	91.1	1,818	36.1	2,872	51.4
Arthritis or rheumatism . . . . .	4,603	91.3	6,943	124.3	2,063	40.9	3,060	54.8	1,052	20.9	1,826	32.7
Trouble with back or spine . . . . .	5,468	108.5	4,823	86.4	2,526	50.1	2,643	47.3	859	17.0	1,354	24.2
Other . . . . .	2,416	47.9	1,302	23.3	1,342	26.6	971	17.4	647	12.8	620	11.1
Cardiovascular . . . . .	8,727	173.1	12,496	223.7	3,280	65.1	4,559	81.6	1,779	35.3	2,753	49.3
Any heart trouble . . . . .	5,481	108.7	6,125	109.7	2,478	49.2	3,068	54.9	1,430	28.4	2,040	36.5
Heart attacks . . . . .	988	19.6	327	5.9	668	13.3	285	5.1	419	8.3	235	4.2
Heart trouble . . . . .	1,668	33.1	1,656	29.6	1,133	22.5	1,111	19.9	698	13.8	806	14.4
High blood pressure . . . . .	3,444	68.3	4,507	80.7	1,204	23.9	2,163	38.7	692	13.7	1,379	24.7
Stroke . . . . .	251	5.0	213	3.8	200	4.0	190	3.4	173	3.4	171	3.1
Other arterial/vascular . . . . .	3,980	79.0	7,563	135.4	1,221	24.2	2,119	37.9	572	11.3	1,174	21.0
Hardening of arteries . . . . .	570	11.3	451	8.1	357	6.7	298	5.3	233	4.6	230	4.1
Respiratory . . . . .	4,998	99.1	5,959	106.7	1,894	37.6	2,231	39.9	889	17.6	1,348	24.1
Chronic bronchitis . . . . .	720	14.3	1,249	22.4	358	7.7	654	11.7	240	4.8	473	8.5
Emphysema . . . . .	801	15.9	348	6.2	524	10.4	192	3.4	272	5.4	160	2.9
Asthma . . . . .	1,557	30.9	1,789	32.0	559	11.1	700	12.5	211	4.2	371	6.6
Respiratory allergies . . . . .	2,521	50.0	3,094	55.4	689	13.7	920	16.5	216	4.3	480	8.6
Digestive . . . . .	4,520	89.7	4,348	77.8	1,594	31.6	1,870	33.5	780	15.5	1,163	20.8
Stomach ulcer . . . . .	1,952	38.7	1,715	30.7	637	12.6	598	10.7	328	6.5	410	7.3
Other chronic stomach trouble . . . . .	1,138	22.6	1,233	22.1	462	9.2	562	10.1	230	4.6	371	6.6
Hernia or rupture . . . . .	1,268	25.2	756	13.5	468	9.3	311	5.6	188	3.7	141	2.5
Mental . . . . .	2,026	40.2	2,851	51.0	1,291	25.6	1,840	32.9	834	16.5	1,397	25.0
Neurological . . . . .	335	6.6	450	8.1	299	5.9	337	6.0	207	4.1	278	5.0
Urogenital . . . . .	999	19.9	1,432	26.6	367	7.3	749	13.4	201	4.0	441	7.9
Neoplasm . . . . .	971	19.3	1,644	29.4	383	7.6	703	12.6	208	4.1	464	8.3
Endocrine . . . . .	1,366	27.1	3,426	61.3	564	11.2	1,030	18.4	298	5.9	669	12.0
Diabetes . . . . .	1,092	21.7	1,145	20.5	495	9.8	652	9.9	259	5.1	383	6.9
Thyroid trouble . . . . .	270	5.4	2,332	41.8	65	1.3	506	9.1	35	0.7	299	5.4
Other . . . . .	4,929	97.7	6,779	121.3	1,441	28.5	1,890	33.8	635	12.5	978	17.5
Nonrespiratory allergies . . . . .	2,642	52.4	5,060	90.6	404	8.0	778	13.9	110	2.2	337	6.0
Deafness/hearing problem . . . . .	1,388	27.5	695	12.4	438	8.7	309	5.5	199	3.9	185	3.3
Visual impairment . . . . .	664	13.2	679	12.2	416	8.3	464	8.3	233	4.6	303	5.4
Other specified . . . . .	389	7.7	405	7.3	260	5.2	340	6.1	136	2.7	177	3.2

41 percent of the men with such conditions but only 30 percent of the women were disabled

ferences are also reflected in the following prevalence rates per 1,000 population, by race

**Race Differences**

Blacks and members of other minority races were somewhat less likely than white persons to report one or more chronic diseases and impairments, but they were almost one and one-half times more likely to be disabled as a result and even more likely (by more than one and one-half times) even more likely more than one and one-half times to be severely disabled (table 8) Thus, 47 percent of the blacks and members of other minority races reported a chronic condition or impairment, compared with 49 percent of whites; nevertheless, 19 percent of those in minority races but only 14 percent of the white respondents considered themselves currently disabled The corresponding proportions for those who were severely disabled were 11 percent and 7 percent, respectively. These dif-

Population	White	Black and other races
With chronic condition . . . . .	489.3	469.8
Disabled . . . . .	140.5	193.9
Severely disabled . . . . .	67.7	112.3

The differences in reported disability are surprising, given the strong association between age and the prevalence of disability and the fact that blacks and members of other minority races tend to be younger than whites Earlier analysis of the 1972 survey data reported that 7 percent of persons aged 20–34 were disabled and 29 percent of those aged 55–64<sup>5</sup> Other data from the survey show that the median age of whites was 40.5 years, compared with 37.8 for blacks and members

<sup>5</sup> See Kathryn H. Allan, "First Findings of the 1972 Survey of the Disabled General Characteristics," *Social Security Bulletin*, October 1976.

TABLE 7—Prevalence rate (per 1,000 population) for total and disabled population aged 20-64, by sex and condition, 1972

Chronic condition group	Prevalence rate per 1,000 population				Disabled population as percent of total population	
	Total population		Disabled population		Men	Women
	Men	Women	Men	Women		
Musculoskeletal...	199 8	192 4	86 5	91 1	43 3	47 3
Cardiovascular...	173 1	223 7	65 1	81 6	37 6	36 5
Respiratory...	99 1	106 7	37 6	39 9	37 9	37 4
Digestive...	89 7	77 8	31 6	33 5	35 3	43 0
Mental...	40 2	51 0	25 6	32 9	63 7	64 5
Neurological...	6 6	8 1	5 9	6 0	89 3	74 9
Urogenital...	19 8	25 6	7 3	13 4	36 7	52 3
Neoplasm...	19 3	29 4	7 6	12 6	39 4	42 8
Endocrine...	27 1	61 3	11 2	18 4	41 3	30 1
Other...	90 1	114 1	23 4	27 8	26 0	24 3

of other minority races. Similarly, 18 percent of the former were aged 55-64, compared with 14 percent of the latter.

Even more variation, reflecting the differing susceptibility of the races to specific chronic conditions, is apparent when the data are examined

in detail. According to table 9, adult blacks and members of other minority races were much more likely than whites to suffer from cardiovascular diseases, mental disorders, neurological illnesses, and urogenital conditions. For each type of condition cited, the prevalence rates for the former exceeded those for the latter by 20 percent or more. In fact, for mental illnesses and for urogenital disorders, the prevalence rates were 63 percent and 96 percent higher, respectively, for blacks and members of other minority races.

The converse was true for respiratory conditions, digestive diseases, and neoplasms—all conditions for which the prevalence rates for whites were higher than those for blacks and members of other minority races. For the first two conditions, prevalence rates for whites were 16 percent higher. For neoplasms, however, the rate for whites (26.3 per 1,000) was more than double that for blacks and those of other minority races (11.1 per 1,000).

TABLE 8—Chronic conditions and impairments, by race. Number in adult population aged 20-64 and number per 1,000 population, by condition and disability status, 1972

Chronic condition	Total population				Currently disabled				Severely disabled			
	White		Black and other races		White		Black and other races		White		Black and other races	
	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population	Number (in thousands)	Number per 1,000 population
Total reporting...	94,420	-	11,848	-	13,253	140 5	2,297	193 9	6,387	67 7	1,330	112 3
With condition...	46,198	489 3	5,566	469 8	13,198	139 8	2,249	189 8	6,369	67 5	1,324	111 7
With no condition...	48,221	510 7	6,282	530 2	55	5	48	4 0	18	2	6	5
Musculoskeletal...	18,589	186 9	2,233	188 5	8,113	85 9	1,339	113 0	3,828	40 5	862	72 8
Arthritis or rheumatism...	10,168	107 7	1,378	118 3	4,354	46 1	769	64 9	2,361	25 0	517	43 6
Trouble with back or spine	8,863	93 9	865	73 0	4,166	44 1	608	51 3	1,710	18 1	333	28 1
Other	3,161	33 5	557	47 0	1,913	20 3	400	33 8	970	10 3	297	25 1
Cardiovascular...	18,478	185 8	2,744	231 6	6,610	70 0	1,229	103 7	3,692	39 1	840	70 9
Any heart trouble...	9,556	101 2	2,050	173 0	4,523	47 9	1,023	86 3	2,782	29 5	688	58 1
Heart attacks...	1,201	12 7	113	9 5	883	9 4	70	5 9	600	6 4	53	4 5
Heart trouble...	2,783	29 5	540	45 6	1,822	19 3	420	35 4	1,193	12 6	310	26 2
High blood pressure...	6,311	66 9	1,639	138 3	2,574	27 3	791	66 8	1,555	16 5	515	43 5
Stroke	340	3 6	124	10 5	295	3 1	85	6 0	259	2 7	85	7 2
Other arterial/vascular	10,569	111 9	975	82 3	2,967	31 4	372	31 4	1,463	15 5	284	24 0
Hardening of arteries	944	10 0	77	6 5	562	6 0	73	6 2	394	4 2	70	5 9
Respiratory...	9,901	104 9	1,065	89 0	3,597	38 1	527	44 5	1,886	20 0	351	29 6
Chronic bronchitis...	1,814	19 2	165	13 1	941	10 0	101	8 5	616	6 5	97	8 2
Emphysema	1,121	11 9	27	2 3	699	7 4	16	1 4	416	4 4	15	1 3
Asthma	2,916	30 9	430	36 3	1,036	11 0	222	18 7	476	5 0	105	8 9
Respiratory allergies	5,190	55 0	425	35 9	1,468	15 5	141	11 9	621	6 6	75	6 3
Digestive...	8,005	84 8	863	72 8	2,980	31 6	483	40 8	1,661	17 6	282	23 8
Stomach ulcer	3,317	35 1	350	29 5	1,067	11 3	168	14 2	623	6 6	115	9 7
Other chronic stomach trouble	2,066	21 9	304	25 7	799	8 5	224	18 9	503	5 3	97	8 2
Hernia or rupture	1,908	20 2	116	9 8	744	7 9	34	2 9	307	3 3	22	1 9
Mental...	4,050	42 9	827	69 8	2,488	26 4	643	12 1	1,784	18 9	447	37 7
Neurological...	663	7 0	121	10 2	524	5 5	112	9 5	383	4 1	102	8 6
Urogenital...	1,950	20 7	481	40 6	837	8 9	278	23 5	453	4 8	189	16 0
Neoplasm...	2,483	26 3	132	11 1	1,000	10 6	86	7 3	604	6 4	68	5 7
Endocrine...	4,299	45 5	492	41 5	1,364	14 4	231	19 5	828	8 7	142	12 0
Diabetes	1,888	20 0	349	29 5	851	9 0	195	16 5	518	5 5	124	10 5
Thyroid trouble	2,456	26 0	146	12 3	534	5 7	38	3 2	316	3 3	18	1 5
Other...	10,997	116 4	764	64 4	3,051	32 3	309	26 0	1,454	15 3	181	15 2
Nonrespiratory allergies	7,312	77 4	390	32 9	1,130	12 0	53	4 5	406	4 3	41	3 5
Deafness/hearing problem	2,022	21 4	60	5 1	708	7 5	38	3 2	360	3 8	24	2 0
Visual impairment	1,149	12 2	193	16 3	748	7 9	131	11 1	456	4 8	81	6 8
Other specified	676	7 2	98	8 3	529	5 6	66	5 6	273	2 9	36	3 0

TABLE 9—Prevalence rate (per 1,000 population) for total and disabled population aged 20–64, by race and condition, 1972

Chronic condition group	Prevalence rate per 1,000 population				Disabled population as percent of total population	
	Total population		Disabled population		White	Black and other races
	White	Black and other races	White	Black and other races		
Total	489.3	469.8	193.9	140.5	19.4	14.0
Musculoskeletal	196.9	188.5	85.9	113.0	43.6	60.0
Cardiovascular	195.8	231.6	70.0	103.7	35.8	44.8
Respiratory	104.9	80.0	38.1	44.5	36.3	50.0
Digestive	84.8	72.8	31.6	40.8	37.2	56.0
Mental	42.9	69.8	28.4	12.1	61.4	77.8
Neurological	7.0	10.2	5.5	9.5	79.0	92.6
Urogenital	20.7	40.6	8.9	23.5	42.9	57.8
Neoplasm	26.3	11.1	10.6	7.3	40.3	65.2
Endocrine	45.5	41.5	14.4	19.5	31.7	47.0
Other	109.3	56.2	26.7	20.5	24.4	36.5

The higher prevalence of cardiovascular diseases among blacks and persons of other minority races, as the data in table 8 show, results almost entirely from high blood pressure, a disease more than twice as prevalent among this group than among whites—138.3 cases per 1,000 and 66.9 cases per 1,000, respectively. High blood pressure is one of the forms of heart disease that can often be controlled by medication. The higher prevalence of this group of diseases, particularly high blood pressure, among blacks and those of other minority races has been well-documented medically,<sup>9</sup> unlike the other conditions that have a differential association with disability according to race.

Significantly, for all groups of conditions examined here, the proportion of persons with the disease who were also disabled was higher for blacks and other minority races than for whites. This finding is true even for neoplastic diseases, despite their much higher prevalence among whites.

Further analyses of these differences by race would require more detailed information about specific conditions and their natural histories. Yet the available data raise some interesting questions about differences in the dynamics of the disease process among the races. Do the higher prevalence rates of chronic conditions and the

<sup>9</sup> See Edward F. Eckenfels et al, "Endemic Hypertension in a Poor, Black Rural Community: Can It Be Controlled," *Journal of Chronic Diseases*, 1970, pages 499–518.

higher likelihood of associated disability among blacks and members of other minority races suggest the occurrence of relatively more severe cases as a result of genetic and environmental differences? Or does the fact that higher proportions of these minority races tend to be disabled, regardless of the type of condition involved, reflect differences in the economic conditions that face impaired blacks in comparison with those that whites encounter in similar situations?

### Multiple Conditions

The presence of multiple conditions, as well as their number, seemed to increase the likelihood of being disabled. Three-fourths of the survey respondents who were currently disabled reported two or more chronic conditions or impairments, but somewhat less than one-sixth of those who were not disabled reported more than one condition.

The presence of severe disability increased even more sharply with the number of conditions. Five percent of the population reporting one condition was severely disabled; ten times that proportion was severely disabled among persons with four or more conditions. These relationships are illustrated below.

Disability status	Number of conditions			
	One	Two	Three	Four or more
Total number (in thousands)	25,920	12,300	6,341	7,202
Total percent	100.0	100.0	100.0	100.0
Currently disabled	14.3	29.0	43.6	75.0
Severe	4.9	11.6	22.6	49.6
Partial	9.5	17.4	20.9	25.4
Nondisabled	85.7	71.0	56.4	25.0

The relationships illustrated are partly the result of differences in the age distributions of the disabled and the nondisabled since age is highly correlated with both the likelihood of disability and the number of conditions reported. Table 10 shows that the number of chronic conditions reported increased significantly with age, regardless of disability status. Moreover, four times as many of the currently disabled aged

TABLE 10—Number of conditions reported Percentage distribution of adult population aged 20-64, by disability status and age group, 1972

Number of conditions	Total	Age group			
		20-34	35-44	45-54	55-64
<i>Total population</i>					
Total number (in thousands)	106,268	41 771	21 909	23 606	18 982
Total percent	100 0	100 0	100 0	100 0	100 0
None	51 2	63 6	53 2	41 6	33 7
1	24 4	23 0	25 2	26 5	23 9
2	11 6	8 6	10 9	14 8	14 8
3	6 0	3 1	5 7	7 9	10 2
4 or more	6 7	1 7	4 8	9 2	17 4
<i>Currently disabled</i>					
Total number (in thousands)	15,550	2,994	2 398	4,560	5,591
Total percent	100 0	100 0	100 0	100 0	100 0
None	6	1 0	1 3	8	0
1	23 9	39 9	27 5	22 6	14 9
2	22 9	31 0	23 4	22 4	18 9
3	17 8	16 2	19 0	18 9	17 1
4 or more	34 7	11 8	28 8	35 4	49 0
<i>Severely disabled</i>					
Total number (in thousands)	7,717	923	1,095	2 089	3 610
Total percent	100 0	100 0	100 0	100 0	100 0
None	3	1	1 3	3	0
1	16 3	32 0	18 8	15 3	12 2
2	18 5	25 4	18 6	17 8	17 1
3	18 6	24 9	20 5	19 9	15 7
4 or more	46 3	17 6	40 7	46 7	65 1
<i>Nondisabled</i>					
Total number (in thousands)	90,718	38,776	19,511	19,040	13,391
Total percent	100 0	100 0	100 0	100 0	100 0
None	59 9	68 5	59 6	51 4	47 8
1	24 5	21 7	24 9	27 4	27 6
2	9 6	6 9	9 4	13 0	13 1
3	3 9	2 1	4 1	6 2	7 3
4 or more	2 0	9	1 8	2 9	4 2

55-64 as of those aged 20-34 had four or more conditions For the severely disabled, about half of those aged 45-64 had four or more conditions, less than 5 percent of the nondisabled in that age group reported that they had at least four chronic conditions

### Role of Accidents

Accidents and/or injuries caused a significant proportion of the chronic diseases and/or impairments reported by survey respondents Furthermore, the proportion was much higher among the disabled than among those who were not disabled

According to table 11, almost one-seventh of the adult population reporting a chronic condition indicated that it was accidental in origin.

Among the nondisabled, less than one-tenth reported a condition caused by accident or injury On the other hand, one-fifth to one-fourth of both the currently disabled and the severely disabled reported a disease or impairment of accidental origin Obviously, accidents or injuries either caused or, at the least, contributed significantly to the extent of work disability reported by the adult population

Accidentally induced chronic diseases and/or impairments were much more likely to be reported by men than by women and by whites than by blacks and members of other races, regardless of disability status The proportion of men with an accident-related condition ranged from 16 percent of the nondisabled to 31 percent of the currently disabled The comparable figures for women were 5 percent and 18 percent, respectively

The differences noted above in the relative frequency of chronic diseases and impairments caused accidentally probably reflect differences between men and women in labor-force participation and differences in the kinds of jobs held by men and women This hypothesis is supported by the data on age in table 11 In fact, the proportion of accidentally caused conditions first increased with age, declined slightly after age 45, and then dropped more rapidly after age 55, regardless of disability status Obviously, the decline after age 45 in the importance of accidents as a cause of chronic impairment also reflects the fact that chronic, degenerative diseases begin to occur more frequently after middle age

The importance of the workplace in accidentally caused chronic conditions and impairments is underscored dramatically by the figures in table 12 Injuries that occurred on the job were the most frequent type/place of accident reported; fully one-third of the accidents reported took place there. Automobile accidents—the second most frequent type/place—accounted for one-fourth of the accidents reported

This pattern held for all disability groups, regardless of severity Some differences were observed, however, by sex, age, and race Among women and disabled persons under age 35, accidents involving motor vehicles were the type reported most frequently Such accidents accounted for more than 40 percent of those reported by women and by the severely disabled under age 35

TABLE 11—Cause of chronic conditions and impairments Number and percent of adult population aged 20-64 with chronic conditions, by disability status, sex, age group, and race, 1972

Age, sex, and race	Total population			Currently disabled			Severely disabled			Nondisabled		
	Total number (in thou sands)	Condition caused by accident		Total number (in thou sands)	Condition caused by accident		Total number (in thou sands)	Condition caused by accident		Total number (in thou sands)	Condition caused by accident	
		Number (in thou sands)	Percent of total		Number (in thou sands)	Percent of total		Number (in thou sands)	Percent of total		Number (in thou sands)	Percent of total
Total <sup>1</sup>	50,759	7,019	13.8	14,815	3,519	23.8	7,515	1,663	22.1	35,944	3,499	9.7
Sex												
Men	22,815	4,636	20.3	6,668	2,054	30.8	2,866	789	27.5	16,147	2,582	16.0
Women	27,944	2,382	8.5	8,147	1,465	18.0	4,649	874	18.8	19,797	917	4.6
Age group												
20-34	14,773	2,048	13.9	2,693	697	25.9	901	177	19.6	12,079	1,351	11.2
35-44	10,005	1,483	14.8	2,252	640	28.4	1,017	287	28.2	7,753	843	10.9
45-54	13,591	1,818	14.1	4,413	1,141	25.9	2,060	458	22.2	9,177	777	8.5
55-64	12,391	1,570	12.7	5,436	1,041	19.1	3,536	739	20.9	6,935	629	7.6
Race												
White	45,300	6,497	14.3	12,670	3,121	24.6	6,207	1,433	23.1	32,630	3,376	10.3
Black and other	5,460	520	9.5	2,145	398	18.6	1,308	230	17.6	3,314	122	3.7

<sup>1</sup> Excludes persons with unknown cause of condition

TABLE 12—Place/type of accident Number and percent of adult population aged 20-64 with chronic conditions, by disability status, sex, age group, and race, 1972

Disability status and place/type of accident	Total	Sex		Age group				Race	
		Men	Women	20-34	35-44	45-54	55-64	White	Black and other
<i>Total population</i>									
Total number (in thousands)	7,019	4,636	2,382	2,048	1,483	1,918	1,570	6,497	520
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
On the job	36.5	48.4	13.4	29.4	35.1	41.8	40.8	35.1	54.4
Moving vehicle	24.3	14.0	44.5	29.3	24.5	19.2	28.8	24.3	25.0
At home	15.4	10.8	24.3	13.0	20.4	15.2	14.0	15.9	9.6
Other	23.2	25.9	17.8	28.2	18.8	22.9	21.0	24.1	11.2
Type not reported	6	8	1	0	1.3	9	3	6	
<i>Currently disabled</i>									
Total number (in thousands)	3,519	2,054	1,465	697	640	1,141	1,041	3,121	398
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
On the job	38.1	54.9	14.5	23.5	42.8	40.6	41.9	36.8	48.5
Moving vehicle	26.7	14.5	43.9	37.7	29.4	20.8	24.2	26.2	31.2
At home	14.9	7.5	25.2	11.9	17.0	14.8	15.6	15.8	7.8
Other	20.0	22.6	16.4	26.5	9.8	23.6	18.0	21.0	12.8
Type not reported	3	4	1		9	2	4	4	
<i>Severely disabled</i>									
Total number (in thousands)	1,663	789	874	177	287	458	739	1,433	230
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
On the job	37.3	62.5	14.5	26.0	36.6	36.2	40.9	36.8	40.0
Moving vehicle	31.1	15.1	45.7	46.9	33.8	31.7	26.1	30.8	33.5
At home	13.8	4.9	21.7	3.4	18.5	13.1	14.9	14.7	8.3
Other	17.6	17.1	18.0	23.7	10.5	19.0	18.0	17.4	17.8
Type not reported	2	4	3		7		3	3	
<i>Nondisabled</i>									
Total number (in thousands)	3,499	2,582	917	1,851	843	777	529	3,376	122
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
On the job	35.0	43.3	11.7	32.3	29.2	43.5	38.8	33.6	73.8
Moving vehicle	21.9	13.6	45.4	24.9	20.9	18.9	23.1	22.5	4.9
At home	15.9	13.5	22.8	13.5	22.8	15.8	11.0	15.9	15.6
Other	26.4	28.5	20.2	29.1	25.6	21.9	27.2	27.1	5.7
Type not reported	9	1.2		1	1.5	2.1		9	

The importance of accidents or injuries as a cause of chronic diseases and impairments also varied widely with the type of condition involved (table 13) Accidents and injuries may, indeed,

account for the high prevalence of musculoskeletal disorders in the adult population as previously reported. Fully one-fourth of the musculoskeletal disorders reported in the 1972 survey were the result of accidents or injuries. Moreover, this proportion held for both the disabled and the nondisabled, although it fell to only 17 percent for the severely disabled. Accidents accounted for 10 percent or more of the cases reported in the general population for only three other conditions—hearing problems, visual impairments, and epilepsy.

In general, the sample was a stratified multi-stage cluster design comprised of 357 sampling areas including every county and some independent cities in the United States. The disabled persons were selected from all 357 strata, the non-disabled and recently disabled groups were chosen from a special subset of 105 strata. The sample was designed to represent the noninstitutionalized civilian population of the United States aged 18-64 as of April 1970.

## Technical Note\*

### STUDY DESIGN

The survey data were collected and processed by the Bureau of the Census. Survey estimates are based on a sample of 18,000 interviewed persons selected from the 1970 5-percent Census sample. Of these 18,000 persons, 11,700 were selected from all who indicated that they were disabled before October 1969 on the 1970 Census questionnaire. These persons make up the disabled sample. A mail screening in 1971 of the remaining persons resulted in two other sample groups—5,100 nondisabled persons and 1,200 recent-onset cases. In addition to the sample of interviewed persons, there were 2,850 noninterviews. Thus the rate of “good responses” for the survey—based on 18,000 interviewed persons out of 20,850 eligible for interview—is 86 percent. The number and reason for noninterviews were as follows:

### DEFINITION OF DISABILITY

Disability is defined in this study as a limitation in the kind or amount of work (or housework) resulting from a chronic health condition or impairment lasting 3 months or longer. The disability classification is based on the extent of the individual's capacity for work, as reported by the respondent in a set of work-qualification questions. Data on employment and on functional capacities—such as mobility, activities of daily living, personal care needs, and functional activity limitations—were also collected to evaluate further the nature and severity of disability.

The severity of disability was classified by the extent of work limitation as:

*Severely disabled*—unable to work altogether or unable to work regularly

*Occupationally disabled*—able to work regularly but unable to do the same work as before the onset of disability or unable to work full time

*Secondary work limitations*—able to work full time, regularly, and at the same work but with limitations in the kind or amount of work they can perform, women with limitations in keeping house but not in paid work are included as having secondary work limitations

<i>Noninterview reason</i>	<i>Number of persons</i>
Total .....	2,850
Unable to contact .....	1,240
Temporarily absent .....	100
Refused .....	620
Moved outside 357 primary sampling units .....	650
Miscellaneous .....	240

\* For a description of the reliability of the estimates, see the data in the technical note in Kathryn H. Allan, “First Findings of the 1972 Survey of the Disabled: General Characteristics,” *Social Security Bulletin*, October 1976, pages 35-37.

### CHRONIC AND/OR DISABLING CONDITIONS

During the household interview, all respondents were shown the following list of chronic conditions and impairments, and asked, “Do you have any of these conditions or impairments?”

TABLE 13—Cause of chronic conditions and impairments Number and percent of adult population aged 20-64 with chronic conditions, by disability status and condition, 1972

Chronic condition	Total population			Currently disabled			Severely disabled			Nondisabled		
	Total number (in thou sands)	Condition caused by accident		Total number (in thou sands)	Condition caused by accident		Total number (in thou sands)	Condition caused by accident		Total number (in thou sands)	Condition caused by accident	
		Number (in thou sands)	Percent of total		Number (in thou sands)	Percent of total		Number (in thou sands)	Percent of total		Number (in thou sands)	Percent of total
Total	106,268	7,019		15,550	3,519		7,717	1,862		90,718	3,499	
Musculoskeletal	20,822	5,516	26.5	9,452	2,770	29.3	7,693	1,270	16.5	11,370	2,746	24.2
Arthritis or rheumatism	11,547	479	4.1	5,123	1,877	3.7	2,878	82	2.8	8,424	291	4.5
Trouble with back or spine	10,291	3,192	31.0	5,169	1,631	31.6	2,213	719	32.5	5,122	1,581	30.5
Missing limbs, all or part	324	208	64.2	137	85	62.0	57	28	49.1	187	124	66.3
Chronic stiffness	3,155	1,632	51.7	1,919	864	45.0	1,064	439	41.3	1,236	769	62.2
Other	285	6	2.1	282	3	1.1	160	2	1.2	3	3	100.0
Cardiovascular	21,222	220	1.0	7,839	101	1.3	4,532	84	1.9	13,383	119	0.9
Respiratory	10,957	24	0.2	4,124	19	0.5	2,237	14	0.6	6,832	4	0.1
Digestive	8,868	226	2.5	3,463	142	4.1	1,943	44	2.3	5,404	84	1.6
Hernia or rupture	2,025	174	8.6	778	91	11.7	329	24	7.3	1,246	82	6.6
Other	7,552	52	0.7	3,042	50	1.6	1,835	20	1.1	4,509	2	(1)
Mental	4,877	135	2.8	3,131	98	3.1	2,231	74	3.3	1,746	37	2.1
Mental illness	649	46	7.1	519	46	8.9	467	44	9.4	130		
Mental retardation	338	21	6.2	325	21	6.5	259	15	5.8	13		
Other	4,170	68	1.6	2,538	31	1.2	1,733	15	0.9	1,631	37	2.3
Neurological	784	73	9.3	636	69	10.8	485	43	8.9	148	4	2.7
Epilepsy or seizures	504	61	12.1	369	57	15.4	299	31	10.4	134	4	3.0
Other	288	12	4.2	275	12	4.4	192	12	6.2	13		
Urogenital	2,431	31	1.3	1,115	12	1.1	642	7	1.1	1,316	19	1.4
Neoplasm	2,615	29	1.1	1,086	8	0.7	672	3	0.4	1,529	21	1.4
Endocrine	4,791	82	1.7	1,594	23	1.4	963	2	0.2	3,197	10	0.3
Other	11,708	411	3.5	3,330	168	5.0	1,614	77	4.8	8,377	243	2.9
Deafness/hearing problem	2,083	264	12.7	746	82	11.0	384	40	10.4	1,337	182	13.6
Visual impairments	1,343	137	10.2	880	77	8.8	537	32	6.0	463	60	13.0
Other specified	8,682	10	0.1	1,910	10	0.5	826	5	0.6	6,771		

1 Less than 0.05 percent

Asthma  
Tuberculosis  
Chronic bronchitis  
Emphysema  
Any other chronic lung trouble  
Allergies affecting breathing  
Any other allergy  
Rheumatic fever  
Hardening of the arteries  
High blood pressure (hypertension)  
Heart attacks (coronary)  
Heart trouble  
Stroke  
Trouble with varicose veins  
Hemorrhoids or piles  
Tumor, cyst, or growth  
Cancer  
Gallbladder or liver trouble  
Stomach ulcer  
Other chronic stomach trouble  
Kidney stones or kidney trouble

Arthritis or rheumatism  
Mental illness  
Mental retardation  
Diabetes  
Thyroid trouble or goiter  
Epilepsy or seizures  
Multiple sclerosis  
Alcohol or drug problems  
Chronic nervous trouble  
Hernia or rupture  
Deafness or serious trouble with hearing  
Blindness or serious trouble with seeing, even when wearing glasses  
Missing legs or feet  
Missing arms or hands  
Chronic stiffness or any deformity of the foot, leg, arm, or hand  
Repeated trouble with back or spine  
Chronic stiffness or deformity of the back or spine

archical list of diagnostic groups and conditions within each group. The priority order of the diagnostic groups was as follows (from highest to lowest):

Cardiovascular  
Respiratory  
Neurological  
Mental  
Musculoskeletal

Digestive  
Urogenital  
Neoplasm  
Endocrine  
Other specified conditions

This procedure was followed except where the respondent indicated that any of the conditions reported was the result of an accident. Conditions caused by accidents were automatically assigned the top priority.

In addition, respondents reporting that their health kept them from working at all or limited the kind or amount of work or housework they could do were shown the same list of conditions, and asked, "Are (were) any of these conditions the main reason for your work limitation?" If the condition mainly responsible for limiting the ability to work was not listed, survey respondents were asked to name and describe that condition. Information about other conditions that might have interfered with their work capacity was not elicited.

Provision was made for reporting of multiple conditions. Where six or more conditions were reported by a respondent, however, only the five most important were recorded and tabulated. The relative importance of specific conditions was assigned on the basis of a predetermined, hier-