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# Vital and Health Statistics

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## Health Conditions Among the Currently Employed: United States, 1988

Series 10:  
Data From the National Health Interview  
Survey  
No. 186

This report presents national estimates of the prevalence and incidence of selected health conditions and their work-related consequences among currently employed persons 18 years of age and over. The major health conditions presented include back pain; hand discomfort; dermatitis; eye, nose, and throat irritation; and work injuries. Also presented are estimates of the distribution of workers on selected physical activities and exposures at work. Data are presented by age, sex, race, ethnicity, education, and broad occupational category.

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### Symbols

- Data not available
  - . . . Category not applicable
  - Quantity zero
  - 0.0 Quantity more than zero but less than 0.05
  - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
  - \* Figure does not meet standard of reliability or precision (100 or fewer estimated deaths; relative standard error of 30 percent or more)
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# Health Conditions Among the Currently Employed

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## Introduction

Approximately 66 percent of adults, aged 18 years and older, are currently employed (according to 1988 statistics) (1). Among the population aged 18–64 years, the percent currently employed is about three of every four adults. Therefore, the health of this work force contributes heavily to the Nation's overall health status among adults as well as to the country's economy.

The health conditions covered in this report are among those known to occur in association with employment (2). This report on the health conditions of the currently working, civilian noninstitutionalized population of the United States presents estimates for the prevalence and incidence of selected work-related health conditions and the work-related consequences of these health conditions, regardless of whether the problem was a result of employment. The report also presents estimates of the distribution of currently working persons who report that they are performing various physical activities or being exposed to substances in the workplace that are thought to

increase the risk of adverse health effects. All information is presented for the total working population as well as estimates for various sociodemographic characteristics, including age, sex, race, education, ethnicity, and broad occupational category.

The data on which this report is based were collected by the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention in the Occupational Health Supplement of the 1988 National Health Interview Survey (NHIS–OHS). The National Health Interview Survey (NHIS) is a household survey designed to provide estimates representative of the U.S. civilian noninstitutionalized population. In 1988, one adult (aged 18 years or over) in each sampled household was selected at random to be interviewed with the NHIS–OHS questionnaire. A total of 44,233 interviews were completed out of a total of 50,061 sampled households, representing an 87 percent response rate. The refusal rate was 6.7 percent ( $n = 3,358$ ). Of those interviewed, 27,408 were of currently employed individuals. These latter interviews provide the basis of this report.

In 1984, the National Institute for Occupational Safety and Health (NIOSH) developed a list of leading work-related diseases and injuries (2), health problems that can result from work and cause the greatest mortality and morbidity. The list includes lung diseases, musculoskeletal injuries, cancers, traumatic injuries, cardiovascular diseases, disorders of reproduction, neurotoxic disorders, noise-induced loss of hearing, dermatologic conditions, and psychological disorders. The NHIS–OHS cannot address all of the conditions listed. Because information is collected by household interview with the general population, the NHIS is not the best way to obtain information about some of the conditions listed, such as those with low incidence (for example, cancers) or those that may not be evident to the person except through physical testing (such as certain neurotoxic conditions). However, some of the conditions are especially suitable for the collection of data from affected persons themselves. This is true of conditions that do not always result in medical care utilization or in which medical care is fragmented, so that other potential data sources,

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NOTE: Funding for the Occupational Health Supplement was provided by the National Institute for Occupational Safety and Health (NIOSH) and the Bureau of Labor Statistics (BLS). The following individuals contributed to the planning and development of the survey instruments: from NIOSH, Richard Ehrenberg and Joseph Sniec (Office of the Director), Vernon Putz-Anderson (Division of Biological and Behavioral Sciences), and C.G. Toby Mathias and John Sestito (Division of Surveillance, Hazard Evaluations and Field Studies); from BLS, Harvey Hilaski and Janice Windau (Division of Safety, Health, Program Analysis and Control); and, from the National Center for Health Statistics (NCHS), numerous staff of the Division of Health Interview Statistics, particularly Peggy Barker (Survey Planning and Development Branch), staff of the Questionnaire Development and Research Laboratory, and Patricia A. Buffer (Division of Epidemiology and Health Promotion).

The following individuals contributed to the planning and review of this report: from NIOSH, Virginia Behrens and Lorraine Cameron (Division of Surveillance, Hazard Evaluations and Field Studies) and Deborah Landen (Division of Safety Research); and, from BLS, William Weber (Division of Safety, Health, Program Analysis and Control).

Jessica Chan and Van Parsons (Office of Research Methodology, NCHS) are acknowledged for producing standard error estimates for this report.

especially record-based sources, do less well in assessing morbidity.

The health conditions examined in this report include musculoskeletal conditions (back pain, hand discomfort, and repeated trouble with neck, back, or spine), work-related injuries, skin conditions (dermatitis), and eye, nose, and throat irritation. These were the conditions from the NIOSH list considered to be appropriately examined in a health interview survey approach. The selection of some of these conditions was based on the absence of any national data on these leading occupational health problems. In addition, some data were collected on other conditions from the list. Other conditions covered in this report include carpal tunnel syndrome, tendinitis, asthma, chronic bronchitis, and deafness or trouble hearing. This report includes estimates of the percent of the population having these conditions for specific time periods, ranging from having had the condition at some time in the 12 months prior to interview to having had the condition in the 2 weeks prior to interview. The length of period of recall was designed to reflect the chronicity and frequency of the health condition and the ability of the informant to recall the existence of these conditions reliably. For some conditions, detailed questions regarding the health condition are included to characterize the condition more thoroughly.

Several work-impact measures are also presented. These measures include whether and how long the informant missed work because of the health condition, the perceived cause of the condition, and job or work-activity changes as a result of the health condition.

Several work conditions have been described that are associated with an increased risk to the employee for a variety of adverse health conditions. In this report, distributions of some of those risk factors are presented for the currently working population. The work-related activities include repeated strenuous physical activity; repeated bending, twisting, or reaching; bending or twisting of the hands and wrists; hand operation of vibrating machinery; and work exposure on hands or arms to chemical or other substances.

The primary purpose of this report is to present estimates that can be useful for persons interested in comparing data from their own working populations to the national working population. The data will also be useful to persons interested in identifying leads for further research on the existence and causes of adverse health conditions in working populations.

Data from the NHIS are available on microdata tapes and CD-ROM. Public-use data tapes are available for the 1988 NHIS-OHS as well as for many other special health topics included in the NHIS since 1973 and basic health data on persons for each survey year from 1969 on. Questions pertaining to the cost and availability of the basic health and demographic data should be directed to the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. Information on obtaining tapes relating to special topics, including the 1988 NHIS-OHS, is available from the National Center for Health Statistics, Division of Health Interview Statistics, Systems and Programming Branch, 6525 Belcrest Road, Hyattsville, MD 20782.

# Highlights

Highlights of the data from the Occupational Health Supplement of the 1988 National Health Interview Survey, covering 27,408 currently employed women and men in the United States, are:

- Of the currently employed population, spending 4 or more hours daily at work in repeated strenuous physical activity was reported by 16 percent; in repeated bending, twisting, or reaching by 30 percent; in bending or twisting of hands or wrists by 38 percent; and in hand operation of vibrating machinery by 8 percent. The percent for each of the work activities were strongly associated with age and education of the individual, such that jobs among workers of higher age and higher education were associated with fewer of these physical activities.
- Back pain every day for a week or more during the past 12 months was reported by 18 percent of the currently working population. Of these, about half attributed the cause of the back pain to a work-related activity or injury or both. Workers in farming, forestry, or fishing occupations attributed back pain to a work-related activity or injury in 80 percent of the cases. A quarter of the individuals reporting notable back pain missed at least 1 day of work. One in five workers had changed work activities or jobs during their working life because of back pain.
- Hand discomfort was reported by 22 percent of the currently working population. Among those reporting hand discomfort, about one-quarter attributed the discomfort entirely to an injury. Among those whose hand discomfort was not due to an injury, 59 percent (9.3 percent of all current workers) reported having prolonged hand discomfort. Of those reporting prolonged hand discomfort, 56 percent had experienced this discomfort for 2 years or more, and 10 percent for more than 10 years. Eleven percent either changed work activities or jobs during their working life because of hand discomfort.
- About 12 percent of currently working adults reported having skin conditions (dermatitis). Of these, 15 percent attributed the condition to chemicals or other substances at work. White collar and postgraduate-educated workers reported dermatitis most often; however, they attributed their conditions to chemicals or other substances at work least frequently. About half of those reporting a dermatitis said that the condition had lasted more than a month.
- Eye, nose, and throat irritation during the prior 2-week period was reported by 36 percent of the currently working. Of these, 57 percent of eye irritation, 76 percent of nose irritation, and 69 percent of throat irritation were attributed to colds, flu, or allergies.
- More than 7 percent of the currently working population experienced one or more on-the-job injuries in the past 12 months. One-fifth of the injuries affected the back, and 28 percent affected the hand, wrist, or finger. The most common types of injuries were strains or sprains (26 percent), lacerations or punctures (21 percent), and contusions or abrasions (13 percent). One in 11 injured persons changed employer, kind of work, or work activities as a result of the injury.
- Neck, back, and spine trouble was the most common chronic condition (19 percent) noted from a list of conditions. Hearing problems were reported by 8 percent of the respondents. Also noted were tendinitis, asthma, chronic bronchitis, and carpal tunnel syndrome.
- The percent of currently smoking workers decreased in the past decade to 30 percent. More than half of the workers (55 percent) were employed at worksites where smoking was not allowed. The percent of workers who reported having chronic bronchitis in the past 12 months was higher among current (2.8 percent) and former smokers (1.8 percent) than among workers who had never smoked (1.2 percent).



## Other related data

Several earlier NCHS publications in Series 10 of the *Vital and Health Statistics* series cover data collected through the NHIS and are devoted to health-status characteristics of individuals who were or had been working. Limitation of activity, disability days, incidence of acute conditions, and utilization of medical and dental care services were described for currently working populations in *Selected Health Characteristics by Occupation: United States, July 1961–June 1963* (3), *Selected Health Characteristics by Occupation: United States, 1975–76* (4), and *Health Characteristics by Occupation and Industry: United States, 1983–85* (5). Another report titled *Health Characteristics by Occupation and Industry of Longest Employment* (6) presented similar information according to the categories of occupation and industry of longest employment based on the 1980 NHIS. In addition, the annual *Current Estimates From the National Health Interview Survey* (7) and occasional topically focused Series 10 reports have used occupation and industry as analytic variables.

Another data source on the health conditions of the currently working population is the annual *Occupational Injuries and Illnesses in the United States by Industry* (8), published by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor. The report includes incidence and lost workday estimates for various occupational injuries and illnesses. The report is based on employers' records mandated by the Occupational Safety and Health Administration (OSHA).

Information is regularly collected from several other NCHS data systems on the current job of the informant. The following is a list of some resulting publications since 1970. In the National Health and Nutrition Examination Survey of 1971–75 (NHANES I), skin conditions resulting from work-related exposures (9) and depressive symptomatology related to work status (10) were assessed through medical examination. In 1976–80 (NHANES II), blood lead levels were assessed according to work status and the potential for lead exposure in the workplace (11). The National Survey of Family Growth (NSFG) evaluates the reproductive history of women aged 15–44 years; data on childbearing among working women are available from the 1976 survey (12). Other data systems occasionally collect data on current employment and work conditions (13).

The above publications were based on surveys in which information was collected on the current job as part of the regular assessment of socioeconomic variables. These surveys did not focus on health conditions of people in the workplace or on health conditions thought to be related to work conditions. This report, however, focuses on the currently working population and their work conditions and health problems. For the purposes of this report, “currently employed” and “currently working” refer to the same population.

## Sources and limitations of data

The estimates presented in this report were based on information collected in the 1988 National Health Interview Survey, Occupational Health Supplement. This supplement was developed jointly by the National Center for Health Statistics and the National Institute for Occupational Safety and Health of the Centers for Disease Control and Prevention (CDC), and the Bureau of Labor Statistics.

The NHIS is an ongoing, cross-sectional survey of the U.S. civilian noninstitutionalized population conducted annually by NCHS. Each week a national probability sample of households is contacted. Household members are interviewed in person by an interviewer from the U.S. Bureau of the Census.

The NHIS has two main parts: a basic health and demographic questionnaire, which is repeated every year, and one or more special health topic questionnaires, which change annually. In 1988, the special topics included AIDS (acquired immunodeficiency syndrome) knowledge and attitudes, medical device implants, occupational health, alcohol use, and child health. These data sets and the basic questionnaire data sets can be linked for analytic purposes.

For the NHIS-OHS, one adult household member aged 18 years or older was randomly selected from each sampled household. The questionnaire was administered in person to that adult household member. In 1988, the basic health questionnaire was administered to 47,485 households containing 122,310 persons. The total response rate was 94.9 percent of the total 50,061 sampled households. The NHIS-OHS collected data on 44,233 adult household members, about 91.5 percent of those identified to be eligible ( $n=48,365$ ). Thus, the combined overall response rate for the NHIS-OHS was 87 percent, the product of the response rates for the basic and the occupational health questionnaires. Item nonresponse for the variables used in this report was low, generally less than 5 percent.

The information presented in this report is based on the NHIS-OHS information collected on currently working adults. Of the total number of NHIS-OHS informants, 27,408 were currently working at the time of the interview.

The estimates presented in this report are, therefore, for currently working, civilian noninstitutionalized adults.

Details of the survey design, methods used in estimation, and the general qualifications of the data obtained with the survey can be found in appendix I. Because the estimates are based on a sample, they are subject to sampling variability. Formulas for computing sampling errors are also described in appendix I. In general, the standard errors associated with the estimates are low. However, when the number in the numerator or denominator of a percent estimate is quite small, the standard errors may be large. Those estimates with a relative standard error (RSE) of 30 percent or more are indicated with an asterisk in all tables. Data cells for which there were no responses are indicated in the tables with a “-”.

The NHIS-OHS questionnaire was developed as a joint activity of NCHS, NIOSH, and BLS. The health conditions and work-related conditions to be assessed were identified by NIOSH and BLS. The three agencies then worked jointly to determine which of the conditions were likely to have high enough morbidity to be estimable with a survey the size of NHIS and were also appropriate to an interview format. Although considerable effort has been made to ensure accurate reporting, the information from self-respondents may be inaccurate because the respondent may have been unaware of relevant information, had forgotten it, did not wish to reveal it to an interviewer, or did not understand the intended meaning of a question.

In each household, a randomly selected adult was chosen for the supplement interview. The questionnaire consists of eight sections. The first section focuses on the work history of the respondent. It obtained detailed information on current employment from the individual, the longest held job, and employment in the past 12 months. This section also obtained information on certain types of work activities and work exposures. The next six sections focus on various health conditions: back pain; hand discomfort; work injuries; skin conditions (dermatitis); eye, nose, and throat irritation; and other conditions. The final section focuses on cigarette smoking.

Definitions for many of the terms used in this report can be found in appendix II. The entire NHIS-OHS questionnaire is presented in appendix III.

# Table formats

The tables included in this report present the majority of the data collected through the Occupational Health Supplement from currently working adults. The tables present these data by major sociodemographic variables and by broad classification of occupation.

Most of the tables contain percents of the currently working population (appropriately defined for the sociodemographic or occupational variable) that have a specified attribute (either health status or work-related condition). Therefore, the columns of each section of the tables add to 100 percent, allowing for rounding error. Exceptions are tables in which each percent is independent of other row percents. These tables are labeled as "percent of persons," in contrast with tables labeled "percent distribution." The percents are weighted, unless indicated otherwise, so that they are representative of the national population. Because NHIS is designed as a complex, multistage probability sample, it is necessary to reflect this complex design in the derivation of the estimates of percents. Therefore, each of the percents presented in the table have been calculated using the weights provided for each sample person. These weights incorporate adjustments based on the sample design and response patterns so that estimation using these weights produces

values representative of the resident, civilian noninstitutionalized population of the United States. (For details of the calculation of the weights, use of the weights in the calculation of the statistics, and estimation of standard errors of the statistics, see appendix I.)

Although these estimates are nationally representative, they are taken from data collected from a sample of people. The precision of the estimate depends on the sample size; the larger the sample, the more precise the estimate. Accordingly, sample sizes are included for each estimate to keep the estimates in context.

The numbers of respondents provide a sense of the errors in the estimate. However, the calculation of standard errors and statistical significance should incorporate the specific sampling information for the survey. If only the number of respondents and an assumption of simple random sampling to estimate the standard error are used, the estimates will be erroneous and probably too small because potential clustering and other factors, such as multistage sampling, due to the complex sampling design, would not be included in the standard error estimate. One method to approximate the standard error that incorporates sampling design information is used in this report and is described in appendix I.

# Results

Given the large number of tables included in this report, it is impossible to discuss all the findings in detail. In this section, some of the results are highlighted for each section of tables.

## Working population

Table 1 shows the percent distribution of work status of all persons 18 years of age and over in the United States in 1988. The estimates are presented by sociodemographic variables—sex, age, race, ethnicity, and education—as well as by geographic region and place of residence, which is defined as metropolitan statistical area (MSA) or non-MSA. Based on information provided by all 44,233 adults who were interviewed, approximately 4 percent of the U.S. adults had never worked, 66 percent were currently employed, and 31 percent were currently not working. Some variation in the work status was noted by sex, age, ethnicity, and years of education. A higher percent of men were employed (76 percent) than women (56 percent). Currently employed levels were higher for individuals under 65 years of age or individuals with 12 years of education or more than for those over age 65 years or those with less education (figure 1).

In table 2, the percent distribution of currently employed individuals is presented by major occupational

class and class of employment. Among currently employed individuals, 58 percent worked in white-collar jobs, 12 percent in service jobs, 27 percent in blue-collar jobs, and 3 percent in farming, forestry, or fisheries. (The definitions of jobs included in these classes are given in appendix II. Because of the small percent of persons working in farming, forestry, or fishery occupations, the estimates presented for individuals in this group are subject to a greater sampling error than those for individuals in other occupational classes.) Percent distributions of current workers by occupational class varied considerably within all variables presented in the table.

Tables 3 and 4 give the percent distribution of employment in more narrowly defined industries and occupations. These definitions were not used in the other tables because the relatively smaller numbers of respondents within each category yielded imprecise estimates for many of the health conditions and work-related factors.

Tables A and B provide information on the reasons for stopping work among the 31 percent of the U.S. population who were currently not employed, but had been employed at some time in the past. Among the men, almost half of these individuals were retired. Among the women, a quarter were retired. Job-related health problems were cited by 8 percent of the men and 3 percent of the women. For both genders, percents citing job-related

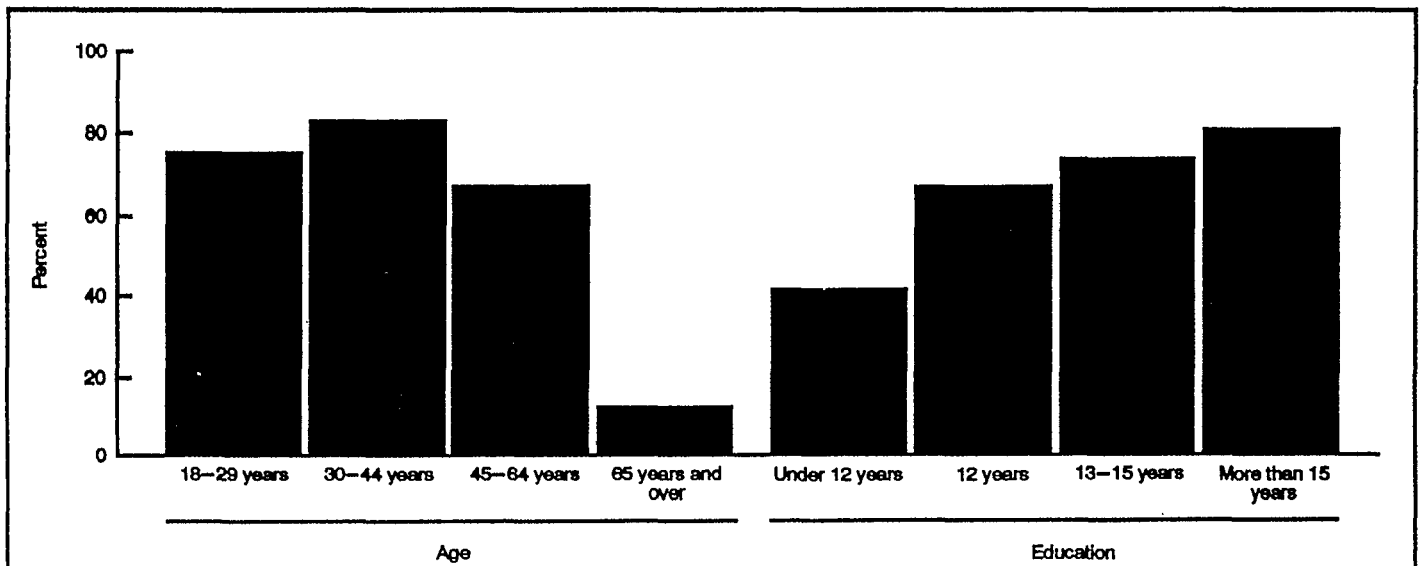


Figure 1. Percent of adults currently employed, by age and education: United States, 1988.

**Table A. Number and percent distribution of males 18 years of age and over who had ever worked but were currently not employed, by reason for stopping work, according to selected sociodemographic characteristics: United States, 1988**

Characteristic	Respondents	Reason for stopping work						
		All reasons	Health problem		Retired	Child or family care	On layoff from job	Other
			Related to job	Unrelated to job				
	Number	Percent distribution						
Total <sup>1</sup>	4,683	100.0	7.8	14.0	48.8	1.2	6.7	21.5
Age								
18-29 years	628	100.0	3.6	3.7	*0.1	*1.3	16.6	74.7
30-44 years	415	100.0	16.5	18.8	*0.5	*3.1	21.8	39.3
45-64 years	1,060	100.0	14.2	26.7	38.4	*1.4	6.8	12.4
65 years and over	2,580	100.0	4.6	10.8	78.2	0.7	*0.6	5.0
Race								
White	3,833	100.0	7.3	13.2	52.7	1.0	6.2	19.6
Black	727	100.0	11.6	21.1	25.6	*1.8	11.2	28.7
Ethnicity								
Hispanic	191	100.0	*4.8	13.1	29.5	*1.7	20.1	30.9
Non-Hispanic	4,492	100.0	7.9	14.1	49.7	1.2	6.0	21.1
Occupational group <sup>2</sup>								
White collar	1,451	100.0	3.1	9.9	62.3	1.5	3.1	20.1
Service	432	100.0	7.2	14.7	29.0	*0.8	11.4	36.8
Farm <sup>3</sup>	375	100.0	8.6	19.0	43.3	*2.5	*3.8	22.7
Blue collar	2,351	100.0	10.7	15.7	45.1	1.0	8.6	18.9
Education level								
Less than 12 years	1,965	100.0	9.5	18.6	50.0	1.2	6.1	14.6
12 years	1,433	100.0	7.7	12.7	47.7	1.3	10.0	20.5
13-15 years	713	100.0	7.3	9.8	36.4	*1.1	5.0	40.5
More than 15 years	545	100.0	2.4	7.6	63.2	*1.2	*2.1	23.5

<sup>1</sup>Includes males of races other than black and white and males with unknown occupations and unknown education.

<sup>2</sup>Based on job of longest employment.

<sup>3</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error computations are shown in table III in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

health problems were about 60 percent higher for black persons than for white persons. Among men, job-related health problems were cited more frequently among respondents whose longest employment was as a blue-collar worker, followed by farming, forestry, and fishing workers and by service workers. (As noted above, the sample sizes should be kept in mind. For instance, there were fewer than 500 respondents employed in either service occupations or farming, forestry, and fishing occupations.) Among women, the percents were highest among those whose longest employment was in farming, forestry, or fishing, followed by service workers. (There were fewer than 500 female respondents employed in farming, forestry, and fishing occupations.) Among the women, one-third indicated that they had stopped work for reasons related to the family or children. This was most often noted by women aged 30-44 years (more than 50 percent).

For both genders, health problems, whether related to job or not, as the reason for stopping working, were inversely associated with education level.

## Work-related activities and conditions

Table 5 presents the distribution of the percent of currently working adults who experienced several different work-related activities or conditions. Men were more likely than women to have jobs that require these activities. More men (22 percent) than women (10 percent) reported that their daily work involved more than 4 hours of strenuous physical activity. Similarly, more men (35 percent) than women (24 percent) reported 4 or more hours daily of work-related bending, twisting, or reaching. However, more equal proportions of both sexes (40 percent men and 36 percent women), reported at least 4 hours daily of work-related bending or twisting of the hands or wrists. Twelve percent of men and 4 percent of women reported working with hand-operated vibrating machinery for 4 hours or more per day.

The proportion of workers spending 4 or more hours per day on each type of these work activities consistently decreased as age and education level increased. Hispanic

**Table B. Number and percent distribution of females 18 years of age and over who had ever worked but were currently not employed, by reason for stopping work, according to selected sociodemographic characteristics: United States, 1988**

Characteristic	Respondents	Reason for stopping work						
		All reasons	Health problem		Retired	Child or family care	On layoff from job	Other
			Related to job	Unrelated to job				
	Number	Percent distribution						
Total <sup>1</sup>	10,225	100.0	3.0	9.6	24.6	33.3	4.3	25.2
Age								
18-29 years	1,655	100.0	1.7	4.8	*0.2	40.1	6.7	46.5
30-44 years	1,812	100.0	2.9	8.2	*0.3	53.6	6.8	28.2
45-64 years	2,180	100.0	5.3	15.0	18.9	30.9	5.0	24.9
65 years and over	4,578	100.0	2.1	8.9	52.7	21.0	1.3	14.0
Race								
White	8,425	100.0	2.8	8.5	25.9	33.9	3.6	25.1
Black	1,604	100.0	4.4	19.0	16.6	27.4	8.9	23.8
Ethnicity								
Hispanic	508	100.0	4.1	9.4	8.4	40.9	7.8	29.3
Non-Hispanic	9,717	100.0	2.9	9.6	25.6	32.8	4.0	25.0
Occupational group <sup>2</sup>								
White collar	5,489	100.0	2.1	6.5	27.9	34.5	3.6	25.4
Service	2,438	100.0	4.5	13.7	19.0	32.3	3.8	26.8
Farm <sup>3</sup>	290	100.0	5.6	17.1	21.3	23.8	*3.8	28.3
Blue collar	1,973	100.0	3.7	12.9	22.1	31.9	6.9	22.5
Education level								
Less than 12 years	3,681	100.0	4.3	13.9	26.0	29.7	5.0	21.2
12 years	3,871	100.0	2.7	8.5	23.2	35.5	4.6	25.5
13-15 years	1,605	100.0	2.2	7.2	22.1	31.8	3.9	32.8
More than 15 years	1,029	100.0	1.4	4.4	28.7	38.8	*1.5	25.3

<sup>1</sup>Includes females of races other than black and white and females with unknown occupations and unknown education.

<sup>2</sup>Based on job of longest duration.

<sup>3</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error computations are shown in table III in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

persons were more likely than non-Hispanic persons to be involved in all of these types of work activities in their jobs.

As is shown in figure 2, persons in farming, forestry, or fishing occupations experienced the greatest probability of strenuous physical activity or bending, twisting, or reaching. Individuals both in farming, forestry, and fishing occupations and in blue-collar occupations had a relatively high probability of operating hand-held vibrating machinery or bending or twisting of the hands and wrists.

Work exposure of hands and arms to selected substances is presented in table 6. These include selected substances from the categories of industrial chemicals; soaps, detergents, and disinfecting solutions; agricultural products; and other. A detailed description of the specific questions from the interview is given in appendix II. The percents shown in this table, in contrast to most of the other tables, do not add to 100. For instance, the 40 percent of the working population that reported exposure of their hands and arms to industrial chemicals at work may also include some persons who reported exposure to soaps, detergents, or disinfecting solutions at work.

## Musculoskeletal and skin conditions (dermatitis)

Back pain every day for a week or more during the previous 12 months is a frequent condition among currently working individuals; approximately 18 percent reported this condition (table 7). The condition was more frequent among white persons (18 percent) than black persons (13 percent). Back pain was less frequent among the younger currently working population (15 percent of 18-29-year-olds versus 19 percent of 30-44-year-olds). Among blue-collar workers, 21 percent had back pain in contrast with 16 percent of white-collar workers. Rates for the other two occupational groups were about 18 percent.

Figure 3 and table 8 display the causes to which the respondents attributed their back pain. Half of the respondents reported work-related causes. Among the workers in farming, forestry, and fishing occupations who had back pain, 45 percent attributed their back pain to repeated activity at work, 11 percent to an injury at work, and another 23 percent to both repeated activity and injury at work.

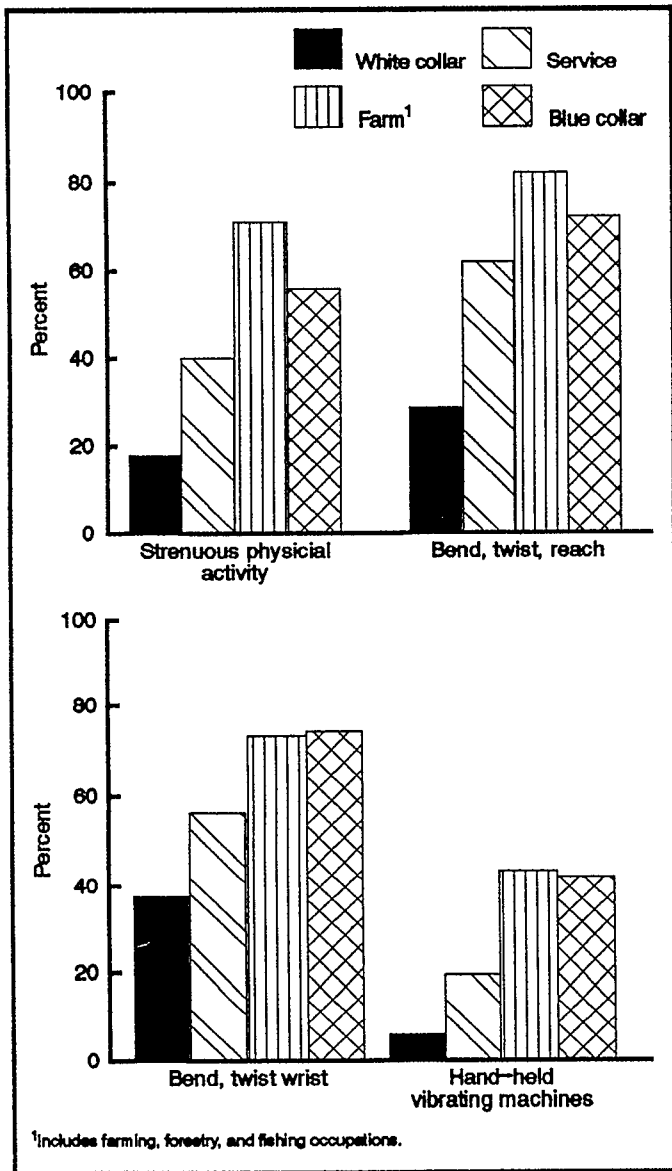


Figure 2. Percent of currently employed adults experiencing various repeated work-related activities, by occupation group: United States, 1988

One-quarter of the currently working population who reported back pain indicated that they missed some days of work because of the back pain, and 12 percent reported missing more than 5 days (table 9). There was little difference between the percent of men and of women who missed work due to back pain. Farming, forestry, and fishing workers were more likely to miss work as a result of the back pain.

Table C shows the percent of individuals with back pain who missed work by the location of the pain. About 30 percent of the people who reported that their pain was in the lower back and spread into the hips and legs missed at least 1 day of work. In contrast, 26 percent of those with pain confined to the upper or middle back missed work, and 20 percent of the people with only lower back pain missed work.

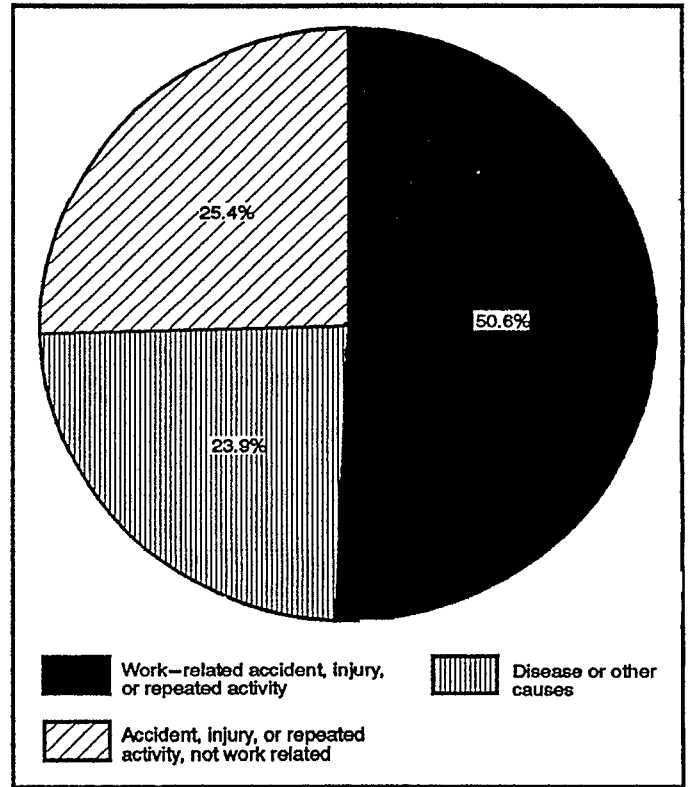


Figure 3. Percent distribution of reported cause of back pain among the currently employed population: United States, 1988

Approximately 37 percent of those reporting some back pain experienced lower back pain with spreading pain (6.6 percent out of 17.6 percent) (table 7). About two-thirds of the people reporting back pain said that they had had the pain for more than 2 years (table 9). One of five persons having notable back pain said that they had to stop working at a job, changed jobs, or made a major change in their work activities during their worklife because of back pain. An additional percent may have quit working altogether because of back pain. Those individuals are not included in this report.

Tables 10 and 11 present similar findings with regard to hand discomfort. About 22 percent of the currently working adults reported some hand discomfort (table 10). Of these, almost a quarter attributed the hand discomfort to an injury, regardless of work-relatedness. Among the remaining workers who reported hand discomfort not from an injury, 59 percent had prolonged hand discomfort, defined as having hand discomfort every day for at least a week or a total of 20 days or more in the past 12 months. Hand discomfort resulting from noninjury was more common among working women (19 percent) than among working men (13 percent).

Of those reporting prolonged hand discomfort, about 60 percent had experienced the discomfort for more than 2 years, and 10 percent had experienced the discomfort for more than 10 years (table 11). Farming, forestry, and fishing workers were more likely to report long-term

**Table C. Number and percent distribution of current workers 18 years of age and over who had back pain every day for a week or more during the past 12 months, by workdays missed because of back pain, according to type of back pain: United States, 1988**

Workdays missed	All respondents with back pain	Type of back pain				Unknown
		Upper or middle back	Low back		Unknown	
			Extending to lower body parts	Not extending to lower body parts		
Number						
All categories . . . . .	4,853	1,197	1,819	1,776	61	
Percent distribution						
Total . . . . .	100.0	100.0	100.0	100.0	100.0	
Did not miss work . . . . .	73.1	72.6	67.8	78.6	68.9	
1-5 days . . . . .	13.1	13.0	14.3	12.2	*4.1	
More than 5 days . . . . .	12.1	13.0	15.8	7.8	*17.3	
Unknown . . . . .	1.7	1.4	2.0	1.4	*9.6	

NOTES: The percents shown are weighted national estimates. The standard error computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

discomfort; 16 percent reported more than 10 years of discomfort. About 5 percent of current workers with prolonged hand discomfort had to stop working at a job or changed jobs during their worklife because of hand discomfort. Another 6 percent changed work activities.

Tables 12 and 13 present findings on dermatitis. Approximately 12 percent of the currently working adults reported some dermatitis, most often on the hands and arms (table 12). White-collar workers reported dermatitis most frequently. Black workers, Hispanic workers, and workers with less than 12 years of education reported dermatitis least often. About half of those reporting dermatitis said that the condition had existed for more than 1 month during the past year.

Fifteen percent attributed their dermatitis to exposure to chemicals or other substances at work (table 13). More than one-quarter of the workers in blue-collar occupations, about a quarter of service workers, and a quarter of farming, forestry, and fishing workers attributed their dermatitis to chemicals or other substances at work. In contrast, only 9 percent of white-collar workers attributed their dermatitis to chemicals or other substances at work. Overall, 67 percent attributed their dermatitis to causes other than chemicals or other substances. Only 2 percent stopped working at a job or changed jobs or work activities during the previous 12 months because of their dermatitis.

### Eye, nose, and throat irritation

The questions on eye, nose, and throat irritation focused on the previous 2-week period. One of five respondents reported having had one of these conditions (most often nose irritation) in that period (table 14). Four percent reported all three conditions in the 2-week period. Conditions were most often reported by the youngest workers (18-29 years old) and by females.

Seventy-six percent of the workers' nose irritation was attributed to colds, flu, or allergies (table 15). Also,

57 percent of the eye irritation and 69 percent of the sore or dry throat were attributed to colds, flu, or allergies. Hay fever and allergies were a more common problem among women. Approximately 38, 20, and 24 percent of eye, nose, and throat irritation, respectively, were attributed to a nonspecific "something else."

### Work-related injuries

About 7 percent of the currently working population reported having experienced a work-related injury in the previous 12 months (table 16). The injury rate was approximately the same for white and for black persons, but it was greater among males and among the young. Blue-collar workers had the highest rate, 13.1 percent. These findings are consistent with those reported using the basic NHIS questionnaire data collected between 1983 and 1987 (14). The "at-work" injury rate reported from those data was slightly higher (9.6 percent injury episodes per 100 persons for the total currently working population). The difference in the two statistics can be attributed to two factors. Because 1 percent of the persons reported more than 1 injury episode, the number of episodes per 100 people would be greater than the number of people injured per 100. Also, the previous data were collected using a 2-week recall period, whereas the data collected in the NHIS-OHS are based on a 12-month recall period. Over this longer recall period, there is underreporting due to memory loss (15).

Figure 4 shows the percent distribution of work-related injuries by type of injury. The distribution is not substantially different from the percent distribution of types of injuries for all injuries to the total U.S. population, reported in an earlier series report titled *Types of Injuries by Selected Characteristics: United States, 1985-87* (16). There were more burns among the work-related injuries (4.7 percent as opposed to 2.7 percent reported in the above report) and fewer fractures (6.6 percent as opposed to 12.7 percent reported in the above report,



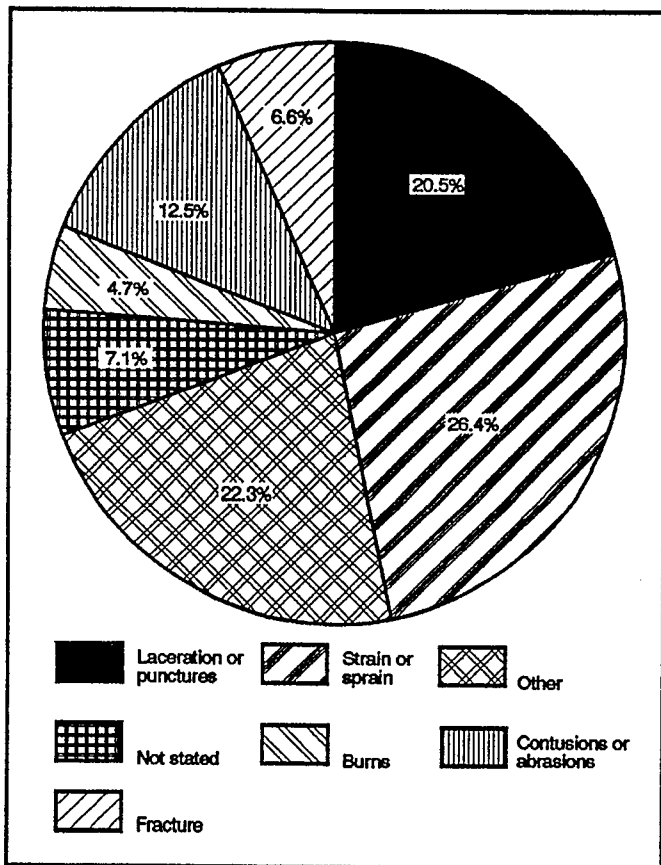


Figure 4. Percent distribution of work-related injuries during past 12 months among the currently employed population, by type of injury: United States, 1988

which also includes intracranial injuries). However, the more frequent sprains and strains (26.4 versus 21.6 percent) and lacerations or punctures (20.5 versus 22.1 percent) were the most frequent types of injury in both distributions. The back and the hand, wrist, or fingers were the most frequently injured body parts (table 17). About 8 percent of the injured persons either changed employer, kind of work, or work activity as a result of the injury.

Table D indicates the nature of injury and body parts injured for the workers who missed at least a half-day of work and the workers who did not miss work because of the injury. More than half of workers missed work if they sustained an injury to their shoulder, back, or foot, toe, or ankle. The same was true for the injury types: fracture, strain or sprain, or "other."

### Other health conditions

Table 18 displays the prevalence of a variety of health conditions among the currently employed U.S. population. Table 18 contains those conditions, from the list assessed by the Occupational Health Supplement, that occurred more frequently (at least 1 percent) among the respondents.

Among the currently employed population, 19 percent experienced trouble with neck, back, or spine (table 18).

Also, 3 percent reported that they had tendinitis, 2 percent reported asthma, 1 percent reported carpal tunnel syndrome, and 2 percent noted having had chronic bronchitis. Respiratory conditions were most common among service workers.

Hearing problems were reported by almost 8 percent of the currently employed (table 18). These problems were more common among men than among women (10 versus 5 percent) and among farming, forestry, and fishing occupations (11 percent). Hearing problems and deafness were most common among persons aged 65 years and older (16 and 7 percent, respectively).

All of these conditions were more frequently reported by white workers than black workers and by non-Hispanics than Hispanics.

### Smoking and respiratory conditions

The U.S. Surgeon General has expressed concerns regarding possible synergistic effects of cigarette smoking and exposure to various work-related conditions (17). Of particular concern was the relatively higher percent of blue-collar and service workers in 1978-80 who at that time were "currently" smoking (46.5 and 47.0 percent), contrasted with the white-collar workers (32.8 percent). In general, the frequency of smoking has decreased over the decade since the data reported in the U.S. Surgeon General's report. However, table 19 shows that blue-collar workers were still the most likely to be regular smokers in 1988 (38.4 percent), followed by service workers (34.0); farming, forestry, and fishing workers (28.0); and white-collar workers (23.7). Younger female, black, Hispanic, and highly educated workers were more likely never to have smoked. Overall, in 1988 among adults (regardless of current working status), the percent who currently smoked was 28.1 (18), about the same as among the currently employed (29.1) (table 19). The percent "currently" smoking was strongly inversely associated with years of education.

More than half (55 percent) of the currently employed population worked in situations where smoking was not allowed (table 19). Of those who worked where smoking was allowed, 43 percent (17 percent out of 39 percent) expressed some discomfort from the smoke. More detailed analyses of these data are presented in a recent issue of the *Morbidity and Mortality Weekly Report* (19).

Because smokers are more likely to experience eye, nose, or throat irritation, the percent distributions of these and other respiratory conditions are given separately for "never" smokers, former smokers, and current smokers in tables 20 and 21.

There was little difference in the percent of workers with eye, nose, or throat irritation for any of the socio-demographic variables among the various smoking status populations (table 20). Consistently for all smoking statuses, younger, female, white, and non-Hispanic workers were more likely to report these irritations. Compared with workers in other occupational groups, workers in farming, forestry, and fishing occupations reported fewer

**Table D. Number and percent distribution of work injuries during the past 12 months among persons 18 years of age and over who were currently employed, by lost workdays, according to body part injured and type of injury: United States, 1988**

Body part injured and type of injury	All injury episodes at work	Workday loss			Unknown
		All losses	More than half-workday lost	Less than half-workday lost	
		Number	Percent distribution		
Total . . . . .	2,211	100.0	45.5	50.7	3.8
Body part injured					
Shoulder . . . . .	77	100.0	57.1	42.9	—
Knee . . . . .	132	100.0	50.0	47.0	3.0
Head . . . . .	75	100.0	40.0	60.0	—
Eyeball . . . . .	136	100.0	30.9	67.6	1.5
Back . . . . .	463	100.0	64.8	32.0	3.2
Hand, wrist, or finger . . . . .	624	100.0	31.4	67.3	1.3
Foot, toe, or ankle . . . . .	186	100.0	54.8	45.2	1.1
Other . . . . .	433	100.0	48.3	49.4	2.3
Unknown . . . . .	85	100.0	21.2	28.2	50.6
Type of injury					
Burns . . . . .	109	100.0	30.3	67.9	1.8
Contusions or abrasions . . . . .	278	100.0	38.8	59.4	1.8
Fracture . . . . .	155	100.0	66.5	32.9	0.6
Laceration or puncture . . . . .	428	100.0	26.6	72.7	0.7
Strain or sprain . . . . .	599	100.0	57.3	40.9	1.8
Other . . . . .	481	100.0	50.9	45.9	3.1
Unknown . . . . .	161	100.0	36.6	34.2	29.2

NOTE: Numbers and percents are unweighted.

conditions; however, the numbers of workers in these occupations interviewed were small.

The percent of currently employed persons who had asthma was not associated with smoking status, whereas the percent with chronic bronchitis increased from 1.2 among “never” smokers to 1.8 among former smokers to 2.8 among current smokers (table 21). This pattern of increasing percent of bronchitis with increasingly recent

smoking was consistent throughout most of the demographic groups examined. Among the current smokers, women and persons aged 65 years or older reported chronic bronchitis at much higher rates than did their counterparts.

The population estimates, on which the weighted percent estimates in this report are based, are presented in table 22.

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**Table 1. Number and percent distribution of persons of 18 years of age and over by work status, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Work status	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Geographic region				Place of residence		Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	Northeast	Midwest	South	West	MSA	Not MSA	Less than 12 years	12 years	13-15 years	More than 15 years
Number																					
All categories . . . . .	44,233	18,562	25,671	10,516	13,987	10,747	8,983	36,864	6,186	2,623	41,610	9,055	11,363	14,969	8,846	33,719	10,514	10,396	16,421	8,907	8,364
Percent distribution																					
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Never worked . . . . .	3.8	1.1	6.3	4.7	1.9	3.1	7.3	3.4	5.5	9.1	3.4	4.0	3.2	4.4	3.3	3.8	3.8	8.8	3.1	2.2	1.0
Ever worked . . . . .	96.2	98.9	93.7	95.3	98.1	96.9	92.7	96.6	94.5	90.9	96.6	96.0	96.8	95.6	96.7	96.2	96.2	91.2	96.9	97.8	99.0
Currently employed . . . . .	65.5	75.9	56.2	75.2	82.7	67.6	12.7	65.8	63.3	66.1	65.5	65.6	65.9	64.7	66.4	66.4	62.5	41.8	67.4	73.9	80.7
Currently not employed . . . . .	30.7	23.0	37.5	20.1	15.4	29.3	80.0	30.8	31.2	24.8	31.1	30.3	30.9	30.9	30.3	29.7	33.7	49.4	29.5	23.9	18.3

<sup>1</sup>Includes persons of races other than black and white and persons with unknown education.

NOTES: The percents shown are weighted national estimates. The standard error computations are shown in table III in appendix I. MSA is metropolitan statistical area.

**Table 2. Number and percent distribution of currently employed persons 18 years of age and over by occupation and class of employment, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Occupation and class of employment	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Geographic region				Place of residence		Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	Northeast	Midwest	South	West	MSA	Not MSA	Less than 12 years	12 years	13-15 years	More than 15 years
Number																					
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	5,558	7,048	9,142	5,660	21,282	6,126	3,777	10,531	6,353	6,683
Percent distribution																					
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Occupational group																					
White collar . . . . .	57.6	46.9	70.8	52.9	60.9	58.5	55.4	59.3	44.3	44.8	58.6	60.1	55.0	56.4	60.5	61.2	45.2	20.3	46.5	67.0	90.3
Service . . . . .	12.3	8.8	16.6	15.0	10.2	11.7	18.0	11.0	21.5	17.8	11.9	11.6	12.6	12.2	12.7	12.0	13.3	23.1	14.3	11.3	3.3
Blue collar . . . . .	26.9	39.7	11.2	29.1	26.5	26.1	17.4	26.3	31.6	32.4	26.5	26.7	27.9	27.8	24.2	24.9	33.9	49.1	35.8	19.5	5.3
Farming, forestry, and fishing . . . . .	2.9	4.3	1.1	2.7	2.1	3.5	8.6	3.0	2.2	4.7	2.7	1.1	4.1	3.3	2.4	1.6	7.2	7.4	3.1	1.9	0.7
Other . . . . .	0.3	0.3	0.3	0.3	0.4	0.3	*0.6	0.3	*0.4	*0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	*0.2	0.3	0.3	0.4
Class of employment <sup>2</sup>																					
Private company . . . . .	72.0	71.4	72.8	84.9	69.4	62.9	57.1	71.7	72.6	79.2	71.5	74.2	73.2	70.5	70.9	73.5	66.7	77.8	77.1	73.4	58.4
Government <sup>3</sup> . . . . .	14.7	13.5	16.2	8.5	16.3	19.5	14.0	14.5	17.7	11.2	15.0	14.1	13.4	16.1	14.7	14.3	16.3	8.5	10.6	13.8	26.5
Self-employed . . . . .	10.1	12.0	7.7	4.3	10.7	13.7	26.4	10.9	4.1	5.9	10.4	8.7	11.0	9.7	10.7	8.9	14.3	11.8	9.1	9.5	11.2
Other . . . . .	3.2	3.1	3.3	2.3	3.6	3.8	2.5	2.9	5.6	3.8	3.2	3.0	2.4	3.7	3.7	3.4	2.7	1.9	3.2	3.4	4.0

<sup>1</sup>Includes persons of races other than black and white and persons with unknown education.

<sup>2</sup>Respondent-defined.

<sup>3</sup>Includes Federal, State, and local government.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table III in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk. MSA is metropolitan statistical area.

**Table 3. Number and percent distribution of currently employed persons 18 years of age and over by industry, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Industry	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Geographic region				Place of residence		Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	Northeast	Midwest	South	West	MSA	Not MSA	Less than 12 years	12 years	13-15 years	More than 15 years
Number																					
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	5,558	7,048	9,142	5,660	21,282	6,126	3,777	10,531	6,353	6,683
Percent distribution																					
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry, and fisheries . . . . .	2.9	4.1	1.4	2.5	2.3	3.5	8.5	3.1	1.5	4.5	2.7	1.3	4.0	3.1	2.6	1.7	6.9	6.7	2.9	2.0	1.3
Mining . . . . .	0.7	1.1	0.3	0.5	0.8	0.9	*0.2	0.7	0.5	*0.5	0.7	*0.2	0.4	1.2	0.7	0.5	1.4	0.9	0.6	0.8	0.6
Construction . . . . .	6.6	10.9	1.3	7.1	6.8	5.8	4.4	6.9	4.5	6.4	6.6	6.6	5.5	6.9	7.4	6.6	5.5	11.0	8.0	5.4	2.6
Manufacturing . . . . .	19.1	23.7	13.4	18.0	19.8	20.3	10.2	19.1	18.2	20.6	19.0	19.6	22.8	17.8	16.0	17.9	23.2	25.8	21.6	15.6	13.9
Transport, communications, and other public utilities . . . . .	7.1	9.3	4.3	5.4	8.3	7.6	3.2	6.8	9.6	7.0	7.1	8.2	6.1	7.1	7.3	7.4	5.8	5.7	7.9	8.2	5.3
Wholesale trade . . . . .	3.6	4.7	2.4	3.9	3.7	3.4	3.2	3.8	2.2	3.5	3.6	3.9	3.5	3.8	3.3	3.9	2.7	3.5	4.0	3.7	3.0
Retail trade . . . . .	15.5	13.0	18.7	23.1	12.1	11.6	18.9	15.7	13.4	15.7	15.5	14.0	15.5	16.2	16.0	15.3	16.5	17.5	18.7	17.0	7.5
Finance, insurance, and real estate . . . . .	7.0	5.2	9.2	7.5	6.7	6.7	7.5	7.1	6.3	6.5	7.0	8.4	6.8	6.2	7.0	7.8	3.9	2.2	6.8	8.1	9.1
Business and repair services . . . . .	5.7	6.2	5.3	6.1	5.9	5.0	7.1	5.8	5.7	6.7	5.7	5.6	5.5	5.8	6.1	6.2	4.1	6.0	5.5	6.1	5.7
Personal services . . . . .	3.9	2.0	6.3	4.0	3.4	4.0	9.1	3.6	6.2	6.0	3.8	3.2	3.7	3.9	4.9	3.8	4.2	6.8	4.5	3.4	1.5
Entertainment and recreation services . . . . .	1.4	1.6	1.0	1.9	1.2	0.9	2.0	1.3	1.2	1.5	1.3	1.3	1.1	1.2	1.9	1.5	1.0	1.1	1.2	2.0	1.2
Professional and related services . . . . .	20.8	12.4	31.1	16.2	22.9	22.9	20.8	20.7	21.9	15.9	21.1	22.0	20.7	19.8	21.1	21.4	18.5	10.3	13.0	20.8	40.7
Public administration . . . . .	4.9	5.4	4.4	3.1	5.4	6.5	3.6	4.6	7.4	4.4	5.0	4.5	3.7	6.2	4.7	5.0	4.6	2.0	4.4	5.9	6.7
Unknown industry . . . . .	0.8	0.6	1.1	0.8	0.7	1.0	*1.3	0.8	1.4	*0.9	0.8	1.1	0.7	0.7	0.9	0.9	0.7	0.7	0.8	0.8	0.9

<sup>1</sup>Includes persons of races other than black and white and persons with unknown education.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table III in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk. MSA is metropolitan statistical area.

**Table 4. Number and percent distribution of currently employed persons 18 years of age and over by occupation, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Occupation	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Geographic region				Place of residence		Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	Northeast	Midwest	South	West	MSA	Not MSA	Less than 12 years	12 years	13-15 years	More than 15 years
Number																					
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	5,558	7,048	9,142	5,660	21,282	6,126	3,777	10,531	6,353	6,683
Percent distribution																					
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial occupations . . . . .	13.0	14.3	11.4	8.3	15.0	15.5	11.2	13.7	8.2	9.7	13.2	12.7	12.3	12.9	14.2	14.1	9.0	4.4	8.5	15.4	23.5
Professional specialty occupations . . . . .	14.1	12.9	15.6	9.9	17.0	14.6	13.5	14.7	9.4	8.1	14.5	15.7	13.9	12.7	15.0	15.0	10.8	1.7	3.6	10.9	42.8
Technicians and related support occupations . . . . .	3.5	3.3	3.8	3.9	4.2	2.3	*1.1	3.4	3.0	3.1	3.5	3.5	3.2	3.5	3.7	3.8	2.6	0.7	2.5	5.8	4.7
Sales occupations . . . . .	11.4	10.2	12.8	13.2	10.1	10.7	16.5	11.7	8.9	9.3	11.5	11.3	10.5	12.0	11.6	11.7	10.2	7.8	11.6	13.6	11.0
Administrative support occupations . . . . .	15.7	6.2	27.2	17.6	14.6	15.4	13.1	15.8	14.8	14.4	15.7	16.8	15.1	15.3	15.8	16.6	12.5	5.6	20.3	21.4	8.2
Private household occupations . . . . .	0.8	*0.1	1.7	0.5	0.6	1.1	3.8	0.7	2.1	1.8	0.7	0.6	0.7	1.0	0.8	0.8	1.0	2.4	0.9	0.4	*0.1
Protective service occupations . . . . .	1.7	2.6	0.6	1.8	1.7	1.3	2.7	1.6	2.8	1.3	1.7	1.7	1.5	2.0	1.4	1.7	1.4	1.2	1.7	2.5	0.9
Service occupations, except protective and household . . . . .	9.8	6.1	14.3	12.7	7.9	9.3	11.6	8.8	16.6	14.6	9.5	9.2	10.4	9.3	10.5	9.5	10.8	19.5	11.7	8.3	2.2
Farming, forestry, and fishing occupations . . . . .	2.9	4.3	1.1	2.7	2.1	3.5	8.6	3.0	2.2	4.7	2.7	1.1	4.1	3.3	2.4	1.6	7.2	7.4	3.1	1.9	0.7
Precision production, craft, and repair occupations . . . . .	11.9	19.5	2.5	12.0	12.5	11.3	7.7	12.3	8.5	12.8	11.8	12.0	11.4	12.1	11.8	11.4	13.4	18.0	15.9	10.0	3.1
Machine operators, assemblers, and inspectors . . . . .	7.1	8.0	6.1	7.3	6.9	7.6	4.6	6.7	10.6	11.3	6.8	6.7	8.5	7.5	5.3	6.2	10.4	15.1	9.6	4.0	1.1
Transportation and material moving occupations . . . . .	4.3	7.1	1.0	4.1	4.2	4.9	3.0	4.1	6.5	3.6	4.4	4.4	4.3	4.6	3.9	4.0	5.4	9.2	5.7	2.8	0.7
Handlers, equipment cleaners, helpers, and laborers . . . . .	3.5	5.1	1.6	5.6	2.9	2.4	2.1	3.2	6.1	4.7	3.5	3.6	3.8	3.5	3.2	3.2	4.8	6.9	4.6	2.7	0.5
Unknown occupation and Armed Forces . . . . .	0.3	0.3	0.3	0.3	0.4	0.3	*0.6	0.3	*0.4	*0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	*0.2	0.3	0.3	0.4

<sup>1</sup>Includes persons of races other than black and white and persons with unknown education.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table III in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk. MSA is metropolitan statistical area.

**Table 5. Number and percent distribution of currently employed persons 18 years of age and over by length of time spent daily at specified work activity, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Work activity and hours spent	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Repeated strenuous physical activity																			
None . . . . .	67.9	60.6	76.8	62.8	68.0	72.1	80.7	67.6	68.8	63.4	68.2	82.6	59.9	29.4	44.1	52.5	61.5	69.7	86.4
Less than 2 hours . . . . .	7.7	7.9	7.3	8.8	7.8	6.6	5.2	8.0	5.1	8.1	7.6	6.5	11.2	10.0	8.2	8.4	8.0	9.1	5.2
2-3 hours . . . . .	6.0	7.2	4.7	6.4	6.2	5.6	4.5	6.3	4.5	5.2	6.1	3.9	7.9	12.3	9.1	7.9	7.2	6.0	3.0
4 or more hours . . . . .	16.2	21.5	9.8	20.3	15.9	13.2	7.2	16.1	18.8	20.4	15.9	5.9	18.1	40.5	35.0	27.1	20.8	13.7	4.3
Unknown . . . . .	2.1	2.7	1.4	1.8	2.1	2.5	2.5	2.0	2.8	2.9	2.1	1.1	2.9	7.8	3.5	4.0	2.4	1.6	1.1
Repeated bending, twisting, or reaching																			
None . . . . .	54.2	49.1	60.3	47.4	55.9	57.8	67.3	54.5	49.7	46.9	54.7	71.4	38.2	17.9	28.3	33.4	45.5	57.5	78.3
Less than 2 hours . . . . .	5.7	5.3	6.2	5.9	5.5	5.9	5.3	5.8	5.2	5.9	5.7	5.8	7.4	8.0	4.6	5.5	5.6	7.0	4.8
2-3 hours . . . . .	7.7	7.6	7.7	8.7	7.5	6.7	7.2	7.9	6.6	7.0	7.7	6.3	10.2	13.4	8.8	7.8	8.6	8.3	5.4
4 or more hours . . . . .	29.5	34.5	23.5	35.6	28.4	26.0	16.3	29.2	33.8	37.2	29.0	15.0	40.0	51.8	53.6	48.2	37.1	25.0	9.7
Unknown . . . . .	2.9	3.5	2.3	2.4	2.8	3.7	4.0	2.7	4.6	3.0	2.9	1.5	4.2	8.8	4.8	5.0	3.3	2.2	1.7
Bending or twisting of hands or wrists																			
None . . . . .	49.7	47.1	52.8	45.0	51.0	51.4	63.2	49.6	49.4	43.2	50.2	63.0	43.5	26.6	26.3	31.9	41.4	52.6	71.9
Less than 2 hours . . . . .	3.0	3.2	2.7	3.1	2.8	3.2	2.9	3.0	2.9	2.8	3.0	2.8	3.7	4.9	2.8	3.2	2.9	3.2	2.9
2-3 hours . . . . .	5.9	6.0	5.9	6.1	6.0	5.6	6.0	6.0	5.1	5.0	6.0	5.4	7.5	9.4	5.9	5.8	5.9	7.0	5.0
4 or more hours . . . . .	38.3	40.3	35.9	43.3	37.3	36.1	23.6	38.5	38.3	45.3	37.8	26.8	41.4	49.8	60.5	53.9	46.5	35.0	18.2
Unknown . . . . .	3.1	3.3	2.7	2.5	3.0	3.7	4.3	2.9	4.3	3.6	3.0	1.9	3.8	9.4	4.5	5.3	3.3	2.2	2.0
Hand operation of vibrating machinery																			
None . . . . .	81.7	73.5	91.7	78.4	81.9	84.3	88.9	81.7	80.4	77.2	82.0	93.5	81.2	57.2	59.2	70.6	77.8	83.7	93.2
Less than 2 hours . . . . .	5.2	7.1	2.8	5.9	5.2	4.6	3.5	5.3	4.1	4.8	5.2	2.5	6.9	9.7	9.5	5.4	6.0	5.8	3.1
2-3 hours . . . . .	3.7	5.6	1.4	4.2	3.9	3.2	*1.3	3.7	3.8	4.2	3.7	1.3	5.0	7.3	8.0	5.9	4.5	3.3	1.4
4 or more hours . . . . .	8.0	11.6	3.5	10.3	7.8	6.1	4.0	7.8	9.6	12.6	7.7	2.2	5.3	21.1	20.4	15.4	9.9	6.3	1.8
Unknown . . . . .	1.4	2.1	0.5	1.2	1.2	1.8	2.3	1.4	2.1	1.2	1.4	0.5	1.7	4.7	2.9	2.7	1.8	1.0	0.5

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table III in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.



**Table 6. Number and percent of currently employed persons 18 years of age and over by selected sociodemographic characteristics and substance categories to which hands or arms were exposed at work: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Category	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent																			
Industrial chemicals . . . . .	39.9	51.7	25.6	43.0	40.8	36.6	26.3	41.1	32.5	39.6	40.0	25.7	36.9	71.7	68.5	49.4	45.7	38.0	26.3
Soaps, detergents, or disinfecting solution. . . . .	35.4	38.3	31.8	40.6	34.9	31.4	24.5	35.5	34.6	37.1	35.3	23.6	67.0	55.5	44.2	43.2	40.1	35.5	22.4
Agricultural products . . . . .	21.2	20.9	21.6	26.3	19.4	18.2	19.8	21.0	22.7	23.9	21.0	13.2	52.6	83.5	17.4	31.0	23.8	20.8	11.2
Other . . . . .	11.1	12.0	10.2	12.0	12.1	9.3	4.9	11.3	9.5	11.2	11.1	8.6	11.3	8.7	16.9	11.0	11.9	12.1	9.0

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table III in appendix I.

**Table 7. Number and percent distribution of currently employed persons 18 years of age and over by type of back pain, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Type of back pain	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None . . . . .	82.4	81.8	83.1	85.1	80.9	81.4	83.9	81.7	86.8	85.8	82.2	84.0	81.9	82.7	79.2	80.5	81.4	82.7	85.0
Upper or middle back . . . . .	4.4	3.9	5.0	4.4	4.9	3.9	2.2	4.5	3.1	5.0	4.3	4.0	4.9	4.5	4.9	5.2	4.4	4.5	3.8
Low back extending to lower body parts. . . . .	6.6	6.6	6.5	4.0	7.0	8.7	7.2	6.9	4.9	4.9	6.7	5.8	7.2	6.6	7.8	7.8	7.2	6.1	5.1
Low back not extending to lower body parts. . . . .	6.7	7.7	5.4	6.5	7.2	6.0	6.7	6.8	5.2	4.3	6.8	6.2	6.0	6.2	8.1	6.5	7.0	6.7	6.0

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: Back pain is defined as having back pain every day for a week or more during the past 12 months. The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I.

**Table 8. Number and percent distribution of currently employed persons 18 years of age and over who had back pain by cause of back pain, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Cause of back pain	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	4,853	2,509	2,344	1,183	2,163	1,340	167	4,276	468	242	4,611	2,642	658	137	1,403	726	1,986	1,117	1,011
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Accident: <sup>3</sup>																			
At work . . . . .	7.8	9.8	5.1	6.0	8.6	7.9	9.4	7.7	10.0	9.7	7.7	6.9	10.4	11.4	7.8	7.4	8.6	8.1	5.7
Not at work . . . . .	12.0	10.5	13.9	12.4	12.7	10.0	16.0	12.1	11.2	10.4	12.1	15.2	9.9	*4.0	8.0	9.6	10.5	14.1	14.3
Repeated activities:																			
At work . . . . .	26.5	29.3	22.9	30.2	26.4	24.5	14.5	25.9	31.7	29.1	26.4	17.2	31.7	45.3	38.2	32.6	29.7	24.8	16.5
Not at work . . . . .	7.7	7.5	8.0	6.5	8.8	7.0	9.5	8.0	4.6	*5.5	7.9	10.6	6.4	*1.9	4.0	5.6	5.5	8.1	14.0
Accident and repeated activities:																			
At work . . . . .	16.3	19.5	12.2	18.4	16.9	14.9	*4.0	16.1	18.7	16.5	16.3	10.8	18.0	23.0	24.3	22.9	18.6	15.7	7.0
Not at work . . . . .	4.2	3.9	4.6	5.2	4.4	3.0	*5.8	4.5	*1.9	*5.5	4.2	6.4	2.6	*1.8	1.5	2.3	3.5	4.4	7.3
Disease or illness . . . . .	13.3	8.6	19.6	11.6	10.4	17.8	28.6	13.6	10.8	6.4	13.7	18.1	9.9	*5.3	7.6	10.3	12.2	12.9	18.9
Other . . . . .	12.1	10.9	13.6	9.7	11.6	14.9	12.3	12.2	11.0	16.9	11.8	14.7	11.1	*7.3	8.5	9.4	11.3	11.8	16.2

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

<sup>3</sup>Single accident or injury.

NOTES: Back pain is defined as having back pain every day for a week or more during the past 12 months. The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 9. Number and percent distribution of currently employed persons 18 years of age and over who had back pain by back-pain-related characteristics, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Back-pain-related characteristic	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	4,853	2,509	2,344	1,183	2,163	1,340	167	4,276	468	242	4,611	2,642	658	137	1,403	726	1,986	1,117	1,011
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of days with back pain																			
7-14 days . . . . .	19.7	20.6	18.6	23.5	19.6	17.3	11.5	19.6	21.3	20.7	19.7	20.0	17.0	20.9	20.3	18.9	19.7	20.4	20.0
15-30 days . . . . .	22.2	22.2	22.3	25.5	23.6	18.2	13.1	22.5	19.6	23.3	22.2	24.3	20.1	16.8	20.2	16.9	22.0	22.0	27.5
31-364 days . . . . .	33.2	32.8	33.7	37.3	34.0	29.0	24.5	33.4	31.7	32.4	33.2	32.7	33.8	31.1	34.0	32.8	33.8	33.8	31.7
Every day . . . . .	21.0	21.1	21.0	10.9	19.4	30.4	45.2	21.0	21.3	19.3	21.2	19.4	24.7	24.3	21.9	26.5	21.3	19.7	17.3
Unknown . . . . .	3.8	3.3	4.3	2.8	3.4	5.1	*5.7	3.5	6.2	*4.4	3.7	3.6	4.3	*6.9	3.6	5.0	3.2	4.1	3.5
Workday loss due to back pain																			
Did not miss work . . . . .	73.1	72.9	73.2	73.9	71.1	74.5	81.7	74.3	60.9	69.7	73.3	74.6	72.0	68.1	71.4	73.1	70.8	73.3	77.3
1-5 days . . . . .	13.1	13.5	12.6	14.6	14.7	10.1	*4.8	12.8	15.1	14.6	13.0	13.5	11.9	10.4	13.1	9.8	13.6	14.8	13.0
More than 5 days . . . . .	12.1	12.2	12.0	10.5	12.4	13.3	10.8	11.3	20.9	15.4	11.9	10.2	14.7	19.2	13.7	14.2	14.3	10.3	8.0
Unknown . . . . .	1.7	1.4	2.1	*1.1	1.7	2.2	*2.7	1.6	3.1	*0.4	1.8	1.8	*1.4	*2.3	1.8	2.9	1.3	1.6	1.7
Years with back pain																			
Less than 2 years . . . . .	32.6	29.7	36.5	48.1	32.0	20.7	19.6	31.4	42.9	38.1	32.3	33.3	34.3	30.0	31.1	27.9	33.3	35.4	31.4
2-5 years . . . . .	27.6	27.7	27.5	29.7	28.3	26.0	13.6	27.6	26.1	29.4	27.5	27.0	30.0	25.7	28.0	29.1	26.7	28.0	27.9
6-10 years . . . . .	15.0	15.1	14.8	14.3	16.1	14.1	12.5	15.5	10.6	12.9	15.1	14.7	15.4	10.7	15.6	12.5	16.1	14.6	15.0
More than 10 years . . . . .	18.2	20.3	15.3	3.6	17.2	30.9	38.8	19.2	11.7	14.3	18.4	18.7	14.2	24.4	18.2	22.1	18.1	16.0	17.9
Unknown . . . . .	6.6	7.2	5.9	4.2	6.4	8.3	15.5	6.4	8.7	*5.2	6.7	6.3	6.1	*9.1	7.1	8.4	5.8	6.0	7.8
Lifetime change in work status or activity due to back pain																			
No change . . . . .	78.3	79.0	77.3	80.7	77.1	78.1	76.2	78.6	74.8	74.8	78.5	79.4	77.2	70.0	77.6	78.9	76.4	77.4	82.8
Changed jobs or stopped working at a job . . . . .	10.9	11.0	10.9	10.1	11.4	10.5	15.0	10.9	13.4	15.2	10.7	9.1	13.9	15.4	12.4	12.7	12.7	10.3	6.3
Changed work activities . . . . .	9.5	9.0	10.1	8.0	10.0	10.2	8.8	9.4	9.2	9.0	9.5	9.9	8.1	14.2	9.1	8.1	9.5	10.7	9.2
Unknown . . . . .	1.3	1.0	1.7	*1.2	1.5	1.2	-	1.1	*2.6	*1.0	1.3	1.7	*0.9	*0.4	*0.9	*0.3	1.3	1.6	1.8

<sup>1</sup>Includes persons of races other than black and white and persons of unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: Back pain is defined as having back pain every day for a week or more during the past 12 months. The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 10. Number and percent distribution of currently employed persons 18 years of age and over by type and duration of hand discomfort during past 12 months, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Hand discomfort characteristic	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group			Education level				
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No discomfort. . . . .	77.8	78.8	76.6	80.6	78.3	74.4	73.9	77.7	78.2	83.1	77.4	80.7	76.4	75.8	72.6	74.8	76.4	77.5	82.6
Discomfort:																			
From injury . . . . .	5.4	6.7	3.7	6.5	5.3	4.4	2.5	5.4	5.0	4.0	5.5	4.1	5.8	7.3	7.6	6.4	5.4	5.8	4.2
Not from injury . . . . .	15.7	13.2	18.8	11.9	15.3	20.0	22.7	15.8	15.3	12.2	16.0	14.2	16.8	15.5	18.7	17.7	17.0	15.5	12.4
Not prolonged <sup>3</sup> . . . . .	6.3	5.2	7.5	6.0	6.3	6.5	7.1	6.1	7.0	5.4	6.3	6.0	6.5	5.2	6.8	6.5	6.8	6.1	5.4
Prolonged. . . . .	9.3	8.0	10.8	5.8	8.9	13.1	14.5	9.6	7.8	6.6	9.5	8.1	9.7	10.0	11.5	10.7	10.0	9.4	6.8
Ever had arthritis . . . . .	3.5	2.7	4.5	0.9	2.2	7.5	11.4	3.7	2.8	1.7	3.7	3.2	4.4	5.8	3.6	4.7	3.8	3.4	2.4
Never had arthritis . . . . .	4.9	4.4	5.4	4.5	5.9	4.0	2.2	5.0	4.0	4.2	4.9	4.2	4.4	3.7	6.8	5.0	5.4	5.3	3.5

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

<sup>3</sup>Prolonged hand discomfort is defined as having hand discomfort every day at least for a week or a total of 20 days or more in the previous 12 months.

NOTES: The percents shown in this table are based on responses to multiple questions. Therefore, the column percents may not add to 100.0 or to the appropriate subtotals due to incomplete responses. The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I.

**Table 11. Number and percent distribution of currently employed persons 18 years of age and over who had prolonged hand discomfort during past 12 months, by duration of discomfort and lifetime change in work status or activity due to discomfort, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Duration of discomfort and work change status	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	2,555	1,087	1,468	442	1,031	933	149	2,231	280	116	2,439	1,328	356	80	788	399	1,086	606	452
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Years with hand discomfort																			
Less than 2 years . . . . .	38.0	36.5	39.4	55.5	40.5	29.3	17.4	37.1	46.6	40.1	37.9	39.0	34.4	27.6	39.0	36.4	37.9	38.4	39.4
2-5 years . . . . .	31.4	32.5	30.5	28.2	31.4	33.2	30.0	31.5	27.9	31.7	31.4	31.1	34.5	26.0	31.2	31.0	32.8	31.7	28.2
6-10 years . . . . .	14.6	16.2	13.2	10.6	12.0	18.4	21.6	14.8	14.2	17.1	14.5	13.3	16.4	26.4	14.9	16.0	13.6	14.2	15.8
More than 10 years . . . . .	9.9	9.2	10.5	*2.0	11.1	11.4	20.2	10.5	*4.7	*5.9	10.1	10.4	8.4	16.4	9.2	10.0	9.2	11.3	9.9
Unknown . . . . .	6.0	5.6	6.4	3.6	5.0	7.6	10.8	6.1	6.5	*5.3	6.1	6.3	6.3	*3.6	5.7	6.6	6.4	4.4	6.6
Lifetime change in work status or activity due to hand discomfort																			
No change . . . . .	86.6	87.3	85.9	85.4	85.3	87.4	94.6	86.9	85.5	90.6	86.4	87.0	88.3	94.4	84.5	87.2	85.7	86.4	87.9
Changed jobs or stopped working at a job . . . . .	5.3	4.7	5.8	7.0	6.0	4.0	*2.2	4.9	6.9	*4.4	5.3	4.4	5.5	*2.6	6.8	6.0	5.7	5.3	3.6
Changed work activities . . . . .	5.8	5.6	6.0	6.4	6.8	4.9	*2.5	5.7	5.3	*2.8	5.9	5.9	*3.7	*2.9	6.7	4.9	6.1	6.3	5.4
Unknown . . . . .	2.4	2.5	2.3	*1.2	2.0	3.6	*0.7	2.4	*2.3	*2.2	2.4	2.7	*2.5	-	2.0	*1.9	2.5	*2.0	*3.1

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: Prolonged hand discomfort is defined as having hand discomfort every day at least for a week or a total of 20 days or more in the previous 12 months. The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 12. Number and percent distribution of currently employed persons 18 years of age and over by body part and number of days affected with skin conditions (dermatitis) during past 12 months, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Body part and number of days affected	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	Number 1,674      25,734		16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Percent distribution 100.0      100.0		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Body part affected																			
None . . . . .	87.7	88.5	86.7	88.4	86.6	88.5	88.4	87.1	92.1	92.7	87.3	86.7	88.5	89.7	89.3	91.4	88.8	86.4	84.8
Hands or arms . . . . .	4.1	3.8	4.4	4.0	4.3	3.9	2.9	4.3	2.1	2.6	4.2	3.9	4.8	3.6	4.1	3.1	3.7	4.7	4.6
Head, face, or neck . . . . .	1.9	1.4	2.5	1.9	1.9	1.8	2.4	1.9	1.5	1.1	1.9	2.3	1.6	*1.3	1.2	1.2	1.7	1.8	2.7
Other body part . . . . .	3.1	3.3	2.8	2.5	3.5	3.1	3.7	3.3	1.5	1.8	3.2	3.5	2.4	3.1	2.6	2.0	2.8	3.4	3.9
Combination of above . . . . .	2.8	2.4	3.4	2.8	3.2	2.4	2.2	3.0	1.9	1.8	2.9	3.2	2.2	2.1	2.4	1.8	2.6	3.2	3.6
Unknown . . . . .	0.4	0.5	0.3	0.5	0.4	0.3	*0.5	0.4	0.7	*0.1	0.4	0.3	0.5	*0.3	0.5	0.4	0.4	0.4	0.3
Total number of days affected during past year																			
None . . . . .	87.7	88.5	86.7	88.4	86.6	88.5	88.4	87.1	92.1	92.7	87.3	86.7	88.5	89.7	89.3	91.4	88.8	86.4	84.8
30 days or less . . . . .	5.9	5.3	6.6	6.0	6.3	5.3	4.5	6.2	3.8	4.5	6.0	6.4	5.5	5.0	5.2	4.0	5.3	6.5	7.6
More than 30 days . . . . .	6.0	5.7	6.4	5.2	6.7	5.9	6.6	6.4	3.4	2.8	6.3	6.6	5.6	5.0	5.1	4.2	5.5	6.7	7.3
Unknown . . . . .	0.4	0.5	0.3	0.5	0.4	0.3	*0.5	0.4	0.7	*0.1	0.4	0.3	0.5	*0.3	0.5	0.4	0.4	0.4	0.3

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 13. Number and percent distribution of currently employed persons 18 years of age and over who had skin conditions (dermatitis) during past 12 months by cause of dermatitis and resulting change in work status or activity due to dermatitis, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Cause of dermatitis and resulting change in work status or activity	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group			Education level				
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	3,358	1,527	1,831	910	1,529	813	106	3,007	260	131	3,227	2,156	405	73	717	307	1,146	868	1,031
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cause of dermatitis																			
Chemicals or other substances at work . . . . .	15.2	16.7	13.7	18.4	15.7	12.0	*3.9	14.9	21.9	21.1	14.9	8.6	24.8	23.0	27.7	20.2	18.7	15.1	9.4
Chemicals or other substances not at work . . . . .	7.1	5.4	8.7	6.4	7.2	7.2	*9.3	7.0	5.8	*4.0	7.2	8.0	6.9	*5.4	4.7	5.9	5.0	8.1	9.2
Other . . . . .	66.9	66.6	67.2	67.3	66.6	66.5	71.0	67.8	57.1	59.1	67.2	74.1	55.9	61.4	53.2	56.6	64.9	67.1	72.8
Unknown . . . . .	10.8	11.2	10.4	7.8	10.5	14.3	15.8	10.2	15.1	15.8	10.6	9.3	12.3	*10.3	14.3	17.3	11.5	9.7	8.6
Change in work status or activity																			
No change . . . . .	97.5	97.8	97.1	96.1	97.5	98.6	100.0	97.5	98.0	97.2	97.5	98.2	94.2	99.3	96.8	97.5	97.0	97.3	98.3
Changed jobs or work activities or stopped working at a job . . . . .	2.2	1.8	2.7	3.2	2.3	*1.2	—	2.2	*2.0	*2.4	2.2	1.4	5.4	*0.7	3.0	*2.2	2.8	2.1	1.5
Unknown . . . . .	*0.3	*0.3	*0.3	*0.6	*0.2	*0.2	—	*0.3	—	*0.4	*0.3	*0.3	*0.4	—	*0.2	*0.3	*0.2	*0.5	*0.2

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 14. Number and percent distribution of persons 18 years of age and over who had worked in past 2 weeks by number and type of eye, nose, and throat irritation during that period, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Number and type of irritation	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group			Education level				
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	26,409	13,240	13,169	7,455	11,114	6,846	994	22,356	3,333	1,611	24,798	15,603	3,479	697	6,556	3,605	10,172	6,150	6,424
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No irritation . . . . .	62.2	65.3	58.4	58.3	61.9	66.4	71.4	61.3	68.9	67.6	61.9	61.0	62.3	68.5	64.2	67.1	62.2	60.1	61.5
All three irritations . . . . .	4.1	3.1	5.5	5.0	4.1	3.3	2.6	4.3	3.0	3.4	4.2	4.6	4.4	2.8	3.2	2.8	4.0	5.2	4.0
Any two irritations . . . . .	12.1	10.5	14.0	13.4	12.9	9.9	6.3	12.5	9.1	9.9	12.2	12.5	12.4	11.9	10.9	10.0	12.0	13.0	12.4
One irritation only . . . . .	20.1	19.8	20.6	21.8	19.7	19.1	18.2	20.5	17.2	17.4	20.3	20.4	19.6	16.0	20.3	18.7	20.4	20.4	20.3
Eye irritation . . . . .	5.4	5.1	5.7	5.9	5.1	5.1	5.9	5.5	4.7	6.4	5.3	5.4	5.4	4.5	5.6	5.6	5.5	5.6	4.9
Nose irritation . . . . .	11.9	12.3	11.4	12.4	11.8	11.6	10.3	12.2	10.0	6.7	12.3	11.8	11.5	10.3	12.4	10.1	12.6	11.5	12.1
Sore throat . . . . .	2.8	2.4	3.4	3.4	2.8	2.3	1.9	2.8	2.4	4.4	2.7	3.2	2.7	*1.2	2.3	2.9	2.3	3.2	3.3
Unknown . . . . .	1.5	1.3	1.5	1.5	1.4	1.3	1.5	1.4	1.8	1.7	1.4	1.5	1.3	*0.8	1.4	1.4	1.4	1.3	1.8

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.



**Table 15. Number and percent distribution of persons 18 years of age and over who had worked in past 2 weeks by cause of eye, nose, and throat irritation during that period, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Cause of irritation	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	26,409	13,240	13,169	7,455	11,114	6,846	994	22,356	3,333	1,611	24,798	15,603	3,479	697	6,556	3,605	10,172	6,150	6,424
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Eye irritation																			
None . . . . .	82.7	84.8	80.2	81.0	82.6	84.5	86.7	82.3	85.8	84.1	82.6	82.1	82.6	84.8	83.9	84.4	83.1	81.2	82.7
Cold, flu, or fever . . . . .	2.6	2.0	3.3	3.0	2.6	2.2	*0.9	2.6	2.3	3.6	2.5	2.7	3.0	*1.5	2.1	2.2	2.3	3.2	2.5
Hay fever . . . . .	2.2	2.1	2.4	2.4	2.7	1.5	*1.4	2.3	1.9	1.4	2.3	2.4	2.3	2.5	1.8	1.6	1.9	2.7	2.7
Other allergies . . . . .	5.1	3.5	7.2	5.4	5.1	5.1	3.6	5.4	3.3	4.8	5.1	5.8	5.3	4.0	3.7	4.0	5.0	5.5	5.6
Something else . . . . .	6.5	6.7	6.2	7.5	6.1	6.0	6.2	6.6	5.6	6.2	6.5	6.1	6.2	6.2	7.7	7.0	6.8	7.0	5.4
Unknown . . . . .	0.9	0.9	0.7	0.7	0.9	0.7	*1.2	0.8	1.1	-	1.0	0.9	0.6	*1.0	0.8	0.8	0.9	0.4	1.1
Nose irritation																			
None . . . . .	71.5	73.6	68.9	68.8	70.8	74.7	79.7	70.7	77.1	79.3	70.9	70.6	71.3	75.4	73.2	76.7	71.1	69.8	70.9
Cold, flu, or fever . . . . .	11.7	11.6	11.7	14.7	11.4	9.1	5.5	11.8	10.1	11.3	11.7	11.6	11.7	9.5	11.9	11.1	11.7	12.3	11.3
Hay fever . . . . .	3.1	3.0	3.3	3.5	3.6	2.2	1.7	3.2	2.9	2.1	3.2	3.4	2.8	3.8	2.6	1.8	2.8	3.9	3.8
Other allergies . . . . .	7.0	5.3	9.2	6.6	7.2	7.4	5.7	7.4	4.1	4.7	7.2	8.3	6.4	5.2	4.9	4.1	7.0	7.5	8.4
Something else . . . . .	5.6	5.2	6.0	4.8	6.0	5.8	6.3	5.8	5.0	2.2	5.8	5.0	6.5	5.2	6.4	5.4	6.4	5.7	4.2
Unknown . . . . .	1.1	1.3	1.0	1.6	1.0	0.8	1.1	1.1	0.8	0.4	1.2	1.1	1.3	*0.9	1.0	0.9	1.0	0.8	1.5
Sore or dry throat																			
None . . . . .	85.6	88.3	82.4	83.1	85.2	88.6	90.7	85.4	88.3	85.4	85.7	84.5	85.3	89.8	87.8	88.4	86.0	83.9	85.1
Cold, flu, or fever . . . . .	7.5	6.4	8.9	9.7	7.7	5.2	3.6	7.7	5.9	9.0	7.4	8.0	8.1	5.0	6.5	6.4	7.1	8.7	7.9
Hay fever or other allergies . . . . .	2.5	1.5	3.7	2.5	2.5	2.5	*1.4	2.6	1.6	1.9	2.5	3.1	2.2	2.2	1.4	1.3	2.2	3.0	2.9
Something else . . . . .	3.4	2.7	4.3	3.7	3.6	2.8	2.5	3.5	3.1	2.4	3.5	3.5	3.6	2.3	3.3	3.0	3.7	3.6	3.0
Unknown . . . . .	1.0	1.1	0.7	1.0	1.0	0.9	3.2	0.8	1.1	1.3	0.9	0.9	0.8	*0.7	1.0	0.9	0.9	0.8	1.1

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 16. Number and percent distribution of currently employed persons 18 years of age and over by frequency of work injuries in past 12 months, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Frequency of work injury	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None . . . . .	92.3	90.3	94.8	89.7	92.5	94.5	96.8	92.2	92.7	91.9	92.4	95.5	91.3	90.0	86.2	89.7	90.6	92.7	96.6
Once in past 12 months . . .	6.2	7.6	4.3	7.9	6.1	4.7	2.8	6.3	5.8	6.9	6.1	3.6	6.9	7.4	11.2	8.0	7.8	5.7	2.7
More than once in past 12 months . . . . .	1.0	1.4	0.6	1.8	1.0	0.4	-	1.0	0.8	*0.7	1.1	0.5	1.2	2.3	1.9	1.8	1.1	1.2	0.4
Unknown . . . . .	0.5	0.6	0.3	0.6	0.5	0.4	*0.4	0.4	0.8	*0.4	0.5	0.4	0.6	*0.3	0.7	0.6	0.6	0.4	0.4

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 17. Number and percent distribution of injury episodes among currently employed persons 18 years of age and over who had had work injury in past 12 months by body part affected, type of injury, and resulting change in work status or activity caused by work injuries, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Body part affected, type of injury, and work status	All injuries at work <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group			Education level				
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	2,211	1,434	777	858	918	405	30	1,893	255	132	2,079	744	348	92	1,017	401	1,022	529	252
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Body part injured																			
Shoulder . . . . .	3.7	3.9	3.1	3.2	3.5	5.3	—	3.4	*4.4	*2.8	3.7	2.7	*3.4	*5.6	4.2	*3.2	3.7	4.8	*1.8
Knee . . . . .	6.5	6.6	6.3	5.9	6.8	7.0	*13.8	6.3	10.2	*4.9	6.6	6.9	8.3	*9.0	5.6	9.1	4.7	8.2	6.3
Head . . . . .	3.6	4.1	2.6	4.1	3.0	3.5	*10.0	3.4	*4.5	*2.7	3.7	4.0	*3.5	*7.3	3.1	3.8	3.3	3.5	*4.4
Eyeball . . . . .	6.1	7.2	3.4	5.9	6.9	5.0	—	6.2	*5.4	*5.3	6.1	3.5	*2.1	*3.3	9.0	7.4	6.1	6.4	*2.6
Back . . . . .	20.3	19.7	21.7	18.2	23.2	19.4	*14.2	20.1	25.1	16.5	20.6	22.9	26.7	*13.2	17.5	16.6	22.0	20.0	20.4
Hand, wrist, or finger . . . . .	28.2	28.0	28.7	32.9	24.6	24.9	*28.5	28.9	22.2	33.5	27.8	26.0	24.7	23.2	31.1	28.8	27.6	28.3	30.0
Foot, toe, or ankle . . . . .	8.5	7.7	10.3	9.5	7.4	8.0	*9.6	8.5	8.0	10.0	8.3	10.0	7.8	*1.8	8.2	9.2	8.0	7.9	10.4
Other . . . . .	19.6	19.5	19.9	16.1	20.4	26.1	*23.9	19.6	17.9	23.8	19.3	20.3	19.0	31.5	18.3	17.5	21.6	17.6	18.8
Unknown . . . . .	3.6	3.4	4.0	4.3	4.2	*0.9	—	3.7	*2.3	*0.6	3.8	3.8	4.5	*5.1	2.9	4.5	3.0	3.2	*5.3
Type of injury																			
Burns . . . . .	4.7	4.4	5.6	5.8	4.6	*2.4	*5.0	4.6	*4.8	*4.8	4.7	4.8	7.8	*1.0	4.3	6.0	4.9	3.9	*2.6
Contusions or abrasions . . . . .	12.5	11.5	14.7	11.2	12.3	14.5	37.8	12.2	15.3	15.9	12.2	13.9	11.8	*8.4	12.1	13.1	10.9	14.0	15.3
Fracture . . . . .	6.6	5.9	8.1	5.2	7.4	7.6	*16.9	7.1	*2.8	*5.7	6.6	7.5	6.4	14.7	5.3	4.7	7.9	5.2	7.1
Laceration or puncture . . . . .	20.5	21.8	17.4	23.5	19.1	17.2	*8.1	21.0	14.3	24.5	20.2	19.6	14.8	25.1	22.4	20.0	20.6	18.5	25.7
Strain or sprain . . . . .	26.4	25.3	28.7	25.3	26.5	29.2	*14.0	25.4	32.9	25.0	26.4	29.1	31.0	19.9	23.8	22.1	28.8	26.7	22.1
Other . . . . .	22.3	24.3	17.4	21.3	22.3	25.3	*11.8	22.9	20.7	18.3	22.6	17.1	20.1	19.4	26.6	26.1	20.7	23.9	19.2
Unknown . . . . .	7.1	6.6	8.1	7.8	7.8	3.8	*6.2	6.7	9.3	*5.8	7.2	8.0	8.2	*11.5	5.6	7.9	6.0	7.8	8.0
Change in work status or activity																			
No change . . . . .	86.4	86.4	86.4	83.8	87.0	91.7	83.7	86.3	88.7	89.6	86.2	84.2	88.4	86.3	87.4	83.6	86.6	87.4	88.9
Changed employer . . . . .	3.4	3.2	3.8	5.1	2.6	*1.0	—	3.5	*2.6	*3.9	3.3	4.8	*1.3	*0.5	3.3	5.1	3.4	*1.8	*3.6
Changed kind of work only . . . . .	3.0	2.7	3.6	3.3	2.8	2.5	*4.3	2.9	*3.9	*1.2	3.1	2.9	*3.8	—	3.0	*3.0	3.9	*1.5	*1.8
Changed work activity . . . . .	1.8	1.7	2.2	*1.5	2.6	*1.0	*3.7	2.0	*0.7	*2.0	1.8	3.4	*1.6	—	*1.1	*0.6	2.1	*2.3	*1.8
Unknown . . . . .	5.4	6.0	4.0	6.3	5.1	3.9	*8.2	5.4	*4.1	*3.3	5.6	4.7	5.0	*13.3	5.2	7.7	4.0	7.1	*3.9

<sup>1</sup>Includes injuries for persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 18. Number and percent of currently employed persons 18 years of age and over by selected sociodemographic characteristics and selected health conditions during past 12 months: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Health condition	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent																			
Repeated trouble with neck, back, or spine . . .	19.1	18.7	19.5	15.9	20.4	20.9	18.5	19.7	15.2	16.6	19.3	17.8	20.1	18.2	21.4	21.3	20.1	19.1	15.8
Carpal tunnel syndrome . .	1.4	1.2	1.8	0.7	1.8	1.8	*1.2	1.6	0.7	0.9	1.5	1.3	1.3	*0.9	1.9	1.2	1.5	1.8	1.2
Tendinitis . . . . .	3.4	3.6	3.3	2.1	4.0	4.3	1.8	3.7	2.1	2.0	3.5	3.5	2.5	*1.4	3.8	1.9	3.6	3.9	3.6
Asthma . . . . .	2.4	2.0	2.8	2.7	2.4	2.0	2.3	2.4	2.3	1.8	2.4	2.4	2.9	2.8	2.0	2.4	2.3	2.4	2.3
Chronic bronchitis . . . . .	1.8	1.2	2.6	1.4	1.7	2.5	2.6	2.0	1.1	1.4	1.9	1.9	2.3	*1.2	1.5	2.2	1.9	2.0	1.4
Deafness <sup>3</sup> . . . . .	1.5	1.9	1.0	0.7	1.1	2.4	6.8	1.7	0.5	*0.5	1.6	1.4	0.9	2.6	2.0	2.1	1.6	1.5	1.1
Other trouble hearing <sup>3</sup> . . .	6.1	8.1	3.6	3.0	5.3	9.7	16.2	6.6	2.9	2.7	6.3	5.2	5.2	8.7	8.2	8.2	6.0	6.1	5.0

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

<sup>3</sup>Currently occurring in one or both ears.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 19. Number and percent distribution of currently employed persons 18 years of age and over by smoking exposure, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Smoking exposure	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group				Education level			
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
Number																			
All categories . . . . .	27,408	13,653	13,755	7,710	11,477	7,154	1,067	23,160	3,496	1,674	25,734	16,158	3,615	740	6,797	3,777	10,531	6,353	6,683
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Smoking status																			
Never smoked . . . . .	47.2	41.5	54.2	58.7	45.7	36.3	47.9	46.0	53.4	54.3	46.7	51.6	47.1	48.7	37.8	34.7	43.7	50.6	57.5
Former smoker . . . . .	22.3	26.1	17.7	12.2	21.0	34.2	37.2	23.6	14.7	19.6	22.5	23.4	17.4	21.2	22.4	21.0	21.1	21.6	25.8
Current occasional . . . . .	0.4	0.5	0.4	0.6	0.5	0.3	-	0.4	0.5	*0.9	0.4	0.5	*0.4	*0.9	0.4	0.5	0.4	0.6	0.4
Current regular . . . . .	29.1	30.9	26.8	27.6	32.0	28.2	14.2	29.1	30.2	24.3	29.4	23.7	34.0	28.0	38.4	42.7	33.7	26.3	15.5
Other . . . . .	0.2	0.2	0.2	0.2	0.2	0.3	*0.3	0.2	*0.2	*0.2	0.2	0.2	*0.2	*0.5	0.3	*0.3	0.2	0.3	*0.2
Unknown . . . . .	0.7	0.8	0.6	0.8	0.7	0.7	*0.4	0.7	1.1	*0.6	0.7	0.7	0.8	*0.7	0.7	0.8	0.8	0.5	0.7
Number of cigarettes smoked per day																			
Never smoked . . . . .	49.3	43.8	56.1	60.7	47.7	38.7	50.5	48.2	54.6	56.7	48.8	53.8	48.7	51.2	39.8	36.2	45.8	52.8	60.1
1-10 cigarettes . . . . .	13.7	12.8	14.9	14.6	13.4	13.3	14.5	12.5	22.5	21.3	13.2	13.2	17.6	13.3	13.2	16.3	13.6	13.4	12.8
11-20 cigarettes . . . . .	20.9	22.9	18.3	16.9	21.7	24.4	18.1	21.7	15.6	13.5	21.4	18.8	20.3	19.4	25.5	26.3	23.3	19.2	14.9
21 cigarettes or more . . . . .	14.1	18.3	9.0	6.2	15.3	21.3	15.1	15.6	5.0	6.0	14.7	12.2	11.5	14.5	19.4	19.3	15.2	12.9	10.2
Unknown . . . . .	2.0	2.2	1.7	1.7	1.9	2.4	1.8	2.0	2.3	2.4	1.9	2.0	1.8	*1.7	2.1	2.0	2.1	1.7	2.0
Smoking at work																			
Smoking allowed:																			
Causes no discomfort . . .	22.3	29.0	14.1	21.1	21.2	25.1	24.2	22.8	20.4	19.2	22.5	16.3	20.3	35.2	34.7	34.4	26.2	18.9	11.5
Causes discomfort . . . . .	16.7	18.1	15.1	19.1	17.0	14.1	13.3	17.1	13.9	16.8	16.7	16.9	16.9	14.6	16.5	12.7	16.7	18.9	17.1
Smoking not allowed . . . . .	55.4	47.6	64.9	55.1	56.3	54.9	51.0	54.4	60.6	59.2	55.1	61.6	56.0	31.0	44.5	47.1	51.4	56.6	65.9
Smoking practice at work not known or works at home . . . . .	5.6	5.4	5.9	4.8	5.6	5.9	11.5	5.7	5.1	4.8	5.6	5.2	6.8	19.3	4.3	5.8	5.6	5.5	5.4

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 20. Number and percent distribution of persons 18 years of age and over who had worked in past 2 weeks by smoking status and eye, nose, or throat irritation, according to selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Smoking status and irritation	Sex		Age				Race		Ethnicity		Occupational group			Education level					
	All respondents <sup>1</sup>	Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
"Never" smokers																			
All "never" smokers . . . . .	12,383	5,398	6,985	4,278	5,085	2,515	505	10,227	1,718	873	11,510	7,974	1,619	329	2,427	1,277	4,381	3,041	3,662
Number																			
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No irritation . . . . .	63.0	66.6	59.5	60.8	61.4	69.0	71.1	61.8	70.6	69.2	62.4	61.2	63.9	67.9	66.9	70.9	63.8	61.1	60.8
All three irritations . . . . .	4.1	2.8	5.4	4.6	4.3	3.1	*2.4	4.3	2.5	3.6	4.2	4.7	3.6	*2.2	3.0	2.4	4.1	5.0	4.0
Any two irritations . . . . .	12.3	10.7	13.7	12.9	13.4	9.7	7.0	12.7	9.7	8.7	12.6	13.0	11.9	12.8	10.3	9.3	11.5	13.6	13.2
One irritation only . . . . .	19.5	18.7	20.2	20.7	19.7	17.1	17.3	20.0	16.1	16.6	19.7	19.8	19.5	16.4	18.8	16.4	19.6	19.3	20.6
Eye irritation . . . . .	5.2	4.8	5.6	5.6	5.0	4.6	5.7	5.3	4.4	6.2	5.1	5.2	5.9	4.5	4.8	5.0	5.3	5.2	5.0
Nose irritation . . . . .	11.0	11.4	10.7	11.7	11.0	10.0	9.2	11.4	8.8	6.2	11.5	11.1	10.7	10.3	11.1	7.6	11.6	10.7	11.8
Sore throat . . . . .	3.2	2.5	3.9	3.3	3.6	2.5	*2.4	3.3	2.8	4.2	3.2	3.5	2.9	*1.6	2.9	3.8	2.7	3.4	3.8
Unknown . . . . .	1.1	1.2	1.2	1.0	1.2	1.1	*2.2	1.2	1.1	1.9	1.1	1.3	1.1	*0.7	1.0	*1.0	1.0	1.0	1.4
Former smokers																			
All former smokers . . . . .	5,796	3,452	2,344	927	2,299	2,236	334	5,207	488	312	5,484	3,548	616	161	1,454	751	2,118	1,291	1,626
Number																			
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No irritation . . . . .	62.4	65.3	57.1	53.3	62.2	65.0	71.3	61.5	72.5	65.5	62.1	60.8	61.2	72.3	65.5	68.9	61.8	59.0	62.8
All three irritations . . . . .	4.1	3.0	6.1	6.1	4.1	3.4	*3.0	4.2	*1.7	*3.3	4.1	4.5	6.1	*2.9	2.6	2.9	3.9	5.8	3.6
Any two irritations . . . . .	11.7	10.0	14.9	13.7	13.4	10.3	*4.0	12.1	8.3	12.3	11.7	12.1	12.4	9.7	10.7	8.6	12.7	12.7	11.1
One irritation only . . . . .	20.6	20.7	20.4	25.0	19.2	20.1	20.9	20.9	16.6	17.2	20.8	21.3	19.5	13.8	19.9	18.6	20.7	21.2	21.0
Eye irritation . . . . .	5.6	5.5	5.9	6.9	5.1	5.6	5.8	5.8	3.4	*4.2	5.7	5.7	4.4	*3.0	6.2	5.0	5.7	6.9	4.6
Nose irritation . . . . .	12.4	12.9	11.6	14.3	11.5	12.5	13.0	12.5	11.7	8.4	12.7	12.6	12.7	10.3	12.0	10.5	13.0	11.3	13.7
Sore throat . . . . .	2.5	2.3	3.0	3.7	2.6	2.1	2.1	2.6	*1.5	4.5	2.4	3.0	2.4	*0.6	1.8	3.0	2.0	3.0	2.7
Unknown . . . . .	1.2	1.0	1.5	1.9	1.1	1.2	*0.8	1.3	*2.6	*0.7	1.3	1.3	*0.8	*1.3	1.3	*1.0	0.9	1.3	1.5
Current smokers																			
All current smokers . . . . .	8,039	4,281	3,758	2,197	3,650	2,041	151	6,769	1,091	416	7,623	3,966	1,223	203	2,626	1,552	3,590	1,782	1,089
Number																			
Percent distribution																			
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No irritation . . . . .	61.6	64.4	57.6	56.1	62.7	65.2	73.8	61.0	65.9	66.7	61.3	61.4	61.6	67.4	61.5	63.8	61.2	59.6	62.9
All three irritations . . . . .	4.2	3.5	5.3	5.5	3.8	3.5	*2.4	4.1	4.6	*2.9	4.3	4.4	4.6	*3.8	3.8	3.1	4.1	5.2	4.7
Any two irritations . . . . .	12.2	10.8	14.1	14.7	12.1	9.5	9.8	12.6	8.7	10.9	12.2	12.2	13.0	12.2	11.7	11.5	12.4	12.4	12.0
One irritation only . . . . .	20.9	20.5	21.6	22.5	20.5	20.4	13.7	21.3	19.4	18.8	21.1	20.7	19.8	16.5	22.1	20.6	21.3	21.7	18.7
Eye irritation . . . . .	5.6	5.4	5.9	6.1	5.4	5.4	*7.0	5.5	5.8	8.0	5.5	5.4	5.2	*5.8	6.0	6.5	5.6	5.4	4.8
Nose irritation . . . . .	12.9	13.0	12.9	13.0	13.3	12.7	*6.7	13.4	11.2	6.7	13.3	12.6	12.0	9.8	14.0	12.0	13.7	13.1	11.3
Sore throat . . . . .	2.4	2.1	2.8	3.4	1.8	2.3	-	2.4	2.3	4.0	2.3	2.6	2.5	*0.9	2.1	2.1	2.1	3.2	2.6
Unknown . . . . .	1.1	0.8	1.4	1.2	0.9	1.4	*0.3	1.0	1.4	*0.7	1.1	1.3	*1.0	*0.1	0.9	1.0	1.0	1.1	1.7

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 21. Number and percent of currently employed persons 18 years of age and over who had asthma or chronic bronchitis during past 12 months by smoking status, respiratory conditions, and selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design, general qualifications, and information on the reliability of the estimates are given in appendix I. Definitions of terms are given in appendix II]

Smoking status and respiratory conditions	All respondents <sup>1</sup>	Sex		Age				Race		Ethnicity		Occupational group			Education level				
		Male	Female	18-29 years	30-44 years	45-64 years	65 years and over	White	Black	Hispanic	Non-Hispanic	White collar	Service	Farm <sup>2</sup>	Blue collar	Less than 12 years	12 years	13-15 years	More than 15 years
<b>"Never" smokers</b>											<b>Number</b>								
All "never" smokers . . . .	12,847	5,541	7,306	4,423	5,253	2,635	536	10,591	1,800	901	11,946	8,257	1,687	351	2,505	1,333	4,536	3,145	3,810
											<b>Percent</b>								
Asthma . . . . .	2.4	2.3	2.5	2.9	2.3	1.6	2.8	2.4	2.5	*1.4	2.5	2.3	2.8	*2.5	2.3	2.4	2.4	2.4	2.3
Chronic bronchitis . . . . .	1.2	0.8	1.6	0.9	1.2	1.7	*1.6	1.3	*0.7	*1.1	1.2	1.3	1.5	*0.8	0.8	1.4	1.3	1.3	1.0
Asthma or chronic bronchitis . . . . .	3.3	2.8	3.8	3.5	3.3	2.9	3.9	3.4	3.1	2.5	3.4	3.4	3.9	*3.0	2.7	3.5	3.4	3.4	3.1
<b>Former smokers</b>											<b>Number</b>								
All former smokers . . . . .	6,020	3,571	2,449	971	2,365	2,319	365	5,407	506	328	5,692	3,685	637	170	1,504	789	2,190	1,340	1,691
											<b>Percent</b>								
Asthma . . . . .	2.8	2.3	3.8	3.3	3.0	2.5	*2.2	2.9	*2.3	*3.0	2.8	3.1	2.6	*3.6	2.3	2.1	2.7	3.4	2.8
Chronic bronchitis . . . . .	1.8	1.2	2.9	1.6	1.6	2.1	*2.3	1.9	*1.3	*1.5	1.9	1.8	*1.5	*2.5	2.0	2.2	1.8	2.2	1.6
Asthma or chronic bronchitis . . . . .	4.2	3.2	5.8	4.6	4.3	4.0	*3.7	4.3	3.2	4.4	4.1	4.3	3.7	*5.6	4.0	3.7	3.9	4.9	4.1
<b>Current smokers</b>											<b>Number</b>								
All current smokers . . . . .	8,343	4,430	3,913	2,263	3,775	2,144	161	7,004	1,152	435	7,908	4,098	1,268	215	2,737	1,627	3,720	1,832	1,133
											<b>Percent</b>								
Asthma . . . . .	2.0	1.4	2.8	2.2	2.0	1.8	*1.2	2.0	2.0	*1.8	2.0	1.9	3.2	*2.9	1.5	2.4	2.0	1.7	1.8
Chronic bronchitis . . . . .	2.8	1.9	4.1	2.2	2.5	3.9	*7.0	3.0	1.7	*2.2	2.9	3.2	3.6	*1.1	2.0	2.9	2.8	3.2	2.3
Asthma or chronic bronchitis . . . . .	4.2	3.0	6.0	3.9	3.9	5.1	*7.4	4.4	3.2	3.8	4.3	4.7	5.8	*3.6	3.0	4.4	4.2	4.5	3.7

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTES: The percents shown are weighted national estimates. The standard error (SE) computations are shown in table II in appendix I. Estimates for which the numerator has a relative standard error (RSE) of more than 30 percent are indicated with an asterisk.

**Table 22. Estimated number of all persons and currently employed persons 18 years of age and over by selected sociodemographic characteristics: United States, 1988**

[Data are based on sample person interviews of the civilian noninstitutionalized population. The survey design and general qualifications are given in appendix I. Definitions of terms are given in appendix II]

<i>Characteristic</i>	<i>All persons</i>	<i>Currently employed persons</i>
		Number in thousands
All persons <sup>1</sup> . . . . .	177,321	116,185
Sex		
Male . . . . .	84,131	63,852
Female . . . . .	93,190	52,333
Age		
18-29 years . . . . .	46,957	35,332
30-44 years . . . . .	56,108	46,391
45-64 years . . . . .	45,572	30,806
65 years and over . . . . .	28,683	3,656
Race		
White . . . . .	152,138	100,151
Black . . . . .	19,562	12,375
Ethnicity		
Hispanic . . . . .	11,990	7,925
Non-Hispanic . . . . .	165,330	108,260
Geographic region		
Northeast . . . . .	36,875	24,196
Midwest . . . . .	44,323	29,206
South . . . . .	60,584	39,182
West . . . . .	35,539	23,602
Place of residence		
MSA . . . . .	136,462	90,651
Not MSA . . . . .	40,859	25,534
Occupational group		
White collar . . . . .	66,969	66,969
Service . . . . .	14,285	14,285
Farm <sup>2</sup> . . . . .	3,331	3,331
Blue collar . . . . .	31,222	31,222
Currently not working . . . . .	61,135	-
Education level		
Less than 12 years . . . . .	38,933	16,268
12 years . . . . .	68,573	46,210
13-15 years . . . . .	35,869	26,506
More than 15 years . . . . .	33,339	26,909

<sup>1</sup>Includes persons of races other than black and white and persons with unknown occupations and unknown education.

<sup>2</sup>Includes farming, forestry, and fishing occupations.

NOTE: MSA is metropolitan statistical area.



# Appendix I

## Technical notes on methods

### Background

This report is based on information collected in a continuing nationwide sample of households included in the National Health Interview Survey (NHIS). Data are obtained on the personal, sociodemographic, and health characteristics of the family members and unrelated individuals living in these households. A detailed description of the sample design is contained in the publication entitled *Design and Estimation for the National Health Interview Survey, 1985–94* (20).

Field operations for the survey are conducted by the U.S. Bureau of the Census under specifications established by NCHS. The U.S. Bureau of the Census participates in the survey planning, selects the sample, and conducts the interviews. The data are then transmitted to NCHS for preparation, processing, and analysis.

Summary reports and reports on special topics for each year's data are prepared by the staff of NCHS for publication in Series 10 of the *Vital and Health Statistics Series* and elsewhere. Data are also tabulated for other reports published by NCHS staff and for use by other organizations and by researchers within and outside the Government. Since 1969, public-use tapes have been prepared for each year of data collection.

It should be noted that the health characteristics described by NHIS estimates pertain only to the resident, civilian noninstitutionalized population of the United States living at the time of the interview. The sample does not include persons residing in nursing homes, members of the Armed Forces, institutionalized persons, or U.S. nationals living abroad.

### Statistical design

#### General design

Data from NHIS have been collected continuously since 1957. The sample design of the survey has undergone changes following each decennial census. This periodic redesign of the NHIS sample allows the incorporation of the latest population information and statistical methodology into the survey design. The data presented in this report are from an NHIS sample design first used in 1985. This design is expected to be used until 1995.

The sample design plan of NHIS follows a multistage probability design that permits a continuous sampling of the civilian noninstitutionalized population residing in the United States. The survey is designed so that the sample scheduled for each week is representative of the target population, and the weekly samples are additive over time. This design permits estimates for high-frequency measures or for large population groups to be produced from a short period of data collection. Estimates for low-frequency measures or for smaller population subgroups can be obtained from a longer period of data collection. The annual sample is designed so that tabulations can be provided for each of the four major geographic regions. Because interviewing is done throughout the year, there is no seasonal bias for annual estimates.

The continuous data collection also has administrative and operational advantages because fieldwork can be handled on a continuing basis with an experienced, stable staff.

#### Sample selection

The target population for NHIS is the civilian noninstitutionalized population residing in the United States. For the first stage of the sample design, the United States is considered to be a universe composed of approximately 1,900 geographically defined primary sampling units (PSU's). A PSU consists of a county, a small group of contiguous counties, or a metropolitan statistical area. The PSU's collectively cover the 50 States and the District of Columbia. The 52 largest PSU's are selected into the sample with certainty and are referred to as self-representing PSU's. The other PSU's in the universe are referred to as non-self-representing PSU's. These PSU's are clustered into 73 strata, and 2 sample PSU's are chosen from each stratum with probability proportional to population size. This gives a total of 198 PSU's selected in the first stage.

Within a PSU, two types of second-stage units are used: area segments and permit area segments. Area segments are defined geographically and contain an expected eight households. Permit area segments cover geographical areas containing housing units built after the 1980 census. The permit area segments are defined using updated lists of building permits issued in the PSU since 1980 and contain an expected four households.

Within each segment, all occupied households are targeted for interview. On occasion, a sample segment may contain a large number of households. In this situation the households are subsampled to provide a manageable interviewer workload.

The sample was designed so that a typical NHIS sample for the data collection years 1985–94 will consist of approximately 7,500 segments containing about 59,000 assigned households. Of these households, an expected 10,000 will be vacant, demolished, or occupied by persons not in the target population of the survey. The expected sample of 49,000 occupied households will yield a probability sample of about 127,000 persons.

### Features of NHIS sample redesign

Starting in 1985, the NHIS design incorporated several new design features. The major changes include the following:

*The use of an all-area frame*—The NHIS sample is now designed so that followup studies or other forms of recontact are permitted and so that it can serve as a sample frame for other NCHS population-based surveys. In previous NHIS designs, about two-thirds of the sample was obtained from lists of addresses compiled at the time of the decennial census; that is, a list frame. Because of U.S. Bureau of the Census confidentiality restrictions, these sample addresses could be used for only those surveys being conducted by the U.S. Bureau of the Census. The methodology used to obtain addresses in the 1985 NHIS area frame does not use the census address lists.

*NHIS as four panels*—Four national subdesigns, or panels, constitute the full NHIS. Each panel contains a representative sample of the U.S. civilian noninstitutionalized population. Each of the four panels has the same sampling properties, and any combination of panels defines a national design. Panels were constructed to facilitate the linkage of NHIS to other surveys and to efficiently make large reductions in the size of the sample by eliminating panels from the survey.

*The oversampling of black persons*—One of the goals in designing the current NHIS was to improve the precision of estimates for black persons. This was accomplished by differential sampling rates in PSU's containing approximately 5–50 percent black population. Sampling rates for selection of segments were increased in areas known to have the highest concentrations of black persons. Segment sampling rates were decreased in other areas within the PSU to ensure that the total sample in each PSU was the same size as it would have been without oversampling black persons.

*The reduction of the number of sampled PSU's*—Interviewer travel to sample PSU's constitutes a large component of the total field costs for NHIS. The previous NHIS design included 376 PSU's. Research had suggested that reducing the number of sample PSU's, while increasing the sample size within PSU's, would reduce travel costs and also maintain the reliability of health estimates (21). The design now contains 198 PSU's.

*The selection of two PSU's per non-self-representing stratum*—In the previous design, one PSU was selected from each non-self-representing stratum. This feature necessitated the use of less efficient variance estimation procedures; the selection of two PSU's allows more efficient variance estimation methodology (21).

### Survey design for the 1988 NHIS

During 1988, the NHIS sample consisted of 8,435 segments containing 62,106 households. Of the 50,061 households eligible for interview, 47,485 households actually were interviewed, resulting in a sample for the basic questionnaire of 122,310 persons. The total noninterview rate was 5.1 percent; 3.0 percent was the result of respondent refusal, and the remainder was primarily the result of failure to locate an eligible respondent at home after repeated calls.

A target person for the Occupational Health Supplement was identified from each household with at least one household member 18 years of age or older. If a household contained more than one family, target persons were identified for each family. The sample person was selected at random from the family members who fulfilled the age criterion. Among the 47,485 households interviewed with the basic questionnaire, 48,365 families contained an adult eligible to be interviewed, and interviews were completed on 44,233 persons. The total noninterview rate was 8.5 percent; approximately 3.8 percent was the result of respondent refusal, and the remainder was primarily the result of failure to obtain an interview within the time allotted.

### Collection and processing of data

The NHIS questionnaire contains two main parts. The first, the basic health and demographic component, consists of topics that remain relatively unchanged from year to year. Among these topics are the incidence of acute conditions, the prevalence of chronic conditions, persons limited in activity due to chronic conditions, restriction in activity due to impairment or health problems, and utilization of health care services involving physician care and short-stay hospitalization. The second part, a special topics component, consists of additional topics that change from year to year. In 1988, the special topics included occupational health. The data in this report are based on this Occupational Health Supplement.

Careful procedures are followed to assure the quality of data collected in the NHIS interview. Most households in the sample are contacted by mail before the interviewer arrives. Potential respondents are informed of the importance of the survey and assured that all information obtained in the interview will be held in strict confidence. Interviewers make repeated trips to a household when a respondent is not found on the first visit. The success of these procedures is indicated by the response rate for the survey, which has been between 95 and 98 percent over the years.

When contact is made, the interviewer attempts to have all family members of the household 19 years of age and over present during the interview. When this is not possible, proxy responses for absent family members are accepted for the basic component of the questionnaire. In most situations, proxy responses are used for persons under 19 years of age. Persons 17 and 18 years of age may respond for themselves, however. The interviews obtained for the Occupational Health Supplement were self-reported.

Interviewers undergo extensive training and retraining. The quality of their work is checked by means of periodic observation and by reinterview. Their work also is evaluated by statistical studies of the data they obtain in their interviews. A field edit is performed on all completed interviews so that if there are any problems with the information on the questionnaire, respondents may be recontacted to solve the problem.

Completed questionnaires are sent from the Census Bureau field offices to NCHS for coding and editing. To check the accuracy of the coding, a 5-percent sample of all questionnaires is recoded and keyed by other coders. Staff of the Division of Health Interview Statistics then edit files to remove impossible and inconsistent codes. A detailed description of the procedures used to conduct and prepare the NHIS is included in Kovar and Poe (22).

## Estimation procedures

The complex, multistage probability sample utilized by the NHIS must be reflected in the derivation of survey-based estimates. For this report, 1988 NHIS-OHS sample person counts were weighted to produce national estimates. The weight for each sample person was derived from his or her final annual weight on the basic NHIS. This weight is the product of four components:

1. *Probability of selection*—The basic weight for each NHIS respondent is obtained by multiplying the reciprocals of the probabilities of selection at each step of the design: PSU, segment, and household.
2. *Household nonresponse adjustment within segment*—Household nonresponse on the basic NHIS health and demographic questionnaire necessitates a weighting adjustment. The nonresponse adjustment weight is a ratio with the number of households in a sample segment as the numerator and the number of households actually interviewed in that segment as the denominator. The adjustment reduces bias in an estimate to the extent that persons in the noninterviewed households have the same characteristics as persons in interviewed households in the same segment.
3. *First-stage ratio adjustment*—The weight for persons in the non-self-representing PSU's is ratio-adjusted to the 1980 population within four race-residence classes of the non-self-representing strata within each geographic region.

4. *Poststratification by age-sex-race*—Within each of 60 age-sex-race cells, a weight is constructed each quarter to adjust the first-stage population estimates based on the NHIS to an independent estimate of the population of each cell. These independent estimates are prepared by the U.S. Bureau of the Census and are updated quarterly.

The main effect of the ratio-estimating process (component 3 above) is to make the sample more closely representative of the target population by age, sex, race, and residence. The poststratification adjustment (component 4 above) helps to reduce the component of bias resulting from sampling frame undercoverage; furthermore, this adjustment frequently reduced sampling variance.

Unlike the basic NHIS sample, which included all persons in each sample household, the NHIS-OHS sample was restricted to a single sample adult randomly selected within each family. Thus, the NHIS-OHS weight included an additional component (5 below), designed to incorporate the probability of selection within the household. After this component was incorporated, a final poststratification adjustment component (6 below) was made.

5. *Adjustment for the probability of selection within family*—For each NHIS-OHS sample adult, his or her final annual weight for the basic NHIS (the product of the four weights described above) was multiplied by the within-household sampling weight, which is the inverse of the adult's probability of selection within the household. For example, in a household with three people aged 18 years or older, the sample adult had a 1-in-3 probability of selection. That adult's weight was multiplied by 3.
6. *Secondary poststratification by age-sex-race*—Finally, an additional poststratification was performed, so that the distribution of adults in the NHIS-OHS sample matched that of all adults in the basic NHIS sample. Because individuals under 18 years of age were not included in the NHIS-OHS sample, the poststratification was performed on fewer age-sex-race categories than the basic NHIS. Forty age-sex-race categories were used in this final poststratification, as shown in table I.

**Table I. Age-sex-race poststratification cells for the 1988 National Health Interview Survey, Occupational Health Supplement (NHIS-OHS)**

Age	Black		All other	
	Male	Female	Male	Female
18-19 years . . . . .	X	X	X	X
20-24 years . . . . .	X	X	X	X
25-29 years . . . . .	X	X	X	X
30-34 years . . . . .	X	X	X	X
35-44 years . . . . .	X	X	X	X
45-49 years . . . . .	X	X	X	X
50-54 years . . . . .	X	X	X	X
55-64 years . . . . .	X	X	X	X
65-74 years . . . . .	X	X	X	X
75 years and over . . . . .	X	X	X	X

Among adults identified as eligible for the NHIS-OHS on the basis of the basic NHIS household listing, there was an additional 7-percent nonresponse rate. The NHIS estimation procedures include no separate adjustment factor to reduce the bias due to this type of nonresponse. However, the poststratification by age, sex, and race serves to reduce the nonresponse bias in estimates derived from the special topics sections, to the extent that nonrespondents to the special topics questionnaire are similar to respondents in each poststratification adjustment cell.

## Reliability of estimates

Because NHIS estimates are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey and processing procedures. There are two types of errors possible in an estimate based on a sample survey: nonsampling and sampling errors. To the extent possible, these types of errors are kept to a minimum by methods built into the survey procedures and described elsewhere (23). Although it is very difficult to measure the extent of bias due to nonsampling errors in the NHIS, several studies have examined this problem (24–27).

## Nonsampling errors

*Reference period bias*—Underreporting associated with a long reference period is germane to some of the conditions evaluated in this report. Analysis has shown that there is an increase in underreporting of events with an increase in the time interval between the event and the interview. Underreporting has been evaluated for hospitalizations reported in the basic NHIS questionnaire. The net underreporting using a 12-month recall period is in the neighborhood of 10 percent (28). The underreporting of discharges within 6 months of the week of interview is estimated to be about 5 percent (28). Although similar data are not available for the various events evaluated in the NHIS-OHS, a preliminary analysis of the work-injury data from the survey indicates an underreporting of injuries with increasing time from interview (15).

*Population estimates*—Some of the published tables include population figures for specified categories. Except for overall totals for 40 adult age–sex–race groups (shown in table I), which are adjusted to independent Census Bureau estimates of the civilian noninstitutionalized population, these figures are based on the sample of households in the NHIS. These age–sex–race numbers from census estimates are given primarily to provide denominators for rate computation, and for this purpose they are more appropriate for use with the accompanying measures of health characteristics than other population data that may be available. With the exception of the overall totals by age, sex, and race mentioned above, the population figures derived from the NHIS-OHS may differ from figures (which are derived from different sources) published in the reports of the U.S. Bureau of the Census.

## Sampling errors

The Occupational Health Supplement of the NHIS is designed to provide statistics on the civilian noninstitutionalized population. To produce these statistics and to produce standard errors for these statistics, one has to take into account the survey's complex statistical design. The sample from this design is the result of stratified, multistage cluster sampling (described above), and the sampling and appropriate estimation methodologies are discussed in detail in Massey et al. (20).

Whenever a descriptive statistic is published, it is considered sound statistical practice to publish its estimated standard error. The standard error is primarily a measure of sampling error, that is, the variations that might occur by chance because only a sample of the population is surveyed. The chances are about 68 in 100 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are about 95 in 100 that the difference would be less than twice the standard error and about 99 in 100 that it would be less than 2 1/2 times as large.

For the NHIS family of surveys, NCHS has developed variance estimation methodologies that exploit a detailed level of design and estimation information. Although standard errors could be produced for all statistics in the NCHS *Vital and Health Statistics* series reports, the final product would be too lengthy and costly for consumers. Instead, general variance functions or average design effects are produced for specific reports, which provide approximate variances for a set of similar variables and which can be written concisely as a visual graph or a simple algebraic statement.

## Standard error estimation

In this report, tables of estimated percents may have their standard errors (SE) estimated by the formula

$$\text{Standard error } (\hat{p}) = \sqrt{\hat{p}(100 - \hat{p})/n} \cdot \text{DEFT}$$

where  $\hat{p}$  is the sample percent,  $n$  is the unweighted sample size of the base of the percent, and DEFT is an average inflation factor or design effect that adjusts the simple random sample standard error estimate to the complex survey design estimate. More precisely, DEFT is the ratio of the standard error ( $\hat{p}$ : subject to complex survey sampling) to the standard error ( $\hat{p}$ : subject to simple random sampling). The value DEFT<sup>2</sup> is often referred to as DEFF in statistical literature.

For this report, a representative sample of the percentages from tables A, B, C, and 1–21 was taken, and the detailed design methodology, based on Taylor linearization and described in Massey et al. (20), was used to produce estimated variances along with the corresponding inflation factors (DEFF's) needed to adjust the simple random sampling variance formulas. An examination of the results showed that percents measuring health characteristics tended to have somewhat smaller DEFF's than

percents measuring socioeconomic-demographic characteristics. A mean DEFF was computed for both types of characteristics. This factor was then multiplied by the standard error used for simple binomial proportions to obtain the standard errors for estimates in this report. The two corresponding DEFT's and summary tables providing the standard errors for various sample sizes and proportions are provided in tables II (for health characteristics) and III (for socioeconomic-demographic characteristics). The user is warned that the DEFT's and standard error tables are provided only for an indication of the magnitude of standard error. For any in-depth study, the user is encouraged to obtain a public-use data tape for this survey and use computer software written explicitly for the analysis of complex survey data, for example, SUDAAN (29).

### Relative standard errors

The relative standard error (RSE) of an estimate is obtained by dividing the standard error (SE) of the estimate by the estimate  $x$  itself. This quantity is expressed as a percent of the estimate:

$$RSE = 100 \cdot \frac{SE(x)}{x}$$

**Table II. Standard errors, expressed in percentage points, of estimated percent for health variables: National Health Interview Survey, Occupational Health Supplement (NHIS-OHS), 1988**

Sample size	Estimated percent with variable characteristic				
	10 percent or 90 percent	20 percent or 80 percent	30 percent or 70 percent	40 percent or 60 percent	50 percent
	30 . . . . .	6.3	8.4	9.6	10.3
50 . . . . .	4.9	6.5	7.5	8.0	8.2
75 . . . . .	4.0	5.3	6.1	6.5	6.7
100 . . . . .	3.5	4.6	5.3	5.6	5.8
500 . . . . .	1.5	2.1	2.4	2.5	2.6
1,000 . . . . .	1.1	1.5	1.7	1.8	1.8
2,500 . . . . .	0.7	0.9	1.1	1.1	1.2
5,000 . . . . .	0.5	0.7	0.7	0.8	0.8
7,500 . . . . .	0.4	0.5	0.6	0.7	0.7
10,000 . . . . .	0.3	0.5	0.5	0.6	0.6
15,000 . . . . .	0.3	0.4	0.4	0.5	0.5
20,000 . . . . .	0.2	0.3	0.4	0.4	0.4
25,000 . . . . .	0.2	0.3	0.3	0.4	0.4
30,000 . . . . .	0.2	0.3	0.3	0.3	0.3
35,000 . . . . .	0.2	0.2	0.3	0.3	0.3
40,000 . . . . .	0.2	0.2	0.3	0.3	0.3
45,000 . . . . .	0.2	0.2	0.3	0.3	0.3

NOTE: Standard error =  $1.15 \cdot \sqrt{P(100-p)/n}$ , where design effect DEFT equals 1.15,  $p$  is the estimated percent, and  $n$  is the domain sample size. For use with tables 7-21 and table C.

**Table III. Standard errors, expressed in percentage points, of estimated percent for socioeconomic and demographic variables: National Health Interview Survey, Occupational Health Supplement (NHIS-OHS), 1988**

Sample size	Estimated percent with variable characteristic				
	10 percent or 90 percent	20 percent or 80 percent	30 percent or 70 percent	40 percent or 60 percent	50 percent
	30 . . . . .	6.7	9.0	10.3	11.0
50 . . . . .	5.2	6.9	7.9	8.5	8.7
75 . . . . .	4.2	5.7	6.5	6.9	7.1
100 . . . . .	3.7	4.9	5.6	6.0	6.1
500 . . . . .	1.6	2.2	2.5	2.7	2.7
1,000 . . . . .	1.2	1.6	1.8	1.9	1.9
2,500 . . . . .	0.7	1.0	1.1	1.2	1.2
5,000 . . . . .	0.5	0.7	0.8	0.8	0.9
7,500 . . . . .	0.4	0.6	0.6	0.7	0.7
10,000 . . . . .	0.4	0.5	0.6	0.6	0.6
15,000 . . . . .	0.3	0.4	0.5	0.5	0.5
20,000 . . . . .	0.3	0.3	0.4	0.4	0.4
25,000 . . . . .	0.2	0.3	0.4	0.4	0.4
30,000 . . . . .	0.2	0.3	0.3	0.3	0.4
35,000 . . . . .	0.2	0.3	0.3	0.3	0.3
40,000 . . . . .	0.2	0.2	0.3	0.3	0.3
45,000 . . . . .	0.2	0.2	0.3	0.3	0.3

NOTE: Standard error =  $1.23 \cdot \sqrt{P(100-p)/n}$ , where design effect DEFT equals 1.23,  $p$  is the estimated percent, and  $n$  is the domain sample size. For use with tables 1-6 and tables A and B.

# Appendix II

## Definitions of certain terms used in this report

### Terms relating to labor force

This report focuses on the currently employed population. However, additional definitions of work status are included in table 1 and explained below.

*Currently employed (currently working)*—Persons 18 years of age and over who reported that any time during the 2-week period covered by the interview they either worked at or had a job or business are considered currently employed. Current employment includes paid work as an employee of someone else; self-employment in business, farming, or professional practice; and unpaid work in a family business or farm. Persons who were temporarily absent from a job or business because of a temporary illness, vacation, strike, or bad weather are considered currently employed if they expected to work as soon as the particular event causing the absence no longer existed.

Freelance workers are considered currently employed if they had a definite arrangement with one employer or more to work for pay according to a weekly or monthly schedule, either full time or part time.

Excluded from the currently employed population are persons who have no definite employment schedule but work only when their services are needed. Also excluded from the currently employed population are persons receiving revenue from an enterprise but not participating in its operation, persons doing housework or charity work for which they receive no pay, seasonal workers during the portion of the year they were not working, and persons who were not working, even though having a job or business, but were on layoff or looking for work.

The number of currently employed persons estimated from the National Health Interview Survey will differ from the estimates prepared from the Current Population Survey (CPS) of the U.S. Bureau of the Census for several reasons. In addition to sampling variability, there are three primary conceptual differences: NHIS estimates are for persons 18 years of age and over, and CPS estimates are for persons 16 years of age and over; NHIS uses a 2-week reference period, whereas CPS uses a 1-week reference period; NHIS is a continuing survey with separate samples taken weekly, whereas CPS is a monthly sample taken for the survey week that includes the 12th of the month.

*Ever worked*—Persons 18 years of age and over who reported that they had worked at a job or business at some

time in their lifetime are classified as ever worked. This group includes individuals who had worked in the Armed Forces. This group excludes housewives who had never worked at a job or business.

*Currently not employed*—Persons 18 years of age and over who reported that they had ever worked, but in the 2-week period covered by the interview did not have a job or business, and those who had a job but were on layoff, are not currently working. This group does not include the persons who reported that they had never worked or persons for whom it was unknown if they had ever worked.

### Terms relating to occupation and industry

*Occupation*—A person's occupation may be defined as his or her principal job or business. For the purposes of this survey, principal job or business is defined in one of the following ways. If someone worked during the 2-week reference period, or had a job or business, the question concerning occupation applies to his or her job during that period. If the respondent held more than one job, the question is directed to the job at which he or she spent the most time.

The classifications of occupations presented in this report are based on the 1980 *Classified Index of Industries and Occupations* (30) of the U.S. Bureau of the Census. Most of the tables in this report display four occupational classes. However, 13 occupational classes in addition to a residual class(es)—unknown occupation and Armed Forces—are also presented in the report in table 4. The occupational codes that make up the occupational categories shown in this report are shown below.

Occupational classification	Census code
White-collar workers . . . . .	003-389
Executive, administrative, and managerial occupations . . .	003-037
Professional specialty occupations . . . . .	043-199
Technicians and related support occupations . . . . .	203-235
Sales occupations . . . . .	243-285
Administrative support occupations . . . . .	308-389
Service workers . . . . .	403-469
Private household occupations . . . . .	403-407
Protective service occupations . . . . .	413-427
Service occupations, except protective and household . . .	433-469
Farming, forestry, and fishing occupations . . . . .	473-499
Blue-collar workers . . . . .	503-889
Precision production, craft, and repair occupations . . . . .	503-699
Machine operators, assemblers, and inspectors . . . . .	703-799
Transportation and material-moving occupations . . . . .	803-859
Handlers, equipment cleaners, helpers, and laborers . . . .	863-889

**Industry**—The industry in which a person was reported as working is classified by the major activity of the establishment in which he or she worked. The only exceptions—the few establishments classified according to the major activity of the parent organization—are laboratories, warehouses, repair shops, and storage facilities.

The classification of industry presented in this report is shown below, with the corresponding codes found in the 1980 *Classified Index of Industries and Occupations* of the U.S. Bureau of the Census (30). There are 13 classes in addition to unknown and Armed Forces.

<i>Industrial classification</i>	<i>Census code</i>
Agriculture, forestry, and fisheries . . . . .	010-031
Mining . . . . .	040-050
Construction . . . . .	060
Manufacturing . . . . .	100-392
Transportation, communications, and other public utilities . . . . .	400-472
Wholesale trade . . . . .	500-571
Retail trade . . . . .	591-691
Finance, insurance, and real estate . . . . .	700-712
Business and repair services . . . . .	721-760
Personal services . . . . .	761-791
Entertainment and recreation services . . . . .	800-802
Professional and related services . . . . .	812-881
Public administration . . . . .	900-932

### Terms relating to work-related activities and conditions

Work-related activities and exposures to substances were self-reported in response to specific questions. There was no attempt to validate the responses through other data-gathering activities.

**Physical activity**—To determine the amount of strenuous activity performed in the job, the respondents were asked, “Did your job require you to do repeated strenuous physical activities such as lifting, pushing, or pulling heavy objects?” Informants were then asked how many minutes or hours altogether they spent doing these activities. Similar questions were asked regarding: repeated bending, twisting, or reaching; bending or twisting of hands and wrists many times an hour; and operation of hand-held or hand-operated vibrating tools or machinery. These questions were asked about the current job, if the informant was currently employed, or about the job held during the past 12 months. In this report, the data are only presented for the currently employed population.

**Substance categories**—Respondents were read a list of substances and asked whether they got any on their hands or arms on the job during the past 12 months. This list included: (a) solvents or degreasers; (b) petroleum products other than solvents (such as grease, oil, or fuel); (c) soaps, detergents, or cleaning and disinfecting solutions; (d) cutting oils, machine coolants, or metal-working fluids; (e) paints, varnishes, lacquers, or other coatings; (f) glues, pastes, or other adhesives; (g) acids or alkalis; (h) pesticides, insecticides, herbicides, fungicides, or fumigants; (i) foods or food products; (j) plants, trees, or shrubs; or, (k)

any other chemical or substance, in which case the respondent was asked to specify the substance. The respondent was reminded that the exposure had to occur as part of the job duties. In this report, these work exposure substances were grouped into four categories: “industrial chemicals” (a,b,d,e,f, or g); “soaps, detergents, or disinfecting solutions” (c); “agricultural products” (h,i, or j); and “other substances” (k).

**Exposure to cigarette smoke at work**—All currently employed adults were asked, “Is smoking allowed in your place of work other than in designated areas?” If the response was “Yes,” the respondent was asked, “Do you find that cigarette smoke in the workplace causes you: no discomfort, some discomfort, moderate discomfort, or great discomfort?” Individuals who reported that smoking was not allowed at their workplace and those who worked at home were not asked this second question.

### Terms relating to health conditions

**Back pain**—“Back pain” refers to any backache, back discomfort, or back pain, excluding menstrual back pain, that the respondent had had every day for a week or more in the previous 12 months.

**Hand discomfort**—The respondents were asked whether they had experienced discomfort in their hands, wrists, or fingers in the previous 12 months. Discomfort was described as pain, burning, stiffness, numbness, or tingling. The total number of years and consequent job status were asked of only those persons who had “prolonged” hand discomfort, defined as those having had discomfort not resulting from an injury for a total of at least 20 days or every day for a week or more in the past 12 months.

**Skin conditions (dermatitis)**—The respondents were asked whether they had experienced dermatitis, eczema, or any other red, inflamed skin rash in the previous 12 months. Dry itchy skin, acne, and psoriasis, if mentioned by the respondent, were not included.

**On-the-job injury**—Any injury that occurred in the previous 12 months, resulting from a single “accident,” activity, or exposure in the work environment that caused the respondent to seek medical attention or treatment, at least a temporary limitation in the kind or amount of work activity, a loss of consciousness, or a transfer to another job was recorded as an on-the-job injury.

Because a person may sustain more than one injury in a single accident, the percents of body parts injured and type of injury add to more than 100 percent. That is, the data presented in the tables are the percent of injuries with any mention of specific body parts injured or specific types of injury.

**Types of injuries**—Respondents were asked, “What kind of injury was it?” for each injury that the respondent reported. The response was coded according to the Injury Diagnosis Code Summary available from the American

National Standard Institute (31), and grouped for presentation as follows:

Type of injury	Injury diagnosis codes
Fractures . . . . .	57
Sprains and strains . . . . .	64
Lacerations and punctures . . . . .	59,63
Contusions and abrasions . . . . .	53
Burns . . . . .	46,47,48,49,51,73
Other . . . . .	41,42,50,52,54-56, 58,60-62,65-72,74

*Eye, nose, or throat irritation*—Respondents were asked whether they had experienced any episodes of itchy, irritated, or watery eyes during the 2 weeks prior to the interview. They were also asked whether they had any episode of stuffy, blocked, itchy, or runny nose during the same 2-week period. Finally, they were asked whether they had any episodes of sore or dry throat. In each instance, respondents were also asked whether these conditions were due to cold or flu, hay fever, other allergies, or other causes.

*Other conditions*—All respondents who had worked at some time in the past were asked about additional specific health conditions. The respondent was asked whether any of these conditions had existed during the 12 months previous to the interview. Conditions reported in this report include repeated trouble with the neck, back, or spine; carpal tunnel syndrome; tendinitis; asthma; and chronic bronchitis.

Respondents who had worked at some time in the past were also asked about deafness in one or both ears or any other trouble hearing in one or both ears. Only those respondents who indicated that they were having these troubles at the time of the interview were included the prevalence estimates.

### Sociodemographic terms

*Age*—The age recorded for each respondent is his or her age at last birthday. Age was recorded in single years and grouped for presentation in the tables.

*Geographic terms*—For the purpose of classifying the population by geographic area, the States are grouped into four regions. These regions, which correspond to those used by the U.S. Bureau of the Census, are as follows:

Region	States included
Northeast	Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania.
Midwest	Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska.
South	Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas.

Region	States included—Con.
West	Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

*Place of residence*—The place of residence of a member of the civilian noninstitutionalized population is classified as inside a metropolitan statistical area (MSA) or outside a MSA (not MSA).

*Metropolitan statistical area*—The definition and titles of MSA's are established by the U.S. Office of Management and Budget with the advice of the Federal Committee on Metropolitan Statistical Areas. Generally speaking, an MSA consists of a county or group of counties containing at least one city (or twin cities) having a population of 50,000 or more plus adjacent counties that are metropolitan in character and are economically and socially integrated with the central city. In New England, towns and cities rather than counties are the units in defining MSA's. There is no limit to the number of adjacent counties included in the MSA as long as they are integrated with the central city, nor is a MSA limited to a single State; boundaries may cross State lines. The metropolitan population in this report is based on MSA's as defined in the 1980 census and does not include any subsequent additions or changes.

*Race*—The population is divided into two racial groups, "white" and "black." "Other" classification—which includes American Indian, Eskimo, and Aleut; Asian and Pacific Islander; and any other races—was not presented in this report because the numbers were too small. Race designation is based on the respondent's description of his or her racial background.

*Ethnicity*—Ethnicity is reported as "Hispanic" and "non-Hispanic." A person is Hispanic if any of the following groups describes his or her national origin or ancestry—Puerto Rican, Cuban, Mexican, Mexicano, Mexican American, Chicano, other Latin American, or other Spanish. Respondents make this determination by looking at a flashcard that contains the above-listed Hispanic groups and deciding if any is the person's national origin or ancestry. The Hispanic population includes all Hispanic people regardless of race. In this report "non-Hispanic" includes all persons not classified as Hispanic and persons whose Hispanic status is unknown.

*Education level*—Each respondent is classified according to his or her highest educational level. The highest education level is classified in terms of highest grade of school completed. Only grades completed in regular schools, where persons are given a formal education, are included. A "regular" school is one that advances a person toward an elementary or high school diploma, or a college, university, or professional school degree. Thus, education in vocational, trade, or business school outside the regular school system is not counted in determining the highest grade of school completed.



# Appendix III Questionnaire and flashcards

Section N — OCCUPATIONAL HEALTH		RT 78
Section N1 — WORK HISTORY		3-4
In this part of the survey I will ask about your work experience, certain medical conditions and other health-related matters.		
1 a. First, I'll ask about the <b>KIND OF WORK</b> you have done the <b>LONGEST</b> , not counting work around the house. Thinking of all the jobs or businesses you have ever had, what kind of work did you do the longest? Include work done while in the Armed Forces.	Occupation 990 <input type="checkbox"/> Never worked (Section N8, page 66)	5-7
b. When you were doing this kind of work, what were your most important activities or duties?	Duties	
2 a. How long did you do this kind of work?	00 <input type="checkbox"/> Less than 1 year _____ Years	8-9
b. How old were you when you started doing this kind of work?	Age _____	10-11
3 a. In what kind of business or industry did you do this kind of work the <b>LONGEST</b> ? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.	Industry 932 <input type="checkbox"/> Armed Forces — Civilian 942 <input type="checkbox"/> Armed Forces — Active duty	12-14
b. In the industry where you worked the longest as a (entry in 1a) were you — An employee of a <b>PRIVATE</b> company, business or individual for wages, salary, or commission? ..... <b>P</b> A member of the <b>Armed Forces</b> ? ..... <b>AF</b> A <b>FEDERAL</b> government employee? ..... <b>F</b> A <b>STATE</b> government employee? ..... <b>S</b> A <b>LOCAL</b> government employee? ..... <b>L</b> Self-employed in <b>OWN</b> business, professional practice or farm? Ask: Is the business incorporated? Yes ..... <b>I</b> No ..... <b>SE</b> Working <b>WITHOUT PAY</b> in family business or farm? ..... <b>WP</b>	Class of worker 1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP	15
<b>CHECK ITEM 1</b>	Refer to HIS-1, C1: 1 <input type="checkbox"/> Wa/Wb box marked in C1 (Check Item 5A, page 44) 2 <input type="checkbox"/> Neither Wa nor Wb box marked in C1 (4)	16
4 a. DURING THE PAST 12 MONTHS, that is, since (12 month date) a year ago, did you work at any time at a job or business, not counting work around the house? (Include unpaid work in the family business or farm.)	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	17
b. How long has it been since you last worked at a job or business?	Number { 1 <input type="checkbox"/> Weeks } If less than 1 year (4c) { 2 <input type="checkbox"/> Months } { 3 <input type="checkbox"/> Years } If 1 year or more (8)	18-20
c. For whom did you work at your last job or business? Enter name of company, business, organization, or other employer.	Employer 932 <input type="checkbox"/> Armed Forces — Civilian 942 <input type="checkbox"/> Armed Forces — Active duty } (4e)	21-23
d. What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department farm.	Industry	
e. What kind of work were you doing? For example, electrical engineer, stock clerk, typist, farmer.	Occupation	24-26
f. What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete. Complete from entries in 4c-f. If not clear, ask:	Duties	
g. Were you — An employee of a <b>PRIVATE</b> company, business or individual for wages, salary, or commission? ..... <b>P</b> A member of the <b>Armed Forces</b> ? ..... <b>AF</b> A <b>FEDERAL</b> government employee? ..... <b>F</b> A <b>STATE</b> government employee? ..... <b>S</b> A <b>LOCAL</b> government employee? ..... <b>L</b> Self-employed in <b>OWN</b> business, professional practice or farm? Ask: Is the business incorporated? Yes ..... <b>I</b> No ..... <b>SE</b> Working <b>WITHOUT PAY</b> in family business or farm? ..... <b>WP</b>	Class of worker 1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP	27

**Section N1 — WORK HISTORY — Continued**

<b>5. How long did you work as a (occupation in 4e) for (employer in 4c)?</b>		Number $\left\{ \begin{array}{l} 1 \square \text{ Weeks} \\ 2 \square \text{ Months} \\ 3 \square \text{ Years} \end{array} \right.$	<b>28-30</b>
<b>CHECK ITEM 2</b>	Refer to 4e and 1a:	1 <input type="checkbox"/> Occupation in 4e is same as in 1a (8) 8 <input type="checkbox"/> All others (6a)	<b>31</b>
<b>6a. Considering ALL of your employers, for how many years altogether did you do this KIND of work?</b>		00 <input type="checkbox"/> Less than 1 year _____ Years	<b>32-33</b>
<b>b. How old were you when you started doing this kind of work?</b>		_____ Age	<b>34-35</b>
<b>7a. In what kind of business or industry did you do this kind of work the LONGEST? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.</b>		Industry <span style="float: right;">932 <input type="checkbox"/> Armed Forces — Civilian 942 <input type="checkbox"/> Armed Forces — Active duty</span>	<b>36-38</b>
<b>b. Were you —</b>		Class of worker <span style="float: right;"><b>39</b></span>	
An employee of a PRIVATE company, business or individual for wages, salary, or commission? . . . . . <b>P</b> A member of the Armed Forces? . . . . . <b>AF</b> A FEDERAL government employee? . . . . . <b>F</b> A STATE government employee? . . . . . <b>S</b> A LOCAL government employee? . . . . . <b>L</b> Self-employed in OWN business, professional practice or farm? Ask: Is the business incorporated? Yes . . . . . <b>I</b> No . . . . . <b>SE</b> Working WITHOUT PAY in family business or farm? . . . . . <b>WP</b>		1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP	
Hand Card N1, read list if telephone interview. <b>8a. Which of these statements describe the reason or reasons you stopped working (entry in 4b) ago?</b> Mark all that apply.		1 <input type="checkbox"/> Stopped working because of own illness, injury, disability or other health problem that was JOB-RELATED. 2 <input type="checkbox"/> Stopped working because of own illness, injury, disability or other health problem that was NOT JOB-RELATED 3 <input type="checkbox"/> Retired 4 <input type="checkbox"/> Child/family care 5 <input type="checkbox"/> On layoff from a job 8 <input type="checkbox"/> Some other reason — Specify — _____ 9 <input type="checkbox"/> DK	<b>40</b> <b>41</b> <b>42</b> <b>43</b> <b>44</b> <b>45</b> <b>46</b>
<b>CHECK ITEM 3</b>	Refer to 8a:	1 <input type="checkbox"/> Box 1 marked in 8a (8b) 8 <input type="checkbox"/> All others (Check Item 4)	<b>47</b>
<b>8b. Was a worker's compensation claim filed for your illness, injury, disability, or other health problem?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (8d)	<b>48</b>
<b>c. Have you received any money or other benefits from worker's compensation since you stopped working (entry in 4b) ago?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	<b>49</b>
<b>d. Was a claim filed for any other income or benefits because your health problem was job-related?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	<b>50</b>
<b>CHECK ITEM 4</b>	Refer to question 4. Mark first appropriate box:	1 <input type="checkbox"/> "Armed Forces-Active Duty" in 4c (Section N7, page 62) 2 <input type="checkbox"/> "Yes" in 4a (Check Item 7) 8 <input type="checkbox"/> All others (Section N7, page 62)	<b>51</b>
Notes			

**Section N1 – WORK HISTORY – Continued**

<b>CHECK ITEM 5A</b>	Refer to HIS-1, pages 44 and 45:	1 <input type="checkbox"/> Self respondent for questions 6b–g (Check Item 5B) 2 <input type="checkbox"/> Proxy respondent for questions 6b–g (9) 8 <input type="checkbox"/> All others (9)	<b>52</b>
<i>Hand calendar</i>		Employer	<b>53–55</b>
<b>9a. Earlier I was told you had a job during the 2 weeks [outlined on that calendar/beginning Monday (date) and ending Sunday (date)]. For whom did you work? Enter name of company, business, organization, or other employer.</b>		932 <input type="checkbox"/> Armed Forces – Civilian 942 <input type="checkbox"/> Armed Forces – Active duty } (9c)	
<b>b. What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.</b>		Industry	
<i>If "Active duty" in 9a, mark "AF" box without asking.</i>		Occupation	<b>56–58</b>
<b>c. What kind of work were you doing? For example, electrical engineer, stock clerk, typist, farmer.</b>		942 <input type="checkbox"/> AF (Section N8, page 66)	
<b>d. What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.</b>		Duties	
<i>Complete from entries in 9a–d. If not clear, ask:</i>		Class of worker	<b>59</b>
<b>e. Were you –</b>			
An employee of a PRIVATE company, business or individual for wages, salary, or commission? . . . . . P		1 <input type="checkbox"/> P	
A member of the Armed Forces? . . . . . AF		2 <input type="checkbox"/> AF (Section N8, page 66)	
A FEDERAL government employee? . . . . . F		3 <input type="checkbox"/> F	
A STATE government employee? . . . . . S		4 <input type="checkbox"/> S	
A LOCAL government employee? . . . . . L		5 <input type="checkbox"/> L	
Self-employed in OWN business, professional practice or farm?			
Ask: Is the business incorporated?		6 <input type="checkbox"/> I	
Yes . . . . . I		7 <input type="checkbox"/> SE	
No . . . . . SE		8 <input type="checkbox"/> WP	
Working WITHOUT PAY in family business or farm? . . . . WP			
<b>CHECK ITEM 5B</b>	Refer to questions 9a and c or to HIS-1, pages 44–45:	Transcribe from questions 9a and c or from 6b/c and e on HIS-1.	
		Employer	} (9f)
		Occupation	
<i>Hand calendar</i>			<b>60–62</b>
<b>9f. (You told me that during the 2 weeks [outlined on that calendar/beginning Monday (date) and ending Sunday (date)] you were employed as a [occupation in Check Item 5B] for [employer in Check Item 5B.]) How long have you worked as a [occupation in Check Item 5B] for [employer in Check Item 5B]?</b>		Number	1 <input type="checkbox"/> Weeks 2 <input type="checkbox"/> Months 3 <input type="checkbox"/> Years
<b>CHECK ITEM 6</b>	Refer to Check Item 5B and question 1a:	1 <input type="checkbox"/> Occupation in Check Item 5B is same as in 1a (Check Item 7) 8 <input type="checkbox"/> All others (9g)	
<b>9g. Considering ALL of your employers, for how many years altogether did you do this KIND of work?</b>		00 <input type="checkbox"/> Less than 1 year	<b>64–65</b>
		_____ Years	
<b>h. How old were you when you started doing this kind of work?</b>		Age	<b>66–67</b>
		_____	
<b>i. In what kind of business or industry did you do this kind of work the LONGEST? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.</b>		Industry	<b>68–70</b>
		932 <input type="checkbox"/> Armed Forces – Civilian 942 <input type="checkbox"/> Armed Forces – Active duty	
<b>j. Were you –</b>		Class of worker	<b>71</b>
An employee of a PRIVATE company, business or individual for wages, salary, or commission? . . . . . P		1 <input type="checkbox"/> P	
A member of the Armed Forces? . . . . . AF		2 <input type="checkbox"/> AF	
A FEDERAL government employee? . . . . . F		3 <input type="checkbox"/> F	
A STATE government employee? . . . . . S		4 <input type="checkbox"/> S	
A LOCAL government employee? . . . . . L		5 <input type="checkbox"/> L	
Self-employed in OWN business, professional practice or farm?			
Ask: Is the business incorporated?		6 <input type="checkbox"/> I	
Yes . . . . . I		7 <input type="checkbox"/> SE	
No . . . . . SE		8 <input type="checkbox"/> WP	
Working WITHOUT PAY in family business or farm? . . . . WP			

**Section N1 — WORK HISTORY — Continued**

<b>CHECK ITEM 7</b>	<i>Refer to Check Item 5B.</i>	<input type="checkbox"/> Entry in Check Item 5B (Transcribe entries) <input type="checkbox"/> All others (Transcribe entries from 4c and e)	72
		Employer _____ } Occupation _____ } (10)	
These next questions are about your job as a (occupation in Check Item 7) for (employer in Check Item 7).			73
<b>10a.</b> Did your job require you to do REPEATED STRENUOUS PHYSICAL ACTIVITIES such as lifting, pushing or pulling heavy objects?		<input type="checkbox"/> Yes <input type="checkbox"/> No (11)	
<b>b.</b> During a typical work day, how many minutes or hours altogether did you spend doing STRENUOUS PHYSICAL ACTIVITIES?		_____ } <input type="checkbox"/> Minutes Number } <input type="checkbox"/> Hours	74-76
<b>11a.</b> Did this job require you to do REPEATED bending, twisting or reaching?		<input type="checkbox"/> Yes <input type="checkbox"/> No (12)	77
<b>b.</b> During a typical work day, how many minutes or hours altogether did you spend bending, twisting or reaching?		_____ } <input type="checkbox"/> Minutes Number } <input type="checkbox"/> Hours	78-80
<b>12a.</b> Did this job require you to BEND or TWIST your hands or wrists MANY TIMES AN HOUR?		<input type="checkbox"/> Yes <input type="checkbox"/> No (13)	81
<b>b.</b> During a typical workday, how many minutes or hours altogether did you spend bending or twisting your hands or wrists?		_____ } <input type="checkbox"/> Minutes Number } <input type="checkbox"/> Hours	82-84
<b>13a.</b> On this job, did you work with hand-held or hand-operated vibrating tools or machinery?		<input type="checkbox"/> Yes <input type="checkbox"/> No (14)	85
<b>b.</b> During a typical work day, how many minutes or hours altogether did you spend working with hand-held or hand-operated vibrating machinery?		_____ } <input type="checkbox"/> Minutes Number } <input type="checkbox"/> Hours	86-88
<b>14.</b> I am going to read a list of substances that some people get on their skin AT WORK. Tell me if you got any of these things on your HANDS or ARMS at your job as a (occupation in Check Item 7) for (employer in Check Item 7) DURING THE PAST 12 MONTHS —		<input type="checkbox"/> Yes <input type="checkbox"/> No	89
<b>a.</b> Did you get solvents or degreasers on your hands or arms?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>b.</b> Petroleum products other than solvents? For example, grease, oil, or fuel?		<input type="checkbox"/> Yes <input type="checkbox"/> No	90
<b>c.</b> Soaps, detergents, or cleaning and disinfecting solutions used in performing your job?		<input type="checkbox"/> Yes <input type="checkbox"/> No	91
<b>d.</b> Cutting oils, machine coolants, or metal working fluids?		<input type="checkbox"/> Yes <input type="checkbox"/> No	92
<b>e.</b> Paints, varnishes, lacquers, or other coatings?		<input type="checkbox"/> Yes <input type="checkbox"/> No	93
<b>f.</b> Glues, pastes, or other adhesives?		<input type="checkbox"/> Yes <input type="checkbox"/> No	94
<b>g.</b> Acids or alkalies?		<input type="checkbox"/> Yes <input type="checkbox"/> No	95
<b>h.</b> Pesticides, insecticides, herbicides, fungicides, or fumigants?		<input type="checkbox"/> Yes <input type="checkbox"/> No	96
<b>i.</b> Foods or food products handled as part of your job duties?		<input type="checkbox"/> Yes <input type="checkbox"/> No	97
<b>j.</b> Plants, trees or shrubs handled as part of your job duties?		<input type="checkbox"/> Yes <input type="checkbox"/> No	98
<b>k.</b> Did you get any other chemicals or substances on your hands or arms that could irritate the skin?		<input type="checkbox"/> Yes — Specify — _____  <input type="checkbox"/> No <input type="checkbox"/> DK	99  100-101

Section N2 – BACK PAIN

RT 77  
3-4

These next questions are about back pain.

1 a. At any time during the past 12 months, that is, since (12 month date) a year ago, did you have back pain every day for a week or more?

- 1  Yes
2  No (Section N3, page 49)

5

CHECK ITEM 8

Refer to sex and age:

- 1  SP is female under 50 (1b)
8  All others (2)

6

b. Did you have this back pain ONLY at the time of your monthly periods?

- 1  Yes (Section N3, page 49)
2  No
3  Don't menstruate

7

2 a. (The remaining questions are about back pain other than menstrual pain.) During the past 12 months, on about how many days altogether did you have back pain?

- 998  Menstrual pain only (Section N3, page 49)
365  Every day
\_\_\_\_\_ Days

8-10

b. During the past 12 months, how many full days did you miss from work because of back pain?

- 000  None
\_\_\_\_\_ Days

11-13

3 a. When you had this back pain, what PART of your BACK bothered you the most – the upper back, the middle back or the lower back?

- 1  Upper
2  Middle
3  Lower

14

b. During the past 12 months, did the back pain ever spread to your:

Yes No DK

- buttocks?
thighs?
lower leg or foot?

- 1  2  9 
1  2  9 
1  2  9

15

16

17

4 a. Did any of the back pain you had in the past 12 months result from a SINGLE accident or injury? Some examples are slipping, falling, twisting, lifting something, or being in a car accident.

- 1  Yes
2  No (5)

18

b. When did the accident or injury happen?

\_\_\_\_/\_\_\_\_/19\_\_\_\_
Month Date Year

19-24

c. Were you at work at your job or business when the accident or injury happened?

- 1  Yes
2  No (5)

25

d. Was this at your job as a (occupation in Check Item 7) for (employer in Check Item 7)?

- 1  Yes (5)
2  No

26

e. For whom did you work when the accident or injury happened? Enter name of company, business, organization, or other employer.

Employer 932  Armed Forces – Civilian
942  Armed Forces – Active duty (4g)

27-29

f. What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.

Industry

g. What kind of work did you do at that job? For example, electrical engineer, stock clerk, typist, farmer.

Occupation

30-32

h. What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.

Duties

Complete from entries in 4e-h. If not clear, ask:

i. Were you –

- An employee of a PRIVATE company, business or individual for wages, salary, or commission? P
A member of the Armed Forces? AF
A FEDERAL government employee? F
A STATE government employee? S
A LOCAL government employee? L
Self-employed in OWN business, professional practice, or farm?
Ask: Is the business incorporated?
Yes I
No SE
Working WITHOUT PAY in family business or farm? WP

- 1  P
2  AF
3  F
4  S
5  L
6  I
7  SE
8  WP

33

**Section N2 — BACK PAIN — Continued**

<p><b>5a. Was any of the back pain you had in the past 12 months brought on by REPEATED activities such as lifting, pushing, pulling, bending, twisting, or reaching?</b></p>	<p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (7)</p>	34
<p><b>b. Where did you perform the activities that brought on your back pain? Mark only one box.</b></p>	<p>1 <input type="checkbox"/> At work (6) 2 <input type="checkbox"/> At home 3 <input type="checkbox"/> Recreational site 4 <input type="checkbox"/> Other — Specify — } (8)</p>	35
<p><b>6a. Was this at your job as a (occupation in Check Item 7) for (employer in Check Item 7)?</b></p>	<p>1 <input type="checkbox"/> Yes (8) 2 <input type="checkbox"/> No</p>	36
<p><b>b. For whom did you work?</b> <i>Enter name of company, business, organization, or other employer.</i></p>	<p>Employer      932 <input type="checkbox"/> Armed Forces — Civilian                     942 <input type="checkbox"/> Armed Forces — Active duty } (6d)</p>	37-38
<p><b>c. What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.</b></p>	<p>Industry</p>	
<p><b>d. What kind of work did you do at that job? For example, electrical engineer, stock clerk, typist, farmer.</b></p>	<p>Occupation</p>	40-42
<p><b>e. What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.</b></p>	<p>Duties</p>	
<p><i>Complete from entries in 6b-e. If not clear, ask:</i></p> <p><b>f. Were you —</b></p> <p>An employee of a PRIVATE company, business or individual for wages, salary, or commission? ..... P A member of the Armed Forces? ..... AF A FEDERAL government employee? ..... F A STATE government employee? ..... S A LOCAL government employee? ..... L Self-employed in OWN business, professional practice, or farm? Ask: Is the business incorporated? Yes ..... I No ..... SE Working WITHOUT PAY in family business or farm? ..... WP</p>	<p>Class of worker</p> <p>1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L 6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP } (8)</p>	43
<p><i>If "Yes" in 4a, go to 8.</i></p> <p><b>7. What caused your back pain?</b></p>	<p>_____</p> <p>_____</p>	44
<p><b>8a. Has your back bothered you today?</b></p>	<p>1 <input type="checkbox"/> Yes (8c) 2 <input type="checkbox"/> No</p>	45
<p><b>b. How many days, weeks or months ago did you last have back pain?</b></p>	<p>Number { 1 <input type="checkbox"/> Days ago                   2 <input type="checkbox"/> Weeks ago                   3 <input type="checkbox"/> Months ago</p>	46-48
<p><b>c. For how many consecutive days, weeks or months [did your back bother you that time/has your back been bothering you]?</b></p>	<p>Number { 1 <input type="checkbox"/> Days                   2 <input type="checkbox"/> Weeks                   3 <input type="checkbox"/> Months                   4 <input type="checkbox"/> Years</p>	49-51

Notes

**Section N2 – BACK PAIN – Continued**

<p><b>9a. In what year did you first have an episode of back pain that lasted for a week or more?</b></p>	<p>87 <input type="checkbox"/> 1987 }                  88 <input type="checkbox"/> 1988 } (9c)                  89 <input type="checkbox"/> 1989 }  <input type="checkbox"/> Earlier year — Specify —                  _____</p>	52-53
<p><b>b. Counting (year in 9a), in how many different years have you had episodes of back pain lasting for a week or more?</b></p>	<p>_____ Years</p>	54-55
<p><i>Hand Card N2, read list if telephone interview</i></p> <p><b>c. What was the longest period of time that you had back pain every day?</b></p>	<p>0 <input type="checkbox"/> Less than one month                  1 <input type="checkbox"/> 1 month, less than 3 months                  2 <input type="checkbox"/> 3 months, less than 6 months                  3 <input type="checkbox"/> 6 months, less than 12 months,                  4 <input type="checkbox"/> 1 year, less than 5 years                  5 <input type="checkbox"/> 5 or more years</p>	56
<p><b>10a. Have you ever stopped working at a job or changed jobs because of back pain?</b></p>	<p>1 <input type="checkbox"/> Yes (Section N3)                  2 <input type="checkbox"/> No</p>	57
<p><b>b. Have you ever made a major change in your work activities because of back pain?</b></p>	<p>1 <input type="checkbox"/> Yes                  2 <input type="checkbox"/> No</p>	58

Notes

**Section N3 — HAND DISCOMFORT**

Now I will ask some questions about your hands and wrists.		59
<b>1. Are you left handed, right handed or able to use both hands equally well?</b>	1 <input type="checkbox"/> Left handed 2 <input type="checkbox"/> Right handed 3 <input type="checkbox"/> Able to use both hands equally well	
<b>2. Which hand do you use most at work?</b>	1 <input type="checkbox"/> Left 2 <input type="checkbox"/> Right 3 <input type="checkbox"/> Use both hands equally	60
<b>3. During the past 12 months, that is, since (12 month date) a year ago, have you had discomfort in your hands, wrists or fingers? Discomfort can mean pain, burning, stiffness, numbness or tingling.</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Section N4, page 52)	61
<b>4. Was this discomfort due entirely to an injury, such as a cut, sprain or broken bone?</b>	1 <input type="checkbox"/> Yes (Section N4, page 52) 2 <input type="checkbox"/> No 3 <input type="checkbox"/> DK	62
<b>5a. During the past 12 months, on about how many days altogether did you have discomfort in your hands, wrists or fingers?</b>	000 <input type="checkbox"/> Less than 5 days (Section N4, page 52)  _____ Days 365 <input type="checkbox"/> Every day (6)	63-65
<b>b. During the past 12 months, did you have the discomfort every day for a week or more?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	66
<b>CHECK ITEM 9</b>	Refer to 5a and 5b: Mark first appropriate box	67
<b>6. In which hand did you have this discomfort?</b>	1 <input type="checkbox"/> 20 or more in 5a } (6) 2 <input type="checkbox"/> "Yes" in 5b } 3 <input type="checkbox"/> All others (Section N4, page 52)	
<b>6. In which hand did you have this discomfort?</b>	1 <input type="checkbox"/> Left 2 <input type="checkbox"/> Right 3 <input type="checkbox"/> Both	68
<b>7. Was your discomfort worse when you were trying to sleep or did it awaken you from sleep?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	69
<b>8. In the past 12 months, did your hands or fingers often feel clumsy, that is, did you often have difficulty picking up or holding things?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	70
<b>9a. Has your hand(s) bothered you today?</b>	1 <input type="checkbox"/> Yes (9c) 2 <input type="checkbox"/> No	71
<b>b. How many days, weeks or months ago did you last have this discomfort?</b>	_____ Number { 1 <input type="checkbox"/> Days ago 2 <input type="checkbox"/> Weeks ago 3 <input type="checkbox"/> Months ago	72-74
<b>c. For how many consecutive days, weeks, or months [did your hand(s) bother you that time/has your hand(s) been bothering you]?</b>	_____ Number { 1 <input type="checkbox"/> Days 2 <input type="checkbox"/> Weeks 3 <input type="checkbox"/> Months 4 <input type="checkbox"/> Years	75-77
<b>10a. In what year did you first notice this hand discomfort?</b>	87 <input type="checkbox"/> 1987 } (11) 88 <input type="checkbox"/> 1988 } 89 <input type="checkbox"/> 1989 } <input type="checkbox"/> Earlier year — Specify — _____	78-79
<b>b. Counting (year in 10a), in how many different years has your hand(s) bothered you?</b>	_____ Years	80-81
<b>11a. During the past 12 months, were you away from work for more than one week for any reason?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (12)	82
<b>b. When you were away from work for more than one week, did your hand discomfort increase, decrease, or stay the same?</b>	1 <input type="checkbox"/> Increase 2 <input type="checkbox"/> Decrease 3 <input type="checkbox"/> Stay the same	83
<b>12. During the past 12 months, did you miss at least a full day from work because of your hand discomfort?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	84



**Section N3 – HAND DISCOMFORT – Continued**

<b>13a. Have you EVER stopped working at a job or changed jobs because of your hand discomfort?</b>	1 <input type="checkbox"/> Yes (14) 2 <input type="checkbox"/> No	<b>85</b>																			
<b>b. Have you ever made a major change in your work activities because of your hand discomfort?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	<b>86</b>																			
<b>14a. How long has it been since you last saw or talked to a medical doctor, chiropractor, physical therapist or other medical person about your hand discomfort?</b>	000 <input type="checkbox"/> Never saw medical person (15)  Number $\left\{ \begin{array}{l} 1 \text{  Days} \\ 2 \text{  Weeks} \\ 3 \text{  Months} \\ 4 \text{  Years} \end{array} \right.$	<b>87-89</b>																			
<b>b. What did the medical person call your hand discomfort?</b>	_____ _____	<b>90</b>																			
<b>15. Even if you have mentioned it before, please tell me if you have EVER had any of the following conditions –</b>	<table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 33%;"></th> <th style="width: 33%;">Yes</th> <th style="width: 33%;">No</th> <th style="width: 33%;">DK</th> </tr> </thead> <tbody> <tr> <td>a. Arthritis of the hand, wrist or fingers? .....</td> <td>1 <input type="checkbox"/></td> <td>2 <input type="checkbox"/></td> <td>9 <input type="checkbox"/></td> </tr> <tr> <td>b. A broken bone in your hand, wrist, or fingers? .....</td> <td>1 <input type="checkbox"/></td> <td>2 <input type="checkbox"/></td> <td>9 <input type="checkbox"/></td> </tr> <tr> <td>c. A condition affecting the wrist and hand called carpal tunnel syndrome? .....</td> <td>1 <input type="checkbox"/></td> <td>2 <input type="checkbox"/></td> <td>9 <input type="checkbox"/></td> </tr> </tbody> </table>		Yes	No	DK	a. Arthritis of the hand, wrist or fingers? .....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	9 <input type="checkbox"/>	b. A broken bone in your hand, wrist, or fingers? .....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	9 <input type="checkbox"/>	c. A condition affecting the wrist and hand called carpal tunnel syndrome? .....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	9 <input type="checkbox"/>	<table style="width: 100%; border: none;"> <tr><td style="text-align: right;"><b>91</b></td></tr> <tr><td style="text-align: right;"><b>92</b></td></tr> <tr><td style="text-align: right;"><b>93</b></td></tr> </table>	<b>91</b>	<b>92</b>	<b>93</b>
	Yes	No	DK																		
a. Arthritis of the hand, wrist or fingers? .....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	9 <input type="checkbox"/>																		
b. A broken bone in your hand, wrist, or fingers? .....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	9 <input type="checkbox"/>																		
c. A condition affecting the wrist and hand called carpal tunnel syndrome? .....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	9 <input type="checkbox"/>																		
<b>91</b>																					
<b>92</b>																					
<b>93</b>																					

Notes

**Section N4 – WORK INJURIES**

Now I will ask about on-the-job injuries in the past 12 months.  
Hand Card N3

By "on-the-job injury" we mean an injury at work that resulted in at least one of the following:  
an injury that required you to get medical attention or treatment, other than first aid for MINOR INJURIES; OR to be unable to do some of your work activities; OR to lose consciousness; OR to transfer to another job.

1. DURING THE PAST 12 MONTHS, that is, since (12 month date) a year ago, have you had any on-the-job injuries?

- 1  Yes  
2  No (Section N5, page 58)

7  
8-9

2. How many times have you been injured on the job during the past 12 months?

Number of times

3. On what date did your [(most recent) injury/injury before that] happen?

Enter each date in a separate column.

Month / Date / 19 Year

10-15

Complete questions 4–21 as appropriate for the first injury before completing them for the next, etc.

4. At the time of your injury on (date in 3) were you working as a (occupation in Check Item 7) for (employer in Check Item 7)?

- 1  Yes (6)  
2  No

Injury 1

16

5a. For whom did you work when the injury happened?

Enter name of company, business, organization, or other employer.

Employer

- 932  Armed Forces – civilian  
942  Armed Forces – active duty } (5c)

17-19

b. What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.

Industry

c. What kind of work did you do at that job? For example, electrical engineer, stock clerk, typist, farm.

Occupation

20-22

d. What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.

Duties

Complete from entries in 5a–d. If not clear, ask:

e. Were you –

- An employee of a PRIVATE company, business or individual for wages, salary, or commission? ..... P  
A member of the ARMED FORCES? ..... AF  
A FEDERAL government employee? ..... S  
A STATE government employee? ..... S  
A LOCAL government employee? ..... L  
Self-employed in OWN business, professional practice, or farm?  
ASK: Is the business incorporated?  
Yes ..... I  
No ..... SE  
Working WITHOUT PAY in family business or farm? ..... WP

Class of worker

- 1  P  
2  AF  
3  S  
4  S  
5  L  
6  I  
7  SE  
8  WP

23

6. At the time of this injury, what part of your body was hurt? What kind of injury was it? Anything else?

Part(s) of body

24-25

Kind of Injury

26-27

7. Did you lose consciousness as a result of the injury?

- 1  Yes  
2  No

28

8. What were you doing at the time of the injury?

29-30

9. How did the injury happen?

31-32

Go to 10 for this injury

RT 78 3-4 5-8		RT 78 3-4 5-8		RT 78 3-4 5-8	
7 8-9		7 8-9		7 8-9	
3. _____ / _____ /19____ Month      Date      Year		3. _____ / _____ /19____ Month      Date      Year		3. _____ / _____ /19____ Month      Date      Year	
4. 1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No <b>Injury 2</b> 16		4. 1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No <b>Injury 3</b> 16		4. 1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No <b>Injury 4</b> 16	
5a. Employer 932 <input type="checkbox"/> A F – civilian (5c) 942 <input type="checkbox"/> A F – active duty (5c)      17-18		5a. Employer 932 <input type="checkbox"/> A F – civilian (5c) 942 <input type="checkbox"/> A F – active duty (5c)      17-18		5a. Employer 932 <input type="checkbox"/> A F – civilian (5c) 942 <input type="checkbox"/> A F – active duty (5c)      17-18	
b. Industry		b. Industry		b. Industry	
c. Occupation      20-22		c. Occupation      20-22		c. Occupation      20-22	
d. Duties		d. Duties		d. Duties	
e. Class of worker      23		e. Class of worker      23		e. Class of worker      23	
1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L 6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP		1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L 6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP		1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L 6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP	
6. Part(s) of body 24-25    Kind of Injury 26-27		6. Part(s) of body 24-25    Kind of Injury 26-27		6. Part(s) of body 24-25    Kind of Injury 26-27	
7. 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No      28		7. 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No      28		7. 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No      28	
8. _____ _____      29-30		8. _____ _____      29-30		8. _____ _____      29-30	
9. _____ _____      31-32		9. _____ _____      31-32		9. _____ _____      31-32	
Go to 10 for this injury		Go to 10 for this injury		Go to 10 for this injury	

**Section N4 – WORK INJURIES – Continued**

<b>10. Was the activity you were doing at the time of the injury a NEW or unfamiliar job task?</b>		1 <input type="checkbox"/> Yes (12) 2 <input type="checkbox"/> No	<b>Injury 1</b>	<b>33</b>
<b>11. Was the activity you were doing at the time of the injury part of your usual job tasks?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		<b>34</b>
<b>12. Did you see or talk to a medical doctor, nurse, chiropractor, physician's assistant, nurse practitioner or other medical person as a result of this injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 10)		<b>35</b>
<b>13. Where did you FIRST see or talk to a medical person about this injury?</b>		1 <input type="checkbox"/> Work-site health unit 2 <input type="checkbox"/> Doctor's office (group practice or doctor's clinic) 3 <input type="checkbox"/> Emergency room 4 <input type="checkbox"/> Walk-in clinic 5 <input type="checkbox"/> Hospital outpatient clinic 6 <input type="checkbox"/> Other – Specify –		<b>36</b>
<b>CHECK ITEM 10</b>	Refer to question 6:	1 <input type="checkbox"/> "Eye" in 6 (14) 8 <input type="checkbox"/> All others (15)		<b>37</b>
<b>14a. Were you wearing eye protection equipment over your eyes at the time of the injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (15)		<b>38</b>
<b>b. What type of eye protection equipment were you wearing?</b>		1 <input type="checkbox"/> Welding goggles 2 <input type="checkbox"/> Other goggles 3 <input type="checkbox"/> Glasses with side shields 4 <input type="checkbox"/> Glasses without side shields 5 <input type="checkbox"/> Welding helmet 6 <input type="checkbox"/> Face shield 8 <input type="checkbox"/> Other		<b>39</b>
<b>15a. Did you miss more than half of the day from work on the day of the injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		<b>40</b>
<b>b. OTHER THAN THE DAY OF THE INJURY, how many FULL days of scheduled work did you miss as a result of the injury?</b>		_____ Full days 000 <input type="checkbox"/> None		<b>41-43</b>
<b>c. (Not counting the (number in 15b) full days), Did you miss any (other) scheduled time from work other than the day of the injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (16)		<b>44</b>
<b>d. (Again, not counting the (number in 15b) full days), How many days did you miss MORE THAN HALF THE DAY from work as a result of the injury?</b>		_____ Days 000 <input type="checkbox"/> None		<b>45-47</b>
<b>16a. Were you temporarily transferred to another job because of the injury?</b>		1 <input type="checkbox"/> Yes (17) 2 <input type="checkbox"/> No		<b>48</b>
<b>b. Were you temporarily assigned lighter work or excused from certain duties at work other than the day of the injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		<b>49</b>
<b>17a. Did you report this injury to your employer?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		<b>50</b>
<b>b. Was a worker's compensation claim filed as a result of this injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No		<b>51</b>
<b>18a. Did you change employers as a result of the injury?</b>		1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (19)		<b>52</b>
<b>b. Was your salary lower, higher or the same after your change of employers?</b>		1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same		<b>53</b>
<b>c. Were you as satisfied, less satisfied or more satisfied with your new employer as with your employer prior to the injury?</b>		1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied	<b>(19 for this injury)</b>	<b>54</b>

**Section N4 – WORK INJURIES – Continued**

Injury 2		33	Injury 3		33	Injury 4		33
10.	1 <input type="checkbox"/> Yes (12) 2 <input type="checkbox"/> No		10.	1 <input type="checkbox"/> Yes (12) 2 <input type="checkbox"/> No		10.	1 <input type="checkbox"/> Yes (12) 2 <input type="checkbox"/> No	
11.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	34	11.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	34	11.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	34
12.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 10)	35	12.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 10)	35	12.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 10)	35
13.	1 <input type="checkbox"/> Work-site health unit 2 <input type="checkbox"/> Doctor's office (group practice or doctor's clinic) 3 <input type="checkbox"/> Emergency room 4 <input type="checkbox"/> Walk-in clinic 5 <input type="checkbox"/> Hospital outpatient clinic 8 <input type="checkbox"/> Other – Specify –	36	13.	1 <input type="checkbox"/> Work-site health unit 2 <input type="checkbox"/> Doctor's office (group practice or doctor's clinic) 3 <input type="checkbox"/> Emergency room 4 <input type="checkbox"/> Walk-in clinic 5 <input type="checkbox"/> Hospital outpatient clinic 8 <input type="checkbox"/> Other – Specify –	36	13.	1 <input type="checkbox"/> Work-site health unit 2 <input type="checkbox"/> Doctor's office (group practice or doctor's clinic) 3 <input type="checkbox"/> Emergency room 4 <input type="checkbox"/> Walk-in clinic 5 <input type="checkbox"/> Hospital outpatient clinic 8 <input type="checkbox"/> Other – Specify –	36
CK 10	1 <input type="checkbox"/> "Eye" in 6 (14) 8 <input type="checkbox"/> All others (15)	37	CK 10	1 <input type="checkbox"/> "Eye" in 6 (14) 8 <input type="checkbox"/> All others (15)	37	CK 10	1 <input type="checkbox"/> "Eye" in 6 (14) 8 <input type="checkbox"/> All others (15)	37
14a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (15)	38	14a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (15)	38	14a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (15)	38
b.	1 <input type="checkbox"/> Welding goggles 2 <input type="checkbox"/> Other goggles 3 <input type="checkbox"/> Glasses with side shields 4 <input type="checkbox"/> Glasses without side shields 5 <input type="checkbox"/> Welding helmet 6 <input type="checkbox"/> Face shield 8 <input type="checkbox"/> Other	39	b.	1 <input type="checkbox"/> Welding goggles 2 <input type="checkbox"/> Other goggles 3 <input type="checkbox"/> Glasses with side shields 4 <input type="checkbox"/> Glasses without side shields 5 <input type="checkbox"/> Welding helmet 6 <input type="checkbox"/> Face shield 8 <input type="checkbox"/> Other	39	b.	1 <input type="checkbox"/> Welding goggles 2 <input type="checkbox"/> Other goggles 3 <input type="checkbox"/> Glasses with side shields 4 <input type="checkbox"/> Glasses without side shields 5 <input type="checkbox"/> Welding helmet 6 <input type="checkbox"/> Face shield 8 <input type="checkbox"/> Other	39
15a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	40	15a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	40	15a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	40
b.	_____ Full days 000 <input type="checkbox"/> None	41-43	b.	_____ Full days 000 <input type="checkbox"/> None	41-43	b.	_____ Full days 000 <input type="checkbox"/> None	41-43
c.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (16)	44	c.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (16)	44	c.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (16)	44
d.	_____ Days 000 <input type="checkbox"/> None	45-47	d.	_____ Day 000 <input type="checkbox"/> None	45-47	d.	_____ Days 000 <input type="checkbox"/> None	45-47
16a.	1 <input type="checkbox"/> Yes (17) 2 <input type="checkbox"/> No	48	16a.	1 <input type="checkbox"/> Yes (17) 2 <input type="checkbox"/> No	48	16a.	1 <input type="checkbox"/> Yes (17) 2 <input type="checkbox"/> No	48
b.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	49	b.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	49	b.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	49
17a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	50	17a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	50	17a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	50
b.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	51	b.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	51	b.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	51
18a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (19)	52	18a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (19)	52	18a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (19)	52
b.	1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same	53	b.	1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same	53	b.	1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same	53
c.	1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied } (19 for this injury)	54	c.	1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied } (19 for this injury)	54	c.	1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied } (19 for this injury)	54

**Section N4 – WORK INJURIES – Continued**

<p><b>19a. Did you change the kind of work you do as a result of the injury?</b></p> <p><i>Mark box or ask:</i></p> <p><b>b. Was your salary lower, higher or the same after your job change?</b></p> <p><b>c. Were you as satisfied, less satisfied or more satisfied with your new job as with your job prior to the injury?</b></p>	<p align="right"><b>Injury 1</b></p> <p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (<i>Check Item 11</i>)</p> <hr style="border-top: 1px dashed black;"/> <p>0 <input type="checkbox"/> Yes in 18a (<i>19c</i>)</p> <p>1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same</p> <hr style="border-top: 1px dashed black;"/> <p>1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied</p>	<p><b>55</b></p> <hr style="border-top: 1px dashed black;"/> <p><b>56</b></p> <hr style="border-top: 1px dashed black;"/> <p><b>57</b></p>
<p><b>CHECK ITEM 11</b></p> <p><i>Refer to 18a and 19a:</i></p>	<p>1 <input type="checkbox"/> "Yes" in 18a OR 19a (<i>21</i>) 8 <input type="checkbox"/> All others (<i>20</i>)</p>	<p><b>58</b></p>
<p><b>20. Did you make a permanent change in your work activities because of this injury?</b></p>	<p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No</p>	<p><b>59</b></p>
<p><b>21. Did you permanently change your off-the-job activities because of this injury?</b></p>	<p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No</p>	<p><b>60</b></p>
<p><b>CHECK ITEM 12</b></p> <p><i>Refer to question 2, section N4:</i></p>	<p>1 <input type="checkbox"/> Additional injury (<i>4 for next injury</i>) 8 <input type="checkbox"/> All others (<i>Section N5</i>)</p>	<p><b>61</b></p>

Notes

**Section N4 – WORK INJURIES – Continued**

Injury 2		Injury 3		Injury 4				
19a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 11)	55	19a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 11)	55	19a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 11)	55
b.	0 <input type="checkbox"/> Yes in 18a (19c) 1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same	56	b.	0 <input type="checkbox"/> Yes in 18a (19c) 1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same	56	b.	0 <input type="checkbox"/> Yes in 18a (19c) 1 <input type="checkbox"/> Lower 2 <input type="checkbox"/> Higher 3 <input type="checkbox"/> Same	56
c.	1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied	57	c.	1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied	57	c.	1 <input type="checkbox"/> As satisfied 2 <input type="checkbox"/> Less satisfied 3 <input type="checkbox"/> More satisfied	57
CK 11	1 <input type="checkbox"/> "Yes" in 18a OR 19a (21) 8 <input type="checkbox"/> All others (20)	58	CK 11	1 <input type="checkbox"/> "Yes" in 18a OR 19a (21) 8 <input type="checkbox"/> All others (20)	58	CK 11	1 <input type="checkbox"/> "Yes" in 18a OR 19a (21) 8 <input type="checkbox"/> All others (20)	58
20.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	59	20.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	59	20.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	59
21.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	60	21.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	60	21.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	60
CK12	1 <input type="checkbox"/> Additional injury (4 for next injury) 8 <input type="checkbox"/> All others (Section N5)	61	CK12	1 <input type="checkbox"/> Additional injury (4 for next injury) 8 <input type="checkbox"/> All others (Section N5)	61	CK12	1 <input type="checkbox"/> Additional injury (4 for next injury) 8 <input type="checkbox"/> All others (Section N5)	61

Notes

**Section N5 — SKIN CONDITIONS**

<b>Now I will ask about skin conditions.</b>		5
<b>1 a.</b> During the past 12 months, that is, since (12 month date) a year ago have you had dermatitis, eczema, or any other red, inflamed skin rash?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Section N6, page 60)	
<b>b.</b> During the past 12 months, on about how many days altogether did you have a skin condition? Include days when you used treatment for the condition.	365 <input type="checkbox"/> Every day _____ Days	6-8
<b>2.</b> What parts of your body were affected by this skin condition? <i>Mark all that apply</i>	1 <input type="checkbox"/> Hands 2 <input type="checkbox"/> Arms 3 <input type="checkbox"/> Head, face or neck 8 <input type="checkbox"/> Other body area — Specify — _____	9 10 11 12
	9 <input type="checkbox"/> DK	13
<b>3.</b> During the past 12 months, did you miss at least a full day from work because of your skin condition?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	14
<b>4 a.</b> Did any skin condition you had in the past 12 months result from chemicals or other substances which got on your skin?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 9 <input type="checkbox"/> DK } (6)	15
<b>b.</b> What chemicals or other substances were these?	_____	16-17
<b>c.</b> Did you get these substances on your skin during the past 12 months?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	18
<b>d.</b> Were you at work at your job or business when you got these substances on your skin?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 9 <input type="checkbox"/> DK } (6)	19
<b>5 a.</b> Was this at your job as a (occupation in Check Item 7) for (employer in Check Item 7)?	1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No	20
<b>b.</b> For whom did you work when you got these substances on your skin? Enter name of company, business, organization, or other employer.	Employer 932 <input type="checkbox"/> Armed Forces — Civilian 942 <input type="checkbox"/> Armed Forces — Active duty } (5d)	21-23
<b>c.</b> What kind of business or industry is this? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.	Industry	
<b>d.</b> What kind of work did you do at that job? For example, electrical engineer, stock clerk, typist, farmer.	Occupation	24-26
<b>e.</b> What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.	Duties	
<b>f.</b> Were you —	Class of worker	27
An employee of a PRIVATE company, business or individual for wages, salary, or commission? . . . . . P	1 <input type="checkbox"/> P	
A member of the ARMED FORCES? . . . . . AF	2 <input type="checkbox"/> AF	
A FEDERAL government employee? . . . . . F	3 <input type="checkbox"/> F	
A STATE government employee? . . . . . S	4 <input type="checkbox"/> S	
A LOCAL government employee? . . . . . L	5 <input type="checkbox"/> L	
Self-employed in OWN business, professional practice, or farm? Ask: Is the business incorporated?	6 <input type="checkbox"/> I	
Yes . . . . . I	7 <input type="checkbox"/> SE	
No . . . . . SE	8 <input type="checkbox"/> WP	
Working WITHOUT PAY in family business or farm? . . . . . WP		
<b>6 a.</b> During the past 12 months, did you use any prescription medications or other treatments prescribed by a doctor for your skin condition?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	28
<b>b.</b> Did you use any over-the-counter or non-prescription medications or treatments for your skin condition?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	29





**Section N6 — EYE, NOSE, THROAT IRRITATION**

<b>CHECK ITEM 14</b>	Refer to HIS-1, C1:	1 <input type="checkbox"/> Wa box marked (1)	41
		8 <input type="checkbox"/> All others (Section N7, page 62)	
<p>These questions are about eye, nose and throat irritation. Hand calendar</p>			42
1a.	During the past 2 weeks [outlined on that calendar/ beginning Monday (date) and ending Sunday (date)], have you had any episodes of itchy, irritated or watery eyes?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (4)	
b.	On how many days during the past 2 weeks did you have itchy, irritated or watery eyes?	_____ Days	43-44
c.	Were these symptoms due to a cold or flu, hay fever, other allergies, or something else?	1 <input type="checkbox"/> Cold or flu (4) 2 <input type="checkbox"/> Hay fever 3 <input type="checkbox"/> Other allergies 8 <input type="checkbox"/> Something else — Specify —  _____	45
2a.	Did you have these symptoms while you were at work?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (3)	46
b.	When you were away from work, did these symptoms increase, decrease, or stay the same?	1 <input type="checkbox"/> Increase 2 <input type="checkbox"/> Decrease 3 <input type="checkbox"/> Stay the same	47
3.	During the past 2 weeks when you had these symptoms, did you also have a fever?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	48
4a.	Do you wear contact lenses?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (5)	49
b.	What type of contact lenses do you wear?  Mark all that apply.	1 <input type="checkbox"/> Hard lens(es) (include polycn) 2 <input type="checkbox"/> Soft lens(es), daily wear 3 <input type="checkbox"/> Soft lens(es), extended wear 4 <input type="checkbox"/> Intraocular lens(es) 8 <input type="checkbox"/> Other — Specify —  _____	50 51 52 53 54
5a.	During the past 2 weeks, have you had any episodes of stuffy, blocked, itchy, or runny nose?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (8)	55 56
b.	On how many days during the past 2 weeks did you have stuffy, blocked, itchy or runny nose?	_____ Days	57-58
c.	Were these symptoms due to a cold or flu, hay fever, other allergies, or something else?	1 <input type="checkbox"/> Cold or flu (8) 2 <input type="checkbox"/> Hay fever 3 <input type="checkbox"/> Other allergies 8 <input type="checkbox"/> Something else — Specify —  _____	59
6a.	Did you have these symptoms while you were at work?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (7)	60
b.	When you were away from work, did these symptoms increase, decrease, or stay the same?	1 <input type="checkbox"/> Increase 2 <input type="checkbox"/> Decrease 3 <input type="checkbox"/> Stay the same	61
7.	During the past 2 weeks when you had these symptoms, did you also have a fever?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	62
8a.	During the past 2 weeks, have you had any episodes of sore or dry throat?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Section N7, page 62)	63
b.	On how many days during the past 2 weeks did you have sore or dry throat?	_____ Days	64-65
c.	Were these symptoms due to a cold or flu, hay fever, other allergies, or something else?	1 <input type="checkbox"/> Cold or flu (Section N7, page 62) 2 <input type="checkbox"/> Hay fever 3 <input type="checkbox"/> Other allergies 8 <input type="checkbox"/> Something else — Specify —  _____	66

**Section N6 – EYE, NOSE, THROAT IRRITATION – Continued**

<b>9a. Did you have these symptoms while you were at work?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (10)	<b>67</b>
<b>b. When you were away from work, did these symptoms increase, decrease or stay the same?</b>	1 <input type="checkbox"/> Increase 2 <input type="checkbox"/> Decrease 3 <input type="checkbox"/> Stay the same	<b>68</b>
<b>10. During the past 2 weeks when you had these symptoms, did you also have a fever?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	<b>69</b>

Notes

## Section N7 – CONDITIONS

**I am going to read a list of medical conditions. Tell me if you have had any of these conditions even if you have mentioned them before.**

<b>1. DURING THE PAST 12 MONTHS, that is, since <u>(12 month date)</u> a year ago, have you had –</b>		
<b>a. REPEATED trouble with neck, back or spine? .....</b>	Yes 1 <input type="checkbox"/> – <i>Specify</i> –	No 2 <input type="checkbox"/> <b>70</b>
<b>b. A condition affecting the wrist and hand, called carpal tunnel syndrome? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>71</b>
<b>c. A condition affecting the fingers and/or toes, called Raynaud's (Ra' nodés) phenomenon? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>72</b>
<b>d. A condition affecting the tendons called tendonitis? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>73</b>
<b>DURING THE PAST 12 MONTHS have you had –</b>		
<b>e. Hepatitis? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>74</b>
<b>f. Skin cancer? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>75</b>
<b>g. Lung cancer? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>76</b>
<b>h. Asthma? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>77</b>
<b>i. Chronic bronchitis? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>78</b>
<b>j. Emphysema? .....</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>79</b>
<b>k. Any dust disease of the lungs, such as silicosis, asbestosis, brown lung, or black lung disease? .....</b>	1 <input type="checkbox"/> – <i>Specify</i> –	2 <input type="checkbox"/> <b>80</b>
<b>2. Do you NOW have –</b>	Yes	No
<b>a. Deafness in one or both ears?</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>81</b>
<b>b. Any other trouble hearing in one or both ears?</b>	1 <input type="checkbox"/>	2 <input type="checkbox"/> <b>82</b>
<b>CHECK ITEM 15</b>	<i>Refer to questions 1 and 2:</i>	<b>83</b>

1  "No" or "DK" in ALL of 1 and 2 (Section N8, page 66)  
2  "Yes" in any part of 1 or 2 (Fill a column for each condition)

Notes

Section N7 — CONDITIONS — Continued		RT 80	
		3-4	
		6-6	
		7-8	
		<b>CONDITION 1</b>	
		Name of Condition _____	
<b>3.</b>	Were you ever told by a doctor or other medical person that your <u>(condition)</u> was related to any job you ever had?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	9
<b>4.</b>	Was a worker's compensation claim ever filed for your <u>(condition)</u> ?	1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No	10
<b>5.</b>	Did you ever report to your employer or to other company personnel that your <u>(condition)</u> was related to your job?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	11
<b>6.</b>	Did you ever tell a doctor or other medical person that your <u>(condition)</u> was related to any job you ever had?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	12
<b>CHECK ITEM 16</b>	Refer to Check Item 7, page 45.	1 <input type="checkbox"/> Entries in Check Item 7 (7) 8 <input type="checkbox"/> All others (8)	13
<b>7a.</b>	<b>DURING THE PAST 12 MONTHS</b> , were you told by your doctor or employer to stay home from work temporarily because of your <u>(condition)</u> ?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	14
<b>b.</b>	<b>DURING THE PAST 12 MONTHS</b> , did your employer transfer you to another job, either temporarily or permanently, because of your <u>(condition)</u> ?	1 <input type="checkbox"/> Yes (Check Item 17) 2 <input type="checkbox"/> No	15
<b>c.</b>	<b>DURING THE PAST 12 MONTHS</b> , did your employer give you lighter work or excuse you from certain duties at work because of your <u>(condition)</u> ?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	16
<b>8.</b>	Did you <b>EVER</b> stop working at a job or change jobs because of your <u>(condition)</u> ?	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	17
<b>CHECK ITEM 17</b>	Refer to 3, 4, 5, 6:	1 <input type="checkbox"/> "Yes" in 3, 4, 5 OR 6 (9) 8 <input type="checkbox"/> All others (NC)	18
<b>9a.</b>	What kind of work did you do that was related to your <u>(condition)</u> ? For example, electrical engineer, stock clerk, typist, farmer.	Occupation	19-21
<b>b.</b>	What were your most important activities or duties at that job? For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.	Duties	
<b>c.</b>	In what kind of business or industry did you work the longest as a <u>(entry in 9a)</u> ? For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.	Industry	22-24
<b>d.</b>	In the industry where you worked the longest as a <u>(entry in 9a)</u> were you — An employee of a PRIVATE company, business or individual for wages, salary, or commission? <b>P</b> A member of the ARMED FORCES? <b>AF</b> A FEDERAL government employee? <b>F</b> A STATE government employee? <b>S</b> A LOCAL government employee? <b>L</b> Self-employed in OWN business, professional practice, or farm? Ask: Is the business incorporated? Yes <b>I</b> No <b>SE</b> Working WITHOUT PAY in family business or farm? <b>WP</b>	Class of worker 1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L 6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP (NC)	25
Notes			

RT 80		RT 80		RT 80	
3-4		3-4		3-4	
5-8		5-6		5-6	
7-8		7-8		7-8	
<b>CONDITION 2</b>		<b>CONDITION 3</b>		<b>CONDITION 4</b>	
Name of Condition _____		Name of Condition _____		Name of Condition _____	
3.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	9	3.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	9
4.	1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No	10	4.	1 <input type="checkbox"/> Yes (6) 2 <input type="checkbox"/> No	10
5.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	11	5.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	11
6.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	12	6.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	12
CK 16	1 <input type="checkbox"/> Entries in Check Item 7 (7) 8 <input type="checkbox"/> All others (8)	13	CK 16	1 <input type="checkbox"/> Entries in Check Item 7 (7) 8 <input type="checkbox"/> All others (8)	13
7a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	14	7a.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	14
b.	1 <input type="checkbox"/> Yes (Check Item 17) 2 <input type="checkbox"/> No	15	b.	1 <input type="checkbox"/> Yes (Check Item 17) 2 <input type="checkbox"/> No	15
c.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	16	c.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	16
8.	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	17	8.	2 <input type="checkbox"/> Yes <input type="checkbox"/> No	17
CK 17	1 <input type="checkbox"/> "Yes" in 3, 4, 5 OR 6 (9) 8 <input type="checkbox"/> All others (NC)	18	CK 17	1 <input type="checkbox"/> "Yes" in 3, 4, 5 OR 6 (9) 8 <input type="checkbox"/> All others (NC)	18
9a.	Occupation	19-21	9a.	Occupation	19-21
b.	Duties		b.	Duties	
c.	Industry	22-24	c.	Industry	22-24
d.	Class of worker	25	d.	Class of worker	25
1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L } (NC)  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP			1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L } (NC)  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP		
1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L } (NC)  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP			1 <input type="checkbox"/> P 2 <input type="checkbox"/> AF 3 <input type="checkbox"/> F 4 <input type="checkbox"/> S 5 <input type="checkbox"/> L } (NC)  6 <input type="checkbox"/> I 7 <input type="checkbox"/> SE 8 <input type="checkbox"/> WP		
Notes					

<b>Section N8 — CIGARETTE SMOKING</b>		<b>RT 81</b> 3-4
<b>These questions are about smoking cigarettes.</b>		<b>5</b>
<b>1. Have you smoked at least 100 cigarettes in your entire life?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (6)	<b>5</b>
<b>2. About how old were you when you first started smoking cigarettes fairly regularly?</b>	00 <input type="checkbox"/> Never smoked regularly _____ Years	<b>6-7</b>
<b>3. Do you smoke cigarettes now?</b>	1 <input type="checkbox"/> Yes (5) 2 <input type="checkbox"/> No	<b>8</b>
<i>Mark box or ask:</i> <b>4. About how long has it been since you last smoked cigarettes fairly regularly?</b>	000 <input type="checkbox"/> Never smoked regularly (6) Number { 1 <input type="checkbox"/> Days 2 <input type="checkbox"/> Weeks 3 <input type="checkbox"/> Months 4 <input type="checkbox"/> Years	<b>9-11</b>
<b>5. On the average, about how many cigarettes a day [do/did] you smoke?</b>	00 <input type="checkbox"/> Less than one cigarette per day _____ Cigarettes per day	<b>12-13</b>
<b>6a. Do you live with anyone who smokes cigarettes?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (Check Item 18)	<b>14</b>
<b>b. Do they regularly smoke in the home?</b>	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	<b>15</b>
<b>CHECK ITEM 18</b>	<i>Refer to Check Item 5B on page 44</i>	<b>16</b>
<b>7a. Is smoking allowed in your place of work other than in designated areas?</b>	1 <input type="checkbox"/> Yes (7b) 2 <input type="checkbox"/> No (Occupational Health Addendum)	<b>17</b>
<b>b. Do you find that cigarette smoke in the work place causes you no discomfort, some discomfort, moderate discomfort, or great discomfort?</b>	3 <input type="checkbox"/> Works at home 1 <input type="checkbox"/> No discomfort 2 <input type="checkbox"/> Some discomfort 3 <input type="checkbox"/> Moderate discomfort 4 <input type="checkbox"/> Great discomfort	<b>18</b>

<b>Section N — OCCUPATIONAL HEALTH ADDENDUM</b>				
<i>If Yes in question 17b, page 54/55, ask:</i>		<b>Injury 1</b>	<b>Injury 2</b>	<b>Injury 3</b>
<b>1. Was the worker's compensation claim for your injury on (date in 3, page 52/53) awarded, denied, or is it still in process?</b>	<b>19</b>	1 <input type="checkbox"/> Awarded 2 <input type="checkbox"/> Denied 3 <input type="checkbox"/> In process 9 <input type="checkbox"/> DK	1 <input type="checkbox"/> Awarded 2 <input type="checkbox"/> Denied 3 <input type="checkbox"/> In process 9 <input type="checkbox"/> DK	1 <input type="checkbox"/> Awarded 2 <input type="checkbox"/> Denied 3 <input type="checkbox"/> In process 9 <input type="checkbox"/> DK
<i>If Yes in question 10, page 59, ask:</i>		<b>23</b>		
<b>2. Was the worker's compensation claim for your skin condition awarded, denied, or is it still in process?</b>		<b>23</b>		
<i>If Yes in question 4, page 64/65, ask:</i>		<b>Condition 1</b>	<b>Condition 2</b>	<b>Condition 3</b>
<b>3. Was the worker's compensation claim for your (condition) awarded, denied, or is it still in process?</b>	<b>24</b>	1 <input type="checkbox"/> Awarded 2 <input type="checkbox"/> Denied 3 <input type="checkbox"/> In process 9 <input type="checkbox"/> DK	1 <input type="checkbox"/> Awarded 2 <input type="checkbox"/> Denied 3 <input type="checkbox"/> In process 9 <input type="checkbox"/> DK	1 <input type="checkbox"/> Awarded 2 <input type="checkbox"/> Denied 3 <input type="checkbox"/> In process 9 <input type="checkbox"/> DK
		<b>25</b>	<b>26</b>	<b>27</b>

Notes

**CARD N1**

- 1 Stopped working because of own illness, injury, disability or health problem that was **JOB-RELATED**
- 2 Stopped working because of own illness, injury, disability or other health problem that was **NOT JOB-RELATED**
- 3 Retired
- 4 Child/family care
- 5 On layoff from a job
- 8 Some other reason *(Specify)*

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**CARD N2**

- 0 Less than one month
- 1 1 month, less than 3 months
- 2 3 months, less than 6 months
- 3 6 months, less than 12 months
- 4 1 year, less than 5 years
- 5 5 or more years

Card N1

Card N2

(Cut Along Dashed Line)

HE-501 (1988) (10-20-87)

**CARD N3**

TO GET MEDICAL ATTENTION OR TREATMENT  
OTHER THAN FIRST AID FOR MINOR INJURIES

OR

TO BE UNABLE TO DO SOME WORK ACTIVITIES

OR

TO LOSE CONSCIOUSNESS

OR

TO TRANSFER TO ANOTHER JOB

HE-501 (1988) (10-20-87)



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For answers to questions about this report or for a list of reports published in these series, contact:

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