# Vital and Health Statistics

## Impairments due to Injuries: United States, 1985–87

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Data From the National Health Survey
No. 177

Estimates of the number of selected impairments due to injuries, by type of impairment, are presented by age, cross-tabulated by sex, race, geographic region, place of residence, family income, education of responsible adult family member, living arrangement, marital status, respondent-assessed health status, and employment status. Selected impairments due to injuries are also shown by class and place of accident, resulting limitation of activity, and disability days.

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Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies.

In accordance with specifications established by the National Center for Health Statistics, the U.S. Bureau of the Census, under a contractual arrangement, participated in planning the survey and collecting the data.

# Contents

**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 (more than 30 percent relative standard error) |
| # | Figure suppressed to comply with confidentiality requirements |

# Impairments due to Injuries: United States, 1985–87

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## Introduction

National estimates of the average annual prevalence of selected impairments due to injuries in the civilian noninstitutionalized population of the United States are presented in this report. These estimates are based on data collected by the National Center for Health Statistics (NCHS) by means of the National Health Interview Survey (NHIS) in 1985, 1986, and 1987.

Data on the prevalence of selected impairments due to injuries are presented by age and selected impairments, cross-tabulated by sex, race, geographic region, place of residence, family income, education of responsible adult family member, living arrangement, marital status, health status, and current employment status. Data on selected impairments due to injuries are also shown by class of accident, place of accident, degree of limitation of activity, days of restricted activity, and days of bed disability.

The most recent NCHS reports of data from NHIS that focused on impairments due to injuries were for 1971, Series 10, No. 87 (1), and 1980–81, Series 10, No. 159 (2).

Information on the number of episodes of persons injured and on the prevalence of all impairments is available through the annual series of NCHS reports "Current estimates from the National Health Interview Survey." The most recent "Current estimates" report—Series 10, No. 176 (3)—is for 1989.

# Highlights

Highlights of the data contained in this report for the 3-year period 1985–87 are summarized in the following statements:

- Impairments due to injuries accounted for 26.3 percent of all impairments and 96.1 percent of absence of entire finger(s) and/or thumb(s).
- The estimated prevalence of selected impairments due to injuries was 18.9 million, of which 13.6 million, or almost 72 percent, were deformities or orthopedic impairments.
- Almost 2.2 million selected impairments due to injuries had occurred in the 12 months prior to interview.
- The prevalence rates for all types of selected impairments due to injuries, except for deformities and orthopedic impairments of the back, were higher among men than women.
- More than one of every four selected impairments due to injuries occurred in accidents on streets and highways, and more than one of every five occurred in accidents at home.
- Forty-five percent of visual impairments due to injuries occurred in accidents at home.
- Almost two of every five accidents causing paralysis of extremities or parts of extremities occurred on the street and highway.
- Seven of every 10 accidents resulting in loss of entire finger(s) and/or thumb(s) occurred in industrial places or at home.
- A total of 46.5 percent of all selected impairments due to injuries and 87.3 percent of paralysis of extremities or parts of extremities resulted in limitation of activity.
- Selected impairments due to injuries caused almost 275 million days of restricted activity and 88 million days of bed disability.
- Selected impairments due to injuries were responsible for substantially more days of restricted activity among males. However, a higher number of bed-disability days were reported for females.
- The rates of both restricted-activity days and bed-disability days were higher among persons 45–64 years of age than for the population as a whole.

# Sources and limitations of data

The information from the National Health Interview Survey (NHIS) presented in this report is based on data collected in a continuing nationwide survey by household interview. Each week, a probability sample of the civilian noninstitutionalized population of the United States is interviewed by personnel of the U.S. Bureau of the Census. Information is obtained about the health and other characteristics of each member of the household.

One of the strengths of NHIS is the ability to combine data over multiple years. This is possible because of the sampling design of NHIS and its use of standard questions over several years. It is particularly desirable when making estimates for variables with relatively small sample sizes—in this case, for impairments, which are chronic conditions, estimates for which are derived from a one-sixth sample in a given year. The stability of the estimates is increased because increasing the sample size leads to smaller sampling errors. Therefore, for this report, data are based on information obtained by the National Center for Health Statistics (NCHS) in the 1985, 1986, and 1987 NHIS, and annual averages for these three years are presented.

The NHIS sample for 1985–87 was composed of about 106,000 eligible households, containing approximately 276,000 persons living at the time of interview. The total noninterview rate for NHIS was about 4.3 percent; 2.7 percent was due to respondent refusal, and the remainder was primarily due to failure to locate an eligible respondent at home after repeated calls.

In 1985, several new sample design features were adopted for NHIS although, conceptually, the sampling plan remained the same as the previous design. The major changes included (a) reducing the number of primary locations from 376 to 198 for sampling efficiency, (b) oversampling the black population to improve the precision of the statistics, (c) subdividing the NHIS sample into four separate representative panels to facilitate linkage to other NCHS surveys, and (d) using an all-area frame not based on the decennial census to facilitate NCHS survey linkage and to conduct NHIS followback surveys. Descriptions of the survey design, the methods used in estimation, and general qualifications of the data obtained from the survey are presented in appendix I.

Because the estimates presented in this report are based on a sample of the population, they are subject to sampling errors. Therefore, readers should pay particular attention to the section of appendix I entitled "Reliability of the estimates," which presents formulas for calculating standard errors and instructions for their use. Sampling errors for most of the estimates are relatively low. However, when an estimated number or the numerator or denominator of a rate or percent is small, the sampling error may be large. The relatively small size of the sample for the chronic condition lists (one-sixth of the total sample per year) limits the number of variables with which the impairment data can be effectively analyzed.

All information collected in the survey results from reports by responsible family members residing in the household. When possible, all adult family members participate in the interview. However, proxy responses are accepted for family members who are not at home and are required for all children and for family members who are physically or mentally incapable of responding for themselves. Although a considerable effort is made to ensure accurate reporting, the information from both proxy and self-respondents may be inaccurate because the respondent is unaware of relevant information, has forgotten it, does not wish to reveal it to an interviewer, or does not understand the intended meaning of a question. Errors may also be introduced by interviewers, coders, and others during the processing and analysis of the data.

Certain terms used in this report are defined in appendix II and have specialized meanings for the purpose of the survey. It is suggested that the reader become familiar with these definitions. For example, the impairments due to injuries discussed in this report are defined as chronic conditions, regardless of date of onset, and have been classified by means of a special supplementary code according to type of functional impairment and etiology. The impairment classification is shown in the NCHS Medical Coding Manual (4).

Appendix III contains the probe questions and the recording forms used to obtain information on the prevalence of selected impairments due to injuries and the resulting limitation of activity and disability days. The questions for 1985, 1986, and 1987 are presented in their entirety in the "Current estimates" reports for these years, Series 10, Nos. 160, 164, and 166, respectively (5–7). The portions of the questionnaire shown in appendix III for 1987 are the same for 1985 and 1986.

Information about the prevalence of impairments due to injuries was obtained from responses to the checklist of

impairments in section H on Condition List 2, question 2a, which is phrased as follows: "Does anyone in the family (read names) now have _____?" Estimates of days of disability caused by impairments due to injuries are based on the number of disability days reported for these conditions for the 2-week reference period. Questions on disability days for impairments due to injuries are located on the condition portion of the questionnaire in section K, and questions on limitation of activity are located in section B.

The survey includes data only on persons living in the household at the time of interview. Thus, the injury experience of persons who died during the 2 weeks prior to the time of interview is excluded from the data. Also excluded is the injury experience of persons who were institutionalized or who were members of the Armed Forces at the time of the household interview.

In this report, terms such as "similar" and "the same" mean that no statistically significant difference exists between the statistics being compared. Terms relating to difference (for example, "greater" or "less") indicate that differences are statistically significant. The *t*-test, with a critical value of $\pm$ 1.96 (0.05 level of significance), was used to test all comparisons discussed. Lack of comment regarding the difference between any two statistics does not mean that the difference was tested and found to be not significant.

An asterisk is placed beside certain figures to indicate a relative standard error of 30 percent or more. Figures marked with an asterisk are given primarily to allow the reader to combine them with related estimates and thereby, possibly, to produce a more reliable overall estimate for a broader category.

When a comparison is made in the analysis, if it is not for dichotomous variables (for example, male and female), the comparison is between the specified variable and the total persons in that variable grouping.

The Division of Health Interview Statistics of NCHS should be contacted for information about coding and editing procedures used to produce the final data file from which the estimates shown in this report are derived.

# Background information

Although the National Center for Health Statistics sponsors several programs that provide data on accidents and injuries as well as on chronic conditions, the National Health Interview Survey (NHIS) is the only source of data on impairments due to injuries— a combination of the two types of data sets. As a result, NHIS is a unique source of information on disabling conditions in the United States.

Reports on impairments due to injuries using NHIS data have been published infrequently in the past 40 years. Only three have been published previously: Series 10, No. 6 (8), No. 87 (1), and No. 159 (2). The first report covers the period July 1959–June 1961, the second covers calendar year 1971, and the third is for 1980–81.

The annual average prevalence estimates for impairments due to injuries are based on data from the chronic condition checklist for selected impairments, which is administered to a one-sixth subsample of NHIS. In previous NHIS reports on impairments due to injuries, the annual average prevalence of selected impairments due to injuries was reported as 60.5 per 1,000 population for July 1959–June 1961 (8), 62.0 per 1,000 population for 1971 (1), and 66.7 per 1,000 population for 1980–81 (2). For 1985–87, the average prevalence was reported as 79.9 per 1,000 population. The categorical groupings for July 1959–June 1961 and for 1971 vary somewhat from those in both the 1980–81 report and the current report, and the data presented in those earlier reports are based on a previous edition of the International Classification of Diseases. Therefore, trend comparisons will be shown only for the latter two time periods.

Five types of impairment categories, some with subgroups, plus a residual category for other selected impairments are presented in this report. A list of categories with corresponding supplementary code numbers from the NCHS Medical Coding Manual (4) is as follows:

All selected impairments (X00–X99)
- Visual impairments (X00–X03)
- Hearing impairments (X05–X09)
- Absence of extremities or parts of extremities (excluding tips of fingers or toes only) (X20–X29)
  - Absence of entire finger(s) and/or thumb(s) only (X22, X25)
  - Absence of other extremities or parts of extremities (X20, X21, X23, X24, X26–X29)
- Paralysis, complete or partial, of extremities or parts of extremities(X40–X59)
- Deformities or orthopedic impairments(X70–X89)
  - Deformities or orthopedic impairments of back (X70, X71, X80)
  - Deformities or orthopedic impairments of upper extremities or parts of upper extremities (X73, X74, X84)
  - Deformities or orthopedic impairments of lower extremities or parts of lower extremities (X75–X78, X85, X86)
  - Deformities or orthopedic impairments—other (X79, X89)
- Other selected impairments (X10–X12, X14, X19, X30–X35, X60–X64, X90–X99)

# Comparison with data for 1980–81

For the years 1980–81 the average annual prevalence of selected impairments due to injuries was 14.8 million, or 66.7 per 1,000 population (2). The average annual prevalence of selected impairments due to injuries in 1985–87 was 18.9 million, or 79.9 per 1,000 persons. This represents an increase of almost 20 percent in the prevalence rate from selected impairments due to injuries. Table A provides a comparison of prevalence rates for these two time periods for the various types of impairments due to injuries. This will help shed light on which of the impairments contributed most to the overall increase.

The increase in the prevalence rate of all selected impairments due to injuries reflects increases in hearing impairments and in deformities or orthopedic impairments. The prevalence rate for hearing impairments rose almost 50 percent from survey years 1980–81 to 1985–87. The rate for deformities or orthopedic impairments increased almost 20 percent in the same period. Within this category, increases were reported in the rate of deformities or orthopedic impairments of the back and of lower extremities or parts of lower extremities. However, there was no increase in the prevalence rate of deformities or orthopedic impairments of upper extremities or parts of extremities.

**Table A. Number of selected impairments due to injuries per 1,000 population, by type of impairment: United States, 1980–81 and 1985–87**

| *Type of impairment* | *1980–81* | *1985–87* |
|---|---|---|
| | Number per 1,000 population | |
| All selected impairments | 66.7 | 79.9 |
| Visual impairments | 4.1 | 3.8 |
| Hearing impairments | 4.4 | 6.5 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 6.0 | 5.4 |
| Absence of entire finger(s) and/or thumb(s) only | 4.5 | 3.9 |
| Absence of other extremities or parts of extremities | 1.5 | 1.5 |
| Paralysis, complete or partial, of extremities or parts of extremities | 1.1 | 1.1 |
| Deformities or orthopedic impairments | 46.7 | 57.4 |
| Deformities or orthopedic impairments of back | 19.3 | 24.3 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 9.9 | 9.3 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 16.6 | 23.1 |
| Deformities or orthopedic impairments—other | 0.8 | 0.7 |
| Other selected impairments | 4.3 | 5.7 |

A large portion of the increase in the prevalence rate for hearing impairments was due to an increase in prevalence rates among white males 45–64 years of age and 65 years of age and over and among persons residing in the West. The increase in the prevalence rate for deformities or orthopedic impairments was spread fairly equally among the age groups. However, large increases in prevalence were observed among females 65 years of age and over, among white persons, and among persons living in the South and West.

Table B shows a comparison of the two time periods, survey years 1980–81 and 1985–87, by percent of impairments due to injuries occurring at the five primary places of accident—home (in and out), street and highway, industrial place, place of recreation, and school. Approximately 80 percent of impairments due to injuries occur at one of these five places. For all selected impairments, the percent occurring in accidents at home and on the street and highway were similar for the two time periods. However, whereas 21.6 percent of all impairments were a result of accidents in the industrial place in 1980–81, only 16.7 percent were in that category in 1985–87. This decrease was evident for most types of specific impairments. The percentage of impairments occurring in accidents at places of recreation and at school increased approximately 20 percent and 15 percent, respectively, from 1980–81 to 1985–87. Although the percent of all selected impairments occurring in accidents at home and on the street and highway remained relatively stable from one time period to the other, there were changes in the percents of specific types of impairments. The percent of visual impairments occurring in accidents at home increased from 35.2 percent in 1980–81 to 45.0 percent in 1985–87, and the percent of hearing impairments increased from 23.5 percent to 28.4 percent. Conversely, the percent of deformities or orthopedic impairments of upper extremities or parts of upper extremities occurring at home decreased from 29.0 percent to 22.7 percent over the same period of time. For accidents on the street and highway, the percent of hearing impairments that occurred decreased from 17.1 percent in 1980–81 to

**Table B. Percent of selected impairments due to injuries occurring at 5 main places of accident, by type of impairment: United States, 1980–81 and 1985–87**

| Type of impairment | Home—inside and outside | | Street and highway | | Industrial place | | Place of recreation | | School | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1980–81 | 1985–87 | 1980–81 | 1985–87 | 1980–81 | 1985–87 | 1980–81 | 1985–87 | 1980–81 | 1985–87 |
| | Percent | | | | | | | | | |
| All selected impairments | 21.4 | 21.5 | 24.6 | 25.4 | 21.6 | 16.7 | 6.6 | 7.9 | 5.4 | 6.2 |
| Visual impairments | 35.2 | 45.0 | 18.7 | 16.6 | 14.6 | 9.9 | *5.7 | *2.7 | *2.0 | *1.8 |
| Hearing impairments | 23.5 | 28.4 | 17.1 | 8.4 | 12.9 | 6.5 | *6.8 | 9.0 | *3.2 | *3.2 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 30.7 | 31.2 | *7.5 | 6.8 | 41.1 | 33.8 | *2.6 | *2.7 | *– | *1.5 |
| Absence of entire finger(s) and/or thumb(s) only | 25.5 | 31.0 | *4.8 | *4.5 | 50.2 | 39.1 | *3.0 | *2.3 | *– | *2.1 |
| Absence of other extremities of parts of extremities | 46.0 | 31.9 | *15.4 | *12.7 | *14.8 | 20.2 | *1.8 | *3.6 | *– | *– |
| Paralysis, complete or partial, of extremities or parts of extremities | *16.1 | *16.8 | *43.0 | 38.1 | *6.8 | *5.2 | *2.8 | *4.5 | *4.8 | *1.1 |
| Deformities or orthopedic impairments | 19.2 | 17.6 | 27.5 | 29.9 | 20.0 | 16.4 | 7.6 | 9.0 | 7.1 | 7.7 |
| Deformities or orthopedic impairments of back | *15.4 | 15.5 | 32.0 | 37.3 | 23.7 | 18.0 | 5.3 | 5.2 | 4.7 | 4.2 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 29.0 | 22.7 | 17.4 | 21.8 | 22.7 | 19.7 | 8.0 | 9.2 | 6.3 | 6.6 |
| Deformities or orthopedic impairments of lower extremities or parts of lower lower extremities | 18.3 | 17.7 | 27.2 | 24.7 | 14.6 | 13.3 | 10.0 | 13.1 | 10.6 | 12.2 |
| Deformities or orthopedic impairments—other | *6.6 | *21.6 | 49.2 | 48.8 | *10.4 | *14.8 | *6.6 | *– | *3.3 | *– |
| Other selected impairments | 18.7 | 29.0 | 25.6 | 20.4 | 30.9 | 22.2 | *4.1 | *4.2 | *0.6 | *1.9 |

**Table C. Percent of selected impairments due to injuries resulting in limitation of activity, by type of impairment: United States, 1980–81 and 1985–87**

| Type of impairment | 1980–81 | 1985–87 |
|---|---|---|
| | Percent | |
| All selected impairments | 52.1 | 46.5 |
| Visual impairments | 46.0 | 51.9 |
| Hearing impairments | 38.5 | 36.8 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 38.1 | 40.0 |
| Absence of entire finger(s) and/or thumb(s) only | 36.2 | 34.6 |
| Absence of other extremities or parts of extremities | 43.9 | 53.7 |
| Paralysis, complete or partial, of extremities or parts of extremities | *88.4 | 87.3 |
| Deformities or orthopedic impairments | 55.3 | 47.3 |
| Deformities or orthopedic impairments of back | 49.5 | 45.9 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 53.8 | 46.6 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 62.9 | 48.3 |
| Deformities or orthopedic impairments—other | *57.9 | 74.1 |
| Other selected impairments | 46.8 | 43.6 |

8.4 percent in 1985–87, whereas the percent of deformities or orthopedic impairments of the back occurring on the street and highway increased from 32.0 percent to 37.3 percent.

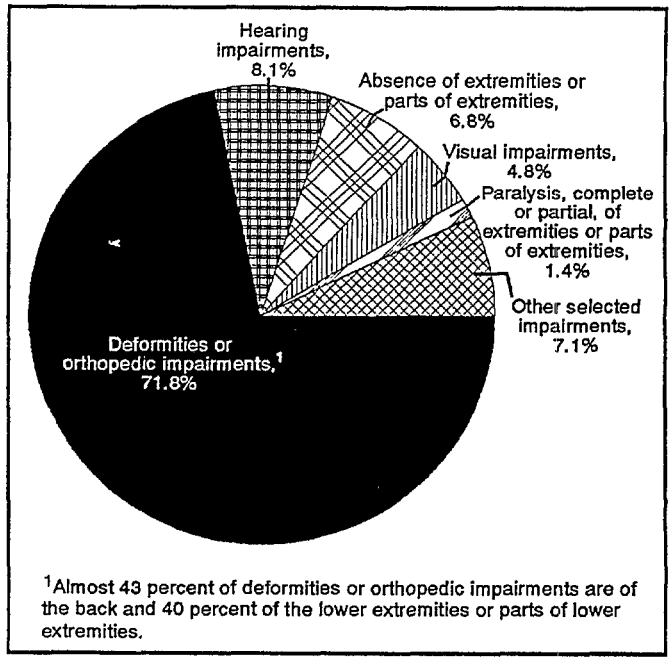
Table C provides a comparison of the percent of selected impairments due to injuries that resulted in limitation of activity in 1980–81 and 1985–87. A higher percent of all selected impairments (52.1 percent) resulted in limitation of activity in 1980–81 than in 1985–87 (46.5 percent). This was due primarily to the lower rate of activity limitation due to deformities or orthopedic impairments reported in 1985–87, 47.3 percent, compared with 55.3 percent in 1980–81. In contrast, the percent of visual impairments that caused limitation of activity increased from 1980–81 to 1985–87, from 46.0 percent to 51.9 percent.

# Impairments due to injuries

For the years 1985–87, the average annual prevalence of selected impairments in the civilian noninstitutionalized population, based on data from the National Health Interview Survey, was 71.4 million. Of the 71.4 million selected impairments, 18.9 million, or about 26 percent, were caused by injuries (tables D and 1). Almost 12 percent of injuries causing impairments occurred in the 12 months prior to interview.

Deformities or orthopedic impairments were the most prevalent impairments causing injuries, accounting for 13.6 million, or 71.8 percent of the total (figure 1). The majority of these deformities or orthopedic impairments were of the back and of the lower extremities or parts of extremities. Hearing impairments were the second most prevalent impairment, totaling 1.5 million conditions, or 8.1 percent of the total. It is interesting to note that, although 26.3 percent of all impairments were due to injuries, 96.1 percent of absences of entire finger(s) and/or thumb(s) were due to injuries.

The average annual number of selected impairments due to injuries per 1,000 population is shown by type of impairment in figure 2.




[1]Almost 43 percent of deformities or orthopedic impairments are of the back and 40 percent of the lower extremities or parts of lower extremities.

**Figure 1. Percent distribution of selected impairments due to injuries by type of impairment: United States, 1985–87**

## Visual impairments

The estimated average annual prevalence of visual impairments due to injuries and the rates per 1,000

**Table D. Average annual prevalence of selected impairments, prevalence of selected impairments due to injuries, and percent of impairments that are due to injuries, by type of impairment: United States, 1985–87**

| Type of impairment | Prevalence of impairments in thousands | Impairments because of injuries | |
|---|---|---|---|
| | | Number in thousands | Percent of total impairments |
| All selected impairments | 71,401 | 18,864 | 26.4 |
| Visual impairments | 8,265 | 901 | 10.9 |
| Hearing impairments | 20,985 | 1,529 | 7.3 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 1,618 | 1,274 | 78.7 |
| Absence of entire finger(s) and/or thumb(s) only | 951 | 914 | 96.1 |
| Absence of other extremities or parts of extremities | 668 | 361 | 54.0 |
| Paralysis, complete or partial, of extremities or parts of extremities | 1,359 | 268 | 19.7 |
| Deformities or orthopedic impairments | 30,554 | 13,551 | 44.4 |
| Deformities or orthopedic impairments of back | 15,442 | 5,735 | 37.1 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 3,084 | 2,206 | 71.5 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 11,706 | 5,448 | 46.5 |
| Deformities or orthopedic impairments—other | 322 | 162 | 50.3 |
| Other selected impairments | 8,620 | 1,342 | 15.6 |

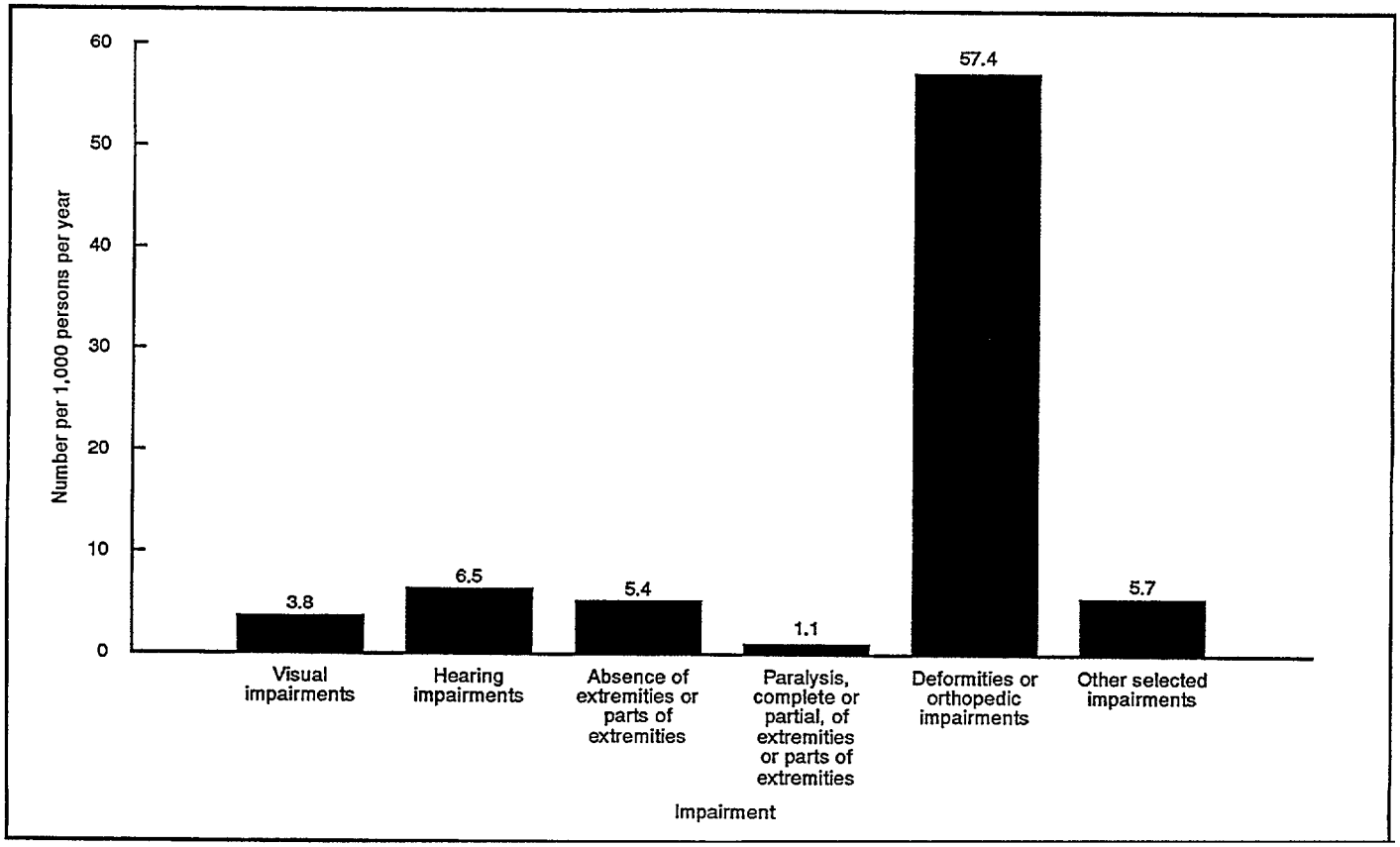



**Figure 2. Average annual number of selected impairments due to injuries per 1,000 population, by type of impairment: United States, 1985–87**

persons per year are shown by age and selected characteristics in table 2. For the years 1985–87, the average prevalence was 901,000 conditions. The rate of visual impairments was much higher among persons in the older age groups: 7.0 and 7.2 per 1,000 persons 45–64 years of age and 65 years of age and over, respectively, compared with only 2.4 per 1,000 persons under 45 years of age. Data from table 2 further show that the rate of visual impairments due to injuries was higher among males than females, higher among persons with respondent-assessed health status of fair or poor, higher among persons with family income less than $10,000, and higher among persons in households in which the education of the responsible adult family member was less than 12 years. The rate of visual impairments also varied for some other characteristics, but the differences were related to the older ages of the particular group, such as widowed persons or persons living alone.

## Hearing impairments

Table 3 contains the estimated average annual prevalence of hearing impairments due to injuries (1.5 million conditions) and the rates per 1,000 persons per year, by age and selected characteristics. Persons 45–64 years of age and 65 years of age and over reported substantially higher rates of hearing impairments than persons under 45 years of age: 11.9 and 11.7 per 1,000 persons per year, respectively, compared with 4.1 per 1,000 persons per year. The prevalence rate of hearing impairments due to injuries was much higher among males than females, higher among white persons than black persons, and higher among persons living in the West, persons residing in central cities of metropolitan statistical areas, persons in lower income families (less than $10,000 and $10,000–$19,999 per year), persons in families in which the education of the responsible adult family member was lowest, and persons with respondent-assessed health status of fair or poor. Interestingly, the rate of hearing impairments due to injuries was much higher than average for married persons 65 years of age and over and for divorced or separated persons under 45 years of age.

## Absence of extremities or parts of extremities

Data presented in table 4 show the estimated average annual prevalence of absence of extremities or parts of extremities (excluding tips of fingers or toes only) due to injuries (1.3 million conditions) and rates per 1,000 persons per year, by age and selected characteristics. Table 5 provides the estimated prevalence and rates per 1,000 population for a subgroup of the above, absence of entire finger(s) and/or thumb(s) only. The prevalence rate for absence of extremities or parts of extremities (table 4) was low among persons under 45 years of age and

progressively higher in the older age groups, 45–64 years of age and 65 years of age and over—2.6, 10.2, and 14.3 per 1,000 persons per year, respectively. The prevalence rate of absence of extremities or parts of extremities was more than four times higher for males than females, higher among white persons than black persons, and higher for persons living in nonmetropolitan statistical areas, persons in families in which the education of the responsible adult family member was less than 12 years, and persons with respondent-assessed health status of fair or poor. Conversely, the prevalence rate for absence of extremities or parts of extremities due to injuries was low among persons living in metropolitan statistical areas, in families with an income of $35,000 or more, and in families in which the education of the responsible adult family member was 16 years or more.

The estimated average annual prevalence of absence of entire finger(s) and/or thumb(s) only due to injuries and the accompanying rates per 1,000 persons per year are shown in table 5 by age and selected characteristics. The 914,000 conditions estimated represent a subgroup of the absence of extremities category; the prevalence patterns reported were very similar to those for absence of extremities by age and selected characteristics.

## Deformities or orthopedic impairments

Table 6 contains the estimated annual average prevalence of all deformities or orthopedic impairments due to injuries and the rates per 1,000 persons per year, by age and selected characteristics. Tables 7–9 provide the estimated average annual prevalence and rates for three subgroups of the above—deformities or orthopedic impairments of the back, deformities or orthopedic impairments of upper extremities or parts of extremities, and deformities or orthopedic impairments of lower extremities or parts of extremities—by age and selected characteristics. Deformities or orthopedic impairments due to injuries were estimated at 13.6 million, or 57.4 per 1,000 persons per year, for the years 1985–87. The prevalence rate for all deformities or orthopedic impairments was lower than average for persons under 45 years of age, 47.2 per 1,000 persons, and virtually identical for the two older age groups, 80.2 per 1,000 among persons 45–64 years of age and 80.7 per 1,000 among persons 65 years of age and over. Data presented in table 6 further indicate a higher prevalence rate among males than females in the age groups under 45 years and 45–64 years of age, a higher rate among white persons than black persons, and higher rates among persons in the West, persons in families with less than $10,000 family income, persons with respondent-assessed health status of fair or poor, divorced or separated persons, and persons living alone or with nonrelatives.

Deformities or orthopedic impairments of the back due to injuries had a reported prevalence of 5.7 million conditions, or 24.3 per 1,000 persons per year (table 7). The prevalence rate for these conditions was highest among persons 45–64 years of age and lowest among persons under 45 years of age, 34.6 and 20.4 per 1,000 persons per year, respectively. Prevalence rates for deformities or orthopedic impairments of the back were higher than average for persons living in the West, persons in households in which the family income was less than $10,000, persons with respondent-assessed health status of fair or poor, and persons who were divorced or separated.

Data presented in table 8 show the estimated average annual prevalence of deformities or orthopedic impairments of upper extremities or parts of upper extremities due to injuries to be 2.2 million conditions, or 9.3 per 1,000 persons per year. The pattern of prevalence rates was similar to that of all deformities and orthopedic impairments: Higher among persons in age groups 45 years of age and over, higher among males than females in the two younger age groups, higher among white persons than black persons, and higher among persons living in the West, persons in families with income less than $10,000, persons with fair or poor respondent-assessed health status, divorced or separated persons, and persons living alone or with nonrelatives. In addition, the prevalence rate for deformities or orthopedic impairments of upper extremities was high for persons living outside metropolitan statistical areas.

Table 9 contains the estimated average annual prevalence of deformities or orthopedic impairments of lower extremities or parts of lower extremities due to injuries, which was 5.4 million for 1985–87, or 23.1 conditions per 1,000 persons per year. The rate of these impairments was lowest among persons under 45 years of age and highest among persons 65 years of age and over, 18.6 and 36.9 per 1,000 persons per year, respectively. The prevalence rate for deformities or orthopedic impairments of lower extremities or parts of lower extremities was also highest among males, higher among persons in the two older age groups for those in families with less than $10,000 income, higher among persons living alone or with nonrelatives, higher among widowed and divorced or separated persons, and higher among persons with respondent-assessed health status of fair or poor.

## Other impairments

Information presented in table 10 contains the estimated average annual prevalence of absence of other extremities or parts of extremities and paralysis, complete or partial, of extremities or parts of extremities due to injuries and the accompanying rates per 1,000 persons, by selected characteristics. Table 11 contains the estimated average annual prevalence and rates per 1,000 persons for other selected impairments due to injuries, by age and selected characteristics. The average prevalences of absence of other extremities or parts of extremities and paralysis, complete or partial, of extremities or parts of extremities were 361,000 and 268,000, respectively (table 10). Because of the relatively low prevalence,

further analysis is of little utility. Data in table 11 include other selected impairments (1.3 million), such as speech impairments; impairment of sensation; absence of lung, kidney, breast, bone, joint, or muscle of extremity or tips of fingers or toes; disfigurement; cleft palate; dentofacial handicap; deformity of skull, artificial orifice, or valve; and special impairments (ill defined). Even though this category is a mixture of a number of types of impairments, the prevalence profile is similar to that for many of the specific types of impairments due to injuries: That is, the prevalence rate per 1,000 persons is lowest among persons under 45 years of age and highest among persons 65 years of age and over, higher among males than females, higher among white persons than black persons, and higher among persons in families in which the education of the responsible family member was less than 12 years, persons living alone or with nonrelatives, and persons with respondent-assessed health status of fair or poor.

## Class of accident

For purposes of the National Health Interview Survey, accidents are grouped into four general classes: (a) moving motor-vehicle accidents (with traffic accidents as a subclass), (b) accidents occurring while at work, (c) accidents occurring in the home, and (d) other accidents. The term "accidents" is used broadly to include many kinds of mishaps, such as effects of exposure, poisonings, complications of medical or surgical procedures, or nonaccidental violence (for instance, attempted suicide). The classes of accidents are not mutually exclusive; for example, an injury may occur in a moving motor-vehicle accident while at work, or an injury may occur while at work in the home.

Table 12 contains the estimated average annual prevalence of selected impairments due to injuries and the number per 1,000 persons per year for each class of accident, by type of impairment. When injuries occurring in the "other" class of accident category are excluded, the remaining impairments due to injuries are distributed fairly evenly over the other three classes of accident: 4.5 million at work, 4.3 million in moving motor vehicles, and 4.1 million at home. Of these three classes of accident, accidents at home are highest in prevalence for visual impairments and hearing impairments, accidents at work are highest in prevalence for absence of extremities or parts of extremities, and accidents in moving motor vehicles are highest in prevalence for deformities or orthopedic impairments.

## Place of accident

In addition to questions on class of accident, persons were asked where the accident occurred. Primary responses were home (inside and outside), street and highway, industrial place, school, place of recreation, farm, and other and unknown.

The estimated average annual prevalence of selected impairments due to injuries is shown in table 13 by place of accident and type of impairment and in table 14 as a percent distribution by place of accident, according to type of impairment. Of the 18.9 million total selected impairments, 4.8 million took place in accidents on streets and highways, 4.1 million in accidents at home, and 3.1 million in accidents at industrial places (table 13). These three places of accident accounted for about 64 percent of all selected impairments due to injuries (table 14). Whereas only 21.5 percent of all selected impairments resulted from accidents at home, 45.0 percent of visual impairments, 31.2 percent of absence of extremities or parts of extremities, and 28.4 percent of hearing impairments resulted from accidents at home. Accidents on streets and highways accounted for 25.4 percent of all impairments but for 38.1 percent of all paralysis, complete or partial, of extremities or parts of extremities and for almost 30 percent of deformities or orthopedic impairments. Accidents in the industrial place were responsible for 16.7 percent of all selected impairments due to injuries but for 33.8 percent of absence of extremities or parts of extremities.

## Limitation of activity

Table 15 presents the average annual prevalence of selected impairments due to injuries, by degree of activity limitation and type of impairment, and table 16 contains a percent distribution of prevalence of selected impairments by degree of activity limitation, according to type of impairment. Of the 18.9 million selected impairments, 8.8 million caused activity limitation; of these, 6.1 million caused limitation in a person's major activity (table 15), 2.8 million being unable to carry on their major activity and 3.3 million being limited in the amount or kind of major activity. These 8.8 million impairments causing activity limitation represented 46.5 percent of all selected impairments due to injuries (table 16). The most limiting type of impairment was paralysis, complete or partial, of extremities or parts of extremities, of which 87.3 percent caused limitation of activity, 80.3 percent in the person's major activity.

## Restricted-activity days

The average annual number of restricted-activity days from selected impairments due to injuries and the number per 100 persons per year are shown by sex and type of impairment in table 17. For the years 1985–87, the average annual number of restricted-activity days from selected impairments due to injuries was 275.0 million. Of these, 157.7 million were among men and 117.3 million were among women. Among both men and women, almost 90 percent of the restricted-activity days from selected impairments were caused by deformities or orthopedic impairments.

The average annual number of days of restricted activity from selected impairments due to injuries and the number per 100 persons per year are shown by age and type of impairment in table 18. Although about half of the total restricted-activity days, 137.1 million, were for persons under 45 years of age, the rate per 100 persons was by far the highest among persons 45–64 years of age—226.5 per 100 persons, compared with 83.6 and 132.6 per 100 persons for those under 45 years of age and 65 years of age and over, respectively. The pattern of high rates of restricted-activity days for persons 45–64 years of age was fairly consistent for most types of impairments.

## Bed-disability days

Table 19 contains the average annual number of days of bed disability from selected impairments due to injuries and the number per 100 persons per year by sex and type of impairment. For the years 1985–87, the average annual number of bed-disability days from selected impairments due to injuries was 87.8 million. Of these, 35.4 million were reported for males, whereas 52.4 million were reported for females. This is in contrast to the distribution of restricted-activity days by sex cited previously. The rate of bed-disability days for deformities or orthopedic impairments was almost twice as high among females as males, 36.1 as opposed to 19.1 per 100 persons per year.

The average annual number of days of bed disability from selected impairments due to injuries and number per 100 persons per year are shown in table 20 by age and type of impairment. The rate of bed-disability days from selected impairments was highest for persons 45–64 years of age, 72.9 days per 100 persons per year. In each of the age groups, the majority of bed-disability days were attributed to deformities or orthopedic impairments. The largest proportion of bed-disability days from deformities or orthopedic impairments were due to deformities or orthopedic impairments of the back for persons under 45 years and 45–64 years of age.

The population figures used in computing rates shown in this report are found in table 21.

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# List of detailed tables

**Table 1. Average annual prevalence of selected impairments, prevalence of impairments due to injuries and number per 1,000 population, percent of impairments due to injuries, and percent of impairments due to injuries occurring in the past year, by type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | Prevalence of impairments in thousands | Impairments due to injuries | | | |
|---|---|---|---|---|---|
| | | Number in thousands | Percent of total impairments | Number per 1,000 population | Percent occurring in past 12 months |
| All selected impairments | 71,401 | 18,864 | 26.4 | 79.9 | 11.6 |
| Visual impairments | 8,265 | 901 | 10.9 | 3.8 | *4.1 |
| Hearing impairments | 20,985 | 1,529 | 7.3 | 6.5 | *2.5 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 1,618 | 1,274 | 78.7 | 5.4 | *3.8 |
| Absence of entire finger(s) and/or thumb(s) only | 951 | 914 | 96.1 | 3.9 | *3.8 |
| Absence of other extremities or parts of extremities | 668 | 361 | 54.0 | 1.5 | *3.6 |
| Paralysis, complete or partial, of extremities or parts of extremities | 1,359 | 268 | 19.7 | 1.1 | *5.2 |
| Deformities or orthopedic impairments | 30,554 | 13,551 | 44.4 | 57.4 | 14.6 |
| Deformities or orthopedic impairments of back | 15,442 | 5,735 | 37.1 | 24.3 | 13.0 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 3,084 | 2,206 | 71.5 | 9.3 | 16.5 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 11,706 | 5,448 | 46.5 | 23.1 | 15.7 |
| Deformities or orthopedic impairments—other | 322 | 162 | 50.3 | 0.7 | *11.1 |
| Other selected impairments | 8,620 | 1,342 | 15.6 | 5.7 | *4.2 |

**Table 2. Average annual prevalence of visual impairments due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 901 | 388 | 314 | 199 | 3.8 | 2.4 | 7.0 | 7.2 |
| **Sex** | | | | | | | | |
| Male | 639 | 296 | 208 | 135 | 5.6 | 3.6 | 9.8 | 11.9 |
| Female | 261 | 92 | 105 | *64 | 2.1 | 1.1 | 4.5 | *3.9 |
| **Race** | | | | | | | | |
| White | 759 | 323 | 264 | 172 | 3.8 | 2.4 | 6.8 | 6.9 |
| Black | 117 | *50 | *50 | *17 | 4.1 | *2.3 | *11.1 | *7.4 |
| **Geographic region** | | | | | | | | |
| Northeast | 172 | 84 | *55 | *34 | 3.4 | 2.5 | *5.4 | *5.1 |
| Midwest | 218 | 90 | 92 | *35 | 3.8 | 2.2 | 8.4 | *5.1 |
| South | 375 | 136 | 127 | 113 | 4.6 | 2.4 | 8.5 | 12.2 |
| West | 136 | 79 | *39 | *17 | 2.9 | 2.3 | *4.5 | *3.6 |
| **Place of residence** | | | | | | | | |
| MSA–central city | 284 | 101 | 129 | *54 | 3.9 | 2.0 | 9.7 | *6.0 |
| MSA–not central city | 375 | 186 | 89 | 100 | 3.4 | 2.4 | 4.3 | 8.9 |
| Not MSA | 241 | 101 | 95 | *44 | 4.4 | 2.8 | 9.0 | *5.9 |
| **Family income** | | | | | | | | |
| Less than $10,000 | 220 | 85 | *67 | 68 | 6.6 | 4.0 | *15.1 | 9.3 |
| $10,000–$19,999 | 222 | 70 | 76 | 76 | 4.9 | 2.3 | 10.2 | 10.1 |
| $20,000–$34,999 | 202 | 101 | 85 | *17 | 3.2 | 2.1 | 7.5 | *3.4 |
| $35,000 or more | 187 | 113 | *53 | *21 | 2.9 | 2.4 | *3.7 | *7.7 |
| **Education of responsible adult family member** | | | | | | | | |
| Less than 12 years | 197 | *51 | 88 | *58 | 5.5 | *2.7 | 11.6 | *6.1 |
| 12–15 years | –513 | 224 | 184 | 106 | 3.7 | 2.2 | 7.1 | 8.0 |
| 16 years or more | 190 | 113 | *42 | *34 | 3.2 | 2.6 | *3.8 | *7.7 |
| **Living arrangement** | | | | | | | | |
| Living alone or with nonrelative | 229 | *66 | *56 | 108 | 8.2 | *4.9 | *10.1 | 12.0 |
| Living with spouse | 499 | 200 | 215 | 84 | 4.5 | 3.3 | 6.2 | 5.5 |
| Living with relative–other | 173 | 123 | *43 | *7 | 1.8 | 1.4 | *9.0 | *2.0 |
| **Marital status–14 years of age and over** | | | | | | | | |
| Married | 505 | 206 | 215 | 84 | 4.5 | 3.4 | 6.2 | 5.5 |
| Widowed | 104 | *2 | *33 | 69 | 8.1 | *4.5 | *10.8 | 7.4 |
| Divorced or separated | 135 | *44 | *54 | *37 | 8.8 | *4.8 | *11.2 | *25.8 |
| Never married | 139 | 122 | *7 | *9 | 3.0 | 2.8 | *3.6 | *7.0 |
| **Health status** | | | | | | | | |
| Excellent or very good | –396 | 208 | 117 | 71 | 2.5 | 1.7 | 5.0 | 7.1 |
| Good | 212 | 111 | *65 | *35 | 3.9 | 3.4 | *5.0 | *3.9 |
| Fair or poor | 290 | 69 | 128 | 92 | 12.2 | 9.4 | 16.0 | 10.9 |
| **Employment status–18 years of age and over** | | | | | | | | |
| Currently employed | 433 | 247 | 151 | *35 | 3.9 | 3.2 | 10.6 | 0.0 |
| Currently unemployed | *43 | *25 | *18 | *– | *6.7 | *4.9 | *16.0 | *– |
| Not in labor force | 383 | 74 | 145 | 163 | 6.8 | 4.0 | 10.1 | 6.8 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE. MSA is metropolitan statistical area.

**Table 3. Average annual prevalence of hearing impairments due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 1,529 | 672 | 534 | 323 | 6.5 | 4.1 | 11.9 | 11.7 |
| **Sex** | | | | | | | | |
| Male | 1,106 | 436 | 428 | 242 | 9.7 | 5.3 | 20.1 | 21.3 |
| Female | 424 | 236 | 106 | 81 | 3.5 | 2.9 | 4.5 | 5.0 |
| **Race** | | | | | | | | |
| White | 1,395 | 627 | 490 | 279 | 7.0 | 4.6 | 12.5 | 11.2 |
| Black | 83 | *32 | *31 | *20 | 2.9 | *1.5 | *6.9 | *8.7 |
| **Geographic region** | | | | | | | | |
| Northeast | 277 | 96 | 107 | 74 | 5.5 | 2.9 | 10.5 | 11.1 |
| Midwest | 304 | 153 | 122 | *29 | 5.2 | 3.8 | 11.1 | *4.2 |
| South | 516 | 224 | 179 | 114 | 6.4 | 4.0 | 12.0 | 12.3 |
| West | 432 | 199 | 127 | 106 | 9.1 | 5.9 | 14.5 | 22.2 |
| **Place of residence** | | | | | | | | |
| MSA—central city | 555 | 242 | 211 | 102 | 7.6 | 4.8 | 15.9 | 11.4 |
| MSA—not central city | 663 | 296 | 232 | 136 | 6.1 | 3.9 | 11.1 | 12.2 |
| Not MSA | 311 | 134 | 92 | 85 | 5.7 | 3.7 | 8.7 | 11.4 |
| **Family income** | | | | | | | | |
| Less than $10,000 | 252 | 106 | 89 | *57 | 7.6 | 5.0 | 20.0 | *7.8 |
| $10,000–$19,999 | 363 | 148 | 104 | 110 | 8.0 | 4.9 | 14.0 | 14.6 |
| $20,000–$34,999 | 357 | 162 | 136 | *60 | 5.6 | 3.4 | 12.1 | *12.1 |
| $35,000 or more | 381 | 183 | 160 | *38 | 6.0 | 3.9 | 11.1 | *14.0 |
| **Education of responsible adult family member** | | | | | | | | |
| Less than 12 years | 299 | 101 | 115 | 83 | 8.3 | 5.3 | 15.1 | 8.7 |
| 12–15 years | 877 | 405 | 288 | 184 | 6.3 | 4.0 | 11.1 | 13.8 |
| 16 years or more | 353 | 166 | 131 | *56 | 5.9 | 3.8 | 12.0 | *12.7 |
| **Living arrangement** | | | | | | | | |
| Living alone or with nonrelative | 272 | 138 | *63 | 71 | 9.7 | 10.2 | *11.4 | 7.9 |
| Living with spouse | 1,055 | 388 | 430 | 238 | 9.6 | 6.4 | 12.5 | 15.7 |
| Living with relative—other | 202 | 146 | *42 | *14 | 2.1 | 1.6 | *8.8 | *4.1 |
| **Marital status—14 years of age and over** | | | | | | | | |
| Married | 1,074 | 393 | 434 | 246 | 9.6 | 6.4 | 12.5 | 16.0 |
| Widowed | 89 | *– | *23 | *66 | 6.9 | *– | *7.6 | *7.0 |
| Divorced or separated | 163 | 104 | *53 | *6 | 10.6 | 11.5 | *11.0 | *4.2 |
| Never married | 174 | 146 | *24 | *5 | 3.7 | 3.3 | *12.4 | *3.9 |
| **Health status** | | | | | | | | |
| Excellent or very good | 750 | 388 | 250 | 112 | 4.8 | 3.1 | 10.6 | 11.2 |
| Good | 412 | 150 | 155 | 107 | 7.6 | 4.6 | 12.0 | 11.9 |
| Fair or poor | 357 | 127 | 130 | 101 | 15.0 | 17.3 | 16.2 | 12.0 |
| **Employment status—18 years of age and over** | | | | | | | | |
| Currently employed | 781 | 410 | 333 | *38 | 7.1 | 5.3 | 11.4 | *11.0 |
| Currently unemployed | *33 | *20 | *9 | *4 | *5.1 | *3.9 | *8.0 | *21.9 |
| Not in labor force | 652 | 179 | 192 | 281 | 11.5 | 9.7 | 13.4 | 11.7 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 4. Average annual prevalence of absence of extremities or parts of extremeties (excluding tips of fingers or toes only) due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 1,274 | 424 | 457 | 393 | 5.4 | 2.6 | 10.2 | 14.3 |
| **Sex** | | | | | | | | |
| Male | 1,042 | 345 | 371 | 326 | 9.1 | 4.2 | 17.4 | 28.7 |
| Female | 232 | 79 | 86 | *67 | 1.9 | 1.0 | 3.7 | *4.1 |
| **Race** | | | | | | | | |
| White | 1,151 | 375 | 413 | 362 | 5.7 | 2.7 | 10.6 | 14.6 |
| Black | 88 | *26 | *44 | *18 | 3.1 | *1.2 | *9.8 | *7.8 |
| **Geographic region** | | | | | | | | |
| Northeast | 153 | *32 | *57 | *65 | 3.1 | *1.0 | *5.6 | *9.8 |
| Midwest | 368 | 130 | 137 | 101 | 6.4 | 3.2 | 12.5 | 14.7 |
| South | 533 | 176 | 197 | 160 | 6.6 | 3.1 | 13.2 | 17.3 |
| West | 221 | 87 | *67 | *67 | 4.7 | 2.6 | *7.7 | *14.0 |
| **Place of residence** | | | | | | | | |
| MSA—central city | 296 | 98 | 105 | 92 | 4.1 | 1.9 | 7.9 | 10.3 |
| MSA—not central city | 565 | 211 | 202 | 152 | 5.2 | 2.8 | 9.7 | 13.6 |
| Not MSA | 414 | 115 | 149 | 149 | 7.6 | 3.2 | 14.1 | 20.0 |
| **Family income** | | | | | | | | |
| Less than $10,000 | 197 | *46 | *53 | 98 | *5.9 | *2.2 | 11.9 | 13.4 |
| $10,000–$19,999 | 336 | 83 | 123 | 130 | 7.4 | 2.7 | 16.6 | 17.3 |
| $20,000–$34,999 | 331 | 131 | 122 | 79 | 5.2 | 2.8 | 10.8 | 15.9 |
| $35,000 or more | 222 | 118 | 74 | *30 | 3.5 | 2.5 | 5.1 | *11.0 |
| **Education of responsible adult family member** | | | | | | | | |
| Less than 12 years | 344 | *30 | 146 | 167 | 9.5 | *1.6 | 19.2 | 17.5 |
| 12–15 years | 767 | 320 | 260 | 187 | 5.5 | 3.2 | 10.0 | 14.0 |
| 16 years or more | 164 | 74 | *51 | *39 | 2.8 | 1.7 | *4.7 | *8.9 |
| **Living arrangement** | | | | | | | | |
| Living alone or with nonrelative | 203 | *51 | *65 | 87 | 7.2 | *3.8 | *11.8 | 9.7 |
| Living with spouse | 912 | 299 | 350 | 264 | 8.3 | 4.9 | 10.2 | 17.4 |
| Living with relative—other | 159 | 75 | *43 | *42 | 1.6 | 0.8 | *9.0 | *12.3 |
| **Marital status—14 years of age and over** | | | | | | | | |
| Married | 926 | 301 | 350 | 276 | 8.3 | 4.9 | 10.1 | 17.9 |
| Widowed | 130 | *8 | 19 | 103 | 10.1 | *18.1 | *6.2 | 11.0 |
| Divorced or separated | 131 | *50 | 73 | *8 | 8.5 | *5.5 | 15.1 | *5.6 |
| Never married | *60 | *45 | *9 | *6 | *1.3 | *1.0 | *4.7 | *4.7 |
| **Health status** | | | | | | | | |
| Excellent or very good | 554 | 246 | 155 | 153 | 3.5 | 2.0 | 6.6 | 15.3 |
| Good | 365 | 98 | 170 | 96 | 6.7 | 3.0 | 13.1 | 10.7 |
| Fair or poor | 348 | 80 | 131 | 137 | 14.7 | 10.9 | 16.3 | 16.3 |
| **Employment status—18 years of age and over** | | | | | | | | |
| Currently employed | 610 | 270 | 268 | 71 | 5.5 | 3.5 | 9.1 | 20.6 |
| Currently unemployed | *60 | *48 | *12 | *– | *9.3 | *9.4 | *10.7 | *– |
| Not in labor force | 579 | 80 | 176 | 322 | 10.2 | 4.4 | 12.3 | 13.4 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 5. Average annual prevalence of absence of entire finger(s) and/or thumb(s) only due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 914 | 277 | 318 | 318 | 3.9 | 1.7 | 7.1 | 11.5 |
| Sex | | | | | | | | |
| Male | 731 | 215 | 255 | 261 | 6.4 | 2.6 | 12.0 | 23.0 |
| Female | 182 | *62 | *63 | *57 | 1.5 | *0.8 | *2.7 | *3.5 |
| Race | | | | | | | | |
| White | 844 | 252 | 287 | 305 | 4.2 | 1.8 | 7.3 | 12.3 |
| Black | *66 | *21 | *31 | *13 | *2.3 | *1.0 | *6.9 | *5.6 |
| Geographic region | | | | | | | | |
| Northeast | 103 | *18 | *30 | *56 | 2.1 | *0.5 | *3.0 | *8.4 |
| Midwest | 254 | 73 | 90 | 91 | 4.4 | 1.8 | 8.2 | 13.3 |
| South | 385 | 100 | 160 | 124 | 4.8 | 1.8 | 10.8 | 13.4 |
| West | 172 | 87 | *38 | *47 | 3.6 | 2.6 | *4.3 | *9.8 |
| Place of residence | | | | | | | | |
| MSA–central city | 235 | 78 | 81 | 77 | 3.2 | 1.5 | 6.1 | 8.6 |
| MSA–not central city | 372 | 126 | 122 | 124 | 3.4 | 1.6 | 5.8 | 11.1 |
| Not MSA | 306 | 73 | 116 | 117 | 5.6 | 2.0 | 11.0 | 15.7 |
| Family income | | | | | | | | |
| Less than $10,000 | 147 | *37 | *32 | 77 | 4.4 | *1.7 | *7.2 | 10.6 |
| $10,000–$19,999 | 226 | *48 | *67 | 111 | 5.0 | *1.6 | *9.0 | 14.8 |
| $20,000–$34,999 | 229 | 82 | 92 | *55 | 3.6 | 1.7 | 8.2 | *11.1 |
| $35,000 or more | 177 | 84 | *62 | *30 | 2.8 | 1.8 | *4.3 | *11.0 |
| Education of responsible adult family member | | | | | | | | |
| Less than 12 years | 281 | *25 | 107 | 150 | 7.8 | *1.3 | 14.1 | 15.7 |
| 12–15 years | 536 | 222 | 170 | 144 | 3.8 | 2.2 | 6.6 | 10.8 |
| 16 years or more | 96 | *30 | *42 | *24 | 1.6 | *0.7 | *3.8 | *5.5 |
| Living arrangement | | | | | | | | |
| Living alone or with nonrelative | 136 | *27 | *50 | *58 | 4.9 | *2.0 | *9.1 | *6.4 |
| Living with spouse | 662 | 198 | 246 | 218 | 6.0 | 3.3 | 7.1 | 14.4 |
| Living with relative–other | 115 | *52 | *22 | *42 | 1.2 | *0.6 | *4.6 | *12.3 |
| Marital status–14 years of age and over | | | | | | | | |
| Married | 668 | 200 | 246 | 222 | 6.0 | 3.3 | 7.1 | 14.4 |
| Widowed | 91 | *– | *7 | 85 | 7.1 | *– | *2.3 | 9.1 |
| Divorced or separated | 96 | *36 | *54 | *5 | 6.3 | *4.0 | *11.2 | *3.5 |
| Never married | *42 | *31 | *5 | *6 | *0.9 | *0.7 | *2.6 | *4.7 |
| Health status | | | | | | | | |
| Excellent or very good | 416 | 172 | 115 | 129 | 2.6 | 1.4 | 4.9 | 12.9 |
| Good | 276 | 72 | 128 | 76 | 5.1 | 2.2 | 9.9 | 8.5 |
| Fair or poor | 214 | *33 | 75 | 105 | 9.0 | *4.5 | 9.3 | 12.5 |
| Employment status–18 years of age and over | | | | | | | | |
| Currently employed | 440 | 175 | 205 | *60 | 4.0 | 2.3 | 7.0 | *17.4 |
| Currently unemployed | *56 | *43 | *12 | *– | *8.7 | *8.4 | *10.7 | *– |
| Not in labor force | 402 | *43 | 101 | 257 | 7.1 | *2.3 | 7.1 | 10.7 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 6. Average annual prevalence of all deformities or orthopedic impairments due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 13,551 | 7,738 | 3,586 | 2,226 | 57.4 | 47.2 | 80.2 | 80.7 |
| Sex | | | | | | | | |
| Male | 7,461 | 4,574 | 2,037 | 849 | 65.3 | 56.1 | 95.5 | 74.7 |
| Female | 6,090 | 3,164 | 1,549 | 1,376 | 49.9 | 38.4 | 66.2 | 84.9 |
| Race | | | | | | | | |
| White | 12,014 | 6,818 | 3,123 | 2,073 | 59.9 | 49.9 | 79.9 | 83.4 |
| Black | 1,244 | 706 | 414 | 123 | 43.6 | 32.5 | 92.1 | 53.4 |
| Geographic region | | | | | | | | |
| Northeast | 2,445 | 1,370 | 596 | 479 | 48.7 | 41.1 | 58.7 | 71.9 |
| Midwest | 3,310 | 1,812 | 1,041 | 456 | 57.1 | 45.2 | 95.1 | 66.5 |
| South | 4,717 | 2,716 | 1,236 | 765 | 58.4 | 47.9 | 83.1 | 82.5 |
| West | 3,078 | 1,840 | 712 | 526 | 65.1 | 54.5 | 81.4 | 110.0 |
| Place of residence | | | | | | | | |
| MSA–central city | 4,231 | 2,358 | 1,079 | 795 | 57.9 | 46.4 | 81.5 | 88.8 |
| MSA–not central city | 5,901 | 3,626 | 1,518 | 757 | 54.3 | 47.3 | 72.5 | 67.7 |
| Not MSA | 3,418 | 1,754 | 989 | 674 | 62.8 | 48.2 | 93.6 | 90.7 |
| Family income | | | | | | | | |
| Less than $10,000 | 2,627 | 1,215 | 562 | 850 | 79.3 | 56.8 | 126.4 | 116.6 |
| $10,000–$19,999 | 3,026 | 1,682 | 735 | 608 | 66.6 | 55.1 | 99.1 | 80.9 |
| $20,000–$34,999 | 3,270 | 2,029 | 998 | 243 | 51.7 | 43.2 | 88.6 | 49.1 |
| $35,000 or more | 3,071 | 2,012 | 880 | 178 | 48.4 | 43.4 | 61.2 | 65.5 |
| Education of responsible adult family member | | | | | | | | |
| Less than 12 years | 2,378 | 847 | 726 | 805 | 65.9 | 44.7 | 95.6 | 84.1 |
| 12–15 years | 8,087 | 4,943 | 2,058 | 1,085 | 58.1 | 49.4 | 79.3 | 81.4 |
| 16 years or more | 3,018 | 1,905 | 791 | 322 | 50.7 | 43.1 | 72.4 | 73.2 |
| Living arrangement | | | | | | | | |
| Living alone or with nonrelative | 3,082 | 1,355 | 687 | 1,040 | 110.1 | 100.5 | 124.5 | 115.5 |
| Living with spouse | 8,061 | 4,463 | 2,577 | 1,021 | 73.2 | 73.8 | 74.9 | 67.4 |
| Living with relative–other | 2,408 | 1,920 | 323 | 165 | 24.5 | 21.3 | 67.5 | 48.1 |
| Marital status–14 years of age and over | | | | | | | | |
| Married | 8,165 | 4,516 | 2,596 | 1,052 | 73.2 | 73.7 | 74.7 | 68.3 |
| Widowed | 1,200 | *45 | 283 | 872 | 93.4 | *101.6 | 93.0 | 93.1 |
| Divorced or separated | 1,683 | 932 | 550 | 200 | 109.7 | 102.7 | 113.8 | 139.4 |
| Never married | 2,336 | 2,081 | 157 | 97 | 49.8 | 47.6 | 81.4 | 75.8 |
| Health status | | | | | | | | |
| Excellent or very good | 6,283 | 4,364 | 1,303 | 616 | 40.0 | 35.3 | 55.3 | 61.5 |
| Good | 3,896 | 2,182 | 1,011 | 703 | 71.9 | 67.6 | 78.1 | 78.3 |
| Fair or poor | 3,268 | 1,163 | 1,233 | 872 | 137.6 | 158.8 | 153.7 | 103.8 |
| Employment status–18 years of age and over | | | | | | | | |
| Currently employed | 7,809 | 5,504 | 2,056 | 249 | 70.9 | 71.2 | 70.1 | 72.3 |
| Currently unemployed | 672 | 533 | 139 | *– | 104.4 | 103.9 | 123.6 | *– |
| Not in labor force | 4,629 | 1,261 | 1,392 | 1,977 | 81.8 | 68.6 | 97.4 | 82.5 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 7. Average annual prevalence of deformities or orthopedic impairments of the back due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 5,735 | 3,336 | 1,549 | 850 | 24.3 | 20.4 | 34.6 | 30.8 |
| **Sex** | | | | | | | | |
| Male | 2,729 | 1,593 | 796 | 340 | 23.9 | 19.5 | 37.3 | 29.9 |
| Female | 3,006 | 1,743 | 753 | 510 | 24.6 | 21.2 | 32.2 | 31.5 |
| **Race** | | | | | | | | |
| White | 5,065 | 2,922 | 1,347 | 796 | 25.3 | 21.4 | 34.5 | 32.0 |
| Black | 587 | 362 | 186 | *39 | 20.6 | 16.6 | 41.4 | *16.9 |
| **Geographic region** | | | | | | | | |
| Northeast | 926 | 551 | 225 | 150 | 18.5 | 16.5 | 22.2 | 22.5 |
| Midwest | 1,359 | 718 | 443 | 197 | 23.5 | 17.9 | 40.5 | 28.7 |
| South | 2,051 | 1,227 | 560 | 265 | 25.4 | 21.6 | 37.6 | 28.6 |
| West | 1,398 | 839 | 321 | 238 | 29.6 | 24.8 | 36.7 | 49.8 |
| **Place of residence** | | | | | | | | |
| MSA—central city | 1,710 | 963 | 502 | 245 | 23.4 | 18.9 | 37.9 | 27.4 |
| MSA—not central city | 2,572 | 1,632 | 597 | 343 | 23.7 | 21.3 | 28.5 | 30.7 |
| Not MSA | 1,453 | 741 | 450 | 262 | 26.7 | 20.3 | 42.6 | 35.2 |
| **Family income** | | | | | | | | |
| Less than $10,000 | 1,048 | 500 | 245 | 303 | 31.6 | 23.4 | 55.1 | 41.6 |
| $10,000–$19,999 | 1,295 | 725 | 305 | 265 | 28.5 | 23.8 | 41.1 | 35.3 |
| $20,000–$34,999 | 1,411 | 800 | 506 | 105 | 22.3 | 17.0 | 44.9 | 21.2 |
| $35,000 or more | 1,245 | 891 | 284 | 69 | 19.6 | 19.2 | 19.7 | 25.4 |
| **Education of responsible adult family member** | | | | | | | | |
| Less than 12 years | 1,009 | 375 | 342 | 291 | 28.0 | 19.8 | 45.1 | 30.4 |
| 12–15 years | 3,438 | 2,063 | 950 | 424 | 24.7 | 20.6 | 36.6 | 31.8 |
| 16 years or more | 1,251 | 876 | 246 | 130 | 21.0 | 19.8 | 22.5 | 29.6 |
| **Living arrangement** | | | | | | | | |
| Living alone or with nonrelative | 1,192 | 512 | 302 | 378 | 42.6 | 38.0 | 54.7 | 42.0 |
| Living with spouse | 3,656 | 2,097 | 1,111 | 449 | 33.2 | 34.7 | 32.3 | 29.6 |
| Living with relative—other | 886 | 727 | 135 | *24 | 9.0 | 8.1 | 28.2 | *7.0 |
| **Marital status—14 years of age and over** | | | | | | | | |
| Married | 3,710 | 2,120 | 1,119 | 471 | 33.3 | 34.6 | 32.2 | 30.6 |
| Widowed | 438 | *27 | 118 | 292 | 34.1 | *60.9 | 38.8 | 31.2 |
| Divorced or separated | 696 | 400 | 227 | 69 | 45.3 | 44.1 | 47.0 | 48.1 |
| Never married | 842 | 743 | 85 | *14 | 17.9 | 17.0 | 44.1 | *10.9 |
| **Health status** | | | | | | | | |
| Excellent or very good | 2,374 | 1,673 | 475 | 225 | 15.1 | 13.5 | 20.2 | 22.5 |
| Good | 1,819 | 1,042 | 493 | 283 | 33.6 | 32.3 | 38.1 | 31.5 |
| Fair or poor | 1,510 | 601 | 572 | 337 | 63.6 | 82.1 | 71.3 | 40.1 |
| **Employment status—18 years of age and over** | | | | | | | | |
| Currently employed | 3,211 | 2,305 | 810 | 96 | 29.2 | 29.8 | 27.6 | 27.9 |
| Currently unemployed | 343 | 284 | *59 | *– | 53.3 | 55.4 | *52.4 | *– |
| Not in labor force | 2,064 | 630 | 681 | 754 | 36.5 | 34.3 | 47.7 | 31.5 |

[1] Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 8. Average annual prevalence of deformities or orthopedic impairments of upper extremities or parts of upper extremities due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 2,206 | 1,264 | 612 | 330 | 9.3 | 7.7 | 13.7 | 12.0 |
| Sex | | | | | | | | |
| Male | 1,428 | 923 | 378 | 127 | 12.5 | 11.3 | 17.7 | 11.2 |
| Female | 778 | 341 | 234 | 203 | 6.4 | 4.1 | 10.0 | 12.5 |
| Race | | | | | | | | |
| White | 1,932 | 1,119 | 510 | 303 | 9.6 | 8.2 | 13.1 | 12.2 |
| Black | 193 | 81 | 85 | *27 | 6.8 | 3.7 | 18.9 | *11.7 |
| Geographic region | | | | | | | | |
| Northeast | 405 | 236 | 98 | 71 | 8.1 | 7.1 | 9.6 | 10.7 |
| Midwest | 608 | 349 | 195 | *64 | 10.5 | 8.7 | 17.8 | *9.3 |
| South | 648 | 356 | 179 | 113 | 8.0 | 6.3 | 12.0 | 12.2 |
| West | 545 | 322 | 141 | 82 | 11.5 | 9.5 | 16.1 | 17.2 |
| Place of residence | | | | | | | | |
| MSA—central city | 677 | 401 | 172 | 104 | 9.3 | 7.9 | 13.0 | 11.6 |
| MSA—not central city | 878 | 543 | 239 | 96 | 8.1 | 7.1 | 11.4 | 8.6 |
| Not MSA | 651 | 319 | 201 | 130 | 12.0 | 8.8 | 19.0 | 17.5 |
| Family income | | | | | | | | |
| Less than $10,000 | 428 | 203 | 96 | 130 | 12.9 | 9.5 | 21.6 | 17.8 |
| $10,000–$19,999 | 481 | 300 | 117 | *65 | 10.6 | 9.8 | 15.8 | *8.6 |
| $20,000–$34,999 | 597 | 395 | 177 | *24 | 9.4 | 8.4 | 15.7 | *4.8 |
| $35,000 or more | 458 | 254 | 181 | *23 | 7.2 | 5.5 | 12.6 | *8.5 |
| Education of responsible adult family member | | | | | | | | |
| Less than 12 years | 379 | 147 | 126 | 106 | 10.5 | 7.8 | 16.6 | 11.1 |
| 12–15 years | 1,378 | 855 | 355 | 168 | 9.9 | 8.5 | 13.7 | 12.6 |
| 16 years or more | 439 | 256 | 132 | *52 | 7.4 | 5.8 | 12.1 | *11.8 |
| Living arrangement | | | | | | | | |
| Living alone or with nonrelative | 497 | 274 | 83 | 140 | 17.7 | 20.3 | 15.0 | 15.6 |
| Living with spouse | 1,265 | 658 | 461 | 146 | 11.5 | 10.9 | 13.4 | 9.6 |
| Living with relative—other | 444 | 332 | 68 | *44 | 4.5 | 3.7 | 14.2 | *12.8 |
| Marital status—14 years of age and over | | | | | | | | |
| Married | 1,268 | 657 | 464 | 146 | 11.4 | 10.7 | 13.3 | 9.5 |
| Widowed | 182 | *4 | *44 | 135 | 14.2 | *9.0 | *14.5 | 14.4 |
| Divorced or separated | 321 | 190 | 101 | *29 | 20.9 | 20.9 | 20.9 | *20.2 |
| Never married | 400 | 378 | *3 | *19 | 8.5 | 8.6 | *1.6 | *14.9 |
| Health status | | | | | | | | |
| Excellent or very good | 1,089 | 704 | 285 | 100 | 6.9 | 5.7 | 12.1 | 10.0 |
| Good | 633 | 404 | 117 | 112 | 11.7 | 12.5 | 9.0 | 12.5 |
| Fair or poor | 469 | 156 | 196 | 118 | 19.7 | 21.3 | 24.4 | 14.0 |
| Employment status—18 years of age and over | | | | | | | | |
| Currently employed | 1,340 | 928 | 373 | *39 | 12.2 | 12.0 | 12.7 | 0.0 |
| Currently unemployed | 116 | 77 | *39 | *– | 18.0 | 15.0 | *34.7 | *– |
| Not in labor force | 661 | 171 | 200 | 291 | 11.7 | 9.3 | 14.0 | 12.1 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 9. Average annual prevalence of deformities or orthopedic impairments of lower extremities or parts of lower extremities due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 5,448 | 3,049 | 1,382 | 1,018 | 23.1 | 18.6 | 30.9 | 36.9 |
| **Sex** | | | | | | | | |
| Male | 3,229 | 2,011 | 847 | 371 | 28.3 | 24.7 | 39.7 | 32.6 |
| Female | 2,219 | 1,038 | 535 | 646 | 18.2 | 12.6 | 22.9 | 39.9 |
| **Race** | | | | | | | | |
| White | 4,897 | 2,713 | 1,239 | 946 | 24.4 | 19.9 | 31.7 | 38.0 |
| Black | 433 | 248 | 126 | *58 | 15.2 | 11.4 | 28.0 | *25.2 |
| **Geographic region** | | | | | | | | |
| Northeast | 1,080 | 556 | 271 | 254 | 21.5 | 16.7 | 26.7 | 38.1 |
| Midwest | 1,287 | 719 | 384 | 184 | 22.2 | 17.9 | 35.1 | 26.8 |
| South | 1,988 | 1,113 | 488 | 387 | 24.6 | 19.6 | 32.8 | 41.7 |
| West | 1,092 | 661 | 238 | 193 | 23.1 | 19.6 | 27.2 | 40.4 |
| **Place of residence** | | | | | | | | |
| MSA—central city | 1,781 | 961 | 388 | 432 | 24.4 | 18.9 | 29.3 | 48.2 |
| MSA—not central city | 2,382 | 1,405 | 663 | 315 | 21.9 | 18.3 | 31.7 | 28.2 |
| Not MSA | 1,285 | 683 | 331 | 271 | 23.6 | 18.8 | 31.3 | 36.5 |
| **Family income** | | | | | | | | |
| Less than $10,000 | 1,111 | 491 | 207 | 413 | 33.5 | 22.9 | 46.5 | 56.7 |
| $10,000–$19,999 | 1,214 | 651 | 298 | 266 | 26.7 | 21.3 | 40.2 | 35.4 |
| $20,000–$34,999 | 1,228 | 809 | 309 | 111 | 19.4 | 17.2 | 27.4 | 22.4 |
| $35,000 or more | 1,334 | 841 | 415 | 79 | 21.0 | 18.1 | 28.9 | 29.1 |
| **Education of responsible adult family member** | | | | | | | | |
| Less than 12 years | 941 | 309 | 232 | 400 | 26.1 | 16.3 | 30.6 | 41.8 |
| 12–15 years | 3,167 | 1,960 | 735 | 472 | 22.7 | 19.6 | 28.3 | 35.4 |
| 16 years or more | 1,319 | 765 | 414 | 140 | 22.2 | 17.3 | 37.9 | 31.8 |
| **Living arrangement** | | | | | | | | |
| Living alone or with nonrelative | 1,368 | 561 | 290 | 519 | 48.9 | 41.6 | 52.5 | 57.7 |
| Living with spouse | 3,050 | 1,662 | 987 | 401 | 27.7 | 27.5 | 28.7 | 26.5 |
| Living with relative—other | 1,029 | 827 | 105 | 97 | 10.5 | 9.2 | 22.0 | 28.3 |
| **Marital status—14 years of age and over** | | | | | | | | |
| Married | 3,098 | 1,692 | 995 | 410 | 27.8 | 27.6 | 28.6 | 26.6 |
| Widowed | 571 | *14 | 117 | 441 | 44.4 | *31.6 | 38.4 | 47.1 |
| Divorced or separated | 631 | 323 | 207 | 101 | 41.1 | 35.6 | 42.8 | 70.4 |
| Never married | 1,064 | 936 | *62 | *65 | 22.7 | 21.4 | *32.2 | *50.8 |
| **Health status** | | | | | | | | |
| Excellent or very good | 2,776 | 1,953 | 537 | 286 | 17.7 | 15.8 | 22.8 | 28.5 |
| Good | 1,412 | 719 | 397 | 297 | 26.0 | 22.3 | 30.7 | 33.1 |
| Fair or poor | 1,202 | 367 | 431 | 404 | 50.6 | 50.1 | 53.7 | 48.1 |
| **Employment status—18 years of age and over** | | | | | | | | |
| Currently employed | 3,194 | 2,237 | 851 | 106 | 29.0 | 28.9 | 29.0 | 30.8 |
| Currently unemployed | 202 | 161 | *41 | *– | 31.4 | 31.4 | *36.4 | *– |
| Not in labor force | 1,818 | 416 | 490 | 911 | 32.1 | 22.6 | 34.3 | 38.0 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 10. Average annual prevalence of absence of other extremities or parts of other extremities and paralysis, complete or partial, of extremities or parts of extremities due to injuries and number per 1,000 population, by selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | *Absence of other extremities or parts of extremities* | | *Paralysis, complete or partial, of extremities or parts of extremities* | |
|---|---|---|---|---|
| | *Number in thousands* | *Number per 1,000 persons per year* | *Number in thousands* | *Number per 1,000 persons per year* |
| All persons[1] | 361 | 1.5 | 268 | 1.1 |
| **Sex** | | | | |
| Male | 311 | 2.7 | 219 | 1.9 |
| Female | *50 | *0.4 | *49 | *0.4 |
| **Race** | | | | |
| White | 307 | 1.5 | 239 | 1.2 |
| Black | *23 | *0.8 | *29 | *1.0 |
| **Geographic region** | | | | |
| Northeast | *50 | *1.0 | *47 | *0.9 |
| Midwest | 114 | 2.0 | *63 | *1.1 |
| South | 148 | 1.8 | 112 | 1.4 |
| West | *49 | *1.0 | *46 | *1.0 |
| **Place of residence** | | | | |
| MSA—central city | *60 | *0.8 | 98 | 1.3 |
| MSA—not central city | 193 | 1.8 | 102 | 0.9 |
| Not MSA | 107 | 2.0 | 69 | 1.3 |
| **Family income** | | | | |
| Less than $10,000 | *50 | *1.5 | *47 | *1.4 |
| $10,000–$19,999 | 111 | 2.4 | 84 | 1.8 |
| $20,000–$34,999 | 102 | 1.6 | 73 | 1.2 |
| $35,000 or more | *46 | *0.7 | *34 | *0.5 |
| **Education of responsible adult family member** | | | | |
| Less than 12 years | *62 | *1.7 | *51 | *1.4 |
| 12–15 years | 231 | 1.7 | 146 | 1.0 |
| 16 years or more | 68 | 1.1 | 70 | 1.2 |
| **Living arrangement** | | | | |
| Living alone or with nonrelative | *67 | *2.4 | 73 | 2.6 |
| Living with spouse | 250 | 2.3 | 126 | 1.1 |
| Living with relative—other | *44 | *0.4 | 68 | 0.7 |
| **Marital status—14 years of age and over** | | | | |
| Married | 258 | 2.3 | 126 | 1.1 |
| Widowed | *39 | *3.0 | *15 | *1.2 |
| Divorced or separated | *35 | *2.3 | *26 | *1.7 |
| Never married | *18 | *0.4 | 87 | 1.9 |
| **Health status** | | | | |
| Excellent or very good | 137 | 0.9 | 60 | 0.4 |
| Good | 89 | 1.6 | 81 | 1.5 |
| Fair or poor | 134 | 5.6 | 127 | 5.3 |
| **Employment status—18 years of age and over** | | | | |
| Currently employed | 169 | 1.5 | 88 | 0.8 |
| Currently unemployed | *4 | *0.6 | *6 | *0.9 |
| Not in labor force | 177 | 3.1 | 161 | 2.8 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 11. Average annual prevalence of other selected impairments due to injuries and number per 1,000 population, by age and selected characteristics: United States, 1985–87**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All persons[1] | 1,342 | 707 | 340 | 294 | 5.7 | 4.3 | 7.6 | 10.7 |
| **Sex** | | | | | | | | |
| Male | 984 | 553 | 236 | 195 | 8.6 | 6.8 | 11.1 | 17.2 |
| Female | 358 | 155 | 104 | 99 | 2.9 | 1.9 | 4.4 | 6.1 |
| **Race** | | | | | | | | |
| White | 1,238 | 628 | 326 | 283 | 6.2 | 4.6 | 8.3 | 11.4 |
| Black | *65 | *52 | *7 | *6 | *2.3 | *2.4 | *1.6 | *2.6 |
| **Geographic region** | | | | | | | | |
| Northeast | 193 | 90 | *58 | *45 | 3.8 | 2.7 | *5.7 | *6.8 |
| Midwest | 407 | 219 | 98 | 90 | 7.0 | 5.5 | 9.0 | 13.1 |
| South | 439 | 238 | 110 | 92 | 5.4 | 4.2 | 7.4 | 9.9 |
| West | 302 | 161 | 74 | 68 | 6.4 | 4.8 | 8.5 | 14.2 |
| **Place of residence** | | | | | | | | |
| MSA—central city | 388 | 166 | 144 | 77 | 5.3 | 3.3 | 10.9 | 8.6 |
| MSA—not central city | 583 | 343 | 127 | 113 | 5.4 | 4.5 | 6.1 | 10.1 |
| Not MSA | 370 | 198 | 69 | 103 | 6.8 | 5.4 | 6.5 | 13.9 |
| **Family income** | | | | | | | | |
| Less than $10,000 | 230 | 125 | *35 | 70 | 6.9 | 5.8 | *7.9 | 9.6 |
| $10,000–$19,999 | 352 | 186 | *61 | 104 | 7.7 | 6.1 | *8.2 | 13.8 |
| $20,000–$34,999 | 370 | 206 | 110 | *54 | 5.9 | 4.4 | 938.0 | *10.9 |
| $35,000 or more | 241 | 126 | 90 | *25 | 3.8 | 2.7 | 6.3 | *9.2 |
| **Education of responsible adult family member** | | | | | | | | |
| Less than 12 years | 333 | 124 | 91 | 119 | 9.2 | 6.6 | 12.0 | 12.4 |
| 12–15 years | 826 | 470 | 209 | 148 | 5.9 | 4.7 | 8.1 | 11.1 |
| 16 years or more | 182 | 114 | *41 | *27 | 3.1 | 2.6 | *3.8 | *6.1 |
| **Living arrangement** | | | | | | | | |
| Living alone or with nonrelative | 255 | 113 | *50 | 92 | 9.1 | 8.4 | *9.1 | 10.2 |
| Living with spouse | 804 | 361 | 265 | 178 | 7.3 | 6.0 | 7.7 | 11.8 |
| Living with relative—other | 282 | 233 | *26 | *23 | 2.9 | 2.6 | *5.4 | *6.7 |
| **Marital status—14 years of age and over** | | | | | | | | |
| Married | 812 | 361 | 272 | 178 | 7.3 | 5.9 | 7.8 | 11.6 |
| Widowed | 140 | *9 | *49 | 81 | 10.9 | *20.3 | *16.1 | 8.7 |
| Divorced or separated | 145 | 116 | *11 | *19 | 9.4 | 12.8 | *2.3 | *13.2 |
| Never married | 204 | 181 | *8 | *15 | 4.3 | 4.1 | *4.1 | *11.7 |
| **Health status** | | | | | | | | |
| Excellent or very good | 670 | 426 | 148 | 96 | 4.3 | 3.4 | 6.3 | 9.6 |
| Good | 362 | 188 | 69 | 105 | 6.7 | 5.8 | 5.3 | 11.7 |
| Fair or poor | 296 | 90 | 116 | 89 | 12.5 | 12.3 | 14.5 | 10.6 |
| **Employment status—18 years of age and over** | | | | | | | | |
| Currently employed | 675 | 424 | 214 | *37 | 6.1 | 5.5 | 7.3 | *10.7 |
| Currently unemployed | *53 | *38 | *8 | *8 | *8.2 | *7.4 | *7.1 | *43.7 |
| Not in labor force | 530 | 163 | 119 | 249 | 9.4 | 8.9 | 8.3 | 10.4 |

[1]Includes all ages, races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

**Table 12. Average annual prevalence of selected impairments due to injuries and number per 1,000 population, by class of accident and type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | All classes | Moving motor vehicle | Work | Home | Other | All classes | Moving motor vehicle | Work | Home | Other |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | | Number per 1,000 persons per year | | | | |
| All selected impairments | 18,865 | 4,301 | 4,482 | 4,063 | 6,830 | 79.9 | 18.2 | 19.0 | 17.2 | 28.9 |
| Visual impairments | 901 | 136 | 133 | 405 | 259 | 3.8 | 0.6 | 0.6 | 1.7 | 1.1 |
| Hearing impairments | 1,529 | 117 | 163 | 435 | 843 | 6.5 | 0.5 | 0.7 | 1.8 | 3.6 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 1,274 | 87 | 534 | 398 | 307 | 5.4 | 0.4 | 2.3 | 1.7 | 1.3 |
| Absence of entire finger(s) and/or thumb(s) only | 914 | *43 | 441 | 283 | 180 | 3.9 | *0.2 | 1.9 | 1.2 | 0.8 |
| Absence of other extremities or parts of extremities | 361 | *44 | 93 | 114 | 126 | 1.5 | *0.2 | 0.4 | 0.5 | 0.5 |
| Paralysis, complete or partial, of extremities or parts of extremities | 268 | 71 | *40 | *45 | 131 | 1.1 | 0.3 | *0.2 | *0.2 | 0.6 |
| Deformities or orthopedic impairments | 13,551 | 3,632 | 3,254 | 2,390 | 4,885 | 57.4 | 15.4 | 13.8 | 10.1 | 20.7 |
| Deformities or orthopedic impairments of back | 5,735 | 2,016 | 1,587 | 888 | 1,559 | 24.3 | 8.5 | 6.7 | 3.8 | 6.6 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 2,206 | 438 | 611 | 501 | 728 | 9.3 | 1.9 | 2.6 | 2.1 | 3.1 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 5,448 | 1,105 | 1,019 | 966 | 2,565 | 23.1 | 4.7 | 4.3 | 4.1 | 10.9 |
| Deformities or orthopedic impairments—other | 162 | 73 | *37 | *35 | *32 | 0.7 | 0.3 | *0.2 | *0.1 | *0.1 |
| Other selected impairments | 1,342 | 259 | 358 | 389 | 405 | 5.7 | 1.1 | 1.5 | 1.6 | 1.7 |

NOTE: The sums of the numbers and rates for the 4 classes of accidents may exceed the total because the classes are not mutually exclusive.

**Table 13. Average annual prevalence of selected impairments due to injuries, by place of accident and type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | All places | Home—inside and outside | Street and highway | Industrial place | School | Place of recreation | Farm | Other and unknown |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | | | | |
| All selected impairments | 18,865 | 4,063 | 4,787 | 3,147 | 1,162 | 1,481 | 582 | 3,644 |
| Visual impairments | 901 | 405 | 150 | 89 | *16 | *24 | *48 | 169 |
| Hearing impairments | 1,529 | 435 | 128 | 100 | *49 | 137 | *27 | 653 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 1,274 | 398 | 87 | 430 | *19 | *35 | 126 | 181 |
| Absence of entire finger(s) and/or thumb(s) only | 914 | 283 | *41 | 357 | *19 | *21 | 106 | 87 |
| Absence of other extremities or parts of extremities | 361 | 115 | *46 | 73 | *– | *13 | *20 | 94 |
| Paralysis, complete or partial, of extremities or parts of extremities | 268 | *45 | 102 | *14 | *3 | *12 | *– | 91 |
| Deformities or orthopedic impairments | 13,551 | 2,390 | 4,047 | 2,217 | 1,049 | 1,216 | 337 | 2,296 |
| Deformities or orthopedic impairments of back | 5,735 | 888 | 2,141 | 1,035 | 240 | 298 | 124 | 1,009 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 2,206 | 501 | 482 | 435 | 146 | 203 | 75 | 365 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 5,448 | 966 | 1,345 | 723 | 663 | 715 | 130 | 906 |
| Deformities or orthopedic impairments—other | 162 | *35 | 79 | *24 | *– | *– | *7 | *16 |
| Other selected impairments | 1,342 | 389 | 274 | 298 | *25 | *57 | *44 | 255 |

**Table 14. Percent distribution of prevalence of selected impairments due to injuries by place of accident, according to type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | All places | Home—inside and outside | Street and highway | Industrial place | School | Place of recreation | Farm | Other and unknown |
|---|---|---|---|---|---|---|---|---|
| | | | | Percent distribution | | | | |
| All selected impairments | 100.0 | 21.5 | 25.4 | 16.7 | 6.2 | 7.9 | 3.1 | 19.3 |
| Visual impairments | 100.0 | 45.0 | 16.6 | 9.9 | *1.8 | *2.7 | *5.3 | 18.8 |
| Hearing impairments | 100.0 | 28.4 | 8.4 | 6.5 | *3.2 | 9.0 | *1.8 | 42.7 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 100.0 | 31.2 | 6.8 | 33.8 | *1.5 | *2.7 | 9.9 | 14.2 |
| Absence of entire finger(s) and/or thumb(s) only | 100.0 | 31.0 | *4.5 | 39.1 | *2.1 | *2.3 | 11.6 | 9.5 |
| Absence of other extremities or parts of extremities | 100.0 | 31.9 | *12.7 | 20.2 | *– | *3.6 | *5.5 | 26.0 |
| Paralysis, complete or partial, of extremities or parts of extremities | 100.0 | *16.8 | 38.1 | *5.2 | *1.1 | *4.5 | *– | 34.0 |
| Deformities or orthopedic impairments | 100.0 | 17.6 | 29.9 | 16.4 | 7.7 | 9.0 | 2.5 | 16.9 |
| Deformities or orthopedic impairments of back | 100.0 | 15.5 | 37.3 | 18.0 | 4.2 | 5.2 | 2.2 | 17.6 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 100.0 | 22.7 | 21.8 | 19.7 | 6.6 | 9.2 | 3.4 | 16.5 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 100.0 | 17.7 | 24.7 | 13.3 | 12.2 | 13.1 | 2.4 | 16.6 |
| Deformities or orthopedic impairments—other | 100.0 | *21.6 | 48.8 | *14.8 | *– | *– | *4.3 | *9.9 |
| Other selected impairments | 100.0 | 29.0 | 20.4 | 22.2 | *1.9 | *4.2 | *3.3 | 19.0 |

NOTE: Figures may not add to 100.0 because of rounding.

**Table 15. Average annual prevalence of selected impairments due to injuries, by degree of resulting limitation of activity and type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | Total | No activity limitation | Activity limitation | Unable to carry on major activity | Limited in amount or kind of major activity | Limited, but not in major activity |
|---|---|---|---|---|---|---|
| | | | | Number in thousands | | |
| All selected impairments | 18,865 | 10,089 | 8,776 | 2,764 | 3,339 | 2,673 |
| Visual impairments | 901 | 432 | 468 | 188 | 160 | 121 |
| Hearing impairments | 1,529 | 968 | 562 | 200 | 181 | 180 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 1,274 | 764 | 510 | 202 | 164 | 144 |
| Absence of entire finger(s) and/or thumb(s) only | 914 | 598 | 316 | 108 | 108 | 100 |
| Absence of other extremities or parts of extremities | 361 | 167 | 194 | 94 | *56 | *44 |
| Paralysis, complete or partial, of extremities or parts of extremities | 268 | *34 | 234 | 135 | 80 | *19 |
| Deformities or orthopedic impairments | 13,551 | 7,134 | 6,416 | 1,792 | 2,526 | 2,098 |
| Deformities or orthopedic impairments of back | 5,735 | 3,101 | 2,634 | 754 | 1,094 | 786 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 2,206 | 1,177 | 1,029 | 285 | 429 | 314 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 5,448 | 2,814 | 2,634 | 709 | 967 | 959 |
| Deformities or orthopedic impairments—other | 162 | *42 | 120 | *44 | *36 | *39 |
| Other selected impairments | 1,342 | 757 | 585 | 246 | 228 | 111 |

**Table 16. Percent distribution of prevalence of selected impairments due to injuries by degree of resulting limitation of activity, according to type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | Total | No activity limitation | Activity limitation | Unable to carry on major activity | Limited in amount or kind of major activity | Limited, but not in major activity |
|---|---|---|---|---|---|---|
| | | | | Percent distribution | | |
| All selected impairments | 100.0 | 53.5 | 46.5 | 14.7 | 17.7 | 14.2 |
| Visual impairments | 100.0 | 47.9 | 51.9 | 20.9 | 17.8 | 13.4 |
| Hearing impairments | 100.0 | 63.3 | 36.8 | 13.1 | 11.8 | 11.8 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | 100.0 | 60.0 | 40.0 | 15.9 | 12.9 | 11.3 |
| Absence of entire finger(s) and/or thumb(s) only | 100.0 | 65.4 | 34.6 | 11.8 | 11.8 | 10.9 |
| Absence of other extremities or parts of extremities | 100.0 | 46.3 | 53.7 | 26.0 | *15.5 | *12.2 |
| Paralysis, complete or partial, of extremities or parts of extremities | 100.0 | *12.7 | 87.3 | 50.4 | 29.9 | *7.1 |
| Deformities or orthopedic impairments | 100.0 | 52.6 | 47.3 | 13.2 | 18.6 | 15.5 |
| Deformities or orthopedic impairments of back | 100.0 | 54.1 | 45.9 | 13.1 | 19.1 | 13.7 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 100.0 | 53.4 | 46.6 | 12.9 | 19.4 | 14.2 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 100.0 | 51.7 | 48.3 | 13.0 | 17.7 | 17.6 |
| Deformities or orthopedic impairments—other | 100.0 | *25.9 | 74.1 | *27.2 | *22.2 | *24.1 |
| Other selected impairments | 100.0 | 56.4 | 43.6 | 18.3 | 17.0 | 8.3 |

NOTE: Figures may not add to 100.0 because of rounding.

**Table 17. Average annual number of days of restricted activity from selected impairments due to injuries and number per 100 persons per year, by sex and type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | Both sexes | Male | Female | Both sexes | Male | Female |
|---|---|---|---|---|---|---|
| | Number in thousands | | | Number per 100 persons per year | | |
| All selected impairments | 274,943 | 157,631 | 117,312 | 116.4 | 138.0 | 96.2 |
| Visual impairments | *4,875 | *1,816 | *3,060 | *2.1 | *1.6 | *2.5 |
| Hearing impairments | *1,676 | *1,391 | *285 | *0.7 | *1.2 | *0.2 |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | *2,908 | *1,327 | *1,580 | *1.2 | *1.2 | *1.3 |
| Absence of entire finger(s) and/or thumb(s) only | *2,086 | *904 | *1,182 | *0.9 | *0.8 | *1.0 |
| Absence of other extremities or parts of extremities | *822 | *423 | *399 | *0.3 | *0.4 | *0.9 |
| Paralysis, complete or partial, of extremities or parts of extremities | *9,784 | *6,836 | *2,948 | *4.1 | *6.0 | *2.4 |
| Deformities or orthopedic impairments | 244,161 | 138,856 | 105,305 | 103.4 | 121.6 | 86.3 |
| Deformities or orthopedic impairments of back | 92,773 | 48,221 | 44,552 | 39.3 | 42.2 | 36.5 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 47,680 | 29,967 | 17,713 | 20.2 | 26.2 | 14.5 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 98,665 | 58,318 | 40,347 | 41.8 | 51.1 | 33.1 |
| Deformities or orthopedic impairments—other | *5,043 | *2,350 | *2,694 | *2.1 | *2.1 | *2.2 |
| Other selected impairments | *115,407 | *74,057 | *4,134 | *4.9 | *6.5 | *3.4 |

NOTE: Restricted-activity days are condition days, not person days.

**Table 18. Average annual number of days of restricted activity from selected impairments due to injuries and number per 100 persons per year, by age and type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All selected impairments | 274,943 | 137,068 | 101,315 | 36,560 | 116.4 | 83.6 | 226.5 | 132.6 |
| Visual impairments | *4,875 | *1,816 | *3,059 | *– | *2.1 | *1.1 | *6.8 | *– |
| Hearing impairments | *1,676 | *1,676 | *– | *– | *0.7 | *1.0 | *– | *– |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | *2,908 | *1,580 | *1,327 | *– | *1.2 | *1.0 | *3.0 | *– |
| Absence of entire finger(s) and/or thumb(s) only | *2,086 | *1,181 | *904 | *– | *0.9 | *0.7 | *2.0 | *– |
| Absence of other extremities or parts of extremities | *822 | *399 | *423 | *– | *0.3 | *0.2 | *0.9 | *– |
| Paralysis, complete or partial, of extremities or parts of extremities | *9,784 | *5,487 | *4,297 | *– | *4.1 | *3.3 | *9.6 | *– |
| Deformities or orthopedic impairments | 244,161 | 120,354 | 88,864 | 34,943 | 103.4 | 73.4 | 198.7 | 126.7 |
| Deformities or orthopedic impairments of back | 92,773 | 46,987 | 33,682 | *12,104 | 39.3 | 28.7 | 75.3 | *43.9 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | 47,680 | 21,482 | 22,704 | *3,494 | 20.2 | 13.1 | 50.8 | *12.7 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 98,665 | 49,378 | 29,943 | 19,345 | 41.8 | 30.1 | 66.9 | 70.1 |
| Deformities or orthopedic impairments—other | *5,043 | *2,507 | *2,536 | *– | *2.1 | *1.5 | *5.7 | *– |
| Other selected impairments | *11,540 | *6,156 | *3,767 | *1,617 | *4.9 | *3.8 | *8.4 | *5.9 |

NOTE: Restricted-activity days are condition days, not person days.

**Table 19. Average annual number of days of bed disability from selected impairments due to injuries and number per 100 persons per year, by sex and type of impairment: United States, 1985–87**

[Data are based on household 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 impairment | Both sexes | Male | Female | Both sexes | Male | Female |
|---|---|---|---|---|---|---|
| | Number in thousands | | | Number per 100 persons per year | | |
| All selected impairments | 87,794 | 35,408 | 52,388 | 37.2 | 31.0 | 42.9 |
| Visual impairments | *3,136 | *1,646 | *1,491 | *1.3 | *1.4 | *1.2 |
| Hearing impairments | *1,391 | *1,391 | *– | *0.6 | *1.2 | *– |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | *877 | *423 | *454 | *0.4 | *0.4 | *0.4 |
| Absence of entire finger(s) and/or thumb(s) only | *454 | *– | *454 | *0.2 | *– | *0.4 |
| Absence of other extremities or parts of extremities | *423 | *423 | *– | *0.2 | *0.4 | *– |
| Paralysis, complete or partial, of extremities or parts of extremities | *8,909 | *5,961 | *2,948 | *3.8 | *5.2 | *2.4 |
| Deformities or orthopedic impairments | 65,796 | 21,768 | 44,028 | 27.9 | 19.1 | 36.1 |
| Deformities or orthopedic impairments of back | 35,947 | *12,807 | 23,140 | 15.2 | *11.2 | 19.0 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | *5,696 | *1,223 | *4,474 | *2.4 | *1.1 | *3.7 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 23,117 | *7,463 | 15,654 | 9.8 | *6.5 | 12.8 |
| Deformities or orthopedic impairments—other | *1,035 | *275 | *761 | *0.4 | *0.2 | *0.6 |
| Other selected impairments | *7,685 | *4,219 | *3,466 | *3.3 | *3.7 | *2.8 |

NOTE: Bed-disability days are condition days, not person days.

## Table 20. Average annual number of days of bed disability from selected impairments due to injuries and number per 100 persons per year, by age and type of impairment: United States, 1985–87

[Data are based on household 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 impairment | All ages | Under 45 years | 45–64 years | 65 years and over | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|---|---|---|---|
| | Number in thousands | | | | Number per 1,000 persons per year | | | |
| All selected impairments | 87,794 | 42,904 | 32,595 | *12,296 | 37.2 | 26.2 | *72.9 | 44.6 |
| Visual impairments | *3,136 | *1,646 | *1,491 | *– | *1.3 | *1.0 | *3.3 | *– |
| Hearing impairments | *1,391 | *1,391 | *– | *– | *0.6 | *0.8 | *– | *– |
| Absence of extremities or parts of extremities (excluding tips of fingers or toes only) | *877 | *454 | *423 | *– | *0.4 | *0.3 | *0.9 | *– |
| Absence of entire finger(s) and/or thumb(s) only | *454 | *454 | *– | *– | *0.2 | *0.3 | *– | *– |
| Absence of other extremities or parts of extremities | *423 | *– | *423 | *– | *0.2 | *– | *0.9 | *– |
| Paralysis, complete or partial, of extremities or parts of extremities | *8,909 | *4,613 | *4,297 | *– | *3.8 | *2.8 | *9.6 | *– |
| Deformities or orthopedic impairments | 65,795 | 31,853 | 23,263 | *10,680 | 27.9 | 19.4 | 52.0 | *38.7 |
| Deformities or orthopedic impairments of back | 35,947 | 19,523 | *12,719 | *3,705 | 15.2 | 11.9 | *28.4 | *13.4 |
| Deformities or orthopedic impairments of upper extremities or parts of upper extremities | *5,696 | *1,700 | *3,722 | *274 | *2.4 | *1.0 | *8.3 | *1.0 |
| Deformities or orthopedic impairments of lower extremities or parts of lower extremities | 23,117 | *9,595 | *6,821 | *6,701 | 9.8 | *5.9 | *15.2 | *24.3 |
| Deformities or orthopedic impairments—other | *1,035 | *1,035 | *– | *– | *0.4 | *0.6 | *– | *– |
| Other selected impairments | *7,685 | *2,948 | *3,121 | *1,617 | *3.3 | *1.8 | *7.0 | *5.9 |

NOTE: Bed-disability days are condition days, not person days.

## Table 21. Population used in obtaining rates shown in this publication, by age and selected characteristics: United States, 1985–87

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|
| | Number in thousands | | | |
| Total[1] | 236,205 | 163,899 | 44,729 | 27,578 |
| **Sex** | | | | |
| Male | 114,216 | 81,515 | 21,330 | 11,370 |
| Female | 121,989 | 82,383 | 23,398 | 16,208 |
| **Race** | | | | |
| White | 200,478 | 136,537 | 39,072 | 24,870 |
| Black | 28,548 | 21,751 | 4,494 | 2,303 |
| **Geographic region** | | | | |
| Northeast | 50,161 | 33,340 | 10,158 | 6,663 |
| Midwest | 57,924 | 40,115 | 10,949 | 6,859 |
| South | 80,830 | 56,680 | 14,876 | 9,274 |
| West | 47,290 | 33,764 | 8,745 | 4,781 |
| **Place of residence** | | | | |
| MSA—central city | 73,031 | 50,838 | 13,236 | 8,957 |
| MSA—not central city | 108,751 | 76,637 | 20,927 | 11,187 |
| Not MSA | 54,423 | 36,423 | 10,566 | 7,434 |
| **Family income** | | | | |
| Less than $10,000 | 33,131 | 21,396 | 4,447 | 7,288 |
| $10,000–$19,999 | 45,450 | 30,516 | 7,419 | 7,515 |
| $20,000–$34,999 | 63,217 | 46,995 | 11,269 | 4,953 |
| $35,000 or more | 63,449 | 46,353 | 14,380 | 2,716 |
| **Education of responsible adult family member** | | | | |
| Less than 12 years | 36,089 | 18,930 | 7,591 | 9,568 |
| 12–15 years | 139,293 | 100,025 | 25,940 | 13,328 |
| 16 years or more | 59,511 | 44,187 | 10,928 | 4,397 |

See notes at end of table.

**Table 21. Population used in obtaining rates shown in this publication, by age and selected characteristics: United States, 1985–87—Con.**

[Data are based on household 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]

| Characteristic | All ages | Under 45 years | 45–64 years | 65 years and over |
|---|---|---|---|---|
| | | Number in thousands | | |
| Living arrangement | | | | |
| Living alone or with nonrelative | 28,002 | 13,480 | 5,519 | 9,002 |
| Living with spouse | 110,059 | 60,484 | 34,427 | 15,148 |
| Living with relative—other | 98,144 | 89,934 | 4,783 | 3,427 |
| Marital status—14 years of age and over | | | | |
| Married | 111,485 | 61,307 | 34,773 | 15,406 |
| Widowed | 12,850 | 443 | 3,043 | 9,364 |
| Divorced or separated | 15,348 | 9,079 | 4,834 | 1,435 |
| Never married | 46,953 | 43,746 | 1,928 | 1,279 |
| Health status | | | | |
| Excellent or very good | 157,081 | 123,500 | 23,560 | 10,022 |
| Good | 54,207 | 32,283 | 12,944 | 8,979 |
| Fair or poor | 23,748 | 7,322 | 8,022 | 8,404 |
| Employment status—18 years of age and over | | | | |
| Currently employed | 110,105 | 77,346 | 29,316 | 3,443 |
| Currently unemployed | 6,435 | 5,128 | 1,125 | 183 |
| Not in labor force | 56,614 | 18,373 | 14,288 | 23,952 |

[1]Includes races other than white and black, unknown family income, unknown education of responsible adult family member, unknown marital status, unknown health status, and unknown current employment status.

NOTE: MSA is metropolitan statistical area.

# Appendixes

## Contents



### Appendix tables

# Appendix I
# Technical notes on methods

## Background

This report is one of a series of statistical reports published by the staff of the National Center for Health Statistics (NCHS). It 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.

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 the Division of Health Interview Statistics for publication in Series 10 reports of NCHS. 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 of NHIS

### 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. It is anticipated that this design will 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 in such a way 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 to 1995 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 the NHIS sample redesign

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

1. *The use of an all-area frame.* The NHIS sample is now designed 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. The sample addresses thus obtained can be used as a sampling frame for other NCHS surveys.
2. *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 also to efficiently make large reductions in the size of the sample by eliminating panels from the survey.

   During 1985–87 the sample consisted of 17,946 segments containing 134,760 assigned households. Of the 110,567 households eligible for interview, 105,922 were actually interviewed, resulting in a sample of 276,442 persons.
3. *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 the use of differential sampling rates in PSU's with about 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.
4. *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 showed 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 (9). The design now contains 198 PSU's.
5. *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 (9).

## Collection and processing of data

The NHIS questionnaire contains two major parts. The first consists of topics that remain relatively the same 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 consists of special topics added as supplements to each year's questionnaire.

Careful procedures are followed to assure the quality of data collected in the interview. Most households in the sample are contacted by mail before the interviewers arrive. 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 immediately found. The success of these procedures is indicated by the response rate for the survey, which has been 95–98 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 adult family members are accepted. In most situations, proxy respondents are used for persons under 19 years of age. Persons 17 and 18 years of age may respond for themselves, however.

Interviewers undergo extensive training and retraining. The quality of their work is checked by means of periodic observation and by reinterview. Their work is also 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 U.S. Bureau of the Census field offices to NCHS for coding and editing. To ensure the accuracy of coding, a 5-percent sample of all questionnaires is recoded and keyed by other

coders. A 100-percent verification procedure is used if certain error tolerances are exceeded. Staff of the Division of Health Interview Statistics then edit the files to remove impossible and inconsistent codes.

The interview, fieldwork, and data processing procedures summarized above are described in detail in Series 1, No. 18 (10).

## Estimation procedures

Because the design of NHIS is a complex multistage probability sample, it is necessary to reflect these complex procedures in the derivation of estimates. The estimates presented in this report are based upon 1985–87 sample person counts weighted to produce national estimates. The weight for each sample person is the product of four component weights:

1. *Probability of selection.* The basic weight for each person is obtained by multiplying the reciprocals of the probabilities of selection at each step in the design: PSU, segment, and household.
2. *Household nonresponse adjustment within segment.* In NHIS, interviews are completed in about 95 percent of all eligible households. Because of household nonresponse, a weighting adjustment is required. 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. This adjustment reduces bias in an estimate to the extent that persons in the noninterviewed households have the same characteristics as persons in the 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 (table I), a weight is constructed each quarter to ratio adjust the first-stage population estimate based on 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.

**Table I. The 60 poststratification age-sex-race cells in the National Health Interview Survey**

| Age | Black | | All other | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| Under 1 year | X | X | X | X |
| 1–4 years | X | X | X | X |
| 5–9 years | X | X | X | X |
| 10–14 years | X | X | X | X |
| 15–17 years | X | X | X | X |
| 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 |

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

## Types of estimates

As noted, NHIS data were collected on a weekly basis, with each week's sample representing the resident, civilian noninstitutionalized population of the United States living during that week. The weekly samples are consolidated to produce quarterly files (each consisting of data for 13 weeks). Weights to adjust the data to represent the U.S. population are assigned to each of the four quarterly files. These quarterly files are later consolidated to produce the annual file, which is the basis of most tabulations of NHIS data.

NHIS uses various reference periods to reduce the amount of bias associated with respondent memory loss. A 2-week reference period is used in collecting data on the incidence of acute conditions, restriction in activity due to a health problem, and physician contacts. Each of these measures health events that may be forgotten soon after they occur. Examples of such events are telephoning a physician about a minor illness, missing a day from work because of a routine health problem, or having a cold. Either a 12- or 6-month (depending on the type of statistic) reference period is used for hospitalization data because hospitalization ordinarily involves a major event in a person's life and is not quickly forgotten. Chronic condition prevalence estimates are based on a 12-month reference period.

Because most NHIS estimates based on a 2-week reference period are designed to represent the number of health events for a 12-month period, these data must be adjusted to an annual basis. Data based on a 2-week reference period are multiplied by 6.5 to produce the 13-week estimate for the quarter. These reference period adjustments are made at the time that the quarterly files are produced. Therefore, the data can be used to produce estimates for each quarter and are used that way to study seasonal variation. The data from the four quarterly files (representing the number of events in each quarter) are summed to produce the annual estimate. Although these data are collected for only 2 weeks for each person included in the survey, any unusual event that may have occurred during a particular 2-week period does not bias the estimate because the quarterly estimate is a sum of the estimates produced for each week's sample during the entire quarter and the annual estimate is the sum of the four quarters.

For prevalence statistics, such as the number of persons limited in activity due to chronic conditions, the annual estimate results from summing the weighted quarterly files and dividing by 4. This division is necessary because, as noted above, each quarterly file has been weighted to produce an estimate of the number of persons in the U.S. population with a given characteristic. Summing the four quarters and dividing by 4 in effect averages these quarterly results for the year. Thus, the type of prevalence estimate ordinarily derived from NHIS data is an annual average prevalence estimate.

For data related to short-stay hospital discharges that are based on a 6-month reference period, cases identified during any quarter of data collection are multiplied by 2 to produce a quarterly estimate of the annual number of characteristics associated with short-stay hospital discharges. The NHIS average annual estimate of hospital discharges is derived by summing the four quarterly estimates and dividing by 4, just as the prevalence estimates are.

## Reliability of the 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: Sampling and nonsampling errors. To the extent possible, these types of errors are kept to a minimum by methods built into the survey procedures described earlier (11). Although it is very difficult to measure the extent of bias in NHIS, several studies have been conducted to examine this problem. The results have been published in several reports (12–15).

### Nonsampling errors

*Interviewing process.* Information such as the number of days of restricted activity caused by the condition can be obtained more accurately from household members than from any other source because only the persons concerned are in a position to report this information. However, there are limitations to the accuracy of diagnostic and other information collected in household interviews. For example, for diagnostic information, the household respondent can usually pass on to the interviewer only the information the physician has given to the family. For conditions not medically attended, diagnostic information is often no more than a description of symptoms. Further, respondents may not answer a question in the intended manner because they have not properly understood the question, have forgotten the event, do not know, or do not wish to divulge the answer. Regardless of the type of measure, all NHIS data are estimates of known reported morbidity, disability, and so forth.

*Reference period bias.* NHIS estimates do not represent a complete measure of any given topic during the specified calendar period because data are not collected in the interview for persons who died or became institutionalized during the reference period. For many types of statistics collected in the survey, the reference period is the 2 weeks prior to the interview week. For such a short period, the contribution by decedents to a total inventory of conditions or services should be very small. However, the contribution by decedents during a long reference period (such as 1 year) might be significant, especially for older persons.

Underreporting associated with a long reference period is most germane to data on hospitalization. Analysis has shown that there is an increase in underreporting of hospitalizations with an increase in the time interval between the discharge and the interview. Exclusive of the hospital experience of decedents, the net underreporting using a 12-month recall period is in the neighborhood of 10 percent (16). The underreporting of discharges within 6 months of the week of interview is estimated to be about 5 percent (16). For this reason, hospital discharge data are based on hospital discharges reported to have occurred within 6 months of the week of interview.

Because hospitalization is common in the period immediately preceding death or institutionalization and older persons are much more likely to die than younger ones, the data should not be used to estimate the volume of hospitalization of the elderly, although the data can be used to measure characteristics of elderly people.

It should further be noted that, although the reported frequencies and rates related to hospital episodes are presented by the year in which the data were collected, the estimates are, in most cases, based on hospitalizations that occurred during the year of data collection and the prior year. Overall, approximately one-half of the reported hospitalizations for the 12-month reference period occurred in the year prior to the year of data collection.

*Population estimates.* Some of the published tables include population figures for specified categories. Except for overall totals for the 60 age, sex, and race groups, which are adjusted to independent estimates, these figures are based on the sample of households in NHIS. They 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 may differ from figures (which are derived from different sources) published in reports of the U.S. Bureau of the Census. Official population estimates are presented in U.S. Bureau of the Census reports in Series P–20, P–25, and P–60.

*Rounding of numbers.* In published tables, the figures are rounded to the nearest thousand, although they are not necessarily accurate to that detail. Derived statistics, such as rates and percent distributions, are computed after the estimates on which these are based have been rounded to the nearest thousand.

*Combining data years.* To reduce sampling error, data for a number of years may be combined. However, in so doing, the questionnaire for each of the years should be checked, because even a small change in the questionnaire design may lead to large changes in the derived estimates. This caution also applies to using NHIS data on health measures where changes in other events, such as legislative changes, have occurred over time.

## Sampling errors

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 2½ times as large.

Individual standard errors were not computed for each estimate in this report. Instead, standard errors were computed for a broad spectrum of estimates. Regression techniques were then applied to produce equations from which a standard error for any estimate can be approximated. The regression equations, represented by parameters $a$ and $b$, are presented in table II. Rules explaining their use are presented in the section below.

The reader is cautioned that this procedure will give an approximate standard error of an estimate rather than the precise standard error. The reader is further cautioned that particular care should be exercised when the denominator is small.

## General rules for determining standard errors

To produce approximate standard errors for NHIS estimates, the reader must first determine the type of characteristic to be estimated, that is, the parameter set in table II to be used. The reader must then determine the type of estimate for which the standard error is needed. The type of estimate corresponds to one of five general rules for determining standard errors. Examples of their use are available in the "Current estimates" reports for 1985, 1986, and 1987 (5–7).

Rule 1. *Estimated number of people or events*—For the estimated number of people or events published in this report, there are two cases to consider. For the first case, if the estimated number is any combination of the poststratification age-sex-race cells in table I, then its value has been adjusted to official U.S. Bureau of the Census figures and its standard error is assumed to be 0.0. This corresponds to parameter set IV in table II. As an example, this would be the case for the number of persons in the U.S. target population or the number of black persons in the age group 18–44 years. Although the race class "white" is not specifically adjusted to U.S. Bureau of the Census figures, it dominates the poststratification "all other" race class; consequently, age-sex-"all other" race combinations of table I can be treated as age-sex-white combinations for the purpose of approximating standard errors.

For the second case, the standard errors for all other estimates of numbers of people or events, such as the number of people limited in activity, are approximated by using the parameters provided in table II and formula 1 below.

If the aggregate $x$ for a characteristic has associated parameters $a$ and $b$, then the approximate standard error for $x$, SE($x$), can be computed by the formula

$$\mathrm{SE}(x) = \sqrt{ax^2 + bx} \qquad (1)$$

Rule 2. *Proportions and percents when the denominator is not generated by the poststratification age-sex-race classes*—If $p$ represents an estimated percent, $b$ is the parameter from table II associated with the numerator characteristics, and $y$ is the number of persons in the denominator upon which $p$ is based, then the standard error of $p$ may be approximated by

$$\mathrm{SE}(p) = \sqrt{\frac{bp\,(100 - p)}{y}} \qquad (2)$$

(If $p$ is a proportion, then the above formula can be used but with 100 replaced by 1.0.)

Rule 3. *For rates, proportions, and percents when the denominator is generated by the poststratification age-sex-race classes (table I)*—In this case, the denominator has no sampling error. For example, rule 3 would apply to the estimated number of

**Table II. Estimated standard error parameters for the National Health Interview Survey (NHIS): 1985–87**

| Parameter set | Characteristic | Estimated parameter | |
|---|---|---|---|
| | | a | b |
| I | Number of chronic conditions | 0.00006382 | 6,127.7 |
| II | Days of restricted activity or bed days | 0.00020713 | 218,169.5 |
| III | Population estimates for demographic, socioeconomic, and health characteristics | 0.00001533 | 1,912.0 |
| IV | Age-sex-race population based on combining the poststratification cells of table I | 0.0 | 0.0 |

NOTE: The 1985 NHIS contained a three-fourths sample, the 1986 NHIS a one-half sample, and the 1987 NHIS a full sample. Therefore, 105,922 households were interviewed, resulting in a sample of 276,442 persons.

impairments due to injuries among females 18–44 years of age because the denominator is a combination of the poststratification cells. Approximate standard errors for such estimates can be computed using table II $a$ and $b$ parameters associated with the numerator characteristics along with formula 3 below.

If the estimate of rate, proportion, or percent $p$ is the ratio of two estimated numbers, $p = x/Y$ (where $p$ may be inflated by 100 for percents or 1,000 for rates per 1,000 persons), with $Y$ having no sampling error, then the approximate standard error for $p$ is given by the formula

$$\mathrm{SE}(p) = p\sqrt{a + \frac{b}{x}} \qquad (3)$$

In this report, the value of the denominator $Y$ is always provided, but in a few cases the numerator value $x$ is not published. For these cases the value of $x$ may be computed by the formula

$x = pY$ if $p$ is a proportion or rate per unit

$x = \frac{pY}{100}$ if $p$ is a percent or rate per 100 units

$x = \frac{pY}{1{,}000}$ if $p$ is a rate per 1,000 units

Rule 4. *Rates when the denominator is not generated by the poststratification age-sex-race classes*—If the estimated rate $p$ is expressed as the ratio of two estimates, $p = x/y$ (inflated by 100 or 1,000 when appropriate), then the estimated standard error for $p$ is given by the formula

$$\mathrm{SE}(p) = p\sqrt{\frac{\mathrm{SE}(x)^2}{x^2} + \frac{\mathrm{SE}(y)^2}{y^2} - 2r\,\frac{\mathrm{SE}(x)}{x}\,\frac{\mathrm{SE}(y)}{y}} \qquad (4)$$

where $\mathrm{SE}(x)$ and $\mathrm{SE}(y)$ are computed using rule 1 and $x$ and $y$ are obtained from the tables. No estimates of $r$, the correlation between the numerator and denominator, are presented in this report; therefore, only the first two terms are available. The reader must assume that $r = 0.0$. Assuming $r = 0.0$ will yield an overestimate of the standard error if $r$ is actually positive and an underestimate if $r$ is negative.

Rule 5. *Difference between two statistics (mean, rate, total, and proportion)*—If $x_1$ and $x_2$ are two estimates, then the standard error of the difference $(x_1 - x_2)$ can be computed as follows:

$$\mathrm{SE}(x_1 - x_2) = \sqrt{\mathrm{SE}(x_1)^2 + \mathrm{SE}(x_2)^2 - 2r\,\mathrm{SE}(x_1)\mathrm{SE}(x_2)} \qquad (5)$$

where $\mathrm{SE}(x_1)$ and $\mathrm{SE}(x_2)$ are computed using rules 1–4 as appropriate and $r$ is the correlation coefficient between $x_1$ and $x_2$.

Assuming $r = 0.0$ will result in an accurate standard error if the two estimates are actually uncorrelated and will result in an overestimate of the standard error if the correlation is positive or an underestimate if the correlation is negative.

## Relative standard errors

Prior to 1985, relative standard error (RSE) curves were presented in NHIS reports for approximating relative standard errors. For readers who wish to continue using them, the following provides guidance. The 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:

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

# Appendix II
# Definitions of certain terms used in this report

## Terms relating to injuries

*Injury condition*—An injury condition, or simply an injury, is a condition of the type that is classified according to the nature of injury code numbers (800–999) in the International Classification of Diseases (17). In addition to fractures, lacerations, contusions, burns, and so forth, which are commonly thought of as injuries, this group of codes includes effects of exposure, such as sunburn; adverse reactions to immunization and other medical procedures; and poisonings. Unless otherwise specified, the term "injury" is used to cover all of these.

Because a person may sustain more than one injury in a single accident (for example, a broken leg and laceration of the scalp), the number of injury conditions may exceed the number of persons injured.

Statistics of acute injury conditions include only those injuries that involved at least one-half day of restricted activity or medical attendance.

*Episodes of persons injured*—Each time a person is involved in an accident or nonaccidental violence causing injury that results in medical attention or at least a half day of restricted activity, it is counted as a separate episode of a person injured. Therefore, one person may account for more than one episode of a person injured.

The number of episodes of persons injured is not equivalent to the number of accidents for several reasons: (a) the term "accident" as commonly used may not involve injury at all; (b) more than one injured person may be involved in a single accident, so the number of accidents resulting in injury would be less than the number of persons injured in accidents; and (c) the term "accident" ordinarily implies an accidental origin, whereas "persons injured" as used in the National Health Interview Survey (NHIS) includes persons whose injuries resulted from certain nonaccidental violence.

The number of episodes of persons injured in a specified time interval is equal to or less than the incidence of injury conditions because a person may incur more than one injury in a single accident.

## Terms relating to conditions

*Condition*—Condition is a general term that includes any specific illness, injury, or impairment. Condition data are derived from the survey in two ways. First, respondents are asked to identify any conditions that caused certain types of impact associated with health, such as a visit to a doctor or a day spent in bed. Second, respondents are read lists of selected chronic conditions and asked whether they or any family members have any of these conditions.

At a later point in the survey, a series of questions is asked about each of the conditions identified in either of the two ways just described. The information obtained about each condition helps to clarify the nature of the condition and whether medical services have been involved in its diagnosis or treatment. It also aids in the coding of the condition. All conditions except impairments are coded according to the Ninth Revision of the International Classification of Diseases (17), with certain modifications adopted to make the codes more suitable for information derived from a household survey. A special set of codes devised by NHIS is used to code impairments.

*Chronic condition*—A condition is considered chronic if (a) the respondent indicates it was first noticed more than 3 months before the reference date of the interview or (b) it is a type of condition that ordinarily has a duration of more than 3 months. Examples of conditions that are considered chronic regardless of their time of onset are diabetes, heart conditions, emphysema, and arthritis. A complete list of these conditions may be obtained by contacting the Division of Health Interview Statistics, National Center for Health Statistics.

*Impairment*—An impairment is a chronic or permanent defect, usually static in nature, that results from disease, injury, or congenital malformation. It represents a decrease in or loss of ability to perform various functions, particularly those of the musculoskeletal system and the sense organs. Impairments are grouped according to type of functional impairment and etiology in the special NHIS impairment codes. The impairment classification is shown in the NCHS Medical Coding Manual (4).

It should be noted that the statistics on impairments shown in this report are for the number of impairments, not the number of persons with impairments. Because a person may have more than one impairment, the number of impairments exceeds the number of persons with impairments. Thus, for instance, the total number of impairments due to injury reported in table 1—18,864,000—is greater than the number of persons with impairments due to injury.

*Impairment groups*—In this report, impairments due to injuries are grouped for presentation with their X–code numbers as follows:

Total selected impairments (X00–X99)
- Visual impairments (X00–X03)
- Hearing impairments (X05–X09)
- Absence of extremities or parts of extremities (excluding tips of fingers or toes only) (X20–X29)
  - Absence of entire finger(s) and/or thumb(s) only (X22, X25)
  - Other extremities or parts of extremities absent (X20, X21, X23, X24, X26–X29)
- Paralysis, complete or partial, of extremities or parts of extremities (X40–X59)
- Deformities or orthopedic impairments (X70–X89)
  - Deformities or orthopedic impairments of back (X70, X71, X80)
  - Deformities or orthopedic impairments of upper extremities or parts of upper extremities (X73, X74, X84)
  - Deformities or orthopedic impairments of lower extremities or parts of lower extremities (X75–X78, X85, X86)
  - Deformities or orthopedic impairments—other (X79, X89)
- Other selected impairments (X10–X12, X14, X19, X30–X35, X60–X64, X90–X99)

*Injury as an etiology of impairment*—The etiology of an impairment is its cause in terms of what the respondent considers as the cause. Injury as an etiology (coded 9 in the fourth digit of the X–code) is defined as a condition sustained in an accident or in nonaccidental violence that, at time of occurrence, would have been codable to International Classification of Diseases codes 800–999.

*Prevalence of conditions*—In general, the prevalence of conditions is the estimated number of conditions of a specified type existing at a specified time or the average number existing during a specified interval of time. The prevalence of chronic conditions is defined as the number of chronic cases reported to be present or assumed to be present at the time of the interview. Those assumed to be present at the time of the interview are cases specified by the respondent as present on the selected chronic condition list or described by the respondent in terms of one of the diseases on the list of conditions always considered chronic (see definition of chronic condition above) and reported to have been present at some time during the 12-month period prior to the interview.

*Onset of condition*—A condition is considered to have had its onset when it was first noticed. This could be the time the person first felt sick or became injured, or it could be the time when the person or his or her family was first told by a physician that the person had a condition of which he or she was previously unaware.

*Incidence of conditions*—The incidence of conditions is the estimated number of conditions having their onset in a specified time period. As previously mentioned, minor acute conditions involving neither restricted activity nor medical attention are excluded from the statistics.

## Terms relating to class of accident

*Class of accident*—Injuries, injured persons, resulting days of disability, and impairments due to injuries may be grouped according to class of accident. This is a broad classification of the types of events that resulted in personal injuries. Most of these events are accidents in the usual sense of the word, but some are other kinds of mishaps, such as overexposure to the sun or adverse reactions to medical procedures, and others are nonaccidental violence, such as attempted suicide. The classes of accident are (a) moving motor-vehicle accidents, (b) accidents occurring while at work, (c) accidents occurring at home, and (d) other accidents. These categories are not mutually exclusive. For example, a person may be injured in a moving motor-vehicle accident that occurred while the person was at home or at work. The accident class "moving motor vehicle" includes "home—moving motor vehicle" and "while at work—moving motor vehicle." Similarly, the classes "while at work" and "home" include duplicated counts; for example, "moving motor vehicle—while at work" is included under "while at work."

*Motor vehicle*—A motor vehicle is any mechanically or electrically powered device not operated on rails on which or by which a person or property can be transported or drawn upon a land highway. Any object (such as a trailer, coaster, sled, or wagon) being towed by a motor vehicle is considered a part of the motor vehicle. Devices used solely for moving persons or materials within the confines of a building and its premises are not counted as motor vehicles.

*Moving motor-vehicle accident*—The accident is classified as "moving motor vehicle" if at least one of the motor vehicles involved in the accident was moving at the time of the accident.

*Accident while at work*—The class of accident is "while at work" if the injured person was 18 years of age or over and was at work at a job or a business at the time the accident occurred.

*Accident while at home*—The class of accident is "while at home" if the injury occurred either inside or outside the house. "Outside the house" refers to the yard, building, and sidewalks on the property. "Home" includes not only the person's own home but also any other home in which the person may have been injured.

*Other accident*—The class of accident is "other" if the occurrence of injury cannot be classified in one or more of the first three class-of-accident categories. This category includes persons injured in public places (for example, tripping and falling in a store or on a public sidewalk) and also nonaccidental injuries, such as homicidal and suicidal attempts. The survey does not cover the military population, but current disability of various types resulting from prior injury in the Armed Forces is covered and is

included in this class. The class also includes mishaps for which the class of accident could not be ascertained.

## Terms relating to place of accident

*Place of accident*—Persons injured are classified according to the type of place where the injury occurred. The places of accidents are (a) home, (b) street or highway, (c) industrial place, (d) school, (e) place of recreation, (f) farm, and (g) other.

*Home*—The place of accident is considered as "home" if the injury occurred either inside or outside the home but within the property boundaries. "Home" includes not only the person's own home but also any other home (vacant or occupied) in which he or she may have been at the time of the injury. "Home" includes any structure that has the primary function of a dwelling unit and includes the structure and premises of such places as apartment houses and house trailers.

- *Inside the house*—This subcategory includes any room, attic, cellar, porch, or steps leading to an entrance of the house. However, inside the garage is not considered as inside the house.
- *Outside the house*—This subcategory includes the yard, driveway, garage, patio, gardens, or walks. On a farm, only the premises adjacent to the house are considered as part of the home. Injuries due to accidents occurring on cultivated land, in barns, or in other similar farm buildings would not be considered home injuries.

*Street or highway*—This category means the entire area between property lines of which any part is open for the use of the public as a matter of right or custom. It includes the roadway, shoulder, curb, or public sidewalk; excluded are private driveways, lanes, or sidewalks.

*Industrial place*—This term is applied to accidents occurring in an industrial place or on the premises. Included are such places as factories, railway yards, warehouses, workshops, logging camps, shipping piers, oil fields, shipyards, sand and gravel pits, canneries, and auto repair garages. Construction projects such as houses, buildings, bridges, and new roads are included in this category. Buildings undergoing remodeling, with the exception of private homes, are classified as industrial places or premises.

*School*—"School" as a place of accident includes all accidents occurring in school buildings or on the premises. This classification includes elementary schools, high schools, colleges, and trade and business schools.

*Place of recreation*—"Place of recreation" is used to describe accidents occurring in places organized for sports and recreation other than recreational areas located at a place already defined as "home," "industrial place," or "school." Bowling alley, amusement park, football stadium, and dance hall are examples of "place of recreation." In "place of accident" classification of injuries, the place is significant rather than the activity in which the person was engaged at the time of accident. Hence, an injury sustained by a person at a dance hall while he or she was at work is classified as a "place-of-recreation" injury. Likewise, an injury occurring while a person was engaged in a sport in an industrial place is classified as an "industrial-place" injury.

*Farm*—"Farm" as a place of accident refers to accidents occurring in farm buildings or on cultivated land but does not include accidents occurring in the farm home or premises. A ranch is considered a farm.

*Other*—Accidents that cannot be classified in any of the above groups or for which the place is unknown are classified as "other." Included in this classification are such places as restaurants, churches, business and professional offices, and open or wooded country.

## Terms relating to disability

*Disability*—Disability is a general term that refers to any long- or short-term reduction of a person's activity as a result of an acute or chronic condition. Limitation of activity refers to a long-term reduction in a person's capacity to perform the average kind or amount of activities associated with his or her age group. Restriction of activity refers to particular kinds of behavior usually associated with a reduction in activity due to either long- or short-term conditions. Thus, limitation of activity refers to what a person is generally capable of doing, but restriction of activity ordinarily refers to a relatively short-term reduction in a person's activity below his or her normal capacity.

*Limitation of activity because of chronic conditions*—Persons are classified in terms of the major activity usually associated with their particular age group. The major activities for the age groups are ordinary play for children under 5 years of age, attending school for those 5–17 years of age, working or keeping house for persons 18–69 years of age, and capacity for independent living (the ability to bathe, shop, dress, eat, and so forth without needing the help of another person) for those 70 years of age and over. People 18–69 years of age who are classified as keeping house are also classified by their ability to work at a job or business. (In this report, the major activity of persons 65–69 years of age is assumed to be working or keeping house; however, questions were also asked about the capacity for independent living in this age group, which would permit an alternative definition of limitation.)

In regard to these activities, each person is classified into one of four categories: (a) unable to perform the major activity, (b) able to perform the major activity but limited in the kind or amount of this activity, (c) not limited in the major activity but limited in the kind or amount of other activities, and (d) not limited in any way. In regard to these four categories, NHIS publications often classify persons only by whether they are limited (groups a–c) or not limited (group d). Persons are not classified as limited in activity unless one or more chronic

conditions are reported as the cause of the activity limitation. If more than one condition is reported, the respondent is asked to identify the condition that is the major cause of the limitation.

*Restriction of activity*—Four types of restricted activity are measured in NHIS: Bed days, work-loss days for currently employed persons 18 years of age and over, school-loss days for children 5–17 years of age, and cut-down days.

A *bed-disability day* is one during which a person stayed in bed more than half a day because of illness or injury. All hospital days for inpatients are considered bed days even if the patient was not in bed more than half a day.

A *work-loss day* is one on which a currently employed person 18 years of age and over missed more than half a day from a job or business.

A *school-loss day* is one on which a student 5–17 years of age missed more than half a day from the school in which he or she was currently enrolled.

A *cut-down day* is a day on which a person cuts down for more than half a day on the things he or she usually does.

Work-loss, school-loss, and cut-down days refer to the short-term effects of illness or injury. However, bed days are a measure of both long- and short-term disability, because a chronically ill bedridden person and a person with a cold could both report having spent more than half a day in bed because of an illness.

The number of restricted-activity days is the number of days a person experienced at least one of the four types of activity restriction just described. It is the most inclusive measure of disability days and the least descriptive; 4 days of restricted activity may mean 4 bed days associated with serious illness or 4 days during which a person merely cut down on his or her usual activities due to a mild illness.

A single restricted-activity day may involve both a bed day and a work-loss or school-loss day. However, a cut-down day cannot overlap with any of these three types of disability days. In calculating the sum of restricted-activity days, each day is counted only once even if more than one type of activity restriction was involved.

Restricted-activity days may be associated with either persons or conditions. *Person days* are days during which a person restricted his or her activity. *Condition days* are days during which a condition caused a person to restrict his or her activity. A person day of restricted activity can be caused by more than one condition. In such a case, each condition causing restriction is associated with that day of restricted activity. Therefore, the number of condition days of restricted activity may exceed the number of person days of restricted activity. This relationship holds for each type of restricted-activity day.

When two or more conditions cause a day of restricted activity, the conditions may be (a) both (all) acute, (b) one (some) acute and the other (some) chronic, or (c) both (all) chronic. The number of restricted-activity days associated with acute conditions includes groups (a) and (b); the number of such days associated with chronic conditions includes groups (b) and (c). The phrase "associated with" rather than "caused by" is used to indicate that some days associated with acute or chronic conditions are not necessarily caused solely by that type of condition.

*Assessed health status*—The categories related to this concept result from asking the respondent, "Would you say _____'s health is excellent, very good, good, fair, or poor?" As such, it is based on a respondent's opinion and not directly on any clinical evidence.

## Demographic terms

*Age*—The age recorded for each person is the age at last birthday. Age is recorded in single years and grouped in a variety of distributions depending on the purpose of the table.

*Geographic region*—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. |
| 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 an MSA. Place of residence inside an MSA is further classified as either central city or not central city.

*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 used 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 an 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.

*Central city of an MSA*—The largest city in an MSA is always a central city. One or two additional cities may be secondary central cities in the MSA on the basis of either of the following criteria:

1. The additional city or cities must have a population one-third or more of that of the largest city and a minimum population of 25,000.
2. The additional city or cities must have at least 250,000 inhabitants.

*Not central city of an MSA*—This includes all of the MSA that is not part of the central city itself.

*Not in MSA*—This includes all other places in the country.

*Race*—The population is divided into three racial groups—"white," "black," and "all other." "All other" includes Aleut, Eskimo or American Indian, Asian or Pacific Islander, and any other races. Race characterization is based on the respondent's description of his or her racial background.

*Income of family or of unrelated individuals*—Each member of a family is classified according to the total income of the family of which he or she is a member. Within the household, all persons related to each other by blood, marriage, or adoption constitute a family. Unrelated individuals are classified according to their own incomes.

The income recorded is the total of all income received by members of the family (or by an unrelated individual) in the 12-month period preceding the week of interview. Income from all sources—for example, wages, salaries, rents from property, pensions, government payments, and help from relatives—is included.

*Highest education of responsible adult family member*—Each member of a family is classified according to the highest education level of a responsible adult member of the family of which he or she is a member. Within the household all persons related to each other by blood, marriage, or adoption constitute a family. Unrelated individuals are classified according to their own education. 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 schools outside the regular school system is not counted in determining the highest grade of school completed.

*Living arrangement*—The three categories of living arrangements shown in this report are as follows:

- *Living alone or with nonrelative*—Living alone is defined as living in a one-member household; living with nonrelatives is defined as living with nonrelatives in a household of two or more members.
- *Living with spouse*—This category includes married persons who are living together in a household. Marital status is recorded only for persons 14 years of age and over. Persons with common-law marriages are considered to be married. Persons other than the husband and wife in the household are included in the next category.
- *Living with other relatives*—This category includes all persons living with relatives except husband and wife living together.

*Marital status*—Marital status is classified by the following four categories:

- *Currently married* includes all persons not separated from their spouses for reasons of marital discord. Persons living apart because of circumstances of their employment are considered married. Persons living together as husband and wife are considered married, regardless of legal status.
- *Separated and divorced* includes persons who are legally separated or divorced or who are living apart for reasons of marital discord.
- *Widowed* includes persons who have lost their spouse as a result of death.
- *Never married* includes persons who were never married and persons whose only marriage was annulled.

*Employment status*—Employment status is classified by the following three categories:

- *Currently employed*—Persons 18 years of age and over who reported that, at any time during the 2-week period covered by the interview, they either worked at or had a job or business are defined as 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 had no definite employment schedule but worked only when their services were needed. Also excluded from the currently employed population are (a) persons who received revenue from an enterprise but did not participate in its

operation, (b) persons who did housework or charity work for which they received no pay, (c) seasonal workers during the portion of the year they were not working, and (d) persons who were not working, even though having a job or business, but were on layoff or were on layoff and looking for work.

The number of currently employed persons estimated from NHIS 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, the estimates include three primary conceptual differences, namely:

- NHIS estimates are for persons 18 years of age and over; CPS estimates are for persons 16 years of age and over.
- NHIS uses a 2-week reference period; CPS uses a 1-week reference period.
- NHIS is a continuing survey with separate samples taken weekly; CPS is a monthly sample taken for the survey week that includes the 12th of the month.

- *Currently unemployed*—Persons 18 years of age and over who, during the 2-week period prior to interview, did not work or had no job or business but were looking for work, and those who had a job but were on layoff or were on layoff and looking for work, are considered currently unemployed.
- *Not in labor force*—Persons not in the labor force include those under 18 years of age and those who did not, at any time during the 2-week period covered by the interview, have a job or business, were not looking for work, and were not on layoff from a job. In general, persons excluded from the labor force are children under the age of 18, retired persons, physically handicapped persons unable to work, and housewives or charity workers who receive no pay.

# Appendix III
# Questionnaire items and flashcards

OMB No. 0937-0021: Approval Expires March 31, 1988

**NOTICE** — Information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that it will be held in strict confidence, will be used only for purposes stated for this study, and will not be disclosed or released to others without the consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

| 1. Book ___ of ___ books | 2. R.O. number | 3. Sample |
|---|---|---|

FORM **HIS-1 (1987)** (5-30-86)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

## NATIONAL HEALTH INTERVIEW SURVEY

**4.** Segment type
☐ Area
☐ Permit
☐ Block

**5.** Control number

| PSU | Segment | Serial |
|---|---|---|
| | | |

**6a. What is your exact address?** *(Include House No., Apt. No., or other identification, county and ZIP Code)*

LISTING SHEET
Sheet No.
Line No.

| City | State | County | ZIP Code |
|---|---|---|---|
| | | | |

**b. Is this your mailing address?** *(Mark box or specify if different. Include county and ZIP Code.)* ☐ Same as 6a

| City | State | County | ZIP Code |
|---|---|---|---|
| | | | |

**c.** Special place name | Sample unit number | Type code

## Household composition page

### A. HOUSEHOLD COMPOSITION PAGE

1

1a. What are the names of all persons living or staying here? Start with the name of the person or one of the persons who owns or rents this home. *Enter name in* **REFERENCE PERSON** *column.*

1. First name | Mid. Init. | Age
Last name | Sex 1 M 2 F

b. What are the names of all other persons living or staying here? *Enter names in columns.*

c. I have listed *(read names)*. Have I missed:

| | If "Yes," enter names in columns: Yes | No |
|---|---|---|
| – any babies or small children? | | |
| – any lodgers, boarders, or persons you employ who live here? | | |
| – anyone who USUALLY lives here but is now away from home traveling or in a hospital? | | |
| – anyone else staying here? | | |

2. Relationship
REFERENCE PERSON

3. Date of birth
Month Date Year

C1

| HOSP. | WORK | RD | 2-WK. DV |
|---|---|---|---|
| 00 None | 1 Wa | Yes | 00 None |
| Number | 2 Wb | No | Number |

d. Do all of the persons you have named usually live here?
☐ Yes (2)
☐ No *(APPLY HOUSEHOLD MEMBERSHIP RULES. Delete nonhousehold members by an "X" from 1–C2 and enter reason.)*

*Probe if necessary:*
Does — usually live somewhere else?

C2

LA RA DV INJ CL LTR HS COND

LA RA DV INJ CL LTR HS COND

*Ask for all persons beginning with column 2:*

2. What is — relationship to *(reference person)*?

3. What is — date of birth? *(Enter date and age and mark sex.)*

# Activity-limitation pages

| B. LIMITATION OF ACTIVITIES PAGE | | |
|---|---|---|
| **B1** *Refer to age.* | B1 | 1 ☐ 18–69 *(1)*<br>2 ☐ Other *(NP)* |
| **1. What was -- doing MOST OF THE PAST 12 MONTHS; working at a job or business, keeping house, going to school, or something else?**<br>*Priority if 2 or more activities reported: (1) Spent the most time doing; (2) Considers the most important.* | 1. | 1 ☐ Working *(2)*<br>2 ☐ Keeping house *(3)*<br>3 ☐ Going to school *(5)*<br>4 ☐ Something else *(5)* |
| **2a. Does any impairment or health problem NOW keep -- from working at a job or business?** | 2a. | 1 ☐ Yes *(7)* ☐ No |
| **b. Is -- limited in the kind OR amount of work -- can do because of any impairment or health problem?** | b. | 2 ☐ Yes *(7)* 3 ☐ No *(6)* |
| **3a. Does any impairment or health problem NOW keep -- from doing any housework at all?** | 3a. | 4 ☐ Yes *(4)* ☐ No |
| **b. Is -- limited in the kind OR amount of housework -- can do because of any impairment or health problem?** | b. | 5 ☐ Yes *(4)* 6 ☐ No *(5)* |
| **4a. What (other) condition causes this?**<br>*Ask if injury or operation:* **When did [the (injury) occur?/--have the operation?]**<br>*Ask if operation over 3 months ago:* **For what condition did -- have the operation?**<br>*If pregnancy/delivery or 0–3 months injury or operation --*<br>*Reask question 3 where limitation reported, saying:* **Except for -- (condition), . . .?**<br>*OR reask 4b/c.* | 4a. | *(Enter condition in C2, THEN 4b)*<br>1 ☐ Old age *(Mark "Old age" box, THEN 4c)* |
| **b. Besides (condition) is there any other condition that causes this limitation?** | b. | ☐ Yes *(Reask 4a and b)*<br>☐ No *(4d)* |
| **c. Is this limitation caused by any (other) specific condition?** | c. | ☐ Yes *(Reask 4a and b)*<br>☐ No |
| *Mark box if only one condition.*<br>**d. Which of these conditions would you say is the MAIN cause of this limitation?** | d. | ☐ Only 1 condition<br>_____<br>Main cause |
| **5a. Does any impairment or health problem keep -- from working at a job or business?** | 5a. | 1 ☐ Yes *(7)* ☐ No |
| **b. Is -- limited in the kind OR amount of work -- could do because of any impairment or health problem?** | b. | 2 ☐ Yes *(7)* 3 ☐ No |
| **B2** *Refer to questions 3a and 3b.* | B2 | 1 ☐ "Yes" in 3a or 3b *(NP)*<br>2 ☐ Other *(6)* |
| **6a. Is -- limited in ANY WAY in any activities because of an impairment or health problem?** | 6a. | 1 ☐ Yes 2 ☐ No *(NP)* |
| **b. In what way is -- limited?** *Record limitation, not condition.* | b. | _____<br>Limitation |
| **7a. What (other) condition causes this?**<br>*Ask if injury or operation:* **When did [the (injury) occur?/--have the operation?]**<br>*Ask if operation over 3 months ago:* **For what condition did -- have the operation?**<br>*If pregnancy/delivery or 0–3 months injury or operation --*<br>*Reask question 2, 5, or 6 where limitation reported, saying:* **Except for -- (condition), . . .?**<br>*OR reask 7b/c.* | 7a. | *(Enter condition in C2, THEN 7b)*<br>1 ☐ Old age *(Mark "Old age" box, THEN 7c)* |
| **b. Besides (condition) is there any other condition that causes this limitation?** | b. | ☐ Yes *(Reask 7a and b)*<br>☐ No *( 7d)* |
| **c. Is this limitation caused by any (other) specific condition?** | c. | ☐ Yes *(Reask 7a and b)*<br>☐ No |
| *Mark box if only one condition.*<br>**d. Which of these conditions would you say is the MAIN cause of this limitation?** | d. | ☐ Only 1 condition<br>_____<br>Main cause |

FORM HIS-1 (1985) (10-1-84)

## B. LIMITATION OF ACTIVITIES PAGE, Continued

| | | |
|---|---|---|
| **B3** Refer to age. | B3 | 0 ☐ Under 5 *(10)* 2 ☐ 18–69 *(NP)*<br>1 ☐ 5–17 *(11)* 3 ☐ 70 and over *(8)* |
| 8. What was -- doing MOST OF THE PAST 12 MONTHS; working at a job or business, keeping house, going to school, or something else?<br>*Priority if 2 or more activities reported: (1) Spent the most time doing; (2) Considers the most important.* | 8. | 1 ☐ Working<br>2 ☐ Keeping house<br>3 ☐ Going to school<br>4 ☐ Something else |
| 9a. Because of any impairment or health problem, does -- need the help of other persons with -- personal care needs, such as eating, bathing, dressing, or getting around this home? | 9a. | 1 ☐ Yes *(13)* ☐ No |
| b. Because of any impairment or health problem, does -- need the help of other persons in handling -- routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes? | b. | 2 ☐ Yes *(13)* 3 ☐ No *(12)* |
| 10a. Is -- able to take part AT ALL in the usual kinds of play activities done by most children -- age? | 10a. | ☐ Yes 0 ☐ No *(13)* |
| b. Is -- limited in the kind OR amount of play activities -- can do because of any impairment or health problem? | b. | 1 ☐ Yes *(13)* 2 ☐ No *(12)* |
| 11a. Does any impairment or health problem NOW keep -- from attending school? | 11a. | 1 ☐ Yes *(13)* ☐ No |
| b. Does -- attend a special school or special classes because of any impairment or health problem? | b. | 2 ☐ Yes *(13)* ☐ No |
| c. Does -- need to attend a special school or special classes because of any impairment or health problem? | c. | 3 ☐ Yes *(13)* ☐ No |
| d. Is -- limited in school attendance because of -- health? | d. | 4 ☐ Yes *(13)* 5 ☐ No |
| 12a. Is -- limited in ANY WAY in any activities because of an impairment or health problem? | 12a. | 1 ☐ Yes 2 ☐ No *(NP)* |
| b. In what way is -- limited? *Record limitation, not condition.* | b. | _____ Limitation |
| 13a. What (other) condition causes this?<br>*Ask if injury or operation:* When did [the (*injury*) occur?/--have the operation?]<br>*Ask if operation over 3 months ago:* For what condition did -- have the operation?<br>*If pregnancy/delivery or 0–3 months injury or operation --*<br>*Reask question where limitation reported, saying:* Except for -- (*condition*), . . .?<br>*OR reask 13b/c.* | 13a. | *(Enter condition in C2, THEN 13b)*<br>1 ☐ Old age *(Mark "Old age" box, THEN 13c)* |
| b. Besides (*condition*) is there any other condition that causes this limitation? | b. | ☐ Yes *(Reask 13a and b)*<br>☐ No *(13d)* |
| c. Is this limitation caused by any (other) specific condition? | c. | ☐ Yes *(Reask 13a and b)*<br>☐ No |
| *Mark box if only one condition.*<br>d. Which of these conditions would you say is the MAIN cause of this limitation? | d. | ☐ Only 1 condition<br>_____ Main cause |

FOOTNOTES

FORM HIS-1 (1985) (10-1-84)

## B. LIMITATION OF ACTIVITIES PAGE, Continued

| | | | |
|---|---|---|---|
| **B4** | *Refer to age.* | B4 | 0 Under 5 *(NP)* 2 60-69 *(14)*<br>1 5–59 *(B5)* 3 70 and over *(NP)* |
| **B5** | *Refer to "Old age," and "LA" boxes. Mark first appropriate box.* | B5 | 1 "Old age" box marked *(14)*<br>2 Entry in "LA" box *(14)*<br>3 Other *(NP)* |
| **14a. Because of any impairment or health problem, does -- need the help of other persons with -- personal care needs, such as eating, bathing, dressing, or getting around this home?**<br>*If under 18, skip to next person; otherwise ask:*<br>**b. Because of any impairment or health problem, does -- need the help of other persons in handling -- routine needs, such as everyday household chores, doing necessary business, shopping, or getting around for other purposes?** | | 14a.<br><br>b. | 1 Yes *(15)* No<br><br>2 Yes 3 No *(NP)* |
| **15a. What (other) condition causes this?**<br>*Ask if injury or operation:* **When did [the (*injury*) occur?/ -- have the operation?]**<br>*Ask if operation over 3 months ago:* **For what condition did -- have the operation?**<br>*If pregnancy/delivery or 0–3 months injury or operation --*<br>*Reask question 14 where limitation reported, saying:* **Except for --** (*condition*), . . .?<br>OR *reask 15b/c.*<br>**b. Besides** (*condition*) **is there any other condition that causes this limitation?**<br>**c. Is this limitation caused by any (other) specific condition?**<br>*Mark box if only one condition.*<br>**d. Which of these conditions would you say is the MAIN cause of this limitation?** | | 15a.<br><br>b.<br><br>c.<br><br>d. | *(Enter condition in C2, THEN 15b)*<br>1 Old age *(Mark "Old age" box, THEN 15c)*<br><br>1 Yes *(Reask 15a and b)*<br>2 No *(15d)*<br><br>1 Yes *(Reask 15a and b)*<br>2 No<br><br>Only 1 condition<br><br>Main cause |

FOOTNOTES

FORM HIS 1 (1985) (10 1-84)

## Restricted-activity page

**D. RESTRICTED ACTIVITY PAGE PERSON 1**

*Hand calendar.*

(The next questions refer to the 2 weeks outlined in red on that calendar, beginning Monday, (*date*) and ending this past Sunday (*date*).)

**D1** *Refer to age.*

☐ Under 5 (4) ☐ 5–17 (3) ☐ 18 and over (1)

1a. DURING THOSE 2 WEEKS, did -- work at any time at a job or business, not counting work around the house? (Include unpaid work in the family [farm/business].)

1 ☐ Yes (*Mark "Wa" box, THEN 2*) 2 ☐ No

b. Even though -- did not work during those 2 weeks, did -- have a job or business?

1 ☐ Yes (*Mark "Wb" box, THEN 2*) 2 ☐ No (4)

2a. During those 2 weeks, did -- miss any time from a job or business because of illness or injury?

☐ Yes 00 ☐ No (4)

b. During that 2-week period, how many days did -- miss more than half of the day from -- job or business because of illness or injury?

00 ☐ None (4) No. of work-loss days ☐☐ (4)

3a. During those 2 weeks, did -- miss any time from school because of illness or injury?

☐ Yes 00 ☐ No (4)

b. During that 2-week period, how many days did -- miss more than half of the day from school because of illness or injury?

00 ☐ None No. of school-loss days ☐☐

4a. During those 2 weeks, did -- stay in bed because of illness or injury?

☐ Yes 00 ☐ No (6)

b. During that 2-week period, how many days did -- stay in bed more than half of the day because of illness or injury?

00 ☐ None (6) No. of bed days ☐☐ (D2)

**D2** *Refer to 2b and 3b.*

☐ No days in 2b or 3b (6)

☐ 1 or more days in 2b or 3b (5)

5. On how many of the (*number in 2b or 3b*) days missed from [work/school] did -- stay in bed more than half of the day because of illness or injury?

00 ☐ None ☐☐ No. of days

*Refer to 2b, 3b, and 4b.*

6a. (Not counting the day(s) [missed from work / missed from school / (and) in bed]),

Was there any (OTHER) time during those 2 weeks that -- cut down on the things -- usually does because of illness or injury?

☐ Yes 00 ☐ No (*D3*)

b. (Again, not counting the day(s) [missed from work / missed from school / (and) in bed]),

During that period, how many (OTHER) days did -- cut down for more than half of the day because of illness or injury?

00 ☐ None No. of cut-down days ☐☐

**D3** *Refer to 2–6.*

☐ No days in 2–6 (*Mark "No" in RD, THEN NP*)

☐ 1 or more days in 2–6 (*Mark "Yes" in RD, THEN 7*)

*Refer to 2b, 3b, 4b, and 6b.*

7a. What (other) condition caused -- to [miss work / miss school / (or) stay in bed / (or) cut down] during those 2 weeks?

(*Enter condition in C2, THEN 7b*)

b. Did any other condition cause -- to [miss work / miss school / (or) stay in bed / (or) cut down] during that period?

1 ☐ Yes (*Reask 7a and b*) 2 ☐ No

FOOTNOTES

FORM HIS-1 (1985) (10-1-84)

## Health indicator question

| | | |
|---|---|---|
| 4. Would you say -- health in general is excellent, very good, good, fair, or poor? | 4. | 1 ☐ Excellent 2 ☐ Very good 3 ☐ Good 4 ☐ Fair 5 ☐ Poor |

# Condition pages

## H. CONDITION LISTS 1 AND 2

*Read to respondent(s) and ask list specified in A2:*

**Now I am going to read a list of medical conditions. Tell me if anyone in the family has any of these conditions, even if you have mentioned them before.**

**2**

**2a. Does anyone in the family (*read names*) NOW have –**

*If "Yes," ask 2b and c.*

**b. Who is this?**

**c. Does anyone else NOW have –**

*Enter condition and letter in appropriate person's column.*

*A–L are conditions affecting* {*Hearing* / *Vision* / *Speech*}

*M–AA are impairments.*

| | | | |
|---|---|---|---|
| **A.** Deafness in one or both ears? | | *Reask 2a* **O.** A missing joint? | |
| **B.** Any other trouble hearing with one or both ears? | | **P.** A missing breast, kidney, or lung? | |
| **C.** Tinnitus or ringing in the ears? | | **Q.** Palsy or cerebral palsy? (ser'a-bral) | |
| **D.** Blindness in one or both eyes? | | **R.** Paralysis of any kind? | |
| **E.** Cataracts? | | **S.** Curvature of the spine? | |
| **F.** Glaucoma? | | **T.** REPEATED trouble with neck, back, or spine? | |
| **G.** Color blindness? | | **U.** Any TROUBLE with fallen arches or flatfeet? | |
| **H.** A detached retina or any other condition of the retina? | | **V.** A clubfoot? | |
| **I.** Any other trouble seeing with one or both eyes EVEN when wearing glasses? | | **W.** A trick knee? | |
| **J.** A cleft palate or harelip? | | **X.** PERMANENT stiffness or any deformity of the foot, leg, or back? (*Permanent stiffness* – joints will not move at all.) | |
| **K.** Stammering or stuttering? | | **Y.** PERMANENT stiffness or any deformity of the fingers, hand, or arm? | |
| **L.** Any other speech defect? | | **Z.** Mental retardation? | |
| **M.** Loss of taste or smell which has lasted 3 months or more? | | **AA.** Any condition caused by an accident or injury which happened more than 3 months ago? *If "Yes," ask:* What is the condition? | |
| **N.** A missing finger, hand, or arm; toe, foot, or leg? | | | |

**CONDITION 1** | **PERSON NO.____**

**1. Name of condition**

*Mark "2-wk. ref. pd." box without asking if "DV" or "HS" in C2 as source.*

**2. When did [--/anyone] last see or talk to a doctor or assistant about -- (condition)?**

0 ☐ Interview week *(Reask 2)*
1 ☐ 2-wk. ref. pd.
2 ☐ Over 2 weeks, less than 6 mos.
3 ☐ 6 mos., less than 1 yr.
4 ☐ 1 yr., less than 2 yrs.
5 ☐ 2 yrs., less than 5 yrs.
6 ☐ 5 yrs. or more
7 ☐ Dr. seen, DK when
8 ☐ DK if Dr. seen
9 ☐ Dr. never seen
} *(3b)*

**3a. (Earlier you told me about -- (condition)) Did the doctor or assistant call the (condition) by a more technical or specific name?**

1 ☐ Yes 2 ☐ No 9 ☐ DK

*Ask 3b if "Yes" in 3a, otherwise transcribe condition name from item 1 without asking:*

**b. What did he or she call it?** _____ *Specify*

1 ☐ Color Blindness *(NC)*
2 ☐ Cancer *(3e)*
3 ☐ Normal pregnancy, normal delivery, vasectomy
4 ☐ Old age *(NC)*
} *(5)*
8 ☐ Other *(3c)*

**c. What was the cause of -- (condition in 3b)?** *(Specify)*

_____

*Mark box if accident or injury.* 0 ☐ Accident/injury *(5)*

**d. Did the (condition in 3b) result from an accident or injury?**

1 ☐ Yes *(5)* 2 ☐ No

*Ask 3e if the condition name in 3b includes any of the following words:*

| | | | |
|---|---|---|---|
| Ailment | Cancer | Disease | Problem |
| Anemia | Condition | Disorder | Rupture |
| Asthma | Cyst | Growth | Trouble |
| Attack | Defect | Measles | Tumor |
| Bad | | | Ulcer |

**e. What kind of (condition in 3b) is it?** _____ *Specify*

*Ask 3f only if allergy or stroke in 3b–e:*

**f. How does the [allergy/stroke] NOW affect --?** *(Specify)*

_____

_____

*For Stroke, fill remainder of this condition page for the first present effect. Enter in item C2 and complete a separate condition page for each additional present effect.*

*Ask 3g if there is an impairment (refer to Card CP2) or any of the following entries in 3b–f:*

| | | |
|---|---|---|
| Abscess | Damage | Palsy |
| Ache (except head or ear) | Growth | Paralysis |
| Bleeding (except menstrual) | Hemorrhage | Rupture |
| Blood clot | Infection | Sore(ness) |
| Boil | Inflammation | Stiff(ness) |
| Cancer | Neuralgia | Tumor |
| Cramps (except menstrual) | Neuritis | Ulcer |
| Cyst | Pain | Varicose veins |
| | | Weak(ness) |

**g. What part of the body is affected?** _____ *Specify*

*Show the following detail:*

Head . . . . . skull, scalp, face
Back/spine/vertebrae . . . . . upper, middle, lower
Side . . . . . left or right
Ear . . . . . inner or outer; left, right, or both
Eye . . . . . left, right, or both
Arm . . . . . shoulder, upper, elbow, lower or wrist; left, right, or both
Hand . . . . . entire hand or fingers only; left, right, or both
Leg . . . . . hip, upper, knee, lower, or ankle; left, right, or both
Foot . . . . . entire foot, arch, or toes only; left, right, or both

*Except for eyes, ears, or internal organs, ask 3h if there are any of the following entries in 3b–f:*

Infection Sore Soreness

**h. What part of the (part of body in 3b–g) is affected by the [infection/sore/soreness] – the skin, muscle, bone, or some other part?**

*Specify* _____

*Ask if there are any of the following entries in 3b–f:*

Tumor Cyst Growth

**4. Is this [tumor/cyst/growth] malignant or benign?**

1 ☐ Malignant 2 ☐ Benign 9 ☐ DK

**5**

**a. When was -- (condition in 3b/3f) first noticed?**

**b. When did -- (name of injury in 3b)?**

1 ☐ 2-wk. ref. pd.
2 ☐ Over 2 weeks to 3 months
3 ☐ Over 3 months to 1 year
4 ☐ Over 1 year to 5 years
5 ☐ Over 5 years

*Ask probes as necessary:*

**(Was it on or since (first date of 2-week ref. period) or was it before that date?)**

**(Was it less than 3 months or more than 3 months ago?)**

**(Was it less than 1 year or more than 1 year ago?)**

**(Was it less than 5 years or more than 5 years ago?)**

FORM HIS-1 (1985) (10-1-84)

**K1** *Refer to RD and C2.*
☐ "Yes" in "RD" box AND more than 1 condition in C2 *(6)*
☐ Other *(K2)*

6a. During the 2 weeks outlined in red on that calendar, did -- (*condition*) cause -- to cut down on the things -- usually does?
☐ Yes ☐ No *(K2)*

b. During that period, how many days did -- cut down for more than half of the day?
00 ☐ None *(K2)* _____ Days

7. During those 2 weeks, how many days did -- stay in bed for more than half of the day because of this condition?
00 ☐ None _____ Days

*Ask if "Wa/Wb" box marked in C1:*

8. During those 2 weeks, how many days did -- miss more than half of the day from -- job or business because of this condition?
00 ☐ None _____ Days

*Ask if age 5–17:*

9. During those 2 weeks, how many days did -- miss more than half of the day from school because of this condition?
00 ☐ None _____ Days

**K2**
☐ Condition has "CL LTR" in C2 as source *(10)*
☐ Condition does not have "CL LTR" in C2 as source *(K4)*

10. About how many days since (*12-month date*) a year ago, has this condition kept -- in bed more than half of the day? (Include days while an overnight patient in a hospital.)
000 ☐ None _____ Days

11. Was -- ever hospitalized for -- (*condition in 3b*)?
1 ☐ Yes 2 ☐ No

**K3**
☐ Missing extremity or organ *(K4)*
☐ Other *(12)*

12a. Does -- still have this condition?
1 ☐ Yes *(K4)* ☐ No

b. Is this condition completely cured or is it under control?
2 ☐ Cured 8 ☐ Other *(Specify)* _____ *(K4)*
3 ☐ Under control *(K4)*

c. About how long did -- have this condition before it was cured?
☐ Less than 1 month OR _____ Number { ☐ Months ☐ Years

d. Was this condition present at any time during the past 12 months?
1 ☐ Yes 2 ☐ No

**K4**
0 ☐ Not an accident/injury *(NC)*
1 ☐ First accident/injury for this person *(14)*
8 ☐ Other *(13)*

13. Is this (*condition in 3b*) the result of the same accident you already told me about?
[ ] Yes *(Record condition page number where accident questions first completed.)* → _____ *(NC)* Page No.
[ ] No

14. Where did the accident happen?
1 ☐ At home (inside house)
2 ☐ At home (adjacent premises)
3 ☐ Street and highway (includes roadway and public sidewalk)
4 ☐ Farm
5 ☐ Industrial place (includes premises)
6 ☐ School (includes premises)
7 ☐ Place of recreation and sports, except at school
8 ☐ Other *(Specify)*

*Mark box if under 18.* ☐ Under 18 *(16)*

15a. Was -- under 18 when the accident happened?
1 ☐ Yes *(16)* ☐ No

b. Was -- in the Armed Forces when the accident happened?
2 ☐ Yes *(16)* ☐ No

c. Was -- at work at -- job or business when the accident happened?
3 ☐ Yes 4 ☐ No

16a. Was a car, truck, bus, or other motor vehicle involved in the accident in any way?
1 ☐ Yes 2 ☐ No *(17)*

b. Was more than one vehicle involved?
1 ☐ Yes 2 ☐ No

c. Was [it/either one] moving at the time?
1 ☐ Yes 2 ☐ No

17a. At the time of the accident what part of the body was hurt?
What kind of injury was it?
Anything else?

| Part(s) of body * | Kind of injury |
|---|---|
| | |
| | |

*Ask if box 3, 4, or 5 marked in Q.5:*

b. What part of the body is affected now?
How is -- (*part of body*) affected?
Is -- affected in any other way?

| Part(s) of body * | Present effects ** |
|---|---|
| | |
| | |

* Enter part of body in same detail as for 3g.
** If multiple present effects, enter in C2 each one that is not the same as 3b or C2 and complete a separate condition page for it.

FORM HIS-1 (1985) (10 1 84)

# Demographic background page

| | | |
|---|---|---|
| 2a. What is the highest grade or year of regular school -- has ever attended? | 2a. | 00 ☐ Never attended or kindergarten *(NP)*<br>Elem: 1 2 3 4 5 6 7 8<br>High: 9 10 11 12<br>College: 1 2 3 4 5 6+ |
| b. Did -- finish the *(number in 2a)* [grade/year]? | b. | 1 ☐ Yes 2 ☐ No |
| *Hand Card R. Ask first alternative for first person; ask second alternative for other persons.*<br>3a. [What is the number of the group or groups which represents -- race?]<br>[What is -- race?]<br>*Circle all that apply*<br>1 – Aleut, Eskimo, or American Indian<br>2 – Asian or Pacific Islander<br>3 – Black<br>4 – White<br>5 – Another group not listed – *Specify* | 3a. | 1 2 3 4 5<br>*Specify* |
| *Ask if multiple entries:*<br>b. Which of those groups; that is, *(entries in 3a)* would you say BEST represents -- race? | b. | 1 2 3 4 5<br>*Specify* |
| c. *Mark observed race of respondent(s) only.* | c. | 1 ☐ W 2 ☐ B 3 ☐ O |

| | | |
|---|---|---|
| **L2** *Refer to "Age" and "Wa/Wb" boxes in C1.* | L2 | 0 ☐ Under 18 *(NP)*<br>1 ☐ Wa box marked *(6a)*<br>2 ☐ Wb box marked *(5a)*<br>3 ☐ Neither box marked *(5b)* |
| 5a. Earlier you said that -- has a job or business but did not work last week or the week before. Was -- looking for work or on layoff from a job during those 2 weeks? | 5a. | 1 ☐ Yes *(5c)* 2 ☐ No *(6b)* |
| b. Earlier you said that -- didn't have a job or business last week or the week before. Was -- looking for work or on layoff from a job during those 2 weeks? | b. | 1 ☐ Yes 2 ☐ No *(NP)* |
| c. Which, looking for work or on layoff from a job? | c. | 1 ☐ Looking *(6c)* 3 ☐ Both *(6b)*<br>2 ☐ Layoff *(6b)* |
| 6a. Earlier you said that -- worked last week or the week before. *Ask 6b.* | | |
| b. For whom did -- work? *Enter name of company, business, organization, or other employer.* | 6b. and c. | Employer<br>☐ NEV *(6g)* |
| c. For whom did -- work at -- last full-time job or business lasting 2 consecutive weeks or more? *Enter name of company, business, organization, or other employer or mark "NEV" or "AF" box in person's column.* | | ☐ AF *(6e)* |
| d. What kind of business or industry is this? *For example, TV and radio manufacturing, retail shoe store, State Labor Department, farm.* | d. | Industry |
| e. What kind of work was -- doing? *For example, electrical engineer, stock clerk, typist, farmer. If "AF" in 6b/c, mark "AF" box in person's column without asking.* | e. | Occupation<br>☐ AF *(NP)* |
| f. What were -- most important activities or duties at that job? *For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete.* | f. | Duties |
| *Complete from entries in 6b–f. If not clear, ask:*<br>g. Was --<br>An employee of a PRIVATE company, business or individual for wages, salary, or commission? ..... P<br>A FEDERAL government employee? ..... F<br>A STATE government employee? ..... S<br>A LOCAL government employee? ..... L<br>Self-employed in OWN business, professional practice, or farm?<br>*Ask:* Is the business incorporated?<br>Yes ..... I<br>No ..... SE<br>Working WITHOUT PAY in family business or farm? ..... WP<br>– NEVER WORKED or never worked at a full-time job lasting 2 weeks or more ..... NEV | g. | Class of worker<br>1 ☐ P 5 ☐ I<br>2 ☐ F 6 ☐ SE<br>3 ☐ S 7 ☐ WP<br>4 ☐ L 8 ☐ NEV |

## Demographic background page – Con.

*Mark box if under 14. If "Married" refer to household composition and mark accordingly.*

7. Is -- now married, widowed, divorced, separated, or has -- never been married?

7.
- 0 ☐ Under 14
- 1 ☐ Married – spouse in HH
- 2 ☐ Married – spouse not in HH
- 3 ☐ Widowed
- 4 ☐ Divorced
- 5 ☐ Separated
- 6 ☐ Never married

8a. Was the total combined FAMILY income during the past 12 months – that is, yours, (*read names, including Armed Forces members living at home*) more or less than $20,000? Include money from jobs, social security, retirement income, unemployment payments, public assistance, and so forth. Also include income from interest, dividends, net income from business, farm, or rent, and any other money income received.

*Read if necessary:* Income is important in analyzing the health information we collect. For example, this information helps us to learn whether persons in one income group use certain types of medical care services or have certain conditions more or less often than those in another group.

8a.
- 1 ☐ $20,000 or more *(Hand Card I)*
- 2 ☐ Less than $20,000 *(Hand Card J)*

*Read parenthetical phrase if Armed Forces member living at home or if necessary.*

b. Of those income groups, which letter best represents the total combined FAMILY income during the past 12 months (that is, yours, (*read names, including Armed Forces members living at home*))? Include wages, salaries, and the other items we just talked about.

*Read if necessary:* Income is important in analyzing the health information we collect. For example, this information helps us to learn whether persons in one income group use certain types of medical care services or have certain conditions more or less often than those in another group.

b.

| | | |
|---|---|---|
| 00 ☐ A | 10 ☐ K | 20 ☐ U |
| 01 ☐ B | 11 ☐ L | 21 ☐ V |
| 02 ☐ C | 12 ☐ M | 22 ☐ W |
| 03 ☐ D | 13 ☐ N | 23 ☐ X |
| 04 ☐ E | 14 ☐ O | 24 ☐ Y |
| 05 ☐ F | 15 ☐ P | 25 ☐ Z |
| 06 ☐ G | 16 ☐ Q | 26 ☐ ZZ |
| 07 ☐ H | 17 ☐ R | |
| 08 ☐ I | 18 ☐ S | |
| 09 ☐ J | 19 ☐ T | |

# Flashcards

**CARD R**

1. Aleut, Eskimo, or American Indian
2. Asian or Pacific Islander
3. Black
4. White

**CARD I**

U .... $20,000 — $24,999

V .... $25,000 — $29,999

W ... $30,000 — $34,999

X .... $35,000 — $39,999

Y .... $40,000 — $44,999

Z .... $45,000 — $49,999

ZZ... $50,000 and over

**CARD J**

A ..... Less than $1,000 (including loss)
B ..... $1,000 — $1,999
C ..... $2,000 — $2,999
D ..... $3,000 — $3,999
E ..... $4,000 — $4,999
F ..... $5,000 — $5,999
G ..... $6,000 — $6,999
H ..... $7,000 — $7,999
I ..... $8,000 — $8,999
J ..... $9,000 — $9,999
K ..... $10,000 — $10,999
L ..... $11,000 — $11,999
M ..... $12,000 — $12,999
N ..... $13,000 — $13,999
O ..... $14,000 — $14,999
P ..... $15,000 — $15,999
Q ..... $16,000 — $16,999
R ..... $17,000 — $17,999
S ..... $18,000 — $18,999
T ..... $19,000 — $19,999

Card I
Card J

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