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# Vital and Health Statistics

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## Prevalence of Selected Chronic Conditions: United States, 1986–88

Series 10:  
Data From the National Health Survey  
No. 182

Estimates of the prevalence of selected chronic conditions are presented by biological system involved, sex, age, race, family income, geographic region, and place of residence. The percent of conditions causing limitation of activity, the percent of conditions for which a physician was consulted, and the number of restricted-activity days and bed-disability days resulting from the conditions are also included.

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control and Prevention  
National Center for Health Statistics

Hyattsville, Maryland  
February 1993  
DHHS Publication No. (PHS) 93-1510

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### Suggested Citation

Collins JG. Prevalence of selected chronic conditions, United States, 1986-88. National Center for Health Statistics. Vital Health Stat 10(182). 1993.

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### Library of Congress Cataloging-in-Publication Data

Collins, John Gary.

Prevalence of selected chronic conditions : United States, 1986-88. p. cm. — (Vital and health statistics. Series 10, Data from the National Health Survey ; no. 182) (DHHS publication ; no. (PHS) 93-1510)

By Gary Collins.

"November 1992."

ISBN 0-8406-0472-6

1. Chronic diseases—United States—Statistics. 2. United States—Statistics, Medical. I. National Center for Health Statistics (U.S.) II. Title. III. Series. IV. Series: DHHS publication ; no. (PHS) 93-1510.

RA407.3.A346 no. 182

[RA644.6]

362.1'0973'021 s--dc20

[614.4'273]

92-38011  
CIP

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### *Cooperation of the U.S. Bureau of the Census*

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.

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**Symbols**

- Data not available
  - . . . Category not applicable
  - Quantity zero
  - 0.0 Quantity more than zero but less than 0.05
  - Z Quantity more than zero but less than 5 where numbers are rounded to thousands
  - \* Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 births in numerator or denominator)
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# Prevalence of selected chronic conditions

by John Gary Collins, M.B.A., Division of Health Interview Statistics

## Introduction

National estimates of the prevalence of selected chronic conditions 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 1986, 1987, and 1988. Data on the prevalence of chronic conditions reported in household interviews are shown in terms of numbers and rates per 1,000 persons cross-tabulated by sex and age, race and age, family income, geographic region, and place of residence.

In addition, data are provided on the percent of chronic conditions causing limitation of activity, the percent for which a physician was consulted, and the percent that caused a hospitalization. The numbers of restricted-activity days and bed-disability days caused by selected chronic conditions and the associated days per condition are shown by an age dichotomy and by sex. Conditions with the highest prevalence, those causing the most restricted activity and bed disability, and those causing the

highest percent of activity limitation are presented in rank order for the 10 highest in each category. Data are presented for six different categories of chronic conditions:

- Circulatory conditions.
- Respiratory conditions.
- Digestive conditions
- Impairments and conditions of the nervous system and sense organs.
- Conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue.
- Endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and conditions of the genitourinary system.

The most recent NCHS report that included NHIS data on chronic disease prevalence was "Current Estimates From the National Health Interview Survey, United States, 1990" (1). Other recent publications providing NHIS data on the prevalence of chronic conditions are mentioned in the section on related data.

# Highlights

Highlights of the data contained in this report for the 3-year period 1986–88 are summarized in the following statements:

- Chronic sinusitis was the chronic condition most frequently reported in the interviews, with an annual average prevalence of more than 32 million conditions, or 139.3 per every 1,000 persons in the civilian noninstitutionalized population.
- Deformities or orthopedic impairments, arthritis, and high blood pressure ranked second, third, and fourth in prevalence among the chronic conditions reported, with annual averages of 31.8 million, 31.2 million, and 28.9 million conditions, respectively.
- Among persons under 18 years of age, the four most prevalent chronic conditions were the respiratory conditions: hay fever, chronic sinusitis, chronic bronchitis, and asthma, respectively.
- Chronic sinusitis and deformities or orthopedic impairments were by far the most prevalent chronic conditions among persons ages 18–44 years, with respective rates of 159.1 and 153.5 per 1,000 persons.
- Arthritis and high blood pressure were the conditions highest in prevalence among persons ages 45–64 years, 65–74 years, and 75 years of age and over. More than half of the persons 75 years of age and over reported having arthritis.
- Deformities or orthopedic impairments, chronic sinusitis, high blood pressure, and deafness and other hearing impairments were the four most prevalent conditions among males.
- Among black persons, high blood pressure was the most prevalent condition reported, with a rate of 147.6 per 1,000 persons.
- Chronic sinusitis was the most prevalent condition among persons in households with incomes of \$20,000–\$34,999 and \$35,000 or more, whereas arthritis was the most prevalent condition among persons in households with incomes of less than \$10,000.
- Chronic sinusitis was the most prevalent chronic condition in the South and Midwest Regions, with respective rates of 173.0 and 170.0 per 1,000 persons. However, it ranked only fourth in the Northeast and fifth in the West, with rates of 90.1 and 96.9 per 1,000 persons, respectively.
- The most prevalent chronic circulatory conditions for all persons, males, females, white persons, and black persons were high blood pressure and heart disease, whereas chronic sinusitis and hay fever were the most prevalent chronic respiratory conditions for these same groups.
- Deformities or orthopedic impairments and deafness and other hearing impairments were by far the most prevalent impairments reported, with 31.8 and 21.2 million conditions, respectively.
- Among persons ages 65–74 years and 75 years of age and over, deafness and other hearing impairments was the most prevalent impairment, with respective rates of 261.2 and 369.2 conditions per 1,000 persons.
- Although the prevalence rate for cataracts for all persons was relatively low, 23.4 per 1,000 persons, it ranked fifth in prevalence among all chronic conditions for persons 75 years of age and over, with a rate of 244.0 per 1,000 persons.
- The chronic conditions reported to cause the most restricted-activity days were deformities or orthopedic impairments (416 million days), arthritis (378 million days), and heart disease (339 million days).
- Malignant neoplasms of lung, bronchus, and other respiratory sites caused the highest number of restricted-activity days per condition reported, 88.1 days per year.
- Mental retardation was the chronic condition most likely to cause limitation of activity, causing limitation of major or outside activities in 83.6 percent of persons afflicted. Malignant neoplasms of the lung, bronchus, and other respiratory sites was the second highest condition, causing limitation in 75 percent of the persons afflicted. Multiple sclerosis was the third highest, causing limitation in 70.2 percent of those with the condition.

# Sources and limitations of data

Information in this report is based on data collected during the National Health Interview Survey (NHIS), a continuing nationwide survey of households. 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 that it allows data to be combined over multiple years. This increases stability of the estimates because augmenting the sample size leads to smaller sampling errors. Combining data over time is possible because of the sampling design of NHIS and its use of standard questions over several years. Combining data is particularly desirable when making estimates for relatively rare events or population subgroups—in this case, chronic conditions. In addition, in NHIS, each individual condition group constitutes only one-sixth of the sample in a given year. The stability of the estimates is increased because increasing the sample size leads to smaller sampling errors. Therefore, data for this report are based on information obtained by NCHS in the 1986, 1987, and 1988 surveys, and annual averages for these 3 years are presented.

The NHIS sample for the 3 years combined was composed of 124,328 eligible households, containing 307,221 persons living at the time of interview. The total NHIS noninterview rate was about 4.6 percent; 2.8 percent was due to respondent refusal, and the remainder was primarily due to failure to locate an eligible respondent at home after repeated calls.

For the 1985 NHIS, several new sample design features were adopted, although, conceptually, the sampling plan remained the same as the previous design. The major changes included (a) reducing the number of primary sampling 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 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. A description 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 data can be effectively analyzed.

All information collected during the survey is from 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, 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 because the respondent 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. Appendix III contains the probe questions and the recording forms used to obtain information on the prevalence of selected chronic conditions and the resulting limitation of activity and disability days. The questionnaires used during the 1986, 1987, and 1988 surveys are presented in Series 10 of *Vital and Health Statistics* (2,3,4). The portions of the questionnaire shown in appendix III for 1988 are the same as those for 1986 and 1987. Chronic conditions are coded using a slight modification of the International Classification of Diseases (ICD) (5), and impairments are coded by a classification shown in the NCHS Medical Coding Manual (6).

Methodological studies have shown that chronic conditions are generally underreported in interview surveys (7). Respondents in health interviews tend to report conditions of which they are aware and about which they are willing to report to the interviewer. Reporting is better



for conditions that have made a significant impact on affected individuals and their families. Conditions that are severe or costly, or are being treated, tend to be better reported than conditions having less impact. For instance, a condition that has caused limitation of activity, visits to the doctor, or days in bed is more likely to be reported in the interview than one that has had little or no impact on the person.

Methodological studies have also indicated that inclusion of a checklist of descriptive condition titles as part of the interview questionnaire increases the probability that a respondent will recognize the terms and report those of which he is aware. Of course, the diagnostic accuracy of condition reports depends on how well the respondent remembers information that the attending physician has passed on to the family or, in the absence of medical attendance, on the previous experience or education of the family.

During the period 1957-67, data were collected in NHIS on all chronic conditions. From 1968 through 1977, as part of a redesign of the data collection procedure, data on chronic conditions involving disability days, physician visits, hospitalizations, or limitation of activity were collected. In addition, prevalence information was obtained for only a single system of chronic conditions (for example, respiratory conditions) in each survey year through the use of an extended checklist of chronic conditions in that system. A report describing this design and the results of a study comparing the previous method with the revised procedure is presented in Series 2 of *Vital and Health Statistics* (8).

In 1978, a new procedure was established. Currently six categorical lists of selected chronic conditions are included in the questionnaire. Respondents are questioned on only one of these six lists, selected on a predetermined basis.

In addition to limitations of data on the prevalence of chronic conditions reported in health interviews, it should be pointed out that the restriction of the survey to the civilian population not confined to institutions affects the estimated prevalence. Omission of the institutionalized population reduces the prevalence estimates, especially for the elderly, because the proportion of persons in institutions who have chronic conditions is high. These

estimates do not indicate the prevalence in the total population.

Information about the prevalence of chronic conditions was obtained from responses to the six categorical checklists of conditions in Section H of the questionnaire. For lists 3,4,6 and the majority of list 1, items C through W, responses are based on the following question: "During the past 12 months did anyone in the family (read names) have \_\_\_\_\_?" For list 1, items A and B, and all of list 2, responses are based on the question "Does anyone in the family (read names) now have \_\_\_\_\_?" Finally, for list 5, responses are based on the question "Has anyone in the family (read names) ever had \_\_\_\_\_?" Estimates for days of disability caused by chronic conditions are based on the number of disability days reported for the 2-week reference period.

The survey includes data only on persons living in the household at the time of interview. Thus the experience of persons who died during the 2 weeks prior to the time of interview is excluded from the data. Also excluded is the 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 +1.96 (0.05 level of significance), was used to test all comparisons that are discussed. Lack of comment regarding the difference between any two statistics does not mean that the difference was tested and found to be insignificant.

An asterisk is placed beside certain figures to indicate a 30-percent or greater relative standard error. 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.

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

# Persons with chronic conditions

This report focuses on the prevalence of selected chronic conditions. The data presented *do not* represent the prevalence of *persons* with a specific chronic condition. However, for most conditions, the condition prevalence and the person prevalence are almost identical. The purpose of this section is to clarify the instances in which large variations are present. Large variations between condition prevalence and person prevalence occur for two different reasons. The first is that a prevalence estimate of a condition may include more than one of the specified checklist items or a checklist item and a specified “other condition” item that falls into the same ICD category as the checklist item. The second reason is that some prevalence categories shown are a combination of other categories and, as a result, a person may have more than one of the conditions that are added to form the combined category. The following outlines the condition prevalence figures in this report that vary markedly from the person prevalence for the condition:

- *Circulatory conditions*—Two condition classes in the circulatory condition tables are combinations of multiple conditions that are not mutually exclusive. These two are “heart disease” and “heart rhythm disorders.” Thus the prevalence estimates presented for these two conditions are much higher than the person prevalence estimates would be. A third condition, “ischemic heart disease,” is generated from multiple checklist items. The person prevalence is estimated to be about 15 percent lower than the condition prevalence shown in this report. Other circulatory condition data shown in this report vary only marginally between person and condition prevalence.
- *Respiratory conditions*—There are no significant differences between condition prevalence and person prevalence for the respiratory conditions shown in this report.
- *Digestive conditions*—The only digestive condition category for which condition prevalence and person prevalence

may vary substantially is “ulcer, gastric, duodenal, and/or peptic,” which is a combined category of the three types of ulcers that are not mutually exclusive.

- *Impairments and conditions of nervous system and sense organs*—There are several combined categories among the impairments for which condition prevalence and person prevalence may vary significantly. They are speech impairments, which includes two separate categories; absence of extremities or parts of extremities, which includes two categories; and deformities or orthopedic impairments, which includes four separate categories. All other condition and person prevalence estimates in this section are either identical or vary only slightly.
- *Conditions of skin and subcutaneous tissue and of musculoskeletal system and connective tissue*—The only condition in these groups for which there is a large difference in the condition and person prevalence estimates is arthritis. The condition prevalence is more than 1 million conditions higher than the person prevalence estimate.
- *Endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of blood and blood-forming organs; and genitourinary conditions*—There are no significant differences between condition prevalence and person prevalence for these categories shown in this report.

The concept of condition prevalence is generally used in NHIS because specific health indexes such as limitation of activity and disability days can be ascribed to specific conditions. In addition, prosthetic and pharmaceutical treatment modes are more condition specific than person specific.

In instances when a condition prevalence estimate is distorted by multiple checklist items, such as in the case of coronary heart disease, person prevalence estimates have been and will continue to be given or the differences between the two enumerated.

## Other NCHS programs providing chronic condition data

NCHS sponsors several programs that provide information on chronic conditions: NHIS, the survey from which the data in this report were obtained; the National Ambulatory Medical Care Survey (NAMCS); the National Health and Nutrition Examination Survey (NHANES); the National Hospital Discharge Survey (NHDS); the National Nursing Home Survey (NNHS); and the vital statistics program. Because of major program differences in objectives, methodology, and definitions, direct comparisons are precluded in the majority of instances. However, when these data sets are used to complement one another, it is possible to obtain a comprehensive overview of the prevalence and effects of chronic conditions in the United States.

NAMCS (9) is a national probability sample of office-based physicians selected from the master files of the American Medical Association and the American Osteopathic Association. Selected physicians maintain a listing of all patient visits to their offices during a randomly assigned 7-day period. The strength of these data is in the precision and depth of the medical information provided. Reliable data on information such as diagnosis, reason for visit, diagnostic procedures, treatments, and medication therapy are reported by the physicians themselves. However, NAMCS includes only physicians classified as non-Federal, office based, and primarily engaged in patient care activities. Hence the estimates of the numbers of physician visits for chronic condition diagnoses are not reflective of the total population. Because of the high reliability of these data, it is nevertheless important to consider the results of this survey when assessing the impact of chronic conditions. Data from the 1985 NAMCS provide estimates of physician visits for specific conditions that can be cross-tabulated by a number of variables. This information is a useful complement to the NHIS prevalence estimates of chronic conditions presented in this report.

The NHANES (10) design is a stratified, multistage, probability cluster sample of households throughout the United States. The process of selecting a sample of persons to be examined is a cascading one that involves the selection of primary sampling units (counties or small groups of contiguous counties), census enumeration districts, segments (clusters of households), households, eligible persons, and, finally, sample persons.

NHANES is used to collect a broad range of morbidity data and related health information. The essential

differentiating characteristic of NHANES is its primary concern with those kinds of health-related data that can be obtained only (or at least optimally) from specially standardized direct medical examinations, including tests and other procedures used in clinical practice. Because NHANES data come from examinations given to persons selected in the scientifically designed sample, estimates can be made of the prevalence of specifically defined diseases in the U.S. population, including cases not previously identified. Estimates can also be made of the distribution within the population of a broad variety of health-related measurements, including not only physical measurements (such as height, weight, and various skin-folds) but also physiological measurements (such as diastolic blood pressure and serum cholesterol level) and psychological measurements. In addition, this survey provides an assessment of the nutritional status of the U.S. population ages 1-74 years that permits nutritional variables to be related to health measures.

NHANES is a recurring survey, and hence permits measurement of changes in health and nutritional status over time. Although information on the range of chronic conditions covered in NHIS is not obtainable through NHANES, extensive physiological and biological information on a number of "target" conditions is available. Conditions for which extensive diagnostic and prevalence data have been collected through NHANES include diabetes; kidney disease; liver disease; allergic conditions; arthritis and disc degeneration; cardiovascular disease, including hypertension; skin conditions; pulmonary disease; and speech and hearing pathology. For a number of these conditions, diabetes and hypertension in particular, the NHANES prevalence estimates are higher than NHIS estimates because undiagnosed conditions are identified during the NHANES examination. However, when respondents are questioned as to whether they suffer from a chronic condition such as hypertension, prevalence estimates are similar for both surveys (11). Thus it is advantageous to use data from both surveys when examining the extent and effects of the prevalence of selected chronic conditions. NHANES data can provide information on undiagnosed conditions. NHIS data can provide information on the prevalence of serious chronic conditions (that is, those that cause limitations) as well as detailed medical and nonmedical information with which the condition prevalence information may be related.

NHANES I was conducted from 1971 through 1973, NHANES II from 1976 through 1980, and NHANES III is being conducted from 1988 through 1994. In addition, the Hispanic Health and Nutrition Examination Survey (HHANES) was conducted from 1982 through 1984 to produce estimates of the health and nutritional status of Mexican-Americans, Cuban-Americans, and Puerto Ricans that are comparable with estimates available for the general population.

NHDS provides statistics on the utilization of non-Federal short-stay hospitals based on data collected from a national sample of hospital records of discharged inpatients (12). It is a continuous survey that has been conducted by NCHS since 1965.

Because NHDS focuses on hospital discharges, condition data are available only for those conditions requiring hospitalization during the survey year. These hospitalizations are discharge based and not person based; one person may have multiple discharges during the year. Estimates for this survey are made by "first-listed diagnosis" as well as by "all-listed diagnoses." These data are not comparable with NHIS prevalence data, but they can be used to estimate the number of hospitalizations resulting from selected chronic conditions during a given year as well as to provide a basic demographic profile of the persons hospitalized for the conditions. Thus NHDS data complement the NHIS chronic condition prevalence estimates.

NNHS is a continuing periodic survey of nursing homes that was first conducted by NCHS from August 1973 through April 1974. The survey was conducted again from May 1977 through December 1977 and most recently from August 1985 through January 1986 (13). All types of nursing homes in the coterminous United States were included in the 1985-86 NNHS, regardless of their intensity of services, their participation in Medicare and Medicaid programs, or their licensing. Data on nursing home facilities, residents, discharges, and chronic conditions are collected in the survey.

The institutionalized population is not included in NHIS, so chronic conditions reported in NNHS can be used to supplement the NHIS estimates. Information is available by all-listed diagnoses at time of survey, most frequent primary diagnosis at time of survey, and prevalence rate of selected diagnoses at time of survey, which eliminates multiple conditions that fall under the same ICD subclassification.

The total number of conditions for nursing home residents is quite small when compared with the number for the noninstitutionalized population. However, it should be noted that 88 percent of nursing home residents are 65 years of age and over (13), so most of the conditions reported are for older people and do have some impact on this group.

The 1.491 million nursing home residents were reported to have 4.972 million conditions (all-listed diagnoses), or

**Table A. Number of chronic conditions with highest prevalence among nursing home residents per 1,000 persons, with respective ICD codes, in rank order: United States, August 1985-January 1986**

<i>Condition and ICD code</i>	<i>Rank</i>	<i>Number of conditions per 1,000 persons</i>
Ischemic heart disease . . . . . 410-414	1	241.5
Senile dementia or organic brain syndrome . . . . . 290,310	2	233.7
Cerebrovascular disease . . . . . 430-436	3	182.1
Arthritis and rheumatism . . . . . 710-713,716,729.0	4	179.1
Essential hypertension . . . . . 401	5	156.4
Other heart disease . . . . . 391-398,402,404, 415,420-427,428.1-429.9	6	152.3
Diabetes mellitus . . . . . 250	7	124.2
Psychoses other than senile dementia . . . . . 291-299	8	110.6
Congestive heart failure. . . . . 428.0	9	106.8
Atherosclerosis . . . . . 440	10	74.7
Chronic obstructive pulmonary disease allied conditions . . . . . 490-496	11	68.4
Alzheimers disease and other specified and unspecified degeneration of the brain . . . . . 331.0,331.2,331.9	12	49.2
Malignant neoplasms . . . . . 140-208	13	48.1
Other mental disorders . . . . . 302-309,311-316	14	47.9
Parkinsons disease . . . . . 332	15	47.4
Anemias . . . . . 280-285	16	47.0
Urinary tract infection . . . . . 599.0	17	38.9
Senility, without psychoses . . . . . 797	18	38.5
Mental retardation . . . . . 317-319	19	33.9
Osteoporosis . . . . . 733.0	20	32.9

Source: National Center for Health Statistics: National Nursing Home Survey.

3.3 conditions per person, at the time of the survey (13). Table A shows the conditions reported in NNHS with the highest prevalence rates, along with their ICD codes. Individual conditions are shown rather than system totals because their rates, which are cumulative, are much higher. This allows for a more equitable comparison with prevalence estimates from NHIS if some combination data are desired. NAMCS, NHDS, and NNHS are now part of a larger entity, "The National Health Care Survey."

One function of the vital statistics program of NCHS is to report the estimated number of deaths in the United States by cause of death. Data on deaths from chronic conditions are not included in NHIS because only civilian noninstitutionalized persons who are alive at the time of interview are surveyed. To understand the entire spectrum of the problem of chronic conditions in this country, mortality data from the vital statistics program must also be considered. The 10 leading causes of death in the United States in 1987 are shown in Table B along with the 10 most prevalent selected chronic conditions reported in NHIS for 1986-88. The list of leading causes of death includes conditions, such as pneumonia and influenza, that are considered acute and others, such as malignant neoplasms, that are not collected in their entirety in NHIS. Hence these lists are not altogether comparable but are nevertheless a useful complement to one another.

**Table B. Statistics on selected chronic conditions with highest prevalence in the civilian noninstitutionalized population and conditions causing the largest number of deaths, with respective ICD codes, in rank order: United States, 1986–88**

Condition and ICD code <sup>1</sup>		Rank	Number of conditions in thousands	Rate per 1,000 persons <sup>2</sup>	Condition and ICD code <sup>1</sup>		Rank	Number of deaths in thousands	Crude death rate per 100,000 population <sup>3</sup>
Chronic conditions				Cause of death					
Chronic sinusitis . . . . .	473	1	33,248	139.3	Diseases of the heart . . . . .	390–398, 402, 404, 410–429	1	760.4	312.4
Deformities or orthopedic impairments . . . . .	X70, X71, X73–X80, X84–X86, X89	2	31,777	133.2	Malignant neoplasms . . . . .	140–205	2	476.9	195.9
Arthritis . . . . .	711.0, 9, 712.8, 9, 714–716, 720.0, 721	3	31,233	130.9	Cerebrovascular diseases . . . . .	330–334	3	149.8	61.6
High blood pressure. . . . .	401–405	4	28,858	120.9	Accidents and adverse effects. . .	E800–E949	4	95.0	39.0
Hay fever or allergic rhinitis without asthma . . . . .	477	5	22,280	93.4	Chronic obstructive pulmonary disease . . . . .	490–496	5	78.4	32.2
Deafness and other hearing impairments . . . . .	X05–X09	6	21,209	88.9	Pneumonia and influenza . . . . .	480–487	6	69.2	28.4
Heart disease . . . . .	413–417, 420.9, 421.0, 9, 422.9, 423, 424, 425.0–5, 9, 426, 427.0–6, 8, 9, 428, 429.0–5, 8, 9, 745, 746, 785.0–2	7	19,469	81.6	Diabetes mellitus. . . . .	250	7	38.5	15.8
Chronic bronchitis . . . . .	490, 491	8	12,014	50.4	Suicide . . . . .	E950–E959	8	30.8	12.7
Hemorrhoids . . . . .	455	9	10,485	43.9	Chronic liver disease and cirrhosis. . . . .	571	9	26.2	10.8
Asthma . . . . .	493	10	9,736	40.8	Atherosclerosis . . . . .	440	10	22.5	9.1

<sup>1</sup>Ninth Revision International Classification of Diseases. Impairments are coded according to a special classification system for the National Health Interview Survey.

<sup>2</sup>Conditions per 1,000 persons in civilian noninstitutionalized population.

<sup>3</sup>Deaths per 100,000 resident population.

NOTE: Chronic condition data are for 1986–88; cause of death data are for 1987.

Source: Mortality data are from the vital statistics program of the National Center for Health Statistics.

## Related NHIS data on chronic conditions

Chronic condition data have been collected in NHIS since 1957. As mentioned earlier, the procedures for collecting chronic condition data have changed over the years. From 1957 through 1967, data were collected on all chronic conditions; from 1968 through 1977, the collection of chronic condition data focused on an annual survey of a single system of chronic conditions; for example, respiratory conditions, using an extended checklist of chronic conditions in that system. In 1978, the current procedure was instituted. The total NHIS sample is now divided into six representative subsamples, each of which is administered one of the six chronic condition checklists.

In addition to changes in survey procedures, three versions of the ICD have been used over this period. Because of changes in survey procedures and disease classifications, only NHIS chronic condition data from 1979 and later years are comparable for the purpose of trend analysis. There are even exceptions within these years. For example, NHIS data for 1979 showed prevalence of heart conditions that included rheumatic fever, whereas currently NHIS data show prevalence of heart *disease* that does not include the same ICD codes previously included. In addition, total deformities or orthopedic impairments as shown in this report represents a total of the subclassifications, whereas some prior NHIS publications did not treat this category as cumulative and persons with impairments in multiple categories were only counted once. Hence in these cases, the total shown was less than the sum of the subcategories.

Although a large amount of chronic condition data has been published over the years, only material published in about the last 20 years is referenced here. However, many other publications are also cited within those publications listed.

The following is a list of reports on data collected during the period when single systems were surveyed. A good deal of detailed and useful information is available in each of these reports, but the reader should exercise

caution in comparing estimates from the following reports with estimates from reports for 1979 and later years:

- Series 10, No. 84: Prevalence of Selected Chronic Respiratory Conditions, United States, 1970 (14).
- Series 10, No. 92: Prevalence of Chronic Skin and Musculoskeletal Conditions, United States, 1969 (15).
- Series 10, No. 94: Prevalence of Chronic Circulatory Conditions, United States, 1972 (16).
- Series 10, No. 109: Prevalence of Chronic Conditions of the Genitourinary, Nervous, Endocrine, Metabolic, and Blood and Blood-forming Systems and of Other Selected Chronic Conditions, United States, 1973 (17).
- Series 10, No. 121: Characteristics of Persons with Hypertension, United States, 1974 (18).
- Series 10, No. 123: Prevalence of Selected Chronic Digestive Conditions, United States, 1975 (19).
- Series 10, No. 124: Prevalence of Chronic Skin and Musculoskeletal Conditions, United States, 1976 (20).
- Series 10, No. 134: Prevalence of Selected Impairments, United States, 1977 (21).

In addition, data on the prevalence of chronic conditions have been presented yearly since 1982 in the “Current Estimates” reports. The most recent data are presented in “Current Estimates From the National Health Interview Survey, United States, 1990” (1). Information in the Current Estimates reports is not as detailed as the information is in this report; in the Current Estimates reports estimates were subject to more variation because data for only 1 year were used, whereas data for 3 years were used for this report.

Finally, there have been two reports produced that focused on the prevalence of all selected chronic conditions:

- Series 10, No. 155: Prevalence of Selected Chronic Conditions, United States, 1979–81 (22).
- Advanced Data No. 155: Prevalence of Selected Chronic Conditions, United States, 1983–85 (23).

# Chronic condition prevalence

“Prevalence” often refers to the number of some item existing at a given point in time; this definition of prevalence is usually referred to as “point prevalence.” Prevalence can also refer to the average number of some item existing during a specified interval of time and is usually called “period prevalence.” The latter definition is used in NHIS because the data are collected over intervals of time.

Chronic conditions are defined as conditions that either (1) were first noticed 3 months or more before the date of interview, or (2) belong to a group of conditions considered chronic regardless of when they began.

For the purpose of estimating the prevalence of reported chronic conditions, the total NHIS sample was divided into six representative subsamples. Each subsample was administered one of six checklists that contained broad categories of types of chronic conditions. Respondents were asked to indicate the presence or absence of

each condition specified on the particular list administered to them. Because the presence or absence of many types of chronic conditions is often ambiguous, several “impact” questions were asked about each condition reported.

The tables in this report are organized primarily by checklist. However, some modifications in the presentation were made for instances in which more than one of the six lists included data from the same disease classification system as that in the Ninth Revision of the International Classification of Diseases (5).

## Conditions with high prevalence

The selected chronic conditions with highest prevalence during 1986–88 are presented in table C for all persons by sex, race, and age group and in table D for all

Table C. Selected chronic conditions with highest prevalence in rank order, by sex, race and age: United States, 1986–88

Chronic condition	All persons <sup>1</sup>	Sex		Race		Age					
		Male	Female	White	Black	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	
Condition						Rank					
Chronic sinusitis . . . . .	1	2	2	1	3	2	1	3	6	7	
Deformities or orthopedic impairments . . . . .	2	1	3	2	4	6	2	4	5	6	
Arthritis . . . . .	3	5	1	3	2	(2)	7	1	1	1	
High blood pressure. . . . .	4	3	4	4	1	(2)	4	2	2	2	
Hay fever or allergic rhinitis without asthma . . . . .	5	6	5	5	6	1	3	7	10	(2)	
Deafness and other hearing impairments. . . . .	6	4	7	6	8	(2)	6	5	4	3	
Heart disease . . . . .	7	7	6	7	5	9	(2)	6	3	4	
Chronic bronchitis . . . . .	8	9	8	8	10	3	(2)	(2)	(2)	(2)	
Hemorrhoids . . . . .	9	8	(2)	9	(2)	(2)	9	8	(2)	(2)	
Asthma . . . . .	10	(2)	(2)	10	7	4	(2)	(2)	(2)	(2)	
Blindness and other visual impairments. . . . .	(2)	10	(2)	(2)	(2)	(2)	(2)	(2)	(2)	8	
Migraine headache . . . . .	(2)	(2)	9	(2)	(2)	(2)	5	(2)	(2)	(2)	
Other headache (excludes tension headache). . . . .	(2)	(2)	10	(2)	(2)	(2)	8	(2)	(2)	(2)	
Diabetes . . . . .	(2)	(2)	(2)	(2)	9	(2)	(2)	9	8	9	
Dermatitis . . . . .	(2)	(2)	(2)	(2)	(2)	5	10	(2)	(2)	(2)	
Chronic disease of tonsils and adenoids . . . . .	(2)	(2)	(2)	(2)	(2)	7	(2)	(2)	(2)	(2)	
Acne . . . . .	(2)	(2)	(2)	(2)	(2)	8	(2)	(2)	(2)	(2)	
Speech impairments . . . . .	(2)	(2)	(2)	(2)	(2)	10	(2)	(2)	(2)	(2)	
Varicose veins of lower extremities. . . . .	(2)	(2)	(2)	(2)	(2)	(2)	(2)	10	(2)	(2)	
Cataracts. . . . .	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	7	5	
Tinnitus. . . . .	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	9	(2)	
Constipation. . . . .	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	10	

<sup>1</sup> Includes races other than white and black.

<sup>2</sup> Indicated rank is not in top 10.

NOTE: This table shows rank by condition prevalence, not person prevalence. A person may have more than one condition in some grouping such as deformities, orthopedic impairments, or heart conditions.

**Table D. Selected chronic conditions with highest prevalence in rank order, by family income, geographic region, and place of residence: United States, 1986-88**

Chronic condition	Family income					Geographic region				Place of residence		
	All persons <sup>1</sup>	Less than \$10,000	\$10,000 to \$19,999	\$20,000 to \$34,999	\$35,000 and over	North-east	Mid-west	South	West	MSA central city	MSA not central city	Not MSA
Chronic sinusitis . . . . .	1	4	4	1	1	4	1	1	5	3	1	1
Deformities or orthopedic impairments . . . . .	2	2	2	2	3	3	2	4	1	1	2	3
Arthritis . . . . .	3	1	1	4	5	1	3	2	2	2	3	2
High blood pressure . . . . .	4	3	3	3	4	2	4	3	4	4	4	4
Hay fever or allergic rhinitis without asthma . . . . .	5	7	7	5	2	6	7	5	3	5	5	7
Deafness and other hearing impairments . . . . .	6	6	5	6	6	7	5	6	6	6	6	5
Heart disease . . . . .	7	5	6	7	7	5	6	7	7	7	7	6
Chronic bronchitis . . . . .	8	8	8	8	8	8	8	8	8	8	8	8
Hemorrhoids . . . . .	9	( <sup>2</sup> )	9	9	9	10	9	9	10	( <sup>2</sup> )	9	9
Asthma . . . . .	10	10	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	9	10	( <sup>2</sup> )	( <sup>2</sup> )	9	( <sup>2</sup> )	10
Other headache (excludes tension headache) . . . . .	( <sup>2</sup> )	9	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	10	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Blindness and other visual impairments . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	10	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Dermatitis . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	10	10	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	9	10	10	( <sup>2</sup> )

<sup>1</sup>Includes unknown family income.

<sup>2</sup>Indicated rank is not in top 10.

NOTE: This table shows rank by condition prevalence, not person prevalence. A person may have more than one condition in some groupings, such as deformities, orthopedic impairments, or heart conditions.

persons by family income, geographic region, and place of residence. It should be noted that if a total category such as deformities or orthopedic impairments is included in the top 10 listings, then a subcategory such as deformities and orthopedic impairments of the back is not, even though the prevalence rate is higher than that for some other conditions that are included. It is not listed because it has already been included in the total category.

Chronic sinusitis ranked highest in prevalence for all persons; for white persons; for persons 18-44 years of age; for persons in families with incomes of \$20,000-\$34,999 and \$35,000 and over; for persons living in the Midwest and South Regions; and for persons residing in MSA's, not central city; and for those not residing in MSA's. Deformities or orthopedic impairments ranked highest in prevalence for males; for persons residing in the West Region; and for persons residing in MSA's, central city. Arthritis was the most prevalent chronic condition among females; among persons ages 45-64 years, 65-74 years, and 75 years of age and over; among persons with family incomes of less than \$10,000 and \$10,000-\$19,999; and among persons residing in the Northeast. High blood pressure was the most prevalent condition among black persons, and hay fever was the most prevalent among persons under 18 years of age. For most of the variables listed, the conditions in the top 10 rankings did not differ much although their rank within the top 10 did. The exception was for the age groups. Among persons under 18 years of age, dermatitis, chronic disease of tonsils and adenoids, acne, and speech impairments all ranked in the top 10, whereas none of them ranked in the top 10 for all persons. Similarly, for persons ages 18-44 years, migraine headache, other headache, and dermatitis ranked in the top 10; for persons ages 45-64 years, diabetes and varicose veins ranked in the top 10; for persons ages 65-74 years,

diabetes, cataracts, and tinnitus ranked in the top 10; and for persons 75 years of age and over, cataracts, diabetes, and constipation ranked in the top 10. None of these conditions ranked in the top 10 for all persons.

Percent distributions of the three selected chronic conditions with the highest prevalence (chronic sinusitis, deformities or orthopedic impairments, and arthritis) are presented in figure 1 by sex and age. Females accounted for a slightly higher percent of deformities or orthopedic impairments than did males, but almost three of every five chronic sinusitis conditions and almost two of every three arthritis conditions were reported among females. The large female to male ratio for arthritis conditions is age related because females account for a much higher percent of the population 65 years of age and over for whom arthritis prevalence rates are very high. Among the age groups shown, approximately one-half of chronic sinusitis conditions and deformities or orthopedic impairments were for persons ages 18-44 years, and one-quarter of the conditions were for persons ages 45-64 years. For arthritis, the distribution was quite different, with 39.2 percent of the cases reported for persons ages 45-64 years, 25.0 percent for persons ages 65-74 years, and 18.5 percent for persons 75 years of age and over.

Figure 2 shows the six selected chronic conditions with the highest prevalence rates per 1,000 persons by age. The rates for three of the conditions (arthritis, high blood pressure, and deafness and other hearing impairments) were much higher for persons in the older age groups. The prevalence rate for deformities or orthopedic impairments was low for persons under 18 years of age, increased markedly for persons ages 18-44 years, and continued to increase, but in smaller increments, for persons in the older age groups. Chronic sinusitis prevalence rates were fairly stable for all age groups over 18 years of age,



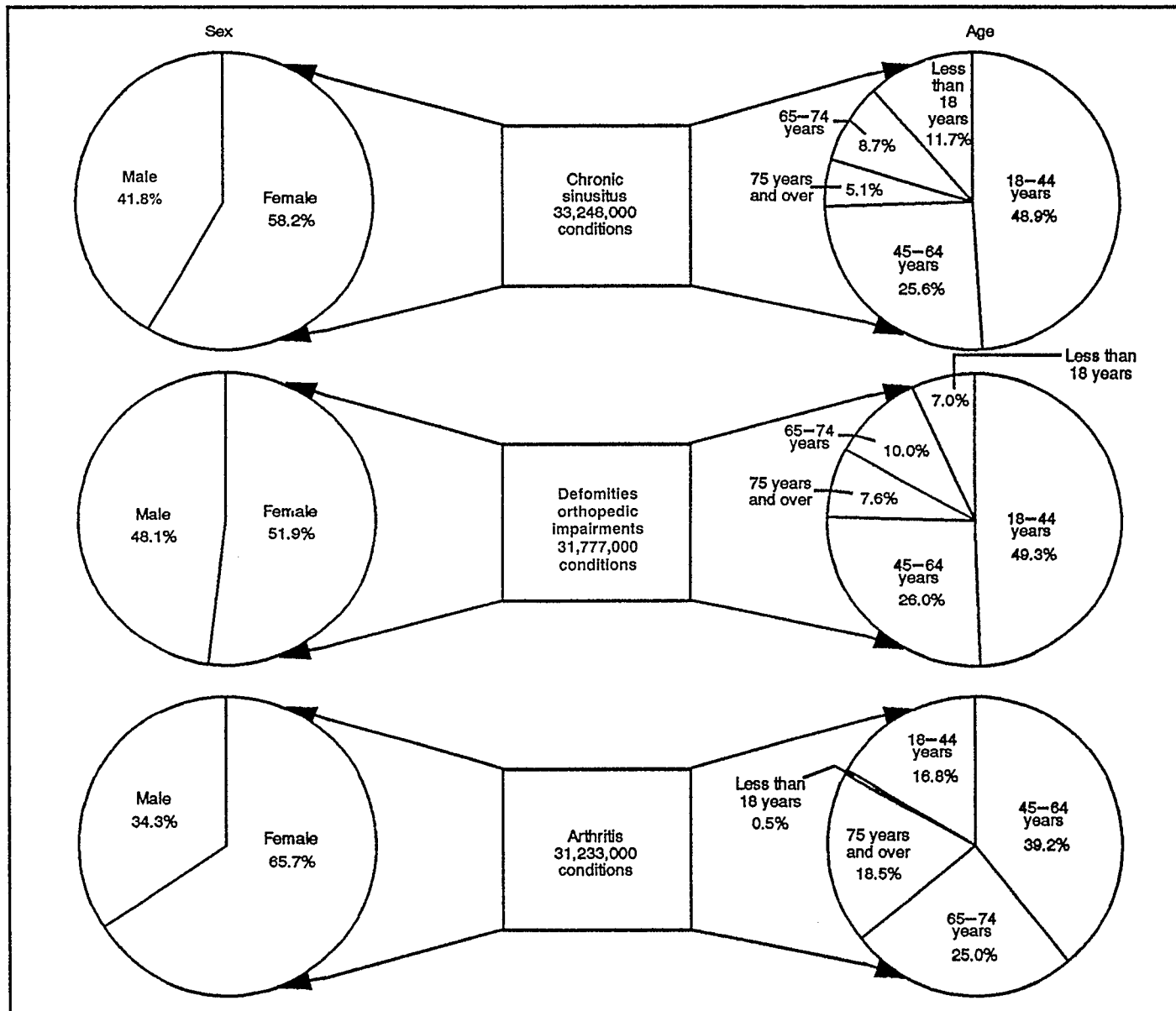


Figure 1. Percent distribution of selected chronic conditions with highest prevalence by sex and age: United States, 1986-88

whereas the highest prevalence rate for hay fever was for persons ages 18-44 years and lowest for persons 75 years of age and over.

Figure 3 shows the 10 selected chronic conditions with the highest prevalence rates by the percent of conditions causing limitation in major and outside activity. There is a wide range in the degree of disability that is caused by the most prevalent conditions. Although chronic sinusitis and hemorrhoids cause limitation of activity in only 1 of every 200 persons, heart disease results in activity limitation approximately 25 percent of the time, and deformities or orthopedic impairments cause activity limitation for about 23 percent of the conditions.

The selected chronic conditions responsible for the largest proportion of activity limitation are shown in table E. In this table, total categories and subcategories are both included to provide data on the most disabling

conditions. All conditions that caused activity limitation for at least 30 percent of the cases are included. Ranking is not done because some categories that are not mutually exclusive are included. Conditions causing the highest percents of activity limitation were mental retardation (83.6 percent), malignant neoplasms of the lung, bronchitis, and other respiratory sites (75.0 percent), and multiple sclerosis (70.2 percent).

### Selected circulatory conditions

Prevalence estimates for selected chronic circulatory conditions and corresponding rates per 1,000 persons by age are shown in table 1. Tables 2-5 show this information for males, females, white persons, and black persons, respectively. The percent of conditions causing limitation of activity, the percent that caused one hospitalization or

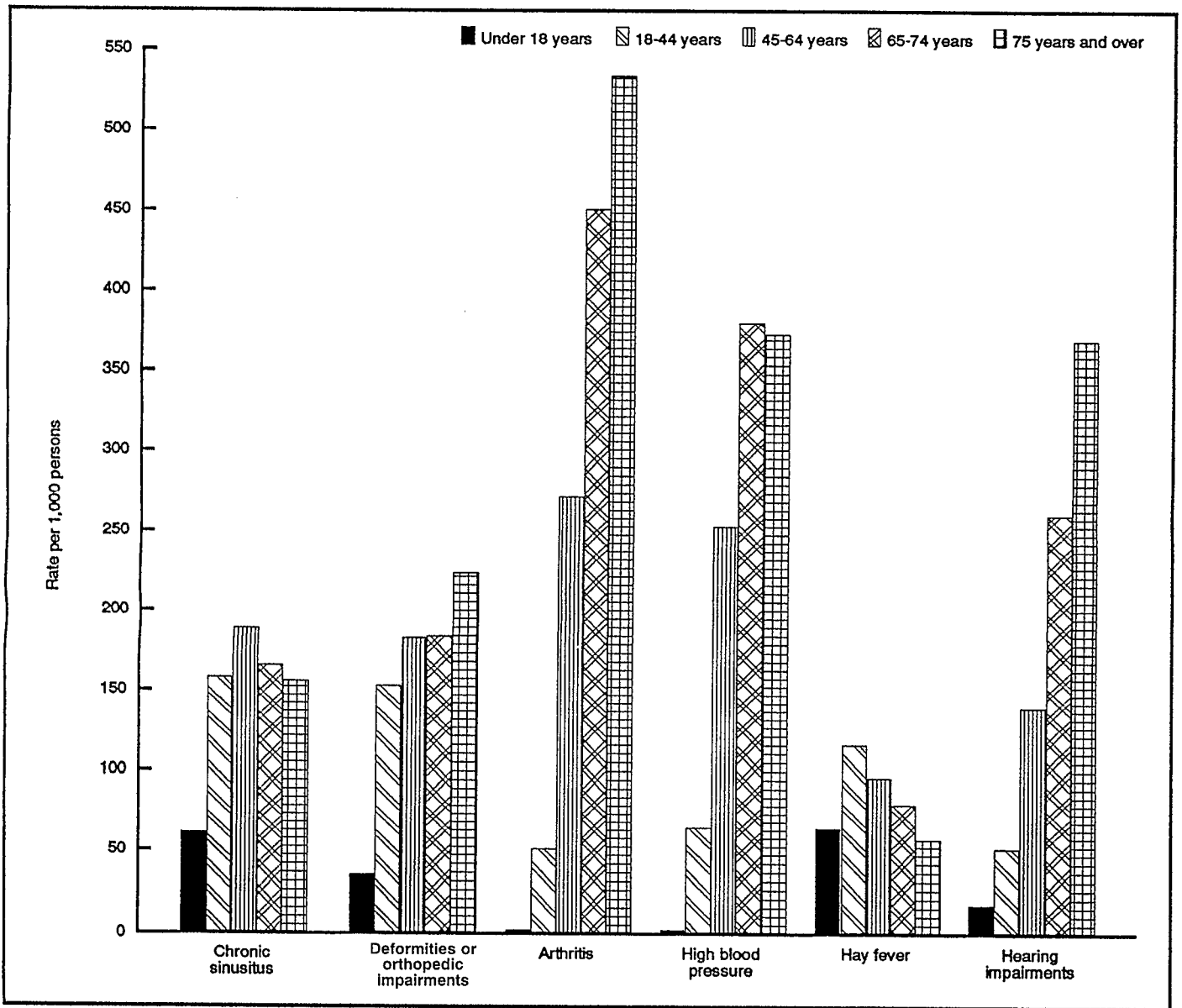


Figure 2. Rate per 1,000 persons per year for selected reported chronic conditions with highest prevalence, by age: United States, 1986-88

more, and the percent that caused one doctor visit or more are also included in tables 1-5. Tables 6-8 contain prevalence estimates of chronic circulatory conditions and rates per 1,000 persons by family income, geographic region, and place of residence, respectively.

Data presented in table 1 show that high blood pressure, estimated at almost 29 million conditions annually, or 120.9 per 1,000 persons, was the most prevalent chronic circulatory condition. High on the prevalence list for chronic circulatory conditions were heart disease, estimated at 19.5 million conditions; hemorrhoids, 10.5 million conditions; and varicose veins, 7.3 million conditions. For young persons (under 18 years of age), heart disease was the most prevalent disease, whereas high blood pressure was highest in prevalence for the other four age groups. Ischemic heart disease caused the highest percent

of hospitalizations, 73.4 percent. Data from tables 2 and 3 show that high blood pressure, heart disease, and hemorrhoids were high in prevalence for both sexes. However, the rate for ischemic heart disease was 50 percent higher for males than for females, whereas the prevalence rates for varicose veins was four times higher for women than for men. Women 65 years of age and over also had higher rates for high blood pressure than did men.

The prevalence rates for chronic circulatory conditions are shown for white persons and black persons in tables 4 and 5. The prevalence rates for chronic circulatory conditions among white persons were very similar to those for all persons (table 4). The prevalence rates for high blood pressure among black persons were higher than those among white persons, but the rates were lower among black persons for heart disease, hemorrhoids, and

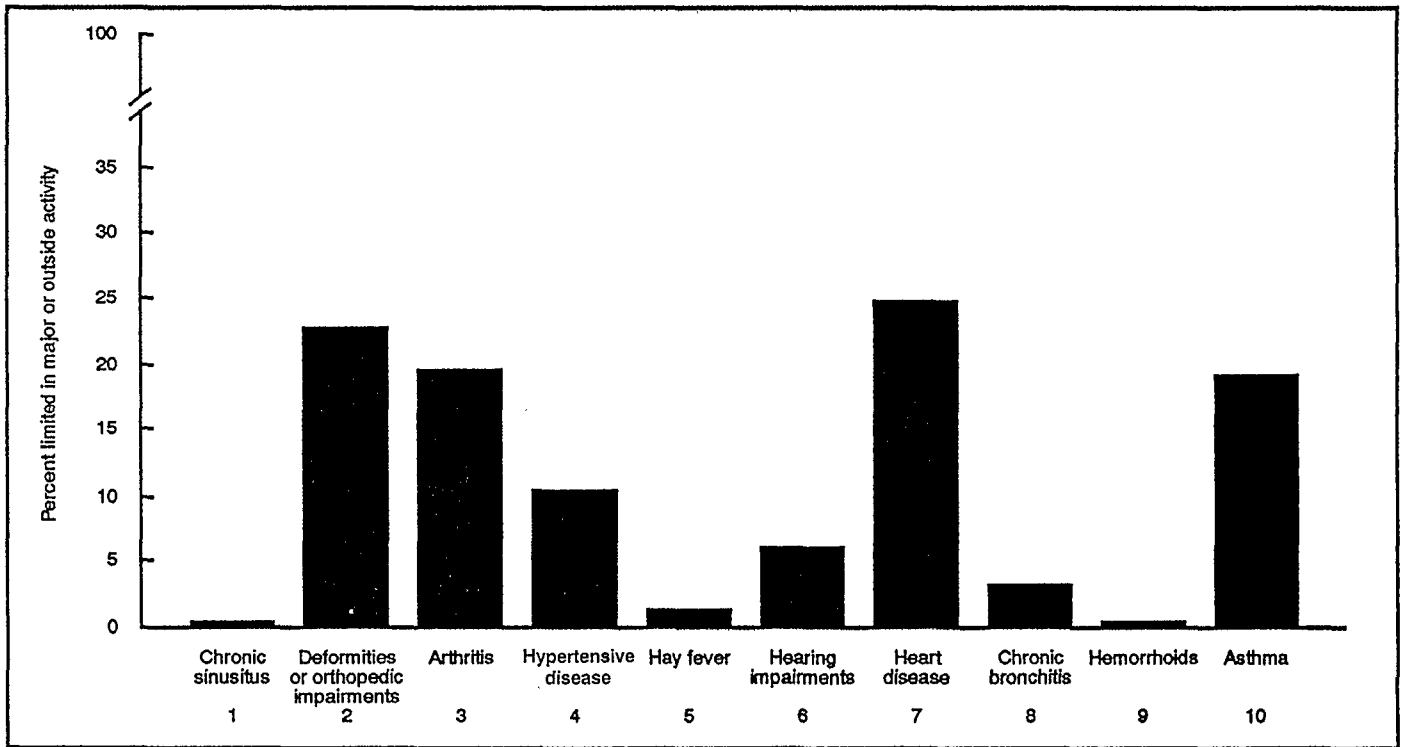


Figure 3. Selected reported chronic conditions with highest prevalence, in rank order, by percent causing limitation in major or outside activity: United States 1986-88

varicose veins. However, a higher percent of black persons were limited in their activity from heart disease than were white persons.

Table 6 shows the estimated prevalence of chronic circulatory conditions and rates per 1,000 persons by family income. For most circulatory conditions, the rates are highest among those with family incomes of less than \$10,000 and lowest for those with family incomes of \$35,000 or more. This is most likely age related because the proportion of persons 65 years of age and over with family incomes of less than \$10,000 is more than double the proportion of the elderly in the civilian noninstitutionalized population.

The prevalence of chronic circulatory conditions and rates per 1,000 persons are shown by geographic region and place of residence in tables 7 and 8, respectively. Among the geographic regions, the rates for both heart disease and high blood pressure were lower in the West than in the other three regions. Among places of residence, the prevalence rate for heart disease was higher for persons not living in metropolitan statistical areas.

### Selected respiratory conditions

Tables 9-13 contain the prevalence estimates for selected chronic respiratory conditions and rates per 1,000 persons by age, for all persons, males, females, white persons, and black persons, respectively. The percent of conditions causing limitation of activity, the percent that caused one hospitalization or more, and the percent that caused one doctor visit or more are also included in these

tables. Tables 14-16 contain estimates of chronic respiratory conditions and rates per 1,000 persons by family income, geographic region, and place of residence.

Chronic sinusitis was the most frequently reported chronic respiratory condition, with an annual average prevalence of more than 32 million conditions, or 139.3 conditions per 1,000 persons (table 9). Other chronic respiratory conditions of high prevalence included hay fever (22.2 million conditions), chronic bronchitis (12.0 million conditions), and asthma (9.7 million conditions). In addition to the above four conditions, persons under 18 years of age also had a high prevalence rate for chronic disease of tonsils and adenoids (32.1 per 1,000 persons), compared with 13.9 per 1,000 for all persons in the civilian noninstitutionalized population. Among persons 65-74 years and 75 years of age and over, the rate for emphysema is much higher than the rate for persons in the younger age groups. Malignant neoplasms of lung, bronchus, and other respiratory sites, and emphysema caused high percents of activity limitation, 75.0 percent and 46.6 percent, respectively.

Data in tables 10 and 11 show that for both males and females the prevalence rates for chronic sinusitis, hay fever, chronic bronchitis, and asthma were high, similar to the pattern for all persons. However, the rates for two of these conditions, chronic sinusitis and chronic bronchitis, were substantially higher among females.

The prevalence rates of chronic respiratory conditions are shown for white persons in table 12 and for black persons in table 13. The rates for white persons were

similar to those for all persons, whereas the prevalence rates among black persons were much lower for chronic sinusitis, hay fever, and chronic bronchitis but higher for asthma.

The estimated prevalence of chronic respiratory conditions and rates per 1,000 persons are shown by family income in table 14. Chronic bronchitis and asthma were highest in prevalence among persons with the lowest family income (less than \$10,000), whereas hay fever was highest among persons with the highest income (\$35,000 or more). The high rate for asthma for those with incomes of less than \$10,000 is somewhat unexpected because there is a large percent of older persons in this group, and the highest rate for asthma, by age group, is for those under 18 years of age.

The prevalence of chronic respiratory conditions and rates per 1,000 persons are shown by geographic region in table 15 and place of residence in table 16. Among the regions, the prevalence rates for chronic sinusitis in the Midwest and South were almost twice as high as the rates in the Northeast and West. Conversely, the highest prevalence rate for hay fever was for persons living in the West Region. There was not much variation in the prevalence rates for chronic respiratory diseases by place of residence. The one exception was the high rate for chronic sinusitis among persons not living in metropolitan statistical areas.

## Selective digestive conditions

Prevalence estimates for selected chronic digestive conditions and the rates per 1,000 persons by age are shown for all persons, males, females, white persons, and black persons in tables 17–21, respectively. The percent of conditions causing limitation of activity, the percent that caused one hospitalization or more and the percent that caused one doctor visit or more are also included in tables 17–21. Tables 22–24 contain prevalence estimates for chronic digestive conditions and the rates per 1,000 persons by family income (table 22), geographic region (table 23), and place of residence (table 24).

Data presented in table 17 show that the most prevalent chronic digestive conditions were indigestion and other functional disorders of the stomach and digestive system (6.3 million conditions), hernia of abdominal cavity (4.7 million conditions), constipation (4.6 million conditions), and ulcers, gastric, duodenal, and/or peptic (4.3 million conditions). The rate for hernia of the abdominal cavity was progressively higher in each age group, and the rate for constipation was particularly high for persons 75 years of age and over. Malignant neoplasms of stomach, intestines, colon, and rectum, although not high in prevalence, caused the highest percent of activity limitation (39.5 percent).

Data from tables 18 and 19 show that indigestion and other functional disorders, hernia of the abdominal cavity, and ulcers were highest in prevalence among males (table 18), whereas among females, constipation was high-

**Table E. Selected chronic conditions causing 30 percent or more limitations in major or outside activity, by percent with limitation: United States, 1986–88**

<i>Chronic condition</i>	<i>Percent with limitation in major or outside activity</i>
Mental retardation . . . . .	83.6
Malignant neoplasms of the lung, bronchus and other respiratory sites . . . . .	75.0
Multiple sclerosis . . . . .	70.2
Blindness—both eyes . . . . .	61.2
Paralysis of extremities—complete or partial . . . . .	57.4
Paralysis of extremities—complete . . . . .	47.5
Paralysis of extremities—partial . . . . .	62.8
Cerebral palsy . . . . .	69.8
Other deformities or orthopedic impairments . . . . .	50.0
Other selected diseases of the heart (excludes hypertension) . . . . .	47.4
Emphysema . . . . .	46.6
Intervertebral disc disorders . . . . .	46.6
Paralysis of other sites—complete or partial . . . . .	45.5
Disorders of bone or cartilage . . . . .	41.1
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	39.5
Cerebrovascular disease . . . . .	39.2
Malignant neoplasm of prostate . . . . .	38.5
Epilepsy . . . . .	35.8
Absence of lower extremities or parts of lower extremities . . . . .	35.4
Orthopedic impairment of shoulder . . . . .	34.7
Diabetes . . . . .	33.3
Pneumoconiosis and asbestosis . . . . .	32.5
Ischemic heart disease . . . . .	32.2

est in prevalence, followed by the three above conditions (table 19). Among both males and females, prevalence rates for hernia of the abdominal cavity and constipation were very high among persons 75 years of age and over.

The prevalence of chronic digestive conditions and the rates per 1,000 persons by age are shown for white persons and black persons in tables 20 and 21, respectively. The prevalence rates by age for white persons closely parallel those for all persons. The prevalence rate for constipation was higher for black persons than for white persons, whereas the rates for indigestion and other functional disorders and hernia of the abdominal cavity were lower.

Table 22 shows the estimated prevalence of chronic digestive conditions and rates per 1,000 persons by age and family income. Rates for the most prevalent chronic digestive conditions, indigestion and other functional disorders, hernia of abdominal cavity, constipation, and ulcers were all higher for persons in the low income group (less than \$10,000) and lower for those in the high income group (\$35,000 or more). Although this finding is primarily age related, particularly for constipation and hernia of the abdominal cavity, it is somewhat surprising for ulcers. In this case, the prevalence rate for ulcers for persons with family incomes of less than \$10,000 was more than double the rate for persons with incomes of \$35,000 or more.

The prevalence of chronic digestive conditions and the rates per 1,000 persons are shown by geographic

region and place of residence in tables 23 and 24, respectively. For the geographic regions, prevalence rates for indigestion, constipation, and ulcers were all lower in the Northeast than in all regions combined, whereas rates for a majority of the chronic digestive conditions were higher in the South than in all regions combined. Among places of residence, higher prevalence rates for indigestion, constipation, hernia of the abdominal cavity, and ulcers were reported for persons living outside metropolitan statistical areas.

## **Selected impairments and conditions of the nervous system and sense organs**

Tables 25–29 contain the prevalence estimates for selected impairments and chronic conditions of the nervous system and sense organs and rates per 1,000 persons by age, for all persons, males, females, white persons, and black persons, respectively. The percent of conditions causing limitation of activity, the percent that caused one hospitalization or more and the percent that caused one or more doctor visits are also included in these tables. Tables 30–32 contain prevalence estimates of selected impairments and chronic conditions of the nervous system and sense organs and the corresponding rates per 1,000 persons by family income (table 30), geographic region (table 31), and place of residence (table 32).

Among the selected impairments reported, the most prevalent for all persons were deformities or orthopedic impairments, 31.8 million conditions; deafness and other hearing impairments, 21.2 million conditions; and blindness and other visual impairments, 8.2 million conditions (table 25). Among persons under 18 years of age, deformities or orthopedic impairments were highest in prevalence, with speech impairments second and deafness and other hearing impairments third. Deformities or orthopedic impairments were also highest in prevalence among persons ages 18–44 years and 45–64 years, but deafness and other hearing impairments ranked second and blindness and other visual impairments ranked third. Among persons ages 65–74 years and 75 years of age and over, deafness and other hearing impairments was highest in prevalence and deformities or orthopedic impairments was second. Mental retardation caused the highest percent of activity limitation, 83.6 percent.

Migraine headache and other headache (excluding tension headache), 8.8 million conditions each, were the most prevalent conditions of the nervous system and sense organs among persons of all ages, under 18 years of age, ages 18–44 years and, along with tinnitus, among persons ages 45–64 years. For persons ages 65–74 years and 75 years and over, cataracts were highest in prevalence and tinnitus ranked second. Multiple sclerosis caused a higher percent of activity limitation than any other condition of the nervous system and sense organs, 70.2 percent.

The prevalence patterns for selected impairments noted above for all persons were found to be the same for males and very similar for females (tables 26 and 27). For most of the age groups, however, males had higher preva-

lence rates than females had for deafness and other hearing impairments and for blindness and other visual impairments. In addition, the rate for speech impairments among males under 18 years of age was double that for females.

Tinnitus was the most prevalent chronic condition of the nervous system and sense organs among males, whereas migraine headache and other headache were most prevalent among females, with rates more than double those for males. The rate for color blindness among males was 10 times as high as the rate for females. Cataracts were highest in prevalence among both males and females 75 years of age and over.

The prevalence patterns for selected impairments and for chronic conditions of the nervous system and sense organs for white persons were similar to those for all persons (table 28). Black persons reported lower prevalence rates than white persons did for blindness and other visual impairments, deafness and other hearing impairments, and deformities or orthopedic impairments. However, the prevalence rates for speech impairments and mental retardation among black persons were almost twice as high as the rates among white persons (table 29).

The estimated prevalence of selected impairments and chronic conditions of the nervous system and sense organs and rates per 1,000 persons are shown by family income in table 30. Prevalence rates for deformities or orthopedic impairment, deafness and other hearing impairments, blindness and other visual impairments, cataracts, and tinnitus were all higher among persons with family incomes of less than \$10,000 and lower among persons with incomes of \$35,000 or more. Because the low-income group has a higher proportion of persons 65 years of age and over than the other income groups do, these differences are largely age related.

The prevalence of selected impairments and chronic conditions of the nervous system and sense organs and the corresponding rates per 1,000 persons are shown by geographic region in table 31 and by place of residence in table 32. Among the regions, prevalence rates for deformities or orthopedic impairments and deafness and other hearing impairments were lower in the Northeast Region than in the remaining regions; whereas among places of residence, persons living outside metropolitan statistical areas reported higher prevalence rates for deafness and other hearing impairments and blindness and other visual impairments.

## **Selected conditions of skin and subcutaneous tissue and musculoskeletal system and connective tissue**

Prevalence estimates for selected chronic conditions of skin and subcutaneous tissue and musculoskeletal system and connective tissue and the rates per 1,000 persons by age are shown for all persons, males and females, white persons, and black persons in tables 33–37, respectively. The percent of conditions causing limitation of activity, the percent that caused one hospitalization or more, and

the percent that caused one doctor visit or more are also included in tables 33–37. Tables 38–40 contain prevalence estimates for chronic conditions of skin and subcutaneous tissue and musculoskeletal system and connective tissue and the rates per 1,000 persons by family income (table 38), geographic region (table 39), and place of residence (table 40).

Data presented in table 33 show that the most prevalent chronic conditions of the skin and subcutaneous tissue were dermatitis (9.1 million conditions), ingrown nails (5.8 million conditions), and dry itching skin (4.6 million conditions). Dermatitis was highest in prevalence among persons under 18 years of age and among those ages 18–44 years and 45–64 years. Acne was second in the two younger age groups, whereas corns and calluses and ingrown nails followed dermatitis in the age group 45–64 years and were the most prevalent conditions among persons 65–74 years and 75 years of age and over.

Among the selected chronic conditions of the musculoskeletal system and connective tissue, arthritis was by far the most prevalent, 31.2 million conditions. Bursitis and intervertebral disc disorders were second and third, with a prevalence of 4.4 million and 4.1 million conditions, respectively. Arthritis was highest in prevalence for all age groups, whereas intervertebral disc disorders caused the highest percent of activity limitation, 46.6 percent.

Data from tables 34 and 35 show that dermatitis and ingrown nails were the most prevalent chronic conditions of the skin and subcutaneous tissue among both males and females, although the rate from dermatitis was about 50 percent higher among females. The rate for malignant neoplasms of the skin was approximately twice as high among males ages 65–74 years and 75 years of age and over.

Arthritis was the most prevalent chronic condition of the musculoskeletal system and connective tissue for both males and females. The rates, however, were higher among females in all age groups. Females also reported quadruple the prevalence rate for bunions that males did.

The prevalence of chronic conditions of the skin and subcutaneous tissue and musculoskeletal system and connective tissue and rates per 1,000 persons by age are shown for white persons in table 36 and for black persons in table 37. The rates for white persons were similar to those for all persons in both condition groups. Among black persons, the prevalence rates for conditions of the skin and subcutaneous tissue were lower than the rates reported for white persons for all conditions except corns and calluses. The rate for corns and calluses was 50 percent higher among black persons. The prevalence rates for most of the conditions of the musculoskeletal system and connective tissue were lower among black persons than among white persons. Black persons reported only half the rate of intervertebral disc disorders that white persons did.

Table 38 shows the estimated prevalence of chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue and rates per 1,000 persons by family income. For conditions of the skin and subcutaneous tissue, persons with incomes of less

than \$10,000 had higher prevalence rates for dry skin, ingrown nails, and corns and calluses. Persons with incomes of less than \$10,000 also had the highest prevalence rates for arthritis and bunions, among chronic conditions of the musculoskeletal system and connective tissue. The high rate for arthritis was definitely age related.

The prevalence of chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue and the rates per 1,000 persons are shown by geographic region and place of residence in tables 39 and 40, respectively. Among the geographic regions, there was very little variation among conditions of the musculoskeletal system and connective tissue, whereas for conditions of the skin and subcutaneous tissue, dermatitis was high in prevalence among persons in the West Region. For places of residence, rates were high for ingrown nails and for arthritis among persons living outside metropolitan statistical areas.

### **Selected endocrine, nutritional, and metabolic diseases and immunity disorders, diseases of the blood and blood-forming organs, and genitourinary conditions**

Tables 41–45 contain the prevalence estimates for selected endocrine, nutritional, and metabolic diseases and immunity disorders, diseases of the blood and blood-forming organs, and genitourinary conditions and rates per 1,000 persons by age for all persons, males, females, white persons, and black persons, respectively. The percent of conditions causing limitation of activity, the percent causing one hospitalization or more, and the percent causing one doctor visit or more are also included in these tables. Tables 46–48 contain prevalence estimates of these conditions and diseases and the corresponding rates per 1,000 persons by family income (table 46), geographic region (table 47), and place of residence (table 48). Because these individual systems do not include many conditions, they will be treated as one entity.

For all persons (table 41), the most prevalent conditions were diabetes (6.5 million conditions), anemias (3.5 million conditions), and other diseases of the thyroid (2.9 million conditions). Among persons under 18 years of age and among those ages 18–44 years, anemias were the most prevalent condition reported. For females ages 18–44 years, menstrual disorders was a close second. Diabetes was by far the most prevalent condition among persons ages 45–64 years, 65–74 years, and 75 years of age and over. Malignant neoplasms of the prostate caused the highest percent of activity limitation, 38.5 percent.

Among males, diabetes was the most prevalent condition, followed by gout and diseases of the prostate (table 42). The highest prevalence rate for males under 18 years of age was for anemias, whereas diabetes was the most prevalent condition in all other age groups. The

conditions of highest prevalence among females were diabetes, anemias, and other diseases of the thyroid. Anemias was highest in prevalence for females under 18 years of age and, along with menstrual disorders, highest among females ages 18–44 years. Diabetes was highest among females ages 45–64 years, 65–74 years, and 75 years of age and over (table 43).

There was no apparent variation between the prevalence patterns reported for all persons and those reported for white persons (table 44) in these three condition systems. However, among black persons, the prevalence rates for diabetes and anemias were higher than those for white persons, whereas the prevalence rate for other diseases of the thyroid was lower.

The estimated prevalence of the three condition systems and the rates per 1,000 persons are shown by family income in table 46. The prevalence rates for diabetes, anemias, gout, kidney infections, and other kidney trouble were all higher among persons with incomes of less than \$10,000.

The prevalence of the selected chronic conditions in the three condition systems and the corresponding rates per 1,000 persons are shown by geographic region in table 47 and by place of residence in table 48. There was not much variation in prevalence patterns for most of the conditions among the regions. The rate for diabetes was lower in the West than in all regions; whereas the rate for kidney infections was higher in the South, and that for menstrual disorders was higher in

the Midwest. Among places of residence, the rate for kidney infections was twice as high for persons living outside metropolitan statistical areas as among persons living within MSA's.

## Restricted-activity days from selected conditions

The estimated number of restricted-activity days and the number of days per selected chronic condition are presented by age (under 65 years of age and 65 years of age and over) and sex in table 49. Only conditions for which the total number of restricted-activity days for all persons exceeded 14 million days, which is the cutoff for reliability, are included. Table F shows the top 10 rankings for the number of restricted-activity days and the number of days per condition by sex. Condition subcategories were not included in the ranking to avoid counting a condition in more than one category.

Of all the selected chronic conditions, deformities or orthopedic impairments were responsible for the highest number of restricted-activity days, 416.5 million per year. Ranking second and third were arthritis and heart disease, with 377.7 and 338.5 million days of restricted activity, respectively. Among males, deformities or orthopedic impairments caused the highest number of restricted-activity days, followed by heart disease and arthritis; whereas among females, arthritis caused the most,

**Table F. Selected chronic conditions with the highest number of restricted-activity days and days per condition, by sex and rank order, and selected chronic conditions with highest number of bed-disability days and days per condition, by rank order: United States, 1986–88**

Selected chronic condition	Restricted-activity days						Bed-disability days	
	Number of days			Days per condition			Number of days	Days per condition
	Both sexes	Male	Female	Both sexes	Male	Female		
Conditions	Rank							
Deformities or orthopedic impairments . . . . .	1	1	2	(2)	10	(2)	3	(2)
Arthritis . . . . .	2	3	1	(2)	(2)	10	2	9
Heart disease . . . . .	3	2	3	10	7	8	1	7
Intervertebral disc disorder . . . . .	4	4	6	5	4	4	6	4
High blood pressure (hypertension) . . . . .	5	6	4	(2)	(2)	(2)	7	(2)
Diabetes . . . . .	6	7	5	(2)	9	7	4	6
Cerebrovascular disease . . . . .	7	5	8	3	2	2	5	1
Asthma . . . . .	8	8	7	(2)	(2)	(2)	8	10
Chronic bronchitis . . . . .	9	(2)	10	(2)	(2)	(2)	9	(2)
Emphysema . . . . .	10	9	(2)	6	5	5	10	3
Hardening of the arteries . . . . .	(2)	10	(2)	(2)	8	(2)	(2)	8
Chronic sinusitis . . . . .	(2)	(2)	9	(2)	(2)	(2)	(2)	(2)
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	(2)	(2)	(2)	1	(1)	(1)	(2)	(2)
Disorders of bone or cartilage . . . . .	(2)	(2)	(2)	2	1	1	(2)	5
Paralysis of extremities, complete or partial . . . . .	(2)	(2)	(2)	4	3	3	(2)	2
Absence of bone, joint, muscle of extremity . . . . .	(2)	(2)	(2)	7	(2)	(1)	(2)	(2)
Other diseases of the lung . . . . .	(2)	(2)	(2)	8	6	6	(2)	(2)
Poor circulation . . . . .	(2)	(2)	(2)	9	(1)	(1)	(2)	(2)
Sciatica (including lumbago) . . . . .	(2)	(2)	(2)	(2)	(2)	9	(2)	(2)

<sup>1</sup> Rate would have been in top 10 but estimates for days did not make 30-percent variance cutoff.

<sup>2</sup> Indicates rank is not in top 10.

NOTE: Only ranking of condition days and days per condition, not person days are shown. A person may have more than one condition day in some groupings such as deformities, orthopedic impairments, or heart disease.

followed by deformities or orthopedic impairments and heart disease. Deformities or orthopedic impairments caused the highest number of restricted-activity days among persons under 65 years of age, whereas heart disease and arthritis caused the highest number among persons 65 years of age and over.

The number of restricted-activity days per condition was highest for malignant neoplasms of lung, bronchus, and other respiratory sites, followed by disorders of bone or cartilage and cerebrovascular disease.

### **Bed-disability days from selected conditions**

Table 50 contains the estimated number of bed-disability days from selected chronic conditions and the number of days per condition by age (under 65 years of age and 65 years of age and over) and sex. Only conditions for which the total number of bed-disability days exceeded

the variance cutoff of 14 million days were included. Table F shows the top 10 rankings by number of days and days per condition.

Of the selected chronic conditions, heart disease was responsible for the most bed-disability days, an average of 143.8 million days annually. Arthritis was second, with 126.7 million days, and deformities or orthopedic impairments was third, with 120.1 million days. Heart disease also caused the highest number of bed-disability days among males, whereas arthritis caused the most among females. Conditions causing the highest number of bed days per condition were cerebrovascular disease (19.2 days per condition), paralysis of extremities, complete or partial (16.4 days per condition), and emphysema (13.1 days per condition).

The population figures used in computing rates in this report are found in table 51.



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

Chronic circulatory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Heart disease . . . . .	19,469	81.6	22.4	39.9	128.5	269.1	325.4	24.9	43.5	99.2
Ischemic heart disease . . . . .	7,196	30.2	*0.1	5.0	61.9	128.9	153.2	32.2	73.4	99.8
Heart rhythm disorders . . . . .	7,718	32.3	17.7	26.7	39.5	76.8	70.3	7.3	15.9	98.3
Tachycardia or rapid heart . . . . .	1,812	7.6	*0.8	4.9	12.4	26.4	22.1	6.5	24.3	96.9
Heart murmurs . . . . .	4,384	18.4	16.6	19.3	15.6	23.7	22.7	2.7	8.3	98.7
Other and unspecified heart rhythm disorders . . . . .	1,522	6.4	*0.4	2.4	11.5	26.7	25.5	21.4	27.9	98.8
Congenital heart disease . . . . .	682	2.9	3.3	2.1	3.0	5.4	*2.6	19.1	52.3	100.0
Other selected diseases of heart (excludes hypertension) . . . . .	3,874	16.2	1.3	6.1	24.2	58.0	99.3	47.4	41.4	99.9
Rheumatic fever, with or without heart disease . . . . .	1,746	7.3	*0.4	6.7	14.3	15.4	11.8	14.8	33.0	98.5
High blood pressure (hypertension) . . . . .	28,858	120.9	2.5	64.6	253.6	379.6	373.2	10.6	8.4	99.2
Cerebrovascular disease . . . . .	2,679	11.2	*0.8	1.6	18.6	58.0	78.5	39.2	65.1	98.4
Hardening of arteries . . . . .	2,577	10.8	*—	0.9	17.4	60.6	83.1	14.9	29.7	94.0
Aneurysm . . . . .	205	0.9	*—	*0.1	2.2	3.5	*2.2	*24.9	64.4	100.0
Phlebitis, thrombophlebitis . . . . .	842	3.5	*—	2.6	6.4	10.4	10.2	20.4	52.0	98.6
Varicose veins of lower extremities . . . . .	7,281	30.5	*0.2	25.4	55.8	76.9	74.8	2.2	12.2	63.7
Hemorrhoids . . . . .	10,485	43.9	*0.9	49.2	77.1	68.7	67.6	*0.5	6.6	66.7
Poor circulation . . . . .	946	4.0	*—	1.2	6.2	19.4	27.5	29.5	16.8	90.1

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 2. Average annual number of selected chronic circulatory conditions among males, rates per 1,000 persons by age, and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic circulatory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Heart disease . . . . .	8,960	77.6	20.6	29.3	145.5	305.6	319.6	28.9	54.7	99.2
Ischemic heart disease . . . . .	4,234	36.7	*0.2	6.1	88.6	168.2	182.8	34.3	78.0	99.7
Heart rhythm disorders . . . . .	2,772	24.0	18.1	17.6	26.8	65.2	58.5	8.0	20.6	97.9
Tachycardia or rapid heart . . . . .	560	4.8	*0.7	3.3	8.9	16.5	*13.6	*6.3	29.5	95.4
Heart murmurs . . . . .	1,588	13.8	17.2	13.1	7.6	18.6	18.1	*3.1	11.6	98.5
Other and unspecified heart rhythm disorders . . . . .	625	5.4	*0.2	*1.1	10.3	30.3	26.6	21.9	35.5	98.7
Congenital heart disease . . . . .	334	2.9	3.4	1.8	3.7	*6.3	*1.3	21.9	61.1	100.0
Other selected diseases of heart (excludes hypertension) . . . . .	1,621	14.0	*1.5	3.8	26.4	65.9	77.1	52.1	50.8	100.0
Rheumatic fever with or without heart disease . . . . .	531	4.6	*0.7	3.0	10.2	13.3	*9.8	13.6	34.7	97.0
High blood pressure (hypertension) . . . . .	12,600	109.1	2.4	71.6	244.9	341.8	267.4	8.7	7.5	98.7
Cerebrovascular disease . . . . .	1,250	10.8	*0.8	1.5	20.0	54.5	75.8	42.9	61.8	98.4
Hardening of arteries . . . . .	1,340	11.6	*—	*0.9	25.4	54.6	82.9	17.1	38.9	95.6
Aneurysm . . . . .	123	1.1	*—	*0.1	*2.8	*4.8	*5.0	*30.9	67.5	100.0
Phlebitis, thrombophlebitis . . . . .	243	2.1	*—	*1.2	5.0	*7.1	*6.0	*19.3	56.0	100.0
Varicose veins of lower extremities . . . . .	1,344	11.6	*0.3	7.2	22.3	48.2	32.4	*3.5	13.0	69.5
Hemorrhoids . . . . .	4,741	41.1	*1.0	44.1	82.4	63.4	63.0	*0.1	8.4	64.7
Poor circulation . . . . .	356	3.1	*—	*0.7	5.9	15.6	18.6	31.5	24.4	88.5

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 3. Average annual number of selected chronic circulatory conditions among females, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic circulatory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Heart disease . . . . .	10,509	85.4	21.5	50.1	113.1	240.2	328.7	21.5	34.0	99.2
Ischemic heart disease . . . . .	2,962	24.1	*–	3.9	37.4	97.7	136.0	29.2	66.8	99.9
Heart rhythm disorders . . . . .	4,945	40.2	17.4	35.4	51.1	85.9	77.2	6.9	13.3	98.5
Tachycardia or rapid heart . . . . .	1,252	10.2	*1.0	6.5	15.6	34.2	27.1	6.6	22.0	97.5
Heart murmurs . . . . .	2,796	22.7	15.9	25.3	23.0	27.9	25.4	2.5	6.4	98.8
Other and unspecified heart rhythm disorders . . . . .	897	7.3	*0.5	3.6	12.6	23.9	24.8	21.1	22.6	98.8
Congenital heart disease . . . . .	348	2.8	3.1	2.4	*2.4	*4.8	*3.4	*16.4	44.0	100.0
Other selected diseases of heart (excludes hypertension) . . . . .	2,253	18.3	*1.0	8.4	22.1	51.7	112.2	44.0	34.8	99.9
Rheumatic fever with or without heart disease . . . . .	1,215	9.9	*0.2	10.2	18.0	17.1	13.0	15.2	32.3	99.2
High blood pressure (hypertension) . . . . .	16,258	132.1	2.5	57.9	261.7	416.8	434.6	12.1	9.1	99.7
Cerebrovascular disease . . . . .	1,429	11.6	*0.8	1.6	17.4	37.6	80.1	36.0	67.9	98.3
Hardening of arteries . . . . .	1,237	10.0	*–	*0.8	10.1	39.8	83.2	12.4	19.9	92.3
Aneurysm . . . . .	82	0.7	*–	*–	*1.7	*3.8	*0.6	*15.9	*59.8	100.0
Phlebitis, thrombophlebitis . . . . .	599	4.9	*–	3.9	7.7	13.3	12.5	20.9	50.6	98.0
Varicose veins of lower extremities . . . . .	5,937	48.2	*0.2	42.8	86.3	102.0	99.5	2.0	12.0	62.4
Hemorrhoids . . . . .	5,744	46.7	*0.8	54.1	72.3	74.1	70.3	*0.5	5.2	68.3
Poor circulation . . . . .	589	4.8	*0.0	1.6	6.5	13.4	32.5	28.4	12.2	91.2

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 4. Average annual number of selected chronic circulatory conditions among white persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic circulatory conditions	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons				Percent		
Heart disease . . . . .	17,392	86.2	34.4	130.8	297.4	23.9	44.1	99.2
Ischemic heart disease . . . . .	6,771	33.6	3.1	66.4	147.5	31.8	73.0	99.8
Heart rhythm disorders . . . . .	6,869	34.0	24.2	40.0	78.0	7.1	15.7	98.2
Tachycardia or rapid heart . . . . .	1,672	8.3	3.8	12.4	26.3	6.9	24.8	96.9
Heart murmurs . . . . .	3,785	18.8	18.8	15.5	23.6	1.9	7.3	98.5
Other and unspecified heart rhythm disorders . . . . .	1,412	7.0	1.7	12.1	28.1	21.2	27.6	98.7
Congenital heart disease . . . . .	611	3.0	2.7	3.2	4.8	18.5	52.4	100.0
Other selected diseases of heart (excludes hypertension) . . . . .	3,141	15.6	4.5	21.2	67.0	44.5	42.3	99.9
Rheumatic fever with or without heart disease . . . . .	1,573	7.8	4.5	15.0	14.4	15.1	31.1	98.3
High blood pressure (hypertension) . . . . .	23,817	118.0	37.9	237.5	366.9	8.6	7.6	99.3
Cerebrovascular disease . . . . .	2,324	11.5	1.3	17.8	57.1	36.6	63.3	98.4
Hardening of arteries . . . . .	2,392	11.9	*0.4	18.5	63.6	14.3	29.2	94.1
Aneurysm . . . . .	203	1.0	*0.0	2.6	3.9	*25.1	64.5	100.0
Phlebitis, thrombophlebitis . . . . .	761	3.8	1.8	6.2	10.8	21.0	54.1	99.5
Varicose veins of lower extremities . . . . .	6,673	33.1	17.2	56.9	81.9	2.1	12.6	64.1
Hemorrhoids . . . . .	9,349	46.3	32.5	80.0	69.2	*0.4	6.4	66.3
Poor circulation . . . . .	825	4.1	0.7	5.9	19.6	28.8	16.8	88.8

**Table 5. Average annual number of selected chronic circulatory conditions among black persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic circulatory conditions	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
Heart disease . . . . .	1,758	60.7	28.3	124.9	239.6	34.6	38.4	99.6
Ischemic heart disease . . . . .	305	10.5	*2.0	28.9	54.0	39.0	80.0	98.7
Heart rhythm disorders . . . . .	716	24.7	19.6	39.7	44.3	9.4	17.6	99.6
Tachycardia or rapid heart . . . . .	132	4.6	*1.4	16.0	*12.3	*2.3	*18.2	98.5
Heart murmurs . . . . .	504	17.4	17.1	16.4	*21.7	*8.7	13.5	99.8
Other and unspecified heart rhythm disorders . . . . .	81	2.8	*1.1	*7.2	*9.8	*28.4	*43.2	100.0
Congenital heart disease . . . . .	63	2.2	*2.4	*2.4	*—	*27.0	*58.7	100.0
Other selected diseases of heart (excludes hypertension) . . . . .	673	23.2	4.4	53.7	141.3	60.2	40.0	100.0
Rheumatic fever with or without heart disease . . . . .	135	4.7	*2.7	*10.5	*11.5	*11.9	48.1	100.0
High blood pressure (hypertension) . . . . .	4,273	147.6	61.4	389.1	486.8	21.7	13.0	98.9
Cerebrovascular disease . . . . .	293	10.1	*1.1	26.1	63.0	55.3	79.9	100.0
Hardening of arteries . . . . .	150	5.2	*0.9	*11.4	33.6	*27.3	*35.3	96.7
Aneurysm . . . . .	*2	*0.1	*0.1	*—	*—	*—	*100.0	*100.0
Phlebitis, thrombophlebitis . . . . .	82	2.8	*0.9	*9.4	*8.1	*14.6	*32.9	89.0
Varicose veins of lower extremities . . . . .	474	16.4	8.9	41.9	36.6	*2.7	*4.6	59.7
Hemorrhoids . . . . .	876	30.2	21.8	52.2	67.7	*1.7	9.4	71.7
Poor circulation . . . . .	120	4.1	*1.1	*10.5	*20.4	*35.0	*16.7	99.2

**Table 6. Average annual number of selected chronic circulatory conditions and rates per 1,000 persons by family income: United States, 1986–88**

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

Chronic circulatory conditions	Family income									
	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000 or more	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000 or more
	Number in thousands					Rates per 1,000 persons				
Heart disease . . . . .	19,469	4,003	4,396	4,251	4,022	81.6	129.0	100.1	69.3	58.1
Ischemic heart disease . . . . .	7,169	1,321	1,755	1,702	1,285	30.2	42.6	40.0	27.8	18.6
Heart rhythm disorders . . . . .	7,718	1,429	1,651	1,720	1,895	32.3	46.0	37.6	28.1	27.4
Tachycardia or rapid heart . . . . .	1,812	423	419	386	366	7.6	13.6	9.5	6.3	5.3
Heart murmurs . . . . .	4,384	717	886	1,066	1,197	18.4	23.1	20.2	17.4	17.3
Other and unspecified heart rhythm disorders . . . . .	1,522	288	346	268	333	6.4	9.3	7.9	4.4	4.8
Congenital heart disease . . . . .	682	118	121	137	230	2.9	3.8	2.8	2.2	3.3
Other selected diseases of heart (excludes hypertension) . . . . .	3,874	1,135	870	692	612	16.2	36.6	19.8	11.3	8.8
Rheumatic fever with or without heart disease . . . . .	1,746	270	310	479	465	7.3	8.7	7.1	7.8	6.7
High blood pressure (hypertension) . . . . .	28,858	5,361	6,307	6,480	6,472	120.9	172.7	143.7	105.7	93.5
Cerebrovascular disease . . . . .	2,679	770	713	423	362	11.2	24.8	16.2	6.9	5.2
Hardening of arteries . . . . .	2,577	603	678	547	318	10.8	19.4	15.4	8.9	4.6
Aneurysm . . . . .	205	*20	*50	*48	*57	*0.9	*0.6	*1.1	*0.8	*0.8
Phlebitis, thrombophlebitis . . . . .	842	174	176	225	151	3.5	5.6	4.0	3.7	2.2
Varicose veins of lower extremities . . . . .	7,281	1,285	1,580	1,753	1,865	30.5	41.4	36.0	28.6	26.9
Hemorrhoids . . . . .	10,485	1,592	2,043	2,914	2,902	43.9	51.3	46.5	47.5	41.9
Poor circulation . . . . .	946	339	201	168	82	4.0	10.9	4.6	2.7	1.2

<sup>1</sup> Includes unknown family income.

**Table 7. Average annual number of selected chronic circulatory conditions and rates per 1,000 persons by geographic region: United States, 1986-88**

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

Chronic circulatory conditions	Geographic region									
	All regions	North-east	Mid-west	South	West	All regions	North-east	Mid-west	South	West
	Number in thousands					Rate per 1,000 persons				
Heart disease . . . . .	19,469	4,247	4,941	6,731	3,550	81.6	84.9	84.9	82.5	72.7
Ischemic heart disease . . . . .	7,169	1,902	1,692	2,463	1,138	30.2	38.0	29.1	30.2	23.3
Heart rhythm disorders . . . . .	7,718	1,559	2,147	2,363	1,650	32.3	31.2	36.9	29.0	33.8
Tachycardia or rapid heart . . . . .	1,812	361	470	658	323	7.6	7.2	8.1	8.1	6.6
Heart murmurs . . . . .	4,384	907	1,230	1,175	1,072	18.4	18.1	21.1	14.4	22.0
Other and unspecified heart rhythm disorders . . . . .	1,522	291	446	529	255	6.4	5.8	7.7	6.5	5.2
Congenital heart disease . . . . .	682	112	190	232	147	2.9	2.2	3.3	2.8	3.0
Other selected diseases of heart (excludes hypertension) . . . . .	3,874	674	912	1,673	615	16.2	13.5	15.7	20.5	12.6
Rheumatic fever with or without heart disease . . . . .	1,746	415	567	419	346	7.3	8.3	9.7	5.1	7.1
High blood pressure (hypertension) . . . . .	28,858	5,977	7,082	10,782	5,016	120.9	119.5	121.6	132.2	102.8
Cerebrovascular disease . . . . .	2,679	638	606	941	494	11.2	12.8	10.4	11.5	10.1
Hardening of arteries . . . . .	2,577	500	653	986	438	10.8	10.0	11.2	12.1	9.0
Aneurysm . . . . .	205	*36	*27	64	77	0.9	*0.7	*0.5	0.8	1.6
Phlebitis, thrombophlebitis . . . . .	842	263	187	271	122	3.5	5.3	3.2	3.3	2.5
Varicose veins of lower extremities . . . . .	7,281	1,211	2,135	2,234	1,700	30.5	24.2	36.7	27.4	34.8
Hemorrhoids . . . . .	10,485	1,931	2,674	3,739	2,141	43.9	38.6	45.9	45.9	43.9
Poor circulation . . . . .	946	219	234	312	180	4.0	4.4	4.0	3.8	3.7

**Table 8. Average annual number of selected chronic circulatory conditions and rates per 1,000 persons by place or residence: United States, 1986-88**

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

Chronic circulatory condition	Place of residence							
	All residences	MSA central city	MSA not central city	Not MSA	All residences	MSA central city	MSA not central city	Not MSA
	Number in thousands				Rate per 1,000 persons			
Heart disease . . . . .	19,469	5,579	8,526	5,364	81.6	75.7	77.3	98.3
Ischemic heart disease . . . . .	7,169	1,891	3,253	2,052	30.2	25.7	29.5	37.6
Heart rhythm disorders . . . . .	7,718	2,176	3,541	2,001	32.3	29.5	32.1	36.7
Tachycardia or rapid heart . . . . .	1,812	494	761	557	7.6	6.7	6.9	10.2
Heart murmurs . . . . .	4,384	1,220	2,130	1,035	18.4	16.6	19.3	19.0
Other and unspecified heart rhythm disorders . . . . .	1,522	462	651	409	6.4	6.3	5.9	7.5
Congenital heart disease . . . . .	682	157	347	177	2.9	2.1	3.1	3.2
Other selected diseases of heart (excludes hypertension) . . . . .	3,874	1,356	1,384	1,134	16.2	18.4	12.5	20.8
Rheumatic fever with or without heart disease . . . . .	1,746	560	831	355	7.3	7.6	7.5	6.5
High blood pressure (hypertension) . . . . .	28,858	9,006	12,511	7,341	120.9	122.2	113.4	134.5
Cerebrovascular disease . . . . .	2,679	800	1,136	743	11.2	0.9	10.3	13.6
Hardening of arteries . . . . .	2,577	753	1,142	682	10.8	10.2	10.4	12.5
Aneurysm . . . . .	205	*27	126	*52	0.9	*0.4	1.1	*1.0
Phlebitis, thrombophlebitis . . . . .	842	240	365	237	3.5	3.3	3.3	4.3
Varicose veins of lower extremities . . . . .	7,281	2,273	3,177	1,831	30.5	30.8	28.8	33.5
Hemorrhoids . . . . .	10,485	2,910	4,870	2,705	43.9	39.5	44.1	49.6
Poor circulation . . . . .	946	334	370	241	4.0	4.5	3.4	4.4



**Table 9. Average annual number of selected chronic respiratory conditions, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic respiratory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Chronic bronchitis . . . . .	12,014	50.4	59.9	38.7	53.0	71.8	59.1	3.2	12.9	94.2
Emphysema . . . . .	1,981	8.3	*–	0.8	17.4	42.0	36.2	46.6	24.7	97.0
Asthma . . . . .	9,736	40.8	51.2	36.5	35.8	43.0	37.5	19.4	20.9	95.7
Hay fever or allergic rhinitis without asthma . . . . .	22,280	93.4	63.9	116.4	96.4	80.5	57.1	1.4	1.6	70.6
Nasal polyps . . . . .	636	2.7	*0.7	2.5	5.1	4.6	*2.7	*0.6	21.1	88.1
Chronic sinusitis . . . . .	33,248	139.3	61.6	159.1	189.1	166.4	156.7	0.5	2.7	69.6
Deviated nasal septum . . . . .	1,398	5.9	1.1	7.2	8.9	8.6	*4.0	*0.6	16.9	91.1
Chronic disease of tonsils and adenoids . . . . .	3,323	13.9	32.1	10.9	3.0	*1.9	*1.0	*1.2	14.0	95.4
Chronic laryngitis . . . . .	1,493	6.3	2.8	7.8	7.5	8.5	*2.9	*0.8	*1.7	67.8
Pleurisy . . . . .	730	3.1	*0.2	3.0	5.9	6.5	*3.0	*2.1	8.6	87.4
Pneumoconiosis and asbestosis . . . . .	345	1.4	*–	0.7	2.7	4.6	6.6	32.5	23.2	87.0
Malignant neoplasms of lung, bronchus and other respiratory sites . . . . .	188	0.8	*–	*0.1	1.5	5.0	*2.6	75.0	67.0	100.0
Other diseases of the lung . . . . .	1,200	5.0	3.6	3.7	6.4	10.9	10.6	25.0	29.3	99.3

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 10. Average annual number of selected chronic respiratory conditions among males, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic respiratory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Chronic bronchitis . . . . .	4,918	42.6	63.1	28.7	37.9	54.2	53.0	3.1	13.8	94.6
Emphysema . . . . .	1,259	10.9	*–	0.7	24.7	56.3	64.8	47.3	24.2	96.3
Asthma . . . . .	4,645	40.2	59.6	33.2	30.3	35.7	32.6	19.5	20.2	95.2
Hay fever or allergic rhinitis without asthma . . . . .	10,427	90.3	69.1	111.0	88.5	67.1	58.0	1.6	1.5	68.7
Nasal polyps . . . . .	311	2.7	0.9	2.0	6.1	3.9	4.5	*–	26.4	93.6
Chronic sinusitis . . . . .	13,914	120.5	64.7	133.5	164.5	145.7	125.8	*0.4	2.5	63.5
Deviated nasal septum . . . . .	833	7.2	1.5	8.3	12.7	10.6	*4.0	*0.4	15.5	92.4
Chronic disease of tonsils and adenoids . . . . .	1,374	11.9	29.0	7.7	2.3	*–	*–	2.3	16.0	96.1
Chronic laryngitis . . . . .	249	2.2	*1.9	2.6	*1.6	*3.1	*–	*3.2	*0.8	60.2
Pleurisy . . . . .	215	1.9	*0.1	1.8	4.2	*2.5	*3.5	*–	*5.6	86.5
Pneumoconiosis and asbestosis . . . . .	336	2.9	*–	1.5	5.6	9.8	17.1	31.8	22.3	86.9
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	116	1.0	*–	*0.0	*1.7	*6.9	*6.3	70.7	68.1	100.0
Other diseases of the lung . . . . .	488	4.2	3.4	2.9	7.0	*5.8	*10.0	24.8	30.1	99.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 11. Average annual number of selected chronic respiratory conditions among females, rates per 1,000 persons by age, and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic respiratory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Chronic bronchitis . . . . .	7,096	57.6	56.5	48.3	66.9	85.9	62.7	3.3	12.2	94.0
Emphysema . . . . .	722	5.9	*–	*0.8	10.7	30.6	19.6	45.3	25.5	98.2
Asthma . . . . .	5,090	41.3	42.3	39.8	40.8	48.9	40.3	19.4	21.4	96.3
Hay fever or allergic rhinitis without asthma . . . . .	11,853	96.3	58.6	121.5	103.6	91.1	56.6	1.2	1.6	72.2
Nasal polyps . . . . .	325	2.6	*0.5	2.9	4.1	*5.2	*1.5	*1.2	*16.0	82.8
Chronic sinusitis . . . . .	19,334	157.0	58.5	183.7	211.7	182.7	174.6	0.6	2.7	70.4
Deviated nasal septum . . . . .	565	4.6	*0.7	6.2	5.3	7.0	*3.9	*0.9	18.9	89.2
Chronic disease of tonsils and adenoids . . . . .	1,949	15.8	35.3	14.0	3.5	*3.3	*1.6	*0.4	12.6	94.8
Chronic laryngitis . . . . .	1,244	10.1	3.8	12.8	12.8	12.8	*4.5	*0.3	*1.8	69.4
Pleurisy . . . . .	516	4.2	*0.4	4.1	7.6	9.8	*2.9	*2.9	*10.1	87.6
Pneumoconiosis and asbestosis . . . . .	*9	0.1	*–	*–	*–	*0.5	*0.4	*55.6	*55.6	*100.0
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	72	0.6	*–	*0.1	*1.3	*3.5	*0.6	*81.9	*65.3	100.0
Other diseases of the lung . . . . .	712	5.8	3.8	4.6	5.8	15.0	10.9	25.1	28.7	99.6

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 12. Average annual number of selected chronic respiratory conditions among white persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic respiratory conditions	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons				Percent		
Chronic bronchitis . . . . .	10,725	53.2	49.8	54.9	68.8	3.2	12.2	93.8
Emphysema . . . . .	1,855	9.2	0.5	18.8	41.2	46.5	25.4	96.8
Asthma . . . . .	8,143	40.4	41.7	36.0	39.7	18.1	19.8	95.4
Hay fever or allergic rhinitis without asthma . . . . .	19,945	98.8	103.3	99.1	74.1	1.3	1.6	71.2
Nasal polyps . . . . .	562	2.8	1.7	5.7	4.1	*–	21.2	88.4
Chronic sinusitis . . . . .	29,538	146.4	128.9	195.9	164.3	0.4	2.7	67.1
Deviated nasal septum . . . . .	1,354	6.7	5.7	9.8	7.3	*0.3	15.4	90.8
Chronic disease of tonsils and adenoids . . . . .	2,957	14.7	20.5	2.7	*1.7	*0.8	12.0	95.3
Chronic laryngitis . . . . .	1,328	6.6	6.3	7.4	6.6	*0.9	1.5	67.2
Pleurisy . . . . .	676	3.4	2.0	6.5	5.5	*2.2	*8.0	86.4
Pneumoconiosis and asbestosis . . . . .	291	1.4	0.5	2.5	5.0	27.5	*18.6	86.6
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	179	0.9	*0.0	1.6	4.5	74.9	68.2	100.0
Other diseases of the lung . . . . .	1,081	5.4	3.8	6.6	11.5	23.7	28.6	99.3

**Table 13. Average annual number of selected chronic respiratory conditions among black persons, rates per 1,000 persons by age, percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic respiratory conditions	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
			Rate per 1,000 persons					
Chronic bronchitis . . . . .	1,030	35.6	33.8	38.4	46.8	*3.9	18.4	97.3
Emphysema . . . . .	104	3.6	*0.3	*10.1	*22.1	*51.9	*18.3	100.0
Asthma . . . . .	1,376	47.5	48.9	39.2	49.8	26.1	26.7	97.2
Hay fever or allergic rhinitis without asthma . . . . .	1,754	60.6	58.7	74.1	51.5	*2.3	*1.5	65.8
Nasal polyps . . . . .	*49	*1.7	*2.0	*—	*1.7	*8.2	*—	*83.7
Chronic sinusitis . . . . .	3,176	109.7	93.8	165.3	151.5	*1.2	2.2	71.5
Deviated nasal septum . . . . .	*15	*0.5	*0.3	*1.5	*0.9	*—	*73.3	*100.0
Chronic disease of tonsils and adenoids . . . . .	298	10.3	12.9	*2.8	*—	*4.0	27.2	95.3
Chronic laryngitis . . . . .	147	5.1	4.3	*9.9	*3.0	*—	*2.7	68.7
Pleurisy . . . . .	*32	*1.1	*0.8	*2.2	*1.7	*—	*6.3	*100.0
Pneumoconiosis and asbestosis . . . . .	*43	*1.5	*0.4	*4.6	*5.5	*58.1	*44.2	*88.4
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	*10	*0.3	*0.1	*1.3	*0.9	*70.0	*40.0	*100.0
Other diseases of the lung . . . . .	78	2.7	*2.3	*3.7	*4.3	*35.9	*33.3	100.0

**Table 14. Average annual number of selected chronic respiratory conditions and rates per 1,000 persons, by family income: United States, 1986–88**

[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]

Chronic respiratory conditions	Family Income									
	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000 or more	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000 or more
	Number in thousands					Rate per 1,000 persons				
Chronic bronchitis . . . . .	12,014	2,110	2,198	2,970	3,369	50.4	68.0	50.1	48.4	48.6
Emphysema . . . . .	1,981	628	482	374	273	8.3	20.2	11.0	6.1	3.9
Asthma . . . . .	9,736	1,775	1,704	2,241	2,815	40.8	57.2	38.8	36.6	40.6
Hay fever or allergic rhinitis without asthma . . . . .	22,280	2,414	3,298	6,038	8,286	93.4	77.8	75.1	98.5	119.6
Nasal polyps . . . . .	636	106	128	161	168	2.7	3.4	2.9	2.6	2.4
Chronic sinusitis . . . . .	33,248	4,647	5,974	8,805	9,829	139.3	149.7	136.1	143.6	141.9
Deviated nasal septum . . . . .	1,398	103	120	413	642	5.9	3.3	2.7	6.7	9.3
Chronic disease of tonsils and adenoids . . . . .	3,323	524	581	977	952	13.9	16.9	13.2	15.9	13.7
Chronic laryngitis . . . . .	1,493	316	250	368	462	6.3	10.2	5.7	6.0	6.7
Pleurisy . . . . .	730	220	153	161	128	3.1	7.1	3.5	2.6	1.8
Pneumoconiosis and asbestosis . . . . .	345	71	115	86	*41	1.4	2.3	2.6	1.4	*0.6
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	188	79	*38	*23	*20	0.8	2.5	*0.9	*0.4	*0.3
Other diseases of the lung . . . . .	1,200	232	313	336	189	5.0	7.5	7.1	5.5	2.7

<sup>1</sup>Includes unknown family income.

**Table 15. Average annual number of selected chronic respiratory conditions and rates per 1,000 persons, by geographic region: United States, 1986–88**

[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]

Chronic respiratory conditions	Geographic region									
	All regions	Northeast	Midwest	South	West	All regions	Northeast	Midwest	South	West
	Number in thousands					Rate per 1,000 persons				
Chronic bronchitis . . . . .	12,014	2,168	3,127	4,500	2,219	50.4	43.4	53.7	55.2	45.5
Emphysema . . . . .	1,981	419	491	755	316	8.3	8.4	8.4	9.3	6.5
Asthma . . . . .	9,736	2,015	2,327	3,374	2,020	40.8	40.3	40.0	41.4	41.4
Hay fever or allergic rhinitis without asthma . . . . .	22,280	3,921	4,745	8,079	5,535	93.4	78.4	81.5	99.1	113.4
Nasal polyps . . . . .	636	88	173	225	150	2.7	1.8	3.0	2.8	3.1
Chronic sinusitis . . . . .	33,248	4,507	9,900	14,109	4,731	139.3	90.1	170.0	173.0	96.9
Deviated nasal septum . . . . .	1,398	391	231	449	327	5.9	7.8	4.0	5.5	6.7
Chronic disease of tonsils and adenoids . . . . .	3,323	461	1,147	1,219	497	13.9	9.2	19.7	14.9	10.2
Chronic laryngitis . . . . .	1,493	347	416	486	244	6.3	6.9	7.1	6.0	5.0
Pleurisy . . . . .	730	82	246	289	114	3.1	1.6	4.2	3.5	2.3
Pneumoconiosis and asbestosis . . . . .	345	82	64	104	94	1.4	1.6	1.1	1.3	1.9
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	188	*45	*50	70	*23	0.8	*0.9	*0.9	0.9	*0.5
Other diseases of the lung . . . . .	1,200	158	339	465	238	5.0	3.2	5.8	5.7	4.9

**Table 16. Average annual number of selected chronic respiratory conditions and rates per 1,000 persons, by place of residence: United States, 1986–88**

[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]

Chronic respiratory conditions	Place of residence							
	All residences	MSA central city	MSA not central city	Not MSA	All residences	MSA central city	MSA not central city	Not MSA
	Number in thousands				Rate per 1,000 persons			
Chronic bronchitis . . . . .	12,014	3,507	5,582	2,925	50.4	47.6	50.6	53.6
Emphysema . . . . .	1,981	595	801	586	8.3	8.1	7.3	10.7
Asthma . . . . .	9,736	3,231	4,102	2,402	40.8	43.8	37.2	44.0
Hay fever or allergic rhinitis without asthma . . . . .	22,280	6,595	10,767	4,918	93.4	89.5	97.6	90.1
Nasal polyps . . . . .	636	154	310	172	2.7	2.1	2.8	3.2
Chronic sinusitis . . . . .	33,248	9,065	15,138	9,045	139.3	123.0	137.2	165.7
Deviated nasal septum . . . . .	1,398	333	837	228	5.9	4.5	7.6	4.2
Chronic disease of tonsils and adenoids . . . . .	3,323	905	1,426	992	13.9	12.3	12.9	18.2
Chronic laryngitis . . . . .	1,493	481	756	256	6.3	6.5	6.9	4.7
Pleurisy . . . . .	730	238	250	242	3.1	3.2	2.3	4.4
Pneumoconiosis and asbestosis . . . . .	345	104	118	122	1.4	1.4	1.1	2.2
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	188	*51	90	*47	0.8	*0.7	0.8	*0.9
Other diseases of the lung . . . . .	1,200	359	490	351	5.0	4.9	4.4	6.4

**Table 17. Average annual number of selected chronic digestive conditions, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

[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]

Chronic digestive conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Gallbladder stones . . . . .	971	4.1	*—	3.6	7.2	11.2	8.0	*2.9	55.5	99.3
Liver diseases including cirrhosis . . . . .	549	2.3	*0.4	2.1	4.8	4.1	*1.8	12.2	39.2	99.3
Ulcer, gastric, duodenal, and/or peptic . . . . .	4,310	18.1	*0.8	20.7	28.9	34.0	23.8	6.7	29.8	97.5
Gastric ulcer . . . . .	3,376	14.1	*0.8	17.0	21.5	23.9	18.8	6.6	28.2	96.9
Duodenal ulcer . . . . .	624	2.6	*0.0	2.0	5.7	7.4	*3.5	*8.2	40.1	99.7
Peptic ulcer . . . . .	310	1.3	*—	1.7	1.7	*2.7	*1.4	*4.5	27.4	100.0
Hernia of abdominal cavity . . . . .	4,653	19.5	4.3	9.2	38.2	55.4	69.7	10.0	25.4	97.8
Disease of the esophagus . . . . .	584	2.4	*0.3	1.3	5.2	6.1	8.4	12.5	26.0	98.3
Gastritis and duodenitis . . . . .	2,834	11.9	2.7	11.3	19.8	22.0	21.7	*0.9	12.1	90.3
Indigestion and other functional disorders of the stomach and digestive system . . . . .	6,275	26.3	3.7	29.0	38.3	50.0	44.9	1.7	5.2	63.2
Enteritis and colitis . . . . .	2,302	9.6	3.3	9.7	12.5	17.2	22.5	7.3	22.2	87.4
Spastic colon . . . . .	1,464	6.1	*0.3	6.8	10.4	11.0	8.2	*2.5	16.3	95.8
Diverticula of intestines . . . . .	1,903	8.0	*—	1.6	13.5	38.7	42.8	5.0	25.9	98.7
Constipation . . . . .	4,610	19.3	7.5	13.9	20.8	45.0	93.1	*0.1	3.1	73.3
Other stomach and intestinal disorders . . . . .	2,159	9.0	3.5	8.8	12.4	16.6	17.6	9.1	20.9	84.7
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	248	1.0	*—	*0.1	2.0	4.4	6.5	39.5	62.1	98.4

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 18. Average annual number of selected chronic digestive conditions among males, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

[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]

Chronic respiratory conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Gallbladder stones . . . . .	305	2.6	*—	1.2	6.2	11.5	*5.3	*5.6	62.3	99.0
Liver diseases including cirrhosis . . . . .	289	2.5	*0.2	2.3	5.6	*5.1	*1.8	*12.5	37.7	98.3
Ulcer, gastric, duodenal, and/or peptic . . . . .	1,978	17.1	*0.6	20.1	27.8	36.1	19.8	7.3	34.2	97.3
Gastric ulcer . . . . .	1,574	13.6	*0.6	17.0	21.5	24.2	*14.6	7.0	32.8	96.6
Duodenal ulcer . . . . .	258	2.2	*—	1.4	5.4	*8.0	*2.5	*7.8	41.9	100.0
Peptic ulcer . . . . .	146	1.3	*—	1.7	*0.9	*3.9	*2.8	*9.6	*35.6	100.0
Hernia of abdominal cavity . . . . .	2,339	20.3	6.5	10.7	41.1	56.7	69.0	9.0	30.1	97.3
Disease of the esophagus . . . . .	257	2.2	*0.6	1.5	5.0	*6.0	*3.0	*9.7	*20.2	97.7
Gastritis and duodenitis . . . . .	1,087	9.4	2.1	10.0	16.4	17.1	*9.0	*1.0	9.6	87.5
Indigestion and other functional disorders of the stomach and digestive system . . . . .	3,019	26.1	2.8	31.3	38.0	46.4	48.7	*1.1	4.5	57.2
Enteritis and colitis . . . . .	704	6.1	3.3	6.3	7.2	13.2	*6.5	9.5	24.7	85.7
Spastic colon . . . . .	245	2.1	*—	2.8	*2.7	*4.1	*3.8	*3.3	*18.8	96.7
Diverticula of intestines . . . . .	498	4.3	*—	*1.0	8.6	21.4	24.4	*3.2	25.7	97.8
Constipation . . . . .	1,147	9.9	7.4	5.6	8.2	23.9	67.3	*0.3	*3.7	73.1
Other stomach and intestinal disorders . . . . .	856	7.4	3.7	7.1	11.7	11.2	*10.3	7.5	20.6	81.1
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	142	1.2	*—	*0.2	*2.4	*4.8	*11.5	47.9	74.6	100.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 19. Average annual number of selected chronic digestive conditions among females, rates per 1,000 persons by age, and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986-88**

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

Chronic digestive conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Gallbladder stones . . . . .	666	5.4	*-	5.9	8.1	11.0	9.6	*1.7	52.4	99.5
Liver diseases including cirrhosis . . . . .	261	2.1	*0.5	2.0	4.0	*3.4	*1.9	*11.9	40.6	100.0
Ulcer, gastric, duodenal and/or peptic . . . . .	2,332	18.9	*1.0	21.2	29.8	32.4	26.1	6.2	26.2	97.6
Gastric ulcer . . . . .	1,801	14.6	*0.9	17.1	21.5	23.7	21.3	6.3	24.2	97.1
Duodenal ulcer . . . . .	367	3.0	*0.1	2.5	5.9	7.1	*4.1	*8.2	38.7	98.9
Peptic ulcer . . . . .	164	1.3	*-	1.7	*2.4	*1.7	*0.7	*-	*20.1	100.0
Hernia of abdominal cavity . . . . .	2,314	18.8	2.1	7.8	35.5	54.4	70.0	10.9	20.7	98.3
Disease of the esophagus . . . . .	327	2.7	*0.1	*1.1	5.5	*6.1	11.5	*14.4	30.9	98.8
Gastritis and duodenitis . . . . .	1,746	14.2	3.3	12.6	22.9	25.9	29.2	*0.8	13.7	92.2
Indigestion and other functional disorders of the stomach and digestive system . . . . .	3,255	26.4	4.6	26.8	38.7	52.8	42.9	2.3	5.8	68.8
Enteritis and colitis . . . . .	1,598	13.0	3.3	12.9	17.2	20.4	31.7	6.4	21.0	88.1
Spastic colon . . . . .	1,219	9.9	*0.7	10.7	17.3	16.6	10.8	*2.4	15.9	95.6
Diverticula of intestines . . . . .	1,405	11.4	*-	2.1	18.0	52.4	53.4	5.7	26.0	99.0
Constipation . . . . .	3,463	28.1	7.5	21.8	32.2	61.7	108.1	*-	2.9	73.4
Other stomach and intestinal disorders . . . . .	1,304	10.6	3.2	10.4	13.1	20.9	21.7	10.1	21.2	87.0
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	106	0.9	*-	*0.1	*1.7	*4.2	*3.5	*28.3	*45.3	96.2

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 20. Average annual number of selected chronic digestive conditions among white persons, rates per 1,000 persons by age and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986-88**

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

Chronic digestive conditions	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45-64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons				Percent		
Gallbladder stones . . . . .	851	4.2	2.2	7.5	10.1	*3.3	54.9	99.2
Liver diseases including cirrhosis . . . . .	459	2.3	1.4	4.8	3.0	*10.5	34.6	98.9
Ulcer, gastric, duodenal and/or peptic . . . . .	3,750	18.6	13.3	29.1	31.0	5.8	30.1	97.7
Gastric ulcer . . . . .	2,890	14.3	11.0	21.0	22.2	5.3	28.0	97.1
Duodenal ulcer . . . . .	586	2.9	1.3	6.2	6.4	*8.7	40.1	99.5
Peptic ulcer . . . . .	273	1.4	1.0	1.9	2.4	*5.1	31.1	100.0
Hernia of abdominal cavity . . . . .	4,343	21.5	7.9	40.7	65.5	9.5	25.5	97.8
Disease of the esophagus . . . . .	549	2.7	0.9	6.0	7.4	12.8	26.0	98.0
Gastritis and duodenitis . . . . .	2,481	12.3	8.1	20.6	22.2	*1.0	12.0	90.4
Indigestion and other functional disorders of the stomach and digestive system . . . . .	5,460	27.1	20.4	37.2	47.3	1.6	5.0	63.3
Enteritis and colitis . . . . .	2,151	10.7	7.9	13.6	20.9	7.5	23.1	87.7
Spastic colon . . . . .	1,413	7.0	4.9	11.8	10.9	*2.6	16.7	96.9
Diverticula of intestines . . . . .	1,849	9.2	1.0	15.0	44.1	5.2	25.3	98.7
Constipation . . . . .	3,884	19.2	11.5	18.6	62.3	*0.1	3.5	75.1
Other stomach and intestinal disorders . . . . .	1,911	9.5	7.2	12.7	16.6	7.6	20.4	85.0
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	219	1.1	*0.1	1.6	5.7	42.0	62.6	100.0

**Table 21. Average annual number of selected chronic digestive conditions among black persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic digestive conditions	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons				Percent		
Gallbladder stones . . . . .	91	3.1	*2.0	*6.1	*8.9	*—	*65.9	100.0
Liver diseases including cirrhosis . . . . .	*60	*2.1	*1.5	*3.7	*4.3	*31.7	*58.3	*100.0
Ulcer, gastric, duodenal and/or peptic . . . . .	448	15.5	11.7	31.6	*19.6	14.3	26.8	96.7
Gastric ulcer . . . . .	376	13.0	9.2	28.5	*18.7	17.0	28.7	96.0
Duodenal ulcer . . . . .	*35	*1.2	*0.9	*3.1	*0.9	*—	*34.3	*100.0
Peptic ulcer . . . . .	*36	*1.2	*1.6	*—	*—	*—	*—	*100.0
Hernia of abdominal cavity . . . . .	288	9.9	5.8	23.9	*22.1	*17.4	24.0	97.2
Disease of the esophagus . . . . .	*28	*1.0	*0.8	*0.4	*3.4	*10.7	*32.1	100.0
Gastritis and duodenitis . . . . .	248	8.6	5.8	14.7	*22.6	*0.4	14.9	93.5
Indigestion and other functional disorders of the stomach and digestive system . . . . .	621	21.4	13.5	43.2	54.0	*1.6	*8.2	64.1
Enteritis and colitis . . . . .	106	3.7	4.4	*0.7	*2.1	*4.7	*14.2	81.1
Spastic colon . . . . .	*44	1.5	*1.8	*—	*1.3	*—	*9.1	*59.1
Diverticula of intestines . . . . .	*42	1.5	*0.6	*3.5	*4.7	*—	*59.5	*100.0
Constipation . . . . .	644	22.2	12.3	40.1	80.9	*—	*1.7	64.8
Other stomach and intestinal disorders . . . . .	178	6.1	4.4	*9.0	*17.0	*19.1	*18.0	77.0
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	*26	0.9	*—	*5.3	*0.9	*23.1	*65.4	*80.8

**Table 22. Average annual number of selected chronic digestive conditions and rates per 1,000 persons by family income: United States, 1986–88**

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

Chronic digestive conditions	Family income									
	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000–or more	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000–or more
	Number in thousands					Rate per 1,000 persons				
Gallbladder stones . . . . .	971	106	209	230	258	4.1	3.4	4.8	3.8	3.7
Liver diseases including cirrhosis . . . . .	549	131	111	141	101	2.3	4.2	2.5	2.3	1.5
Ulcer, gastric, duodenal and/or peptic . . . . .	4,310	850	1,033	984	928	18.1	27.4	23.5	16.1	13.4
Gastric ulcer . . . . .	3,376	724	858	757	617	14.1	23.3	19.5	12.3	8.9
Duodenal ulcer . . . . .	624	75	119	125	250	2.6	2.4	2.7	2.0	3.6
Peptic ulcer . . . . .	310	*51	*56	101	*61	1.3	*1.6	*1.3	1.6	*0.9
Hernia of abdominal cavity . . . . .	4,653	899	1,053	1,083	981	19.5	29.0	24.0	17.7	14.2
Disease of the esophagus . . . . .	584	84	166	147	142	2.4	2.7	3.8	2.4	2.1
Gastritis and duodenitis . . . . .	2,834	556	629	702	653	11.9	17.9	14.3	11.5	9.4
Indigestion and other functional disorders of the stomach and digestive system . . . . .	6,275	1,252	1,363	1,494	1,496	26.3	40.3	31.1	24.4	21.6
Enteritis and colitis . . . . .	2,302	411	408	643	614	9.6	13.2	9.3	10.5	8.9
Spastic colon . . . . .	1,464	211	262	388	447	6.1	6.8	6.0	6.3	6.5
Diverticula of intestines . . . . .	1,903	292	518	486	336	8.0	9.4	11.8	7.9	4.9
Constipation . . . . .	4,610	1,152	1,138	951	829	19.3	37.1	25.9	15.5	12.0
Other stomach and intestinal disorders . . . . .	2,159	428	453	517	512	9.0	13.8	10.3	8.4	7.4
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	248	*39	83	*46	*44	1.0	*1.3	1.9	*0.8	*0.6

<sup>1</sup>Includes unknown family income.

**Table 23. Average annual number of selected chronic digestive conditions and rates per 1,000 persons by geographic region: United States, 1986-88**

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

Chronic digestive conditions	Geographic region									
	All regions	North-east	Mid-west	South	West	All regions	North-east	Mid-west	South	West
	Number in thousands					Rate per 1,000 persons				
Gallbladder stones . . . . .	971	223	182	411	154	4.1	4.5	3.1	5.0	3.2
Liver diseases including cirrhosis . . . . .	549	119	107	198	126	2.3	2.4	1.8	2.4	2.6
Ulcer, gastric, duodenal and/or peptic . . . . .	4,310	681	1,134	1,699	797	18.1	13.6	19.5	20.8	16.3
Gastric ulcer . . . . .	3,376	468	953	1,302	653	14.1	9.4	16.4	16.0	13.4
Duodenal ulcer . . . . .	624	172	121	213	118	2.6	3.4	2.1	2.6	2.4
Peptic ulcer . . . . .	310	*40	*60	185	*25	1.3	*0.8	*1.0	2.3	*0.5
Hernia of abdominal cavity . . . . .	4,653	913	1,057	1,887	795	19.5	18.3	18.1	23.1	16.3
Disease of the esophagus . . . . .	584	136	101	270	78	2.4	2.7	1.7	3.3	1.6
Gastritis and duodenitis . . . . .	2,834	575	733	977	548	11.9	11.5	12.6	12.0	11.2
Indigestion and other functional disorders of the stomach and digestive system . . . . .	6,275	836	1,809	2,393	1,236	26.3	16.7	31.1	29.3	25.3
Enteritis and colitis . . . . .	2,302	457	724	725	397	9.6	9.1	12.4	8.9	8.1
Spastic colon . . . . .	1,464	202	441	552	269	6.1	4.0	7.6	6.8	5.5
Diverticula of intestines . . . . .	1,903	359	461	766	318	8.0	7.2	7.9	9.4	6.5
Constipation . . . . .	4,610	692	1,355	1,812	751	19.3	13.8	23.3	22.2	15.4
Other stomach and intestinal disorders . . . . .	2,159	370	626	767	396	9.0	7.4	10.7	9.4	8.1
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	248	*59	*56	90	*44	1.0	*1.2	*1.0	1.1	*0.9

**Table 24. Average annual number of selected chronic digestive conditions and rates per 1,000 persons by place of residence: United States, 1986-88**

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

Chronic digestive condition	Place of residence							
	All residences	MSA central city	MSA not central city	Not MSA	All residences	MSA central city	MSA not central city	Not MSA
	Number in thousands				Rate per 1,000 persons			
Gallbladder stones . . . . .	971	260	486	225	4.2	3.5	4.4	4.1
Liver diseases including cirrhosis . . . . .	549	244	196	110	2.3	3.3	1.8	2.0
Ulcer, gastric, duodenal and/or peptic . . . . .	4,310	1,308	1,841	1,161	18.1	17.7	16.7	21.3
Gastric ulcer . . . . .	3,376	1,062	1,354	959	14.1	14.4	12.3	17.6
Duodenal ulcer . . . . .	624	152	336	137	2.6	2.1	3.0	2.5
Peptic ulcer . . . . .	310	94	151	65	1.3	1.3	1.4	1.2
Hernia of abdominal cavity . . . . .	4,653	1,253	2,151	1,249	19.5	17.0	19.5	22.9
Disease of the esophagus . . . . .	584	207	223	154	2.4	2.8	2.0	2.8
Gastritis and duodenitis . . . . .	2,834	835	1,309	690	11.9	11.3	11.9	12.6
Indigestion and other functional disorders of the stomach and digestive system . . . . .	6,275	1,769	2,683	1,823	26.3	24.0	24.3	33.4
Enteritis and colitis . . . . .	2,302	721	1,106	475	9.6	9.8	10.0	8.7
Spastic colon . . . . .	1,464	466	727	272	6.1	6.3	6.6	5.0
Diverticula of intestines . . . . .	1,903	494	855	553	8.0	6.7	7.8	10.1
Constipation . . . . .	4,610	1,615	1,707	1,287	19.3	21.9	15.5	23.6
Other stomach and intestinal disorders . . . . .	2,159	641	934	584	9.0	8.7	8.5	10.7
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	248	90	92	67	1.0	1.2	0.8	1.2

NOTE: MSA is metropolitan statistical area.



**Table 25. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs, rates per 1,000 persons by age, and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986-88**

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

Impairment and chronic condition of the nervous system and sense organs	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing--		
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
<b>Impairment</b>		<b>Rate per 1,000 persons</b>						<b>Percent</b>		
Blindness and other visual impairments. . . . .	8,222	34.5	10.5	29.1	47.2	64.3	125.0	14.8	15.2	84.5
Blind, both eyes . . . . .	557	2.3	*0.7	1.2	3.1	5.6	14.5	61.2	29.6	97.8
Other visual impairments . . . . .	7,665	32.1	9.7	27.9	44.1	58.8	110.5	11.4	14.1	83.5
Deafness and other hearing impairments. . . . .	21,209	88.9	17.7	51.6	139.9	261.2	369.2	6.1	7.1	75.7
Deaf, both ears . . . . .	1,586	6.6	1.2	2.3	7.9	20.8	52.0	14.7	9.3	87.1
Other hearing impairments . . . . .	19,623	82.2	16.5	49.3	132.1	240.3	317.2	5.4	6.9	74.8
Speech impairments . . . . .	2,611	10.9	18.3	7.7	7.2	11.9	12.5	17.5	4.7	46.2
Impairment of sensation . . . . .	1,076	4.5	*0.0	2.2	6.3	14.7	28.5	6.2	7.2	58.6
Mental retardation . . . . .	1,472	6.2	11.9	5.3	2.8	*1.6	*2.3	83.6	7.2	85.9
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	1,660	7.0	*0.5	4.6	11.9	23.2	20.0	18.6	65.7	99.3
Absence of upper extremities or parts of upper extremities . . . . .	1,035	4.3	*0.3	2.9	7.4	13.8	13.5	8.5	58.4	100.0
Absence of lower extremities or parts of lower extremities . . . . .	625	2.6	*0.2	1.7	4.5	9.4	6.6	35.4	77.8	98.2
Absence of lung . . . . .	297	1.2	*0.1	*0.2	3.8	*3.0	*3.7	23.9	88.6	100.0
Absence of kidney . . . . .	407	1.7	*0.6	1.0	3.6	*1.1	7.5	*13.3	79.4	99.3
Absence of breast . . . . .	1,177	4.9	*-	1.1	10.4	17.1	28.1	*4.5	94.1	100.0
Absence of bone, joint or muscle of extremity . . . . .	604	2.5	*0.2	1.5	3.4	9.6	10.5	19.4	65.7	97.2
Absence of tips of fingers or toes . . . . .	355	1.5	*0.2	1.3	3.0	*2.4	*3.2	*1.1	32.7	98.9
Paralysis of extremities, complete or partial . . . . .	1,371	5.7	2.0	3.5	10.0	14.6	16.8	57.4	43.6	99.5
Paralysis of extremities, complete . . . . .	482	2.0	*0.5	1.2	4.4	4.9	*3.4	47.5	56.0	98.8
Paralysis of extremities, partial . . . . .	888	3.7	1.5	2.3	5.6	9.7	13.3	62.8	36.9	100.0
Cerebral palsy. . . . .	278	1.2	1.3	1.4	*0.6	*1.3	*-	69.8	34.9	100.0
Paralysis of other site, complete or partial . . . . .	303	1.3	*0.1	0.6	2.6	4.1	*4.1	45.5	23.8	94.1
Deformities or orthopedic impairments, total . . . . .	31,777	133.2	35.3	153.5	183.2	184.5	223.9	22.9	19.6	88.2
Deformities or orthopedic impairments of back . . . . .	15,933	66.8	13.9	82.6	90.9	86.5	95.6	20.9	17.0	90.7
Curvature or other deformity of back or spine. . . . .	4,770	20.0	9.5	24.2	18.1	28.1	36.7	10.9	10.9	93.0
Deformities or orthopedic impairments of upper extremities . . . . .	3,191	13.4	2.0	14.3	23.2	19.0	21.7	27.1	26.3	91.4
Orthopedic impairment-shoulder . . . . .	2,155	9.0	1.2	10.7	14.4	11.3	12.8	34.7	26.5	93.6
Deformities or orthopedic impairments of lower extremities . . . . .	12,315	51.6	19.1	55.0	67.4	76.2	105.2	23.6	21.2	83.8
Flat feet. . . . .	3,691	15.5	9.9	16.3	19.4	17.3	21.4	*1.1	3.6	66.1
Other deformities or orthopedic impairments . . . . .	338	1.4	*0.3	1.7	1.8	*2.8	*1.4	50.0	20.1	97.9
Cleft palate . . . . .	203	0.9	1.4	0.8	*0.4	0.8	*-	*4.9	62.6	98.0
<b>Condition of nervous system and sense organs</b>										
Glaucoma . . . . .	1,890	7.9	*0.2	1.4	11.5	32.7	59.7	16.7	8.7	98.9
Cataracts. . . . .	5,575	23.4	*0.6	1.9	20.5	102.8	244.0	10.7	11.7	98.9
Color blindness. . . . .	2,846	11.9	5.5	14.1	15.1	16.4	8.5	*0.4	*-	64.2
Diseases of retina . . . . .	938	3.9	*0.7	1.6	4.8	13.4	25.8	23.3	21.5	99.1
Tinnitus. . . . .	6,307	26.4	1.9	16.6	46.7	89.8	77.1	1.0	2.8	70.2
Epilepsy . . . . .	1,153	4.8	4.2	5.3	5.8	*2.5	*4.5	35.8	48.0	100.0
Migraine headache . . . . .	8,767	36.7	12.4	53.0	45.6	21.5	13.2	3.1	7.6	82.6
Other headache (excluding tension headache) . . . . .	8,766	36.7	12.9	50.5	41.3	34.4	31.4	1.8	5.3	64.2
Multiple sclerosis. . . . .	191	0.8	*-	0.7	2.2	*0.9	*0.9	70.2	69.1	100.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 26. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs among males, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Impairment and chronic condition of the nervous system and sense organs	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Impairment										
Blindness and other visual impairments . . . . .	4,894	42.4	14.1	40.7	58.1	83.8	128.3	10.8	14.1	79.2
Blind, both eyes . . . . .	217	1.9	*0.2	*1.1	3.0	*5.1	*13.3	70.5	31.8	94.5
Other visual impairments . . . . .	4,677	40.5	13.9	39.7	55.2	78.7	115.0	8.0	13.3	78.5
Deafness and other hearing impairments . . . . .	12,014	104.0	19.1	62.0	190.3	342.7	396.9	5.4	6.4	75.0
Deaf, both ears . . . . .	867	7.5	*1.1	3.0	9.2	30.1	64.0	14.2	8.7	84.3
Other hearing impairments . . . . .	11,148	96.5	18.1	59.0	181.1	312.6	332.9	4.7	6.2	74.3
Speech impairments . . . . .	1,706	14.8	24.4	10.6	9.7	15.7	*14.8	23.4	4.9	68.2
Impairment of sensation . . . . .	533	4.6	*—	2.7	6.7	16.3	32.6	*7.3	*10.5	59.7
Mental retardation . . . . .	866	7.5	14.2	6.5	3.3	*1.4	*0.8	86.5	8.4	85.8
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	1,304	11.3	*0.7	7.4	20.4	38.8	44.4	18.5	66.2	99.2
Absence of upper extremities or parts of upper extremities . . . . .	810	7.0	*0.2	4.6	12.5	23.3	31.4	9.1	60.4	100.0
Absence of lower extremities or parts of lower extremities . . . . .	494	4.3	*0.5	2.8	7.9	15.6	*12.8	33.8	75.7	97.8
Absence of lung . . . . .	209	1.8	*0.2	*0.3	5.7	*5.2	*5.8	*25.8	85.2	100.0
Absence of kidney . . . . .	202	1.7	*0.6	1.2	3.9	*—	*8.8	*14.9	70.3	100.0
Absence of breast . . . . .	*19	*0.2	*—	*0.2	*0.2	*0.8	*—	*—	*52.6	*100.0
Absence of bone, joint or muscle of extremity . . . . .	304	2.6	*0.1	2.5	3.1	11.8	*4.8	*15.5	61.2	97.0
Absence of tips of fingers or toes . . . . .	284	2.5	*0.3	2.3	5.1	*3.9	*4.8	*1.4	29.9	100.0
Paralysis of extremities, complete or partial . . . . .	762	6.6	*1.5	5.1	10.0	19.0	23.6	60.6	46.7	100.0
Paralysis of extremities, complete . . . . .	265	2.3	*0.1	1.9	5.1	*5.9	*2.8	52.1	57.4	100.0
Paralysis of extremities, partial . . . . .	497	4.3	*1.4	3.3	4.9	13.1	20.8	65.4	41.2	100.0
Cerebral palsy . . . . .	161	1.4	*1.3	2.2	*—	*1.0	*—	72.0	*33.5	100.0
Paralysis of other site, complete or partial . . . . .	150	1.3	*0.1	*0.3	4.2	*4.4	*1.3	52.7	*38.7	96.0
Deformities or orthopedic impairments, total . . . . .	15,276	132.3	31.9	159.8	198.2	161.8	191.3	23.4	23.3	88.3
Deformities or orthopedic impairments of back . . . . .	6,830	59.1	8.8	74.2	93.9	70.2	71.3	21.7	19.7	89.4
Curvature or other deformity of back or spine . . . . .	1,463	12.7	6.0	15.2	14.9	14.6	18.6	11.0	9.8	92.4
Deformities or orthopedic impairments of upper extremities . . . . .	1,773	15.4	1.9	19.1	25.2	17.0	21.1	25.8	29.9	92.0
Orthopedic impairment-shoulder . . . . .	1,252	10.8	1.6	14.7	15.8	10.6	*11.3	31.9	32.5	94.6
Deformities or orthopedic impairments of lower extremities . . . . .	6,534	56.6	21.0	65.1	77.4	72.7	96.2	23.9	25.1	85.9
Flat feet . . . . .	1,879	16.3	11.7	17.7	19.8	13.3	21.3	*1.2	3.8	69.5
Other deformities or orthopedic impairments . . . . .	138	1.2	*0.1	1.4	*1.6	*2.1	*2.8	54.3	29.7	97.1
Cleft palate . . . . .	82	0.7	*0.9	*0.7	*0.2	*1.7	*—	*8.5	*56.1	93.9
Condition of nervous system and sense organs										
Glaucoma . . . . .	819	7.1	*0.2	1.6	12.2	33.5	54.0	13.4	9.5	97.9
Cataracts . . . . .	1,830	15.8	*0.8	1.7	18.7	83.1	171.5	8.9	13.9	98.0
Color blindness . . . . .	2,588	22.4	10.1	26.8	28.4	32.2	16.8	*0.3	*—	63.9
Diseases of retina . . . . .	430	3.7	*0.9	1.7	4.8	14.0	27.1	26.3	27.2	100.0
Tinnitus . . . . .	3,188	27.6	*1.4	16.8	58.1	102.9	67.3	*0.4	2.9	71.0
Epilepsy . . . . .	511	4.4	3.2	5.0	5.8	*2.0	*4.5	31.9	45.4	100.0
Migraine headache . . . . .	2,240	19.4	11.0	26.3	22.9	*7.3	*6.3	4.0	6.6	75.8
Other headache (excluding tension headache) . . . . .	2,628	22.8	10.8	28.6	26.9	25.6	19.8	2.7	7.3	60.0
Multiple sclerosis . . . . .	*45	*0.4	*—	*0.3	*1.2	*—	*1.5	*48.9	*77.8	*100.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 27. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs among females, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Impairment and chronic condition of the nervous system and sense organs	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
<b>Impairment</b>		<b>Rate per 1,000 persons</b>						<b>Percent</b>		
Blindness and other visual impairments . . . . .	3,328	27.0	6.6	17.9	37.1	48.9	123.1	20.8	16.7	92.3
Blind, both eyes . . . . .	340	2.8	*1.3	1.2	3.2	*5.9	15.2	56.0	28.3	100.0
Other visual impairments . . . . .	2,988	24.3	5.4	16.6	34.0	43.1	108.0	16.8	15.4	91.4
Deafness and other hearing impairments . . . . .	9,194	74.7	16.2	41.6	93.9	196.4	353.1	6.9	7.9	76.6
Deaf, both ears . . . . .	719	5.8	*1.4	1.6	6.6	13.6	45.1	15.3	10.2	90.5
Other hearing impairments . . . . .	8,475	68.8	14.8	40.0	87.3	182.8	308.0	6.2	7.7	75.4
Speech impairments . . . . .	905	7.4	11.9	4.9	5.0	8.8	11.2	11.3	*4.8	69.2
Impairment of sensation . . . . .	543	4.4	*0.1	1.8	5.9	13.3	26.1	*5.2	*3.9	57.8
Mental retardation . . . . .	606	4.9	9.5	4.1	*2.4	*1.8	*3.2	79.4	*5.3	86.1
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	356	2.9	*0.3	2.0	4.2	10.7	*5.8	19.1	63.5	100.0
Absence of upper extremities or parts of upper extremities . . . . .	225	1.8	*0.3	1.3	2.8	*6.3	*3.1	*6.2	50.7	100.0
Absence of lower extremities or parts of lower extremities . . . . .	131	1.1	*—	*0.7	*1.4	*4.5	*2.8	*41.2	85.5	100.0
Absence of lung . . . . .	88	0.7	*—	*0.2	*2.1	*1.1	*2.5	*19.3	96.6	100.0
Absence of kidney . . . . .	204	1.7	*0.6	*0.8	3.4	*2.0	*6.7	*11.8	88.7	98.5
Absence of breast . . . . .	1,158	9.4	*—	1.9	19.8	30.0	44.4	*4.6	94.8	100.0
Absence of bone, joint or muscle of extremity . . . . .	300	2.4	*0.3	*0.6	3.6	7.9	13.9	23.3	70.3	97.3
Absence of tips of fingers or toes . . . . .	71	0.6	*—	*0.4	*1.0	*1.2	*2.3	*—	*43.7	94.4
Paralysis of extremities, complete or partial . . . . .	609	4.9	2.5	1.9	10.1	11.2	12.8	53.2	39.7	98.9
Paralysis of extremities, complete . . . . .	218	1.8	*0.9	*0.6	3.8	*4.2	*3.8	41.7	54.1	96.8
Paralysis of extremities, partial . . . . .	391	3.2	*1.5	1.3	6.2	7.2	9.0	59.8	31.7	100.0
Cerebral palsy . . . . .	117	1.0	*1.4	*0.6	*1.1	*1.6	*—	66.7	*36.8	100.0
Paralysis of other site, complete or partial . . . . .	152	1.2	*0.1	*0.9	*1.1	*3.8	*5.7	*38.2	*9.2	92.1
Deformities or orthopedic impairments, total . . . . .	16,502	134.0	38.9	147.4	169.6	202.4	242.8	22.4	16.2	88.1
Deformities or orthopedic impairments of back . . . . .	9,103	73.9	19.2	90.6	88.1	99.5	109.6	20.3	15.0	91.8
Curvature or other deformity of back or spine . . . . .	3,307	26.9	13.1	32.8	21.0	38.7	47.3	10.9	11.4	93.3
Deformities or orthopedic impairments of upper extremities . . . . .	1,417	11.5	*2.0	9.7	21.3	20.5	22.0	28.8	21.9	90.7
Orthopedic impairment-shoulder . . . . .	903	7.3	*0.8	6.9	13.1	11.8	13.7	38.4	18.3	92.4
Deformities or orthopedic impairments of lower extremities . . . . .	5,781	47.0	17.1	45.3	58.2	79.0	110.6	23.3	16.9	81.3
Flat feet . . . . .	1,812	14.7	8.0	14.8	19.0	20.4	21.4	*1.0	*3.4	62.6
Other deformities or orthopedic impairments . . . . .	200	1.6	*0.6	1.9	*2.0	*3.4	*0.6	47.0	*14.0	98.5
Cleft palate . . . . .	121	1.0	*2.0	*0.9	*0.5	*—	*—	*2.5	66.9	100.0
<b>Condition of nervous system and sense organs</b>										
Glaucoma . . . . .	1,071	8.7	*0.3	1.3	10.8	32.2	63.2	19.3	8.0	99.7
Cataracts . . . . .	3,745	30.4	*0.4	2.1	22.1	118.4	286.1	11.6	10.7	99.3
Color blindness . . . . .	259	2.1	*0.8	2.0	2.8	*3.8	*3.6	*1.5	*—	67.2
Diseases of retina . . . . .	508	4.1	*0.5	1.6	4.8	12.9	25.1	20.9	16.7	98.6
Tinnitus . . . . .	3,119	25.3	2.5	16.3	36.4	79.5	82.7	*1.7	2.7	69.3
Epilepsy . . . . .	642	5.2	5.2	5.5	5.8	*3.0	*4.5	38.8	50.2	100.0
Migraine headache . . . . .	6,528	53.0	13.9	78.7	66.3	32.8	17.1	2.8	7.9	84.8
Other headache (excluding tension headache) . . . . .	6,138	49.9	15.3	71.5	54.4	41.4	38.1	1.3	4.5	66.0
Multiple sclerosis . . . . .	146	1.2	*—	*1.1	3.1	*1.6	*0.6	76.7	66.4	100.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 28. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs among white persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits:**

**United States, 1986–88.**

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

Impairment and chronic condition of the nervous system and sense organs	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
Impairment		Rate per 1,000 persons				Percent		
Blindness and other visual impairments. . . . .	7,304	36.2	23.6	47.5	87.1	14.2	14.9	84.4
Blind, both eyes . . . . .	495	2.5	1.1	3.0	9.0	61.0	28.5	97.6
Other visual impairments . . . . .	6,808	33.7	22.5	44.5	78.2	10.8	13.9	83.5
Deafness and other hearing impairments. . . . .	19,444	96.4	41.5	148.5	312.9	5.8	7.4	76.0
Deaf, both ears . . . . .	1,484	7.4	2.1	8.0	34.9	15.0	9.2	86.9
Other hearing impairments . . . . .	17,960	89.0	39.4	140.5	278.1	5.1	7.2	75.2
Speech impairments . . . . .	2,030	10.1	10.9	6.7	11.0	21.2	4.8	70.3
Impairment of sensation . . . . .	958	4.7	1.5	5.9	20.9	*4.1	*6.4	55.5
Mental retardation . . . . .	1,136	5.6	7.2	2.5	*2.1	83.8	6.5	86.9
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	1,436	7.1	3.1	11.7	21.5	16.4	66.4	100.0
Absence of upper extremities or parts of upper extremities . . . . .	944	4.7	2.0	7.8	14.5	6.6	57.5	100.0
Absence of lower extremities or parts of lower extremities . . . . .	492	2.4	1.2	3.9	7.1	35.2	83.3	100.0
Absence of lung . . . . .	295	1.5	*0.2	4.4	3.5	23.7	88.5	100.0
Absence of kidney . . . . .	390	1.9	1.0	4.1	3.7	*13.3	79.0	99.2
Absence of breast . . . . .	1,085	5.4	0.7	10.8	22.2	*4.5	94.1	100.0
Absence of bone, joint or muscle of extremity . . . . .	587	2.8	1.2	3.6	10.5	19.1	64.6	94.4
Absence of tips of fingers or toes . . . . .	326	1.6	0.9	3.2	3.0	*1.2	33.1	98.8
Paralysis of extremities, complete or partial . . . . .	1,177	5.8	3.1	9.6	14.8	57.1	46.4	99.5
Paralysis of extremities, complete . . . . .	420	2.1	1.0	4.3	4.3	46.4	57.6	98.3
Paralysis of extremities, partial . . . . .	758	3.8	2.1	5.2	10.6	62.8	40.1	100.0
Cerebral palsy. . . . .	257	1.3	1.5	*0.7	*0.9	71.2	37.7	100.0
Paralysis of other site, complete or partial . . . . .	249	1.2	*0.4	2.4	4.0	46.2	*23.7	93.6
Deformities or orthopedic impairments, total . . . . .	28,121	139.4	114.6	183.8	204.8	21.9	19.9	88.7
Deformities or orthopedic impairments of back . . . . .	14,361	71.2	60.7	93.6	92.9	19.5	16.9	90.7
Curvature or other deformity of back or spine. . . . .	4,483	22.2	20.6	19.9	34.3	10.1	10.7	93.0
Deformities or orthopedic impairments of upper extremities . . . . .	2,783	13.8	10.0	22.5	20.6	25.7	26.3	91.1
Orthopedic impairment-shoulder . . . . .	1,901	9.4	7.5	14.1	12.6	32.7	27.9	93.5
Deformities or orthopedic impairments of lower extremities . . . . .	10,706	53.1	42.7	66.2	88.8	23.3	22.2	85.1
Flat feet. . . . .	3,078	15.3	13.4	19.2	18.9	*1.1	3.6	68.7
Other deformities or orthopedic impairments . . . . .	271	1.3	1.1	*1.5	2.5	51.7	23.6	97.4
Cleft palate . . . . .	194	1.0	1.2	*0.4	*0.5	*5.2	65.5	97.9
Condition of nervous system and sense organs								
Glaucoma . . . . .	1,594	7.8	0.9	9.9	41.6	16.2	7.6	98.7
Cataracts. . . . .	5,030	24.9	1.4	20.8	159.0	10.5	12.1	99.1
Color blindness. . . . .	2,688	13.3	12.4	16.1	13.9	*0.4	*—	65.1
Diseases of retina . . . . .	898	4.5	1.4	5.4	19.7	23.3	22.0	99.2
Tinnitus. . . . .	5,785	28.7	11.5	49.8	89.0	*0.8	2.8	71.1
Epilepsy . . . . .	940	4.7	4.7	5.4	3.3	32.6	47.8	100.0
Migraine headache . . . . .	7,743	38.4	39.7	46.8	18.4	2.9	7.4	82.4
Other headache (excluding tension headache) . . . . .	7,546	37.4	37.0	41.8	32.7	1.5	5.1	63.3
Multiple sclerosis. . . . .	180	0.9	0.5	2.4	*0.9	68.3	67.2	100.0

**Table 29. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs among black persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits:**

**United States, 1986–88**

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

Impairment and chronic condition of the nervous system and sense organs	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
<b>Impairment</b>		<b>Rate per 1,000 persons</b>				<b>Percent</b>		
Blindness and other visual impairments . . . . .	745	25.7	14.2	49.5	88.1	20.4	16.9	86.2
Blind, both eyes . . . . .	*56	*1.9	*0.6	*4.6	*9.4	*62.5	*35.7	*100.0
Other visual impairments . . . . .	689	23.8	13.6	44.9	78.7	17.0	15.2	85.2
Deafness and other hearing impairments . . . . .	1,331	46.0	23.6	79.6	190.6	8.1	*3.5	71.8
Deaf, both ears . . . . .	*59	*2.0	*0.7	*2.8	*12.8	*18.6	*20.3	*84.7
Other hearing impairments . . . . .	1,273	44.0	22.9	76.7	177.9	7.6	*2.7	71.1
Speech impairments . . . . .	541	18.7	19.4	*12.1	*25.1	13.1	*5.0	63.2
Impairment of sensation . . . . .	103	3.6	*1.0	*11.0	*12.8	*28.2	*11.7	84.5
Mental retardation . . . . .	312	10.8	12.9	*5.9	*—	81.4	*10.3	85.3
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	172	5.9	*2.0	17.1	*20.9	36.6	65.1	100.0
Absence of upper extremities or parts of upper extremities . . . . .	73	2.5	*1.3	*6.6	*6.4	*21.9	*64.4	100.0
Absence of lower extremities or parts of lower extremities . . . . .	99	3.4	*0.8	*10.5	*14.5	*48.5	65.7	100.0
Absence of lung . . . . .	*1	*0.0	*—	*—	*0.4	*—	*—	*100.0
Absence of kidney . . . . .	*17	*0.6	*0.4	*0.4	*3.0	*11.8	*82.4	*100.0
Absence of breast . . . . .	*58	*2.0	*0.4	*4.8	*11.9	*6.9	*91.4	*100.0
Absence of bone, joint or muscle of extremity . . . . .	*32	*1.1	*0.4	*2.0	*6.0	*15.6	*56.3	*100.0
Absence of tips of fingers or toes . . . . .	*13	*0.4	*0.5	*0.4	*—	*—	*—	*100.0
Paralysis of extremities, complete or partial . . . . .	180	6.2	*2.1	16.7	*24.7	60.0	*23.9	100.0
Paralysis of extremities, complete . . . . .	*59	2.0	*0.6	*6.8	*6.4	*50.8	*40.7	*100.0
Paralysis of extremities, partial . . . . .	121	4.2	*1.5	*9.9	*18.3	64.5	*15.7	100.0
Cerebral palsy . . . . .	*18	*0.6	*0.8	*—	*—	*61.1	*—	*100.0
Paralysis of other site, complete or partial . . . . .	*45	*1.6	*0.5	*4.6	*5.5	*35.6	*24.4	*97.8
Deformities or orthopedic impairments, total . . . . .	3,000	103.6	78.8	196.2	156.6	32.1	18.2	83.9
Deformities or orthopedic impairments of back . . . . .	1,261	43.5	33.8	80.2	63.8	35.5	18.9	91.6
Curvature or other deformity of back or spine . . . . .	227	7.8	8.5	*6.4	*4.7	29.1	*18.9	96.5
Deformities or orthopedic impairments of upper extremities . . . . .	312	10.8	6.4	29.6	*15.7	42.0	30.4	92.6
Orthopedic impairment-shoulder . . . . .	176	6.1	4.1	16.2	*5.1	59.1	*15.9	93.8
Deformities or orthopedic impairments of lower extremities . . . . .	1,379	47.6	37.6	81.1	77.0	25.7	15.2	74.4
Flat feet . . . . .	539	18.6	17.6	23.2	*18.7	*1.3	*3.7	50.5
Other deformities or orthopedic impairments . . . . .	*48	*1.7	*1.0	*5.5	*—	*60.4	*8.3	*100.0
Cleft palate . . . . .	*6	*0.2	*0.3	*—	*—	*—	*—	*100.0
<b>Condition of nervous system and sense organs</b>								
Glaucoma . . . . .	293	10.1	*0.9	25.9	66.0	*19.5	*10.2	100.0
Cataracts . . . . .	423	14.6	*1.1	14.9	140.4	*13.5	*8.5	96.9
Color blindness . . . . .	106	3.7	*2.7	*8.1	*4.3	*—	*—	*53.8
Diseases of retina . . . . .	*23	0.8	*0.8	*0.7	*1.3	*17.4	*17.4	*100.0
Tinnitus . . . . .	431	14.9	8.8	27.8	46.8	*2.6	*2.8	60.8
Epilepsy . . . . .	194	6.7	6.4	*9.4	*3.8	44.3	50.0	100.0
Migraine headache . . . . .	832	28.7	28.2	36.4	*19.1	*3.7	9.4	85.5
Other headache (excluding tension headache) . . . . .	1,009	34.8	33.7	35.3	44.7	*4.2	7.6	73.9
Multiple sclerosis . . . . .	*11	*0.4	*0.2	*1.1	*0.9	*100.0	*100.0	*100.0

**Table 30. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs, and rates per 1,000 persons, by family income: United States, 1986-88**

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

Impairment and chronic condition of the nervous system and sense organs	Family income									
	All income <sup>1</sup>	Less than \$10,000	\$10,000-\$19,999	\$20,000-\$34,999	\$35,000 or more	All income <sup>1</sup>	Less than \$10,000	\$10,000-\$19,999	\$20,000-\$34,999	\$35,000 or more
	Number in thousands					Rate per 1,000 person				
Blindness and other visual impairments . . . . .	8,222	1,463	1,760	2,041	2,008	34.5	47.1	40.1	33.3	29.0
Blind, both eyes . . . . .	557	115	125	134	90	2.3	3.7	2.8	2.2	1.3
Other visual impairments . . . . .	7,665	1,348	1,635	1,907	1,918	32.1	43.4	37.2	31.1	27.7
Deafness and other hearing impairments . . . . .	21,209	3,769	5,102	4,903	4,587	88.9	121.4	116.2	80.0	66.2
Deaf, both ears . . . . .	1,586	286	452	346	325	6.6	9.2	10.3	5.6	4.7
Other hearing impairments . . . . .	19,623	3,483	4,650	4,557	4,262	82.2	112.2	105.9	74.3	61.5
Speech impairments . . . . .	2,611	676	567	563	436	10.9	21.8	12.9	9.2	6.3
Impairment of sensation . . . . .	1,076	239	266	233	206	4.5	7.7	6.1	3.8	3.0
Mental retardation . . . . .	1,472	334	439	293	196	6.2	10.8	10.0	4.8	2.8
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	1,660	285	455	395	293	7.0	9.2	10.4	6.4	4.2
Absence of upper extremities or parts of upper extremities . . . . .	1,035	150	285	269	191	4.3	4.8	6.5	4.4	2.8
Absence of lower extremities or parts of lower extremities . . . . .	625	135	171	126	102	2.6	4.3	3.9	2.1	1.5
Absence of lung . . . . .	297	*43	81	79	75	1.2	*1.4	1.8	1.3	1.1
Absence of kidney . . . . .	407	67	74	121	103	1.7	2.2	1.7	2.0	1.5
Absence of breast . . . . .	1,177	182	294	263	252	4.9	5.9	6.7	4.3	3.6
Absence of bone, joint or muscle of extremity . . . . .	604	93	203	129	94	2.5	3.0	4.6	2.1	1.4
Absence of tips of fingers or toes . . . . .	355	*31	*47	135	85	1.5	*1.0	*1.1	2.2	1.2
Paralysis of extremities, complete or partial . . . . .	1,371	347	334	281	169	5.7	11.2	7.6	4.6	2.4
Paralysis of extremities, complete . . . . .	482	143	98	95	*54	2.0	4.6	2.2	1.5	*0.8
Paralysis of extremities, partial . . . . .	888	205	236	186	114	3.7	6.6	5.4	3.0	1.6
Cerebral palsy . . . . .	278	*61	73	66	*46	1.2	*2.0	1.7	1.1	*0.7
Paralysis of other site, complete or partial . . . . .	303	72	73	70	65	1.3	2.3	1.7	1.1	0.9
Deformities or orthopedic impairments, total . . . . .	31,777	5,624	6,679	7,885	7,909	133.2	181.2	152.2	128.6	114.2
Deformities or orthopedic impairments of back . . . . .	15,933	2,652	3,159	4,053	4,103	66.8	85.4	72.0	66.1	59.2
Curvature or other deformity of back or spine . . . . .	4,770	770	948	1,292	1,216	20.0	24.8	21.6	21.1	17.6
Deformities or orthopedic impairments of upper extremities . . . . .	3,191	607	735	792	697	13.4	19.6	16.7	12.9	10.1
Orthopedic impairment-shoulder . . . . .	2,155	362	503	551	462	9.0	11.7	11.5	9.0	6.7
Deformities or orthopedic impairments of lower extremities . . . . .	12,315	2,307	2,701	2,936	3,037	51.6	74.3	61.5	47.9	43.9
Flat feet . . . . .	3,691	540	783	1,021	928	15.5	17.4	17.8	16.7	13.4
Other deformities or orthopedic impairments . . . . .	338	*58	83	103	72	1.4	*1.9	1.9	1.7	1.0
Cleft palate . . . . .	203	*22	*46	67	*42	0.9	*0.7	*1.0	1.1	*0.6
Condition of nervous system and sense organs										
Glaucoma . . . . .	1,890	354	515	410	302	7.9	11.4	11.7	6.7	4.4
Cataracts . . . . .	5,575	1,577	1,463	844	674	23.4	50.8	33.4	13.8	9.7
Color blindness . . . . .	2,846	181	532	805	1,069	11.9	5.8	12.1	13.1	15.4
Diseases of retina . . . . .	938	115	259	169	220	3.9	3.7	5.9	2.8	3.2
Tinnitus . . . . .	6,307	1,257	1,424	1,480	1,452	26.4	40.5	32.4	24.1	21.0
Epilepsy . . . . .	1,153	275	230	266	222	4.8	8.9	5.2	4.3	3.2
Migraine headache . . . . .	8,767	1,289	1,643	2,323	2,567	36.7	41.5	37.4	37.9	37.1
Other headache (excluding tension headache) . . . . .	8,766	1,878	1,738	2,217	2,059	36.7	60.5	39.6	36.2	29.7
Multiple sclerosis . . . . .	191	*44	*27	*38	*58	0.8	*1.4	*0.6	*0.6	*0.8

<sup>1</sup>Includes unknown family income.

**Table 31. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs and rates per 1,000 persons, by geographic region: United States, 1986-88**

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

Impairment and chronic condition of the nervous system and sense organs	Geographic region									
	All regions	North-east	Mid-west	South	West	All regions	North-east	Mid-west	South	West
Impairment	Number in thousands					Rate per 1,000 persons				
Blindness and other visual impairments . . . . .	8,222	1,555	2,172	2,724	1,770	34.5	31.1	37.3	33.4	36.3
Blind, both eyes . . . . .	557	102	133	166	155	2.3	2.0	2.3	2.0	3.2
Other visual impairments . . . . .	7,665	1,453	2,039	2,558	1,615	32.1	29.1	35.0	31.4	33.1
Deafness and other hearing impairments . . . . .	21,209	3,780	5,766	7,101	4,561	88.9	75.6	99.0	87.1	93.4
Deaf, both ears . . . . .	1,586	362	355	492	376	6.6	7.2	6.1	6.0	7.7
Other hearing impairments . . . . .	19,623	3,418	5,411	6,609	4,185	82.2	68.4	92.9	81.0	85.7
Speech impairments . . . . .	2,611	412	632	1,102	465	10.9	8.2	10.9	13.5	9.5
Impairment of sensation . . . . .	1,076	146	287	366	277	4.5	2.9	4.9	4.5	5.7
Mental retardation . . . . .	1,472	352	380	548	192	6.2	7.0	6.5	6.7	3.9
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	1,660	286	514	568	292	7.0	5.7	8.8	7.0	6.0
Absence of upper extremities or parts of upper extremities . . . . .	1,035	156	332	340	207	4.3	3.1	5.7	4.2	4.2
Absence of lower extremities or parts of lower extremities . . . . .	625	130	182	228	85	2.6	2.6	3.1	2.8	1.7
Absence of lung . . . . .	297	73	78	68	78	1.2	1.5	1.3	0.8	1.6
Absence of kidney . . . . .	407	95	119	153	*39	1.7	1.9	2.0	1.9	*0.8
Absence of breast . . . . .	1,177	203	357	352	265	4.9	4.1	6.1	4.3	5.4
Absence of bone, joint or muscle of extremity . . . . .	604	142	150	197	114	2.5	2.8	2.6	2.4	2.3
Absence of tips of fingers or toes . . . . .	355	*34	130	98	93	1.5	*0.7	2.2	1.2	1.9
Paralysis of extremities, complete or partial . . . . .	1,371	312	370	505	184	5.7	6.2	6.4	6.2	3.8
Paralysis of extremities, complete . . . . .	482	111	136	167	68	2.0	2.2	2.3	2.0	1.4
Paralysis of extremities, partial . . . . .	888	201	234	338	116	3.7	4.0	4.0	4.1	2.4
Cerebral palsy . . . . .	278	75	88	75	*41	1.2	1.5	1.5	0.9	*0.8
Paralysis of other site, complete or partial . . . . .	303	*56	90	111	*46	1.3	*1.1	1.5	1.4	*0.9
Deformities or orthopedic impairments, total . . . . .	31,777	5,888	8,457	10,154	7,279	133.2	117.8	145.2	124.5	149.1
Deformities or orthopedic impairments of back . . . . .	15,933	2,856	4,134	4,944	4,000	66.8	57.1	71.0	60.6	81.9
Curvature or other deformity of back or spine . . . . .	4,770	902	1,416	1,224	1,227	20.0	18.0	24.3	15.0	25.1
Deformities or orthopedic impairments of upper extremities . . . . .	3,191	574	956	864	797	13.4	11.5	16.4	10.6	16.3
Orthopedic impairment-shoulder . . . . .	2,155	394	583	625	554	9.0	7.9	10.0	7.7	11.3
Deformities or orthopedic impairments of lower extremities . . . . .	12,315	2,402	3,258	4,258	2,397	51.6	48.0	55.9	52.2	49.1
Flat feet . . . . .	3,691	765	931	1,377	618	15.5	15.3	16.0	16.9	12.7
Other deformities or orthopedic impairments . . . . .	338	*56	109	88	85	1.4	*1.1	1.9	1.1	1.7
Cleft palate . . . . .	203	68	*45	72	*18	0.9	1.4	*0.8	0.9	*0.4
Condition of nervous system and sense organs										
Glaucoma . . . . .	1,890	407	479	696	307	7.9	8.1	8.2	8.5	6.3
Cataracts . . . . .	5,575	1,209	1,330	1,960	1,076	23.4	24.2	22.9	24.0	22.0
Color blindness . . . . .	2,846	559	813	810	665	11.9	11.2	14.0	9.9	13.6
Diseases of retina . . . . .	938	173	282	262	221	3.9	3.5	4.8	3.2	4.5
Tinnitus . . . . .	6,307	1,005	1,663	2,150	1,489	26.4	20.1	28.6	26.4	30.5
Epilepsy . . . . .	1,153	232	260	446	214	4.8	4.6	4.5	5.5	4.4
Migraine headache . . . . .	8,767	1,472	2,221	3,083	1,992	36.7	29.4	38.1	37.8	40.8
Other headache (excluding tension headache) . . . . .	8,766	1,342	2,268	3,383	1,772	36.7	26.8	38.9	41.5	36.3
Multiple sclerosis . . . . .	191	*51	74	*40	*25	0.8	*1.0	1.3	*0.5	*0.5

**Table 32. Average annual number of selected impairments and of chronic conditions of the nervous system and sense organs and rates per 1,000 persons, by place of residence: United States, 1986-88**

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

Impairment and chronic condition of the nervous system and sense organs	Place of residence							
	All residences	MSA central city	MSA not central city	Not MSA	All residences	MSA central city	MSA not central city	Not MSA
Impairment	Number in thousands				Rate per 1,000 persons			
Blindness and other visual impairments . . . . .	8,222	2,489	3,599	2,133	34.5	33.8	32.6	39.1
Blind, both eyes . . . . .	557	176	203	178	2.3	2.4	1.8	3.3
Other visual impairments . . . . .	7,665	2,314	3,396	1,955	32.1	31.4	30.8	35.8
Deafness and other hearing impairments . . . . .	21,209	5,870	9,339	6,000	88.9	79.6	84.7	109.9
Deaf, both ears . . . . .	1,586	436	677	472	6.6	5.9	6.1	8.6
Other hearing impairments . . . . .	19,623	5,434	8,662	5,527	82.2	73.7	78.5	101.3
Speech impairments . . . . .	2,611	889	1,048	674	10.9	12.1	9.5	12.3
Impairment of sensation . . . . .	1,076	296	504	276	4.5	4.0	4.6	5.1
Mental retardation . . . . .	1,472	450	665	358	6.2	6.1	6.0	6.6
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	1,660	397	703	559	7.0	5.4	6.4	10.2
Absence of upper extremities or parts of upper extremities . . . . .	1,035	225	438	373	4.3	3.1	4.0	6.8
Absence of lower extremities or parts of lower extremities . . . . .	625	172	265	187	2.6	2.3	2.4	3.4
Absence of lung . . . . .	297	95	116	86	1.2	1.3	1.1	1.6
Absence of kidney . . . . .	407	134	193	80	1.7	1.8	1.7	1.5
Absence of breast . . . . .	1,177	356	613	209	4.9	4.8	5.6	3.8
Absence of bone, joint, or muscle of extremity . . . . .	604	153	261	190	2.5	2.1	2.4	3.5
Absence of tips of fingers or toes . . . . .	355	109	142	104	1.5	1.5	1.3	1.9
Paralysis of extremities, complete or partial . . . . .	1,371	404	596	371	5.7	5.5	5.4	6.8
Paralysis of extremities, complete . . . . .	482	178	180	124	2.0	2.4	1.6	2.3
Paralysis of extremities, partial . . . . .	888	226	416	247	3.7	3.1	3.8	4.5
Cerebral palsy . . . . .	278	77	125	76	1.2	1.0	1.1	1.4
Paralysis of other site, complete or partial . . . . .	303	118	103	82	1.3	1.6	0.9	1.5
Deformities or orthopedic impairments, total . . . . .	31,777	9,907	14,186	7,684	133.2	134.4	128.6	140.8
Deformities or orthopedic impairments of back . . . . .	15,933	4,813	7,364	3,757	66.8	65.3	66.8	68.8
Curvature or other deformity of back or spine . . . . .	4,770	1,454	2,299	1,016	20.0	19.7	20.8	18.6
Deformities or orthopedic impairments of upper extremities . . . . .	3,191	1,092	1,240	859	13.4	14.8	11.2	15.7
Orthopedic impairment-shoulder . . . . .	2,155	779	850	526	9.0	10.6	7.7	9.6
Deformities or orthopedic impairments of lower extremities . . . . .	12,315	3,864	5,448	3,003	51.6	52.4	49.4	55.0
Flat feet . . . . .	3,691	1,194	1,613	884	15.5	16.2	14.6	16.2
Other deformities or orthopedic impairments . . . . .	338	138	133	66	1.4	1.9	1.2	1.2
Cleft palate . . . . .	203	*46	100	*56	0.9	*0.6	0.9	*1.0
Condition of nervous system and sense organs								
Glaucoma . . . . .	1,890	740	654	496	7.9	10.0	5.9	9.1
Cataracts . . . . .	5,575	1,631	2,384	1,559	23.4	22.1	21.6	28.6
Color blindness . . . . .	2,846	702	1,455	690	11.9	9.5	13.2	12.6
Diseases of retina . . . . .	938	252	403	283	3.9	3.4	3.7	5.2
Tinnitus . . . . .	6,307	1,760	2,894	1,653	26.4	23.9	26.2	30.3
Epilepsy . . . . .	1,153	349	467	338	4.8	4.7	4.2	6.2
Migraine headache . . . . .	8,767	2,626	4,102	2,040	36.7	35.6	37.2	37.4
Other headache (excluding tension headache) . . . . .	8,766	2,531	3,908	2,327	36.7	34.3	35.4	42.6
Multiple sclerosis . . . . .	191	68	62	*61	0.8	0.9	0.6	*1.1

NOTE: MSA is metropolitan statistical area.



**Table 33. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue, rates per 1,000 persons by age, and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986-88**

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

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18-44 years	45-64 years	65-74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
<b>Condition of skin and subcutaneous tissue</b>										
Sebacaceous skin cyst . . . . .	1,466	6.1	1.7	8.0	8.5	4.9	6.5	*1.6	4.7	91.6
Acne . . . . .	4,484	18.8	24.6	27.1	3.0	*1.6	*0.4	*0.1	*0.9	68.3
Psoriasis . . . . .	2,223	9.3	2.9	9.4	14.8	13.8	16.1	*2.1	*1.4	90.5
Dermatitis . . . . .	9,095	38.1	36.4	41.7	37.8	29.8	29.1	1.2	1.9	85.3
Dry (itching) skin, not elsewhere classified. . . . .	4,563	19.1	9.4	20.5	21.2	28.5	40.0	*0.5	*0.8	53.5
Chronic ulcer of skin . . . . .	203	0.9	*0.1	*0.3	1.8	3.9	*1.8	24.1	*17.7	97.5
Ingrown nails . . . . .	5,751	24.1	8.4	24.5	32.2	37.6	57.2	*0.2	1.7	49.8
Corns and calluses . . . . .	4,484	18.8	1.3	16.9	32.5	40.1	48.3	*0.7	*1.2	44.5
Benign neoplasms of the skin. . . . .	703	2.9	*0.8	2.2	5.2	5.3	9.0	*0.6	*3.4	90.9
Malignant neoplasms of the skin . . . . .	2,050	8.6	*0.0	2.8	15.2	37.3	40.0	*1.8	7.2	95.9
<b>Condition of musculoskeletal system and connective tissue</b>										
Arthritis . . . . .	31,233	130.9	2.4	51.4	271.7	450.8	534.6	19.8	8.1	81.7
Rheumatism, unspecified. . . . .	445	1.9	*—	1.0	3.5	5.0	8.8	17.5	*2.5	73.3
Sciatica (including lumbago). . . . .	1,959	8.2	*0.2	6.2	17.0	20.0	18.8	8.1	10.8	84.9
Intervertebral disc disorders . . . . .	4,140	17.4	*0.3	17.4	37.9	26.6	16.9	46.6	40.8	98.8
Bone spur or tendinitis, not otherwise specified . . . . .	2,121	8.9	*0.7	8.0	19.3	15.4	11.4	10.9	8.5	95.9
Disorders of bone or cartilage. . . . .	1,351	5.7	1.3	3.4	8.5	18.3	20.2	41.1	23.5	97.6
Bunions . . . . .	2,610	10.9	*0.9	7.5	18.8	34.2	32.6	*0.3	5.2	50.4
Bursitis, not elsewhere classified . . . . .	4,393	18.4	1.0	14.6	39.8	40.3	31.9	7.2	4.9	85.8
Neuritis or neuralgia, unspecified. . . . .	664	2.8	*0.1	1.2	5.7	7.4	14.5	*1.5	*6.8	86.3

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 34. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue among males, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
Condition of skin and subcutaneous tissue		Rate per 1,000 persons						Percent		
Sebaceous skin cyst . . . . .	707	6.1	*1.5	8.7	7.4	*4.4	*7.8	*1.1	*3.1	88.8
Acne . . . . .	2,133	18.5	28.0	23.3	*2.6	*1.2	*—	*0.1	*1.1	66.3
Psoriasis . . . . .	1,111	9.6	2.7	9.1	16.4	20.4	*14.6	*1.8	*1.6	89.6
Dermatitis . . . . .	3,486	30.2	34.2	29.8	29.0	20.4	27.9	*1.3	2.3	83.5
Dry (itching) skin, not elsewhere classified. . . . .	1,973	17.1	8.2	18.2	20.7	25.4	39.4	*0.6	*1.3	53.9
Chronic ulcer of skin . . . . .	113	1.0	*0.1	*0.4	*2.1	*4.3	*2.8	*26.5	*17.7	100.0
Ingrown nails . . . . .	2,494	21.6	9.0	23.6	28.3	24.7	57.0	*—	*1.9	50.5
Corns and calluses . . . . .	1,550	13.4	*1.1	14.0	21.8	28.6	30.6	*—	*0.8	39.9
Benign neoplasms of the skin. . . . .	283	2.5	*0.5	1.5	5.3	*6.4	*7.3	*—	*4.2	88.7
Malignant neoplasms of the skin . . . . .	1,269	11.0	*0.1	3.1	20.4	57.5	58.2	*1.7	6.1	96.3
Condition of musculoskeletal system and connective tissue										
Arthritis . . . . .	10,701	92.7	1.9	38.0	205.8	354.2	402.2	17.7	9.6	79.7
Rheumatism, unspecified. . . . .	207	1.8	*—	*0.7	3.3	*7.5	*10.3	*17.9	*1.9	67.1
Sclatica (including lumbago). . . . .	651	5.6	*0.1	4.1	11.5	15.2	19.3	8*6	13.1	84.0
Intervertebral disc disorders . . . . .	2,359	20.4	*0.2	21.5	44.3	32.3	19.8	48.4	43.2	99.2
Bone spur or tendinitis, not otherwise specified . . . . .	959	8.3	*1.0	8.0	18.4	11.6	*10.8	*5.9	11.2	93.8
Disorders of bone or cartilage. . . . .	397	3.4	2.3	3.2	4.2	*7.2	*4.5	32.7	31.1	98.0
Bunions . . . . .	460	4.0	*—	3.4	8.2	10.8	*7.8	*0.7	*3.7	32.0
Bursitis, not elsewhere classified . . . . .	1,752	15.2	*0.2	12.5	35.5	30.7	31.1	7.0	3.7	80.5
Neuritis or neuralgia, unspecified. . . . .	220	1.9	*—	*0.7	3.5	*7.6	*12.8	*2.7	*8.2	92.3

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 35. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue among females, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
Condition of skin and subcutaneous tissue		Rate per 1,000 persons						Percent		
Sebaceous skin cyst . . . . .	759	6.2	*1.8	7.5	9.5	*5.2	*5.7	*2.0	*6.2	94.2
Acne . . . . .	2,350	19.1	21.0	30.7	3.3	*2.0	*0.6	*—	*0.7	70.0
Psoriasis . . . . .	1,112	9.0	3.1	9.6	13.4	8.6	17.1	*2.4	*1.3	91.4
Dermatitis . . . . .	5,609	45.6	38.6	53.2	45.8	37.4	29.8	1.2	1.7	86.4
Dry (itching) skin, not elsewhere classified. . . . .	2,590	21.0	10.6	22.6	21.6	31.0	40.4	*0.3	*0.4	53.1
Chronic ulcer of skin . . . . .	89	0.7	*—	*0.2	*1.5	*3.5	*1.3	*21.3	*18.0	95.5
Ingrown nails . . . . .	3,257	26.5	7.6	25.4	35.9	47.8	57.3	*0.3	*1.6	49.2
Corns and calluses . . . . .	2,935	23.8	*1.4	19.6	42.1	49.3	58.5	*1.1	*1.4	47.0
Benign neoplasms of the skin. . . . .	420	3.4	*1.2	2.9	5.2	*4.4	10.1	*1.0	*2.9	92.1
Malignant neoplasms of the skin . . . . .	782	6.4	*—	2.5	10.5	21.2	29.5	*2.0	9.0	95.1
Condition of the musculoskeletal system and connective tissue										
Arthritis . . . . .	20,532	166.8	2.9	64.2	332.0	527.6	611.5	20.9	7.3	82.8
Rheumatism, unspecified. . . . .	238	1.9	*—	1.3	3.7	*3.1	*7.9	*17.2	*2.9	78.6
Sciatica (including lumbago). . . . .	1,308	10.6	*0.2	8.1	22.1	23.9	18.5	7.9	9.8	85.5
Intervertebral disc disorders . . . . .	1,782	14.5	*0.4	13.4	32.1	22.0	15.2	44.2	37.7	98.1
Bone spur or tendinitis, not otherwise specified . . . . .	1,162	9.4	*0.5	8.0	20.2	18.3	11.5	15.1	6.3	97.6
Disorders of bone or cartilage. . . . .	954	7.7	*0.2	3.7	12.4	27.2	29.3	44.7	20.3	97.5
Bunions . . . . .	2,149	17.5	*1.8	11.4	28.4	52.8	47.0	*0.1	5.6	54.4
Bursitis, not elsewhere classified . . . . .	2,640	21.4	*1.9	16.7	43.7	47.9	32.4	7.3	5.7	89.4
Neuritis or neuralgia, unspecified. . . . .	443	3.6	*0.1	1.6	7.7	7.3	15.5	*1.1	*6.1	83.7

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 36. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue among white persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons				Percent		
<b>Condition of skin and subcutaneous tissue</b>								
Sebaceous skin cyst . . . . .	1,350	6.7	6.1	9.2	5.8	*1.4	4.7	91.9
Acne . . . . .	3,983	19.7	27.9	3.1	*1.2	*0.1	*1.0	69.0
Psoriasis . . . . .	2,123	10.5	7.9	16.7	15.2	*1.7	*1.5	90.4
Dermatitis . . . . .	8,017	39.7	41.4	39.3	31.2	*0.7	1.7	84.8
Dry (itching) skin, not elsewhere classified. . . . .	4,061	20.1	16.9	22.3	34.1	*0.5	*0.8	52.1
Chronic ulcer of skin . . . . .	174	0.9	*0.2	1.8	3.1	*17.8	*13.8	97.1
Ingrown nails . . . . .	5,129	25.4	19.7	32.8	45.1	*0.1	1.7	49.6
Corns and calluses . . . . .	3,632	18.0	10.1	30.9	40.7	*0.7	*1.2	46.8
Benign neoplasms of the skin. . . . .	665	3.3	1.8	5.7	7.4	*0.6	*3.6	91.6
Malignant neoplasms of the skin . . . . .	2,040	10.1	2.1	17.3	42.5	*1.8	7.2	95.9
<b>Condition of the musculoskeletal system and connective tissue</b>								
Arthritis . . . . .	27,419	135.9	34.1	269.7	479.7	19.1	8.2	81.5
Rheumatism, unspecified. . . . .	389	1.9	0.7	3.4	6.4	17.2	*2.8	71.0
Sciatica (including lumbago). . . . .	1,887	9.4	4.5	18.6	21.4	7.8	10.3	84.6
Intervertebral disc disorders . . . . .	3,800	18.8	12.1	39.6	23.2	46.1	40.0	98.8
Bone spur or tendinitis, not otherwise specified. . . . .	1,993	9.9	5.9	20.7	14.5	10.1	8.2	95.6
Disorders of bone or cartilage. . . . .	1,256	6.2	2.9	9.0	19.7	40.3	23.9	97.4
Bunions . . . . .	2,161	10.7	4.5	17.8	33.3	*0.3	4.6	50.7
Bursitis, not elsewhere classified . . . . .	3,949	19.6	10.2	40.6	37.8	7.1	4.7	85.2
Neuritis or neuralgia, unspecified. . . . .	592	2.9	0.8	6.1	9.8	*1.5	*5.7	87.7

**Table 37. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue among black persons, rates per 1,000 persons by age, and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Number of conditions in thousands	Age				Conditions causing—		
		All ages	Under 45 years	45–64 years	65 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons				Percent		
<b>Condition of skin and subcutaneous tissue</b>								
Sebaceous skin cyst . . . . .	86	3.0	3.2	*3.1	*0.4	*4.4	*—	86.0
Acne . . . . .	434	15.0	19.4	*1.5	*—	*—	*—	58.3
Psoriasis . . . . .	68	2.3	*1.9	*1.5	*7.7	16.2	*—	88.2
Dermatitis . . . . .	795	27.5	29.8	26.1	*8.5	*6.9	*3.9	88.9
Dry (itching) skin, not elsewhere classified. . . . .	389	13.4	13.0	*12.3	*19.6	*—	*1.3	67.4
Chronic ulcer of skin . . . . .	*25	*0.9	*0.4	*2.0	*3.0	*72.0	*48.0	*100.0
Ingrown nails . . . . .	528	18.2	12.3	30.2	50.2	*0.4	*2.1	50.0
Corns and calluses . . . . .	783	27.0	17.7	47.3	75.7	*1.1	*1.4	34.4
Benign neoplasms of the skin. . . . .	*30	*1.0	*0.8	*2.2	*0.9	*—	*—	*73.3
Malignant neoplasms of the skin . . . . .	*4	*0.1	*0.1	*—	*0.9	*—	*50.0	*100.0
<b>Condition of the musculoskeletal system and connective tissue</b>								
Arthritis . . . . .	3,325	114.8	26.2	319.6	548.9	27.2	7.0	83.5
Rheumatism, unspecified. . . . .	*47	*1.6	*0.3	*5.5	*6.8	*19.1	*—	*87.2
Sciatica (including lumbago). . . . .	*37	*1.3	*0.3	*5.0	*3.4	*27.2	*5.4	*89.2
Intervertebral disc disorders . . . . .	266	9.2	3.9	28.3	*22.1	55.3	56.4	100.0
Bone spur or tendinitis, not otherwise specified. . . . .	77	2.7	*1.1	*6.6	*8.9	*26.0	*9.1	100.0
Disorders of bone or cartilage. . . . .	74	2.6	*0.7	*5.3	*14.0	*62.2	*17.6	100.0
Bunions . . . . .	363	12.5	6.5	31.1	33.6	*—	*10.5	48.5
Bursitis, not elsewhere classified . . . . .	375	12.9	5.9	37.3	31.5	*9.3	*5.9	93.6
Neuritis or neuralgia, unspecified. . . . .	68	2.3	*0.8	*4.2	*14.0	*1.5	*16.2	*76.5

**Table 38. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue and rates per 1,000 persons, by family income: United States, 1986–88**

[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.]

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Family income									
	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000 or more	All income <sup>1</sup>	Less than \$10,000	\$10,000–\$19,999	\$20,000–\$34,999	\$35,000 or more
Condition of skin and subcutaneous tissue	Number in thousands					Rate per 1,000 persons				
	Sebaceous skin cyst . . . . .	1,466	187	308	348	459	6.1	6.0	7.0	5.7
Acne . . . . .	4,484	611	852	1,171	1,524	18.8	19.7	19.4	19.1	22.0
Psoriasis . . . . .	2,223	244	402	596	763	9.3	7.9	9.2	9.7	11.0
Dermatitis . . . . .	9,095	1,273	1,620	2,486	2,901	38.1	41.0	36.9	40.5	41.9
Dry (itching) skin, not elsewhere classified . . . . .	4,563	861	832	1,160	1,303	19.1	27.7	19.0	18.9	18.8
Chronic ulcer of skin . . . . .	203	79	*31	*43	*40	0.9	2.5	*0.7	*0.7	*0.6
Ingrown nails . . . . .	5,751	1,204	1,294	1,397	1,284	24.1	38.8	29.5	22.8	18.5
Corns and calluses . . . . .	4,484	814	848	1,136	1,132	18.8	26.2	19.3	18.5	16.3
Benign neoplasms of the skin . . . . .	703	67	160	126	267	2.9	2.2	3.6	2.1	3.9
Malignant neoplasms of the skin . . . . .	2,050	312	414	376	678	8.6	10.1	9.4	6.1	9.8
Condition of musculoskeletal system and connective tissue										
Arthritis . . . . .	31,233	6,992	7,215	6,188	5,873	130.9	225.3	164.4	100.9	84.8
Rheumatism, unspecified . . . . .	445	124	101	93	67	1.9	4.0	2.3	1.5	1.0
Scolatica (including lumbago) . . . . .	1,959	339	384	516	493	8.2	10.9	8.7	8.4	7.1
Intervertebral disc disorders . . . . .	4,140	663	923	879	1,172	17.4	21.4	21.0	14.3	16.9
Bone spur or tendinitis, not otherwise specified . . . . .	2,121	300	384	515	684	8.9	9.7	8.7	8.4	9.9
Disorders of bone or cartilage . . . . .	1,351	320	287	343	271	5.7	10.3	6.5	5.6	3.9
Bunions . . . . .	2,610	666	437	557	602	10.9	21.5	10.0	9.1	8.7
Bursitis, not elsewhere classified . . . . .	4,393	778	922	999	1,088	18.4	25.1	21.0	16.3	15.7
Neuritis or neuralgia, unspecified . . . . .	664	118	227	110	107	2.8	3.8	5.2	1.8	1.5

<sup>1</sup>Includes unknown family income.

**Table 39. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue and rates per 1,000 persons, by geographic region: United States, 1986-88**

[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.]

<i>Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue</i>	<i>Geographic region</i>									
	<i>All regions</i>	<i>Northeast</i>	<i>Midwest</i>	<i>South</i>	<i>West</i>	<i>All regions</i>	<i>Northeast</i>	<i>Midwest</i>	<i>South</i>	<i>West</i>
	Number in thousands					Rate per 1,000 persons				
Condition of skin and subcutaneous tissue										
Sebaceous skin cyst . . . . .	1,466	306	353	509	298	6.1	6.1	6.1	6.2	6.1
Acne . . . . .	4,484	786	1,235	1,443	1,020	18.8	15.7	21.2	17.7	20.9
Psoriasis . . . . .	2,223	408	685	657	472	9.3	8.2	11.8	8.1	9.7
Dermatitis . . . . .	9,095	1,787	2,224	2,885	2,200	38.1	35.7	38.2	35.4	45.1
Dry (itching) skin, not elsewhere classified . . . . .	4,563	909	1,349	1,411	894	19.1	18.2	23.2	17.3	18.3
Chronic ulcer of skin . . . . .	203	68	*46	*50	*39	0.9	1.4	*0.8	*0.6	*0.8
Ingrown nails . . . . .	5,751	853	1,313	2,410	1,176	24.1	17.1	22.5	29.6	24.1
Corns and calluses . . . . .	4,484	797	1,208	1,625	854	18.8	15.9	20.7	19.9	17.5
Benign neoplasms of the skin . . . . .	703	100	141	266	196	2.9	2.0	2.4	3.3	4.0
Malignant neoplasms of the skin . . . . .	2,050	254	314	892	590	8.6	5.1	5.4	10.9	12.1
Condition of musculoskeletal system and connective tissue										
Arthritis . . . . .	31,233	6,323	7,985	11,186	5,739	130.9	126.5	137.1	137.2	117.6
Rheumatism, unspecified. . . . .	445	94	76	196	78	1.9	1.9	1.3	2.4	1.6
Sciatica (including lumbago). . . . .	1,959	530	478	432	519	8.2	10.6	8.2	5.3	10.6
Intervertebral disc disorders . . . . .	4,140	756	1,046	1,414	924	17.4	15.1	18.0	17.3	18.9
Bone spur or tendinitis, not otherwise specified . . . . .	2,121	367	561	692	501	8.9	7.3	9.6	8.5	10.3
Disorders of bone or cartilage. . . . .	1,351	213	309	553	277	5.7	4.3	5.3	6.8	5.7
Bunions . . . . .	2,610	560	638	919	493	10.9	11.2	11.0	11.3	10.1
Bursitis, not elsewhere classified . . . . .	4,393	840	1,077	1,517	959	18.4	16.8	18.5	18.6	19.6
Neuritis or neuralgia, unspecified. . . . .	664	141	155	275	92	2.8	2.8	2.7	3.4	1.9

**Table 40. Average annual number of selected chronic conditions of the skin and subcutaneous tissue and of the musculoskeletal system and connective tissue and rates per 1,000 persons, by place of residence: United States, 1986-88**

[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]

Chronic condition of skin and subcutaneous tissue and of the musculoskeletal system and connective tissue	Place of residence							
	All residences	MSA central city	MSA not central city	Not MSA	All residences	MSA central city	MSA not central city	Not MSA
	Number in thousands				Rate per 1,000 persons			
<b>Condition of skin and subcutaneous tissue</b>								
Sebacous skin cyst . . . . .	1,466	385	794	288	6.1	5.2	7.2	5.3
Acne . . . . .	4,484	1,450	1,971	1,062	18.8	19.7	17.9	19.5
Psoriasis . . . . .	2,223	497	1,172	555	9.3	6.7	10.6	10.2
Dermatitis . . . . .	9,095	2,957	4,176	1,962	38.1	40.1	37.9	35.9
Dry (itching) skin, not elsewhere classified . . . . .	4,563	1,455	1,881	1,227	19.1	19.7	17.1	22.5
Chronic ulcer of skin . . . . .	203	92	88	*24	0.9	1.2	0.8	*0.4
Ingrown nails . . . . .	5,751	1,560	2,349	1,842	24.1	21.2	21.3	33.7
Corns and calluses . . . . .	4,484	1,600	1,772	1,112	18.8	21.7	16.1	20.4
Benign neoplasms of the skin . . . . .	703	200	345	157	2.9	2.7	3.1	2.9
Malignant neoplasms of the skin . . . . .	2,050	461	910	680	8.6	6.3	8.2	12.5
<b>Condition of musculoskeletal system and connective tissue</b>								
Arthritis . . . . .	31,233	9,584	12,821	8,827	130.9	130.0	116.2	161.7
Rheumatism, unspecified . . . . .	445	169	154	122	1.9	2.3	1.4	2.2
Sciatica (including lumbago) . . . . .	1,959	544	978	436	8.2	7.4	8.9	8.0
Intervertebral disc disorders . . . . .	4,140	1,186	1,955	999	17.4	16.1	17.7	18.3
Bone spur or tendinitis, not otherwise specified . . . . .	2,121	634	959	528	8.9	8.6	8.7	9.7
Disorders of bone or cartilage . . . . .	1,351	388	593	370	5.7	5.3	5.4	6.8
Bunlons . . . . .	2,610	1,011	1,071	527	10.9	13.7	9.7	9.7
Bursitis, not elsewhere classified . . . . .	4,393	1,295	1,978	1,120	18.4	17.6	17.9	20.5
Neuritis or neuralgia, unspecified . . . . .	664	151	332	181	2.8	2.0	3.0	3.3

NOTE: MSA is metropolitan statistical area.



**Table 41. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions; rates per 1,000 persons by age; and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986–88**

[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]

Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Endocrine, nutritional, and metabolic diseases and immunity disorders										
Gout . . . . .	2,193	9.2	*–	2.8	22.5	31.8	31.4	10.0	6.4	92.6
Goiter . . . . .	415	1.7	*0.3	1.3	3.1	*3.5	*5.3	*8.7	*14.5	97.6
Other diseases of the thyroid . . . . .	2,905	12.2	1.0	8.6	25.3	30.1	28.3	8.2	12.9	99.3
Diabetes . . . . .	6,486	27.2	2.2	9.9	58.2	95.2	98.1	33.3	29.9	100.0
Diseases of the blood and blood-forming organs										
Anemias . . . . .	3,460	14.5	8.4	17.3	11.8	18.1	29.3	4.5	11.4	98.2
Genitourinary conditions										
Kidney stones . . . . .	1,213	5.1	*0.4	5.3	8.4	10.8	7.2	*4.3	60.5	97.6
Kidney infections . . . . .	1,559	6.5	2.2	8.1	7.3	7.5	12.1	4.4	30.5	98.8
Other kidney trouble, not elsewhere classified . . . . .	762	3.2	1.0	2.1	4.6	7.5	12.9	24.3	40.6	97.5
Bladder infections . . . . .	1,692	7.1	1.9	8.0	9.8	10.8	11.7	*2.0	14.4	99.0
Other disorders of bladder . . . . .	1,742	7.3	1.6	5.2	9.9	17.3	33.7	5.4	20.8	94.7
Diseases of prostate . . . . .	1,411	5.9	*–	2.1	10.5	28.0	22.1	5.5	38.8	98.1
Inflammatory disease of female genital organs . . . . .	367	1.5	*0.1	3.2	*0.4	*0.5	*0.3	*2.5	28.1	98.9
Noninflammatory disease of female genital organs . . . . .	1,038	4.4	*0.3	7.8	4.4	*0.9	*0.4	*3.0	38.0	100.0
Menstrual disorders . . . . .	1,972	8.3	2.5	15.9	4.1	*0.2	*–	*0.5	10.7	87.1
Other diseases of female genital organs . . . . .	1,971	8.3	2.5	12.8	8.3	5.0	*3.8	5.1	23.2	90.7
Female trouble, not otherwise specified . . . . .	136	0.6	*–	0.9	*0.6	*0.7	*0.4	*14.0	*27.9	97.1
Malignant neoplasm of breast . . . . .	623	2.6	*–	0.8	5.0	9.3	14.2	16.1	82.5	100.0
Malignant neoplasm of female genital organs . . . . .	222	0.9	*–	1.1	1.5	*2.1	*0.4	27.9	45.9	100.0
Malignant neoplasm of prostate . . . . .	205	0.9	*–	*–	1.4	5.4	*4.6	38.5	69.3	100.0
Benign neoplasm of breast . . . . .	86	0.4	*–	*0.4	*0.3	*1.2	*0.7	*–	*33.7	100.0
Benign neoplasm of female genital organs . . . . .	658	2.8	*–	4.2	4.5	*1.1	*0.8	*2.1	45.0	100.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 42. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions among males; rates per 1,000 persons by age; and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Endocrine, nutritional, and metabolic diseases and immunity disorders										
Gout . . . . .	1,528	13.2	*–	3.9	34.9	53.8	42.7	*3.9	7.7	94.4
Goutier . . . . .	*29	*0.3	*–	*0.1	*1.0	*0.7	*–	*24.1	*31.0	*100.0
Other diseases of the thyroid . . . . .	377	3.3	*0.3	1.8	8.2	8.9	*8.8	*10.6	*13.3	99.3
Diabetes . . . . .	3,026	26.2	2.6	9.2	61.6	97.5	103.2	31.4	28.4	100.0
Diseases of the blood and blood-forming organs										
Anemias . . . . .	690	6.0	8.7	2.5	5.6	10.6	20.3	*5.2	10.3	98.6
Genitourinary conditions										
Kidney stones . . . . .	798	6.9	*0.5	6.4	13.0	15.2	16.3	*2.8	60.5	97.2
Kidney infections . . . . .	257	2.2	*0.3	2.2	*2.8	*5.1	*10.0	*7.0	35.4	97.7
Other kidney trouble, not elsewhere classified . . . . .	296	2.6	*0.9	1.5	3.7	*5.9	16.1	26.7	53.0	95.3
Bladder infections . . . . .	142	1.2	*0.5	1.2	*1.6	*1.8	*3.5	*8.5	*28.9	100.0
Other disorders of bladder . . . . .	386	3.3	*0.7	*0.9	4.0	17.3	24.1	*6.0	24.9	93.0
Diseases of prostate . . . . .	1,411	12.2	*–	4.3	22.0	63.3	60.3	5.5	38.8	98.1
Inflammatory disease of female genital organs . . . . .	...	...	...	...	...	...	...	...	...	...
Noninflammatory disease of female genital organs . . . . .	...	...	...	...	...	...	...	...	...	...
Menstrual disorders . . . . .	...	...	...	...	...	...	...	...	...	...
Other diseases of female genital organs . . . . .	...	...	...	...	...	...	...	...	...	...
Female trouble, not otherwise specified . . . . .	...	...	...	...	...	...	...	...	...	...
Malignant neoplasm of breast . . . . .	...	...	...	...	...	...	...	...	...	...
Malignant neoplasms of female genital organs . . . . .	...	...	...	...	...	...	...	...	...	...
Malignant neoplasm of prostate . . . . .	205	1.8	*–	*–	2.9	12.2	*12.6	38.5	69.3	100.0
Benign neoplasm of breast . . . . .	...	...	...	...	...	...	...	...	...	...
Benign neoplasm of female genital organs . . . . .	...	...	...	...	...	...	...	...	...	...

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 43. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions among females; rates per 1,000 persons by age; and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

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

Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions	Number of conditions in thousands <sup>1</sup>	Age						Conditions causing—		
		All ages	Under 18 years	18–44 years	45–64 years	65–74 years	75 years and over	Limitation of activity	1 or more hospitalizations	1 or more physician visits
		Rate per 1,000 persons						Percent		
Endocrine, nutritional, and metabolic diseases and immunity disorders										
Gout . . . . .	665	5.4	*—	1.8	11.1	14.3	24.8	*9.0	*3.5	88.3
Goiter . . . . .	386	3.1	0.7	2.5	5.1	*5.7	*8.3	*7.3	*13.5	97.2
Other diseases of the thyroid . . . . .	2,528	20.5	*1.8	15.1	40.9	46.9	39.7	7.8	12.9	99.4
Diabetes . . . . .	3,460	28.1	*1.8	10.6	55.1	93.4	95.1	35.0	31.2	99.9
Diseases of the blood and blood-forming organs										
Anemias . . . . .	2,770	22.5	8.1	31.4	17.5	24.1	34.4	4.3	11.7	98.1
Genitourinary conditions										
Kidney stones . . . . .	415	3.4	*0.3	4.3	4.2	7.4	*1.8	*7.5	60.5	98.1
Kidney infections . . . . .	1,302	10.6	4.1	13.9	11.5	9.3	13.3	*3.9	29.6	99.1
Other kidney trouble, not elsewhere classified . . . . .	467	3.8	*1.2	2.7	5.4	8.6	10.9	22.7	32.5	98.7
Bladder infections . . . . .	1,550	12.6	3.4	14.4	17.3	18.0	16.5	*1.4	13.0	98.9
Other disorders of bladder . . . . .	1,356	11.0	2.6	9.3	15.2	17.3	39.1	5.2	19.6	95.1
Diseases of prostate . . . . .	...	...	...	...	...	...	...	...	...	...
Inflammatory diseases of female genital organs . . . . .	367	3.0	*0.1	6.3	*0.8	*0.8	*0.4	*2.5	28.1	98.9
Noninflammatory diseases of female genital organs . . . . .	1,038	8.4	*0.6	15.3	8.5	*1.6	*0.6	*3.0	38.0	100.0
Menstrual disorders . . . . .	1,972	16.0	5.1	31.2	7.9	*0.3	*—	*0.5	10.7	87.1
Other diseases of female genital organs . . . . .	1,971	16.0	5.1	25.1	16.0	9.0	*6.0	5.1	23.2	90.7
Female trouble, not otherwise specified . . . . .	136	1.1	*—	1.8	*1.1	*1.2	*0.6	*14.0	*27.9	97.1
Malignant neoplasm of breast . . . . .	623	5.1	*—	1.6	9.6	16.6	22.5	16.1	82.5	100.0
Malignant neoplasms of female genital organs . . . . .	222	1.8	*—	2.2	2.8	*3.7	*0.6	27.9	45.9	100.0
Malignant neoplasm of prostate . . . . .	...	...	...	...	...	...	...	...	...	...
Benign neoplasm of breast . . . . .	86	0.7	*—	*0.9	*0.6	*2.1	*1.2	*—	*33.7	100.0
Benign neoplasm of female genital organs . . . . .	658	5.3	*—	8.2	8.7	*2.0	*1.3	*2.1	45.0	100.0

<sup>1</sup>Includes races other than white and black and unknown family income.

**Table 44. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions among white persons; rates per 1,000 persons by age, and percent of conditions causing activity limitation, hospitalization, and physician visits: United States, 1986-88**

[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]

<i>Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions</i>	<i>Number of conditions in thousands</i>	<i>Age</i>				<i>Conditions causing--</i>		
		<i>All ages</i>	<i>Under 45 years</i>	<i>45-64 years</i>	<i>65 years and over</i>	<i>Limitation of activity</i>	<i>1 or more hospitalizations</i>	<i>1 or more physician visits</i>
		<i>Rate per 1,000 persons</i>				<i>Percent</i>		
<b>Endocrine, nutritional, and metabolic diseases and immunity disorders</b>								
Gout . . . . .	1,868	9.3	1.8	21.8	30.0	9.3	5.6	93.6
Goiter. . . . .	352	1.7	1.0	2.9	4.2	*8.2	12.2	99.7
Other diseases of the thyroid . . . . .	2,713	13.4	6.2	27.4	30.9	8.3	12.4	99.6
Diabetes . . . . .	5,262	26.1	6.8	52.9	88.9	31.2	28.9	100.0
<b>Diseases of the blood and blood-forming organs</b>								
Anemias . . . . .	2,663	13.2	12.3	10.5	22.4	3.1	11.5	97.9
<b>Genitourinary conditions</b>								
Kidney stones. . . . .	1,139	5.6	3.9	9.2	9.7	*4.0	59.9	97.5
Kidney infections . . . . .	1,365	6.8	5.9	7.6	10.0	*3.0	30.7	98.7
Other kidney trouble, not elsewhere classified . . . . .	596	3.0	1.7	4.1	7.9	19.6	40.9	97.1
Bladder infections . . . . .	1,533	7.6	6.0	10.5	11.8	*2.2	15.1	99.0
Other disorders of bladder. . . . .	1,551	7.7	4.0	10.4	23.5	5.9	21.4	95.5
Diseases of prostate. . . . .	1,307	6.5	1.4	11.3	26.5	5.5	38.9	98.2
Inflammatory disease of female genital organs . . . . .	337	1.7	2.2	*0.5	*0.5	*1.2	26.4	99.1
Noninflammatory disease of female genital organs . . . . .	932	4.6	5.3	4.9	*0.8	*2.7	38.5	100.0
Menstrual disorders . . . . .	1,682	8.3	11.0	4.2	*0.1	*0.5	11.6	87.3
Other diseases of female genital organs . . . . .	1,657	8.2	8.7	8.6	4.7	4.6	25.1	92.6
Female trouble, not otherwise specified. . . . .	126	0.6	0.6	*0.7	*0.6	*13.5	30.2	96.8
Malignant neoplasm of breast. . . . .	587	2.9	0.6	5.7	11.3	14.1	83.5	100.0
Malignant neoplasm of female genital organs . . . . .	191	0.9	0.7	*1.4	*1.5	*27.7	40.8	100.0
Malignant neoplasm of prostate. . . . .	192	1.0	*-	*1.5	5.3	40.1	67.7	100.0
Benign neoplasm of breast . . . . .	79	0.4	*0.3	*0.3	*1.1	*-	*32.9	100.0
Benign neoplasm of female genital organs. . . . .	508	2.5	2.2	4.5	*1.0	*2.8	43.9	100.0

**Table 45. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions among black persons; rates per 1,000 persons by age; and percent of conditions causing— activity limitation, hospitalization, and physician visits: United States, 1986–88**

[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]

<i>Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions</i>	<i>Number of conditions in thousands</i>	<i>Age</i>				<i>Conditions causing—</i>		
		<i>All ages</i>	<i>Under 45 years</i>	<i>45–64 years</i>	<i>65 years and over</i>	<i>Limitation of activity</i>	<i>1 or more hospitalizations</i>	<i>1 or more physician visits</i>
		<i>Rate per 1,000 persons</i>				<i>Percent</i>		
<b>Endocrine, nutritional, and metabolic diseases and immunity disorders</b>								
Gout . . . . .	261	9.0	*1.4	26.1	46.8	*15.3	*11.1	86.2
Goiter . . . . .	63	2.2	*1.1	*6.4	*4.3	*9.5	*28.6	*84.1
Other diseases of the thyroid . . . . .	132	4.6	*2.6	*8.3	*15.7	*5.3	*26.5	98.5
Diabetes . . . . .	1,089	37.6	8.8	106.1	174.5	43.8	35.4	99.7
<b>Diseases of the blood and blood-forming organs</b>								
Anemias . . . . .	691	23.9	23.9	22.4	26.8	9.8	12.9	99.3
<b>Genitourinary conditions</b>								
Kidney stones . . . . .	*47	*1.6	*1.3	*1.3	*5.5	*14.9	*74.5	*100.0
Kidney infections . . . . .	181	6.3	6.4	*7.2	*3.0	*14.9	*31.5	100.0
Other kidney trouble, not elsewhere classified . . . . .	127	4.4	*2.1	*8.8	*17.0	*48.0	*45.7	98.4
Bladder Infections . . . . .	143	4.9	4.4	*6.1	*6.8	*—	*7.7	100.0
Other disorders of bladder . . . . .	172	5.9	3.9	*5.0	26.8	*—	*15.7	86.6
Diseases of prostate . . . . .	80	2.8	*0.9	*4.8	*16.2	*2.5	*38.8	95.0
Inflammatory disease of female genital organs . . . . .	*29	*1.0	*1.3	*—	*—	*17.2	*44.8	*100.0
Noninflammatory disease of female genital organs . . . . .	88	3.0	3.8	*1.3	*—	*6.8	*36.4	100.0
Menstrual disorders . . . . .	235	8.1	9.8	*3.9	*—	*0.9	*6.4	87.2
Other diseases of female genital organs . . . . .	241	8.3	9.4	*7.5	*—	*10.0	*8.7	80.5
Female trouble, not otherwise specified . . . . .	*10	*0.3	*0.5	*—	*—	*20.0	*—	*100.0
Malignant neoplasm of breast . . . . .	*26	*0.9	*0.2	*0.4	*7.7	*50.0	*69.2	*100.0
Malignant neoplasm of female genital organs . . . . .	*24	*0.8	*0.5	*2.6	*0.9	*33.3	*100.0	*100.0
Malignant neoplasm of prostate . . . . .	*10	*0.3	*—	*0.7	*3.0	*20.0	*80.0	*100.0
Benign neoplasm of breast . . . . .	*7	*0.2	*0.3	*0.2	*—	*—	*28.6	*100.0
Benign neoplasm of female genital organs . . . . .	133	4.6	4.9	*4.6	*1.3	*—	49.6	100.0

**Table 46. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions; and rates per 1,000 persons, by family income: United States, 1986-88**

[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]

<i>Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions</i>	<i>Family income</i>									
	<i>All incomes<sup>1</sup></i>	<i>Less than \$10,000</i>	<i>\$10,000-\$19,999</i>	<i>\$20,000-\$34,999</i>	<i>\$35,000 or more</i>	<i>All incomes<sup>1</sup></i>	<i>Less than \$10,000</i>	<i>\$10,000-\$19,999</i>	<i>\$20,000-\$34,999</i>	<i>\$35,000 or more</i>
	<i>Number in thousands</i>					<i>Rate per 1,000 persons</i>				
<b>Endocrine, nutritional, and metabolic diseases and immunity disorders</b>										
Gout . . . . .	2,193	530	447	382	475	9.2	17.1	10.2	6.2	6.9
Goutier. . . . .	415	99	74	103	79	1.7	3.2	1.7	1.7	1.1
Other diseases of the thyroid . . . . .	2,905	379	663	661	892	12.2	12.2	15.1	10.8	12.9
Diabetes . . . . .	6,486	1,341	1,635	1,323	1,147	27.2	43.2	37.2	21.6	16.6
<b>Diseases of the blood and blood-forming organs</b>										
Anemias . . . . .	3,460	822	780	732	798	14.5	26.5	17.8	11.9	11.5
<b>Genitourinary conditions</b>										
Kidney stones. . . . .	1,213	188	188	372	303	5.1	6.1	4.3	6.1	4.4
Kidney infections. . . . .	1,559	418	402	302	191	6.5	13.5	9.2	4.9	2.8
Other kidney trouble, not elsewhere classified . . . . .	762	300	117	133	85	3.2	9.7	2.7	2.2	1.2
Bladder infections . . . . .	1,692	274	272	421	510	7.1	8.8	6.2	6.9	7.4
Other disorders of bladder. . . . .	1,742	382	435	338	283	7.3	12.3	9.9	5.5	4.1
Diseases of prostate. . . . .	1,411	168	297	381	326	5.9	5.4	6.8	6.2	4.7
Inflammatory disease of female genital organs. . . . .	367	*60	90	111	93	1.5	*1.9	2.1	1.8	1.3
Noninflammatory disease of female genital organs . . . . .	1,038	117	208	292	329	4.4	3.8	4.7	4.8	4.8
Menstrual disorders . . . . .	1,972	324	434	464	621	8.3	10.4	9.9	7.6	9.0
Other diseases of female genital organs . . . . .	1,971	272	384	537	635	8.3	8.8	8.7	8.8	9.2
Female trouble, not otherwise specified . . . . .	136	*19	*29	*22	*24	0.6	*0.6	*0.7	*0.4	*0.3
Malignant neoplasm of breast. . . . .	623	95	120	157	155	2.6	3.1	2.7	2.6	2.2
Malignant neoplasm of female genital organs . . . . .	222	*58	*39	*53	*51	0.9	*1.9	*0.9	*0.9	*0.7
Malignant neoplasm of prostate. . . . .	205	*14	*43	65	*57	0.9	*0.5	*1.0	1.1	*0.8
Benign neoplasm of breast . . . . .	86	*11	*17	*29	*18	0.4	*0.4	*0.4	*0.5	*0.3
Benign neoplasm of female genital organs . . . . .	658	*45	99	203	275	2.8	*1.4	2.3	3.3	4.0

<sup>1</sup>Includes unknown family income.

**Table 47. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions; and rates per 1,000 persons, by geographic region: United States, 1986–88**

[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]

<i>Chronic endocrine, nutritional and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions</i>	<i>Geographic region</i>									
	<i>All regions</i>	<i>Northeast</i>	<i>Midwest</i>	<i>South</i>	<i>West</i>	<i>All regions</i>	<i>Northeast</i>	<i>Midwest</i>	<i>South</i>	<i>West</i>
	Number in thousands					Rate per 1,000 persons				
Endocrine, nutritional, and metabolic diseases and immunity disorders										
Gout . . . . .	2,193	361	489	941	402	9.2	7.2	8.4	11.5	8.2
Goiter . . . . .	415	*58	96	175	86	1.7	*1.2	1.6	2.1	1.8
Other diseases of the thyroid . . . . .	2,905	691	776	931	507	12.2	13.8	13.3	11.4	10.4
Diabetes . . . . .	6,486	1,495	1,496	2,376	1,120	27.2	29.9	25.7	29.1	22.9
Diseases of the blood and blood-forming organs										
Anemias . . . . .	3,460	714	740	1,304	702	14.5	14.3	12.7	16.0	14.4
Genitourinary conditions										
Kidney stones . . . . .	1,213	224	288	518	184	5.1	4.5	4.9	6.4	3.8
Kidney infections . . . . .	1,559	175	329	840	215	6.5	3.5	5.6	10.3	4.4
Other kidney trouble, not elsewhere classified . . . . .	762	76	167	412	107	3.2	1.5	2.9	5.1	2.2
Bladder infections . . . . .	1,692	183	506	598	405	7.1	3.7	8.7	7.3	8.3
Other disorders of bladder . . . . .	1,742	344	445	623	330	7.3	6.9	7.6	7.6	6.8
Diseases of prostate . . . . .	1,411	243	340	583	245	5.9	4.9	5.8	7.1	5.0
Inflammatory disease of female genital organs . . . . .	367	*59	62	154	91	1.5	*1.2	1.1	1.9	1.9
Noninflammatory disease of female genital organs . . . . .	1,038	220	241	349	229	4.4	4.4	4.1	4.3	4.7
Menstrual disorders . . . . .	1,972	307	664	630	371	8.3	6.1	11.4	7.7	7.6
Other diseases of female genital organs . . . . .	1,971	331	563	686	391	8.3	6.6	9.7	8.4	8.0
Female trouble, not otherwise specified . . . . .	136	*4	*57	*51	*25	0.6	*0.1	*1.0	*0.6	*0.5
Malignant neoplasm of breast . . . . .	623	131	191	208	93	2.6	2.6	3.3	2.6	1.9
Malignant neoplasm of female genital organs . . . . .	222	*17	*49	95	*61	0.9	*0.3	*0.8	1.2	*1.2
Malignant neoplasm of prostate . . . . .	205	*32	75	*41	*57	0.9	*0.6	1.3	*0.5	*1.2
Benign neoplasm of breast . . . . .	86	*27	*6	*33	*21	0.4	*0.5	*0.1	*0.4	*0.4
Benign neoplasm of female genital organs . . . . .	658	162	164	188	143	2.8	3.2	2.8	2.3	2.9

**Table 48. Average annual number of selected chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and genitourinary conditions; and rates per 1,000 persons, by place of residence: United States, 1986–88**

[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]

<i>Chronic endocrine, nutritional, and metabolic diseases and immunity disorders; diseases of the blood and blood-forming organs; and chronic genitourinary conditions</i>	<i>Place of residence</i>							
	<i>All residences</i>	<i>MSA central city</i>	<i>MSA not central city</i>	<i>Not MSA</i>	<i>All residences</i>	<i>MSA central city</i>	<i>MSA not central city</i>	<i>Not MSA</i>
	Number in thousands				Rate per 1,000 persons			
<b>Endocrine, nutritional, and metabolic diseases and immunity disorders</b>								
Gout . . . . .	2,193	702	865	625	9.2	9.5	7.8	11.5
Golter. . . . .	415	106	178	131	1.7	1.4	1.6	2.4
Other diseases of the thyroid . . . . .	2,905	785	1,425	695	12.2	10.7	12.9	12.7
Diabetes . . . . .	6,486	2,165	2,599	1,722	27.2	29.4	23.6	31.5
<b>Diseases of the blood and blood-forming organs</b>								
Anemias . . . . .	3,460	1,318	1,401	741	14.5	17.9	12.7	13.6
<b>Genitourinary conditions</b>								
Kidney stones. . . . .	1,213	316	552	345	5.1	4.3	5.0	6.3
Kidney infections. . . . .	1,559	378	572	609	6.5	5.1	5.2	11.2
Other kidney trouble, not elsewhere classified . . . . .	762	161	303	298	3.2	2.2	2.7	5.5
Bladder infections . . . . .	1,692	519	775	398	7.1	7.0	7.0	7.3
Other disorders of bladder. . . . .	1,742	559	698	485	7.3	7.6	6.3	8.9
Diseases of prostate. . . . .	1,411	357	630	424	5.9	4.8	5.7	7.8
Inflammatory disease of female genital organs . . . . .	367	128	159	79	1.5	1.7	1.4	1.4
Noninflammatory disease of female genital organs . . . . .	1,038	268	498	272	4.4	3.6	4.5	5.0
Menstrual disorders . . . . .	1,972	567	947	459	8.3	7.7	8.6	8.4
Other diseases of female genital organs . . . . .	1,971	618	946	407	8.3	8.4	8.6	7.5
Female trouble, not otherwise specified . . . . .	136	*43	*54	*40	0.6	*0.6	*0.5	*0.7
Malignant neoplasm of breast. . . . .	623	180	305	139	2.6	2.4	2.8	2.5
Malignant neoplasm of female genital organs . . . . .	222	64	91	67	0.9	0.9	0.8	1.2
Malignant neoplasm of prostate. . . . .	205	*38	90	77	0.9	*0.5	0.8	1.4
Benign neoplasm of breast . . . . .	86	*52	*20	*14	0.4	*0.7	*0.2	*0.3
Benign neoplasm of female genital organs . . . . .	658	225	301	133	2.8	3.1	2.7	2.4



**Table 49. Average annual number of days of restricted activity from selected chronic conditions and number of days per condition, by age and sex: United States, 1986-88**

[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]

Selected chronic condition	Age						Sex			
	All persons		Under 65 years		65 years and over		Male		Female	
	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition
<b>Circulatory condition</b>										
Heart disease . . . . .	338,541	17.4	157,624	14.0	180,917	22.1	173,602	19.4	164,939	15.7
Ischemic heart disease . . . . .	173,129	24.1	100,161	30.3	72,968	18.8	101,959	24.1	71,170	24.0
Heart rhythm disorders . . . . .	29,777	3.9	17,083	3.0	*12,694	*6.1	*4,622	*1.7	25,155	5.1
Other selected diseases of the heart (excludes hypertension) . . . . .	127,871	33.0	37,664	21.0	90,208	43.4	62,403	38.5	65,468	29.1
Rheumatic fever with or without heart disease . . . . .	15,487	8.9	*10,111	*7.5	*5,376	*13.6	*4,139	*7.8	*11,349	*9.3
High blood pressure (hypertension) . . . . .	116,934	4.1	66,347	3.6	50,587	4.7	48,905	3.9	68,030	4.2
Cerebrovascular disease . . . . .	98,261	36.7	25,644	24.4	72,617	44.6	49,384	39.5	48,877	34.2
Hardening of the arteries . . . . .	42,155	16.4	*12,644	*14.5	29,512	17.3	25,769	19.2	16,386	13.2
Poor circulation . . . . .	18,099	19.1	*4,851	*12.1	*13,248	24.3	*6,000	*16.9	*12,099	*20.5
<b>Respiratory condition</b>										
Chronic bronchitis . . . . .	58,725	4.9	42,976	4.2	15,750	8.4	22,999	4.7	35,726	5.0
Emphysema . . . . .	55,010	27.8	22,674	26.3	32,336	28.9	33,894	26.9	21,116	29.2
Asthma . . . . .	88,742	9.1	65,029	7.6	23,713	20.6	36,783	7.9	51,959	10.2
Hay fever or allergic rhinitis without asthma . . . . .	30,000	1.3	24,865	1.2	*5,135	*2.6	*11,298	*1.1	18,701	1.6
Chronic sinusitis . . . . .	51,651	1.6	46,411	1.6	*5,240	*1.1	*13,284	*1.0	38,367	2.0
Malignant neoplasms of lung, bronchus, and other respiratory sites . . . . .	16,563	88.1	*6,782	*92.9	*9,781	*85.1	*12,964	*111.8	*3,599	*50.0
Other diseases of the lung . . . . .	27,902	23.3	15,985	17.9	*11,916	*39.2	*10,652	21.8	17,249	24.2
<b>Digestive condition</b>										
Ulcer, gastric, duodenal, and/or peptic . . . . .	29,224	6.8	23,372	6.7	*5,852	*6.9	*13,205	*6.7	16,019	6.9
Hernia of abdominal cavity . . . . .	36,786	7.9	28,122	9.6	*8,664	*5.1	22,754	9.7	14,032	6.1
Gastritis and duodenitis . . . . .	14,328	5.1	*12,918	*5.8	*1,410	*2.3	*6,436	*5.9	*7,892	*4.5
Enteritis and colitis . . . . .	19,135	8.3	14,042	8.0	*5,093	*9.4	*2,954	*4.2	16,181	10.1
<b>Impairment</b>										
Blindness and other visual impairments . . . . .	34,986	4.3	22,248	3.9	*12,739	*5.2	*11,938	*2.4	23,048	6.9
Absence of extremities or parts of extremities (excluding absence of tips of finger or toes only) . . . . .	21,086	12.7	*10,764	*10.3	*10,322	*16.7	14,669	11.2	*6,417	*18.0
Absence of bone, joint, muscle of extremity . . . . .	14,274	23.6	*3,537	*11.0	*10,737	*38.3	*3,024	*9.9	*11,250	*37.5
Paralysis of extremities, complete or partial . . . . .	42,778	31.2	27,741	29.6	15,038	34.6	23,332	30.6	19,446	31.9
Paralysis of extremities, complete . . . . .	18,901	39.2	16,234	45.1	*2,668	*21.9	14,472	54.6	*4,430	*20.3
Paralysis of extremities, partial . . . . .	23,877	26.9	*11,507	*20.0	*12,370	*39.5	*8,861	*17.8	15,016	38.4
Deformities or orthopedic impairments, total . . . . .	416,479	13.1	329,094	12.6	87,385	15.6	200,533	13.1	215,946	13.1
Deformities or orthopedic impairments of back . . . . .	195,289	12.3	156,433	11.7	38,856	15.5	87,910	12.9	107,380	11.8
Curvature or other deformity of back or spine . . . . .	39,152	8.2	36,530	9.4	*2,621	*3.0	16,268	11.1	22,884	6.9
Deformities or orthopedic impairments of upper extremities . . . . .	62,292	19.5	54,342	20.7	*7,950	*14.1	36,533	20.6	25,759	18.2
Orthopedic impairment of shoulder . . . . .	48,358	22.4	42,406	23.3	*5,952	*17.8	30,573	24.4	17,785	19.7
Deformities or orthopedic impairments of lower extremities . . . . .	153,541	12.5	114,285	11.6	39,256	16.0	73,209	11.2	80,333	13.9
<b>Conditions of nervous system and sense organs</b>										
Cataracts . . . . .	24,510	4.4	*7,466	*6.5	17,044	3.9	*10,298	*5.6	14,213	3.8
Epilepsy . . . . .	20,048	17.4	20,048	18.9	*-	*-	*11,631	*22.8	*8,418	*13.1
Migraine headache . . . . .	46,758	5.3	42,046	5.1	*4,712	*9.1	*12,747	*5.7	34,011	5.2
Other headache (excludes tension headache) . . . . .	34,493	3.9	31,439	4.0	*3,054	*3.3	*11,857	*4.5	22,636	3.7

**Table 49. Average annual number of days of restricted activity from selected chronic conditions and number of days per condition, by age and sex: United States, 1986-88—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]

Selected chronic condition	Age						Sex			
	All persons		Under 65 years		65 years and over		Male		Female	
	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition
Conditions of musculoskeletal system and connective tissue										
Arthritis . . . . .	377,703	12.1	198,389	11.2	179,314	13.2	92,421	8.6	285,282	13.9
Sciatica (including lumbago). . . . .	23,632	12.1	18,662	13.2	*4,971	*9.0	*5,628	*8.6	18,004	13.8
Intervertebral disc disorders . . . . .	124,113	30.0	101,835	29.1	22,279	34.7	69,319	29.4	54,794	30.7
Bone spur or tendinitis, not otherwise specified . . . . .	22,716	10.7	18,264	10.5	*4,452	*11.5	*11,300	*11.8	*11,416	*9.8
Disorders of bone or cartilage. . . . .	50,972	37.7	33,823	41.4	17,149	32.1	17,531	44.2	33,441	35.1
Bursitis, not elsewhere classified . . . . .	30,799	7.0	25,806	7.7	*4,993	*4.8	*8,228	*4.7	22,570	8.5
Endocrine, nutritional, and metabolic diseases and immunity disorders										
Gout . . . . .	15,794	7.2	*9,002	*6.9	*6,793	*7.6	*8,807	*5.8	*6,987	*10.5
Diabetes . . . . .	100,719	15.5	59,965	15.9	40,754	15.0	40,240	13.3	60,479	17.5
Diseases of the blood and blood-forming organs										
Anemias . . . . .	17,619	5.1	*12,022	4.2	*5,597	*8.9	*6,154	*8.9	*11,465	*4.1
Genitourinary condition										
Kidney infections. . . . .	14,531	9.3	*13,800	*10.6	*730	*2.8	*3,072	*12.0	*11,458	*8.8
Other disorders of female genital organs . . . . .	23,164	11.8	21,638	11.7	*1,525	*11.9	...	...	23,164	11.8

**Table 50. Average annual number of days of bed disability from selected chronic conditions and number of days per condition, by age and sex: United States, 1986–88**

[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]

Selected chronic condition	Age						Sex			
	All persons		Under 65 years		65 years and over		Male		Female	
	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition	Number of days in thousands	Days per condition
<b>Circulatory condition</b>										
Heart disease . . . . .	143,786	7.4	59,484	5.3	84,302	10.3	62,434	7.0	81,353	7.7
Ischemic heart disease . . . . .	70,900	9.9	36,986	11.2	33,914	8.7	38,695	9.1	32,205	10.9
Other selected diseases of the heart (excludes hypertension) . . . . .	56,185	14.5	*13,744	*7.7	42,440	20.4	19,609	12.1	36,576	16.2
High blood pressure (hypertension) . . . . .	40,249	1.4	21,103	1.2	19,146	1.8	20,341	1.6	19,908	1.2
Cerebrovascular disease . . . . .	51,531	19.2	*9,292	*8.9	42,239	25.9	23,370	18.7	28,161	19.7
Hardening of the arteries . . . . .	17,543	6.8	*2,624	*3.0	14,919	8.8	*9,708	*7.2	*7,835	*6.3
<b>Respiratory condition</b>										
Chronic bronchitis . . . . .	26,963	2.2	16,799	1.7	*10,164	*5.4	*12,204	*2.5	14,758	2.1
Emphysema . . . . .	25,896	13.1	*12,749	*14.8	*13,147	*11.8	*13,782	*10.9	*12,114	*16.8
Asthma . . . . .	39,217	4.0	25,511	3.0	*13,706	*11.9	16,023	3.4	23,194	4.6
Chronic sinusitis . . . . .	16,144	0.5	14,084	0.5	*2,060	*0.5	*3,708	*0.3	*12,436	*0.6
<b>Impairment</b>										
Paralysis of extremities, complete or partial . . . . .	22,426	16.4	15,372	16.4	*7,054	*16.2	*11,842	*15.5	*10,584	*17.4
Deformities or orthopedic impairments, total . . . . .	120,079	3.8	97,523	3.7	22,555	4.0	45,349	3.0	74,730	4.5
Deformities or orthopedic impairments of back . . . . .	74,602	4.7	63,056	4.7	*11,546	4.6	27,553	4.0	47,049	5.2
Deformities or orthopedic impairments of lower extremities . . . . .	34,847	2.8	25,434	2.6	*9,412	*3.8	*13,423	2.1	21,424	3.7
<b>Conditions of nervous system and sense organs</b>										
Other headache (excludes tension headache) . . . . .	15,775	1.8	*13,597	*1.7	*2,178	*2.3	*3,338	*1.3	*12,437	2.0
<b>Conditions of musculoskeletal system and connective tissue</b>										
Arthritis . . . . .	126,693	4.1	60,777	3.4	65,916	4.9	30,982	2.9	95,711	4.7
Intervertebral disc disorders . . . . .	47,375	11.4	40,958	11.7	*6,417	*10.0	23,612	10.0	23,763	13.3
Disorders of bone or cartilage . . . . .	14,663	10.9	*10,267	*12.6	*4,397	8.2	*5,950	*15.0	*8,713	9.1
<b>Endocrine, nutritional, and metabolic diseases and immunity disorders</b>										
Diabetes . . . . .	51,884	8.0	26,608	7.0	25,276	9.3	17,516	5.8	34,368	9.9

**Table 51. Population used in computing rates shown in this report, by selected characteristics and age: United States, 1986–88**

<i>Characteristic</i>	<i>All ages</i>	<i>Under 18 years</i>	<i>18–44 years</i>	<i>Under 45 years</i>	<i>45–64 years</i>	<i>65–74 years</i>	<i>75 years and over</i>
	Population in thousands						
All persons <sup>1</sup> . . . . .	238,595	63,326	102,062	165,389	45,082	17,288	10,837
Sex							
Male . . . . .	115,479	32,397	49,930	82,327	21,519	7,651	3,983
Female . . . . .	123,116	30,929	52,133	83,062	23,563	9,636	6,854
Race							
White . . . . .	201,786	...	...	137,210	39,250	15,518	9,808
Black . . . . .	28,959	...	...	22,047	4,562	1,486	864
Family income							
Less than \$10,000 . . . . .	31,038	...	...	...	...	...	...
\$10,000–\$19,999 . . . . .	43,895	...	...	...	...	...	...
\$20,000–\$34,999 . . . . .	61,308	...	...	...	...	...	...
\$35,000 or more . . . . .	69,253	...	...	...	...	...	...
Geographic region							
Northeast . . . . .	49,999	...	...	...	...	...	...
Midwest . . . . .	58,238	...	...	...	...	...	...
South . . . . .	81,547	...	...	...	...	...	...
West . . . . .	48,811	...	...	...	...	...	...
Place of residence							
MSA central city . . . . .	73,701	...	...	...	...	...	...
MSA not central city . . . . .	110,309	...	...	...	...	...	...
Not MSA . . . . .	54,585	...	...	...	...	...	...

<sup>1</sup>Includes races other than white and black and unknown family income.

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# 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 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 of the *Vital and Health Statistics* series. 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 the National Health Interview Survey

#### 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 the NHIS follows a multi-stage 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 National Health Interview Survey sample redesign

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

- *The use of an all-area frame*—The NHIS sample is now designed so that 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 the Bureau of the Census confidentiality restrictions, these sample addresses could be used for only those surveys being conducted by the 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.
- *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 1986–88 the sample consisted of 20,793 segments containing 152,866 assigned households. Of the 124,328 households eligible for interview, 118,563 households were actually interviewed, resulting in a sample of 307,221 persons.

- *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 a black population of about 5 to 50 percent. 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.

- *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 (24). The design now contains 198 PSU's.
- *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 (24).

### 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 ensure 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 found immediately. The success of these procedures is indicated by the response rate for the survey, which has been between 95 and 98 percent over the years.

When contact is made, the interviewer attempts to have all family members of the household 19 years of age and over present during the interview. When this is not possible, proxy responses for absent 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 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 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 *Vital and Health Statistics*, Series 1, No. 18 (25).

### 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 on 1986–88 sample person counts weighted to produce national estimates. The weight for each sample person is the product of four component weights:

- *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.
- *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 the persons in the interviewed households in the same segment.
- *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.
- *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 the NHIS to an independent estimate of the population of each cell. These independent estimates are prepared by the U.S. Bureau of the Census and are updated quarterly. The main effect of the ratio-estimating process 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

**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

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. Prevalence estimates for chronic conditions 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 selected 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. Similarly, an estimate for 3 years is obtained by averaging 12 quarterly figures.

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 (26). 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 (27-30).

## 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 may not have properly understood the question, may 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 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 about 10 percent (31). The underreporting of discharges within 6 months of the week of interview is estimated to be about 5 percent (31). 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 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 when 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 2 1/2 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 param-

eters *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 1986, 1987, and 1988. (2-4)

**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 45-64 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

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

**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 on which *p* is based, then the standard error of *p* may be approximated by

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

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

**Table II. Estimated standard error parameters for the National Health Interview Survey, 1986-88**

Parameter	Characteristic	Estimated parameters set	
		a	b
I	Number of chronic conditions . . . . .	0.00005856	5,456.6
II	Days of restricted activity or bed days . . . . .	0.00017576	201,745.2
III	Population estimates for demographic, socioeconomic, and health characteristics . . . . .	0.00002281	1,638.9
IV	Age-sex-race population based on combining the poststratification cells of table I . . . . .	0.0	0.0

NOTE: The 1986 National Health Interview Survey (NHIS) contained a half sample; the 1987 NHIS and the 1988 NHIS contained a full sample. Therefore, 118,563 households were interviewed resulting in a sample of 307,221 persons.

**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 2 would apply to the estimated number of females 18–44 years of age with deafness or other hearing problems 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

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

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

$$\begin{aligned} x &= pY && \text{if } p \text{ is a proportion or rate per unit} \\ &&& \text{or} \\ x &= \frac{pY}{100} && \text{if } p \text{ is a percent or rate per 100 units} \\ &&& \text{or} \\ x &= \frac{pY}{1,000} && \text{if } p \text{ is a rate per 1,000 units} \end{aligned}$$

**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

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

Where  $SE(x)$  and  $SE(y)$  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:

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

where  $SE(x_1)$  and  $SE(x_2)$  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 present 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:

$$RSE = 100 \frac{SE(x)}{x} \quad (6)$$

# Appendix II

## Definitions of certain terms used in this report

### 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 on 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 (ICD) (5) 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 (1) the respondent indicates it was first noticed more than 3 months before the reference date of the interview, or (2) 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 (6). It should be noted that the statistics on selected chronic conditions shown in this report are for the number of chronic conditions, not the

number of persons with chronic conditions. Because a person may have more than one condition in summary categories, such as heart disease, the number of conditions exceeds the number of persons with conditions.

*Chronic condition groupings*—Data in this report are presented in six sets of chronic condition groups. These groupings with their respective ICD codes and X codes for impairments are as follows:

#### 1. *Chronic circulatory conditions*

Heart disease . . . . .	410–417,420.9,421.0,9,422.9,423,424,425.0–5,9,426,427.0–6,8,9,428,429.0–6,8,9,745,746,785.0–2.
Ischemic heart disease . . . . .	410–414,429.6
Heart rhythm disorders . . . . .	427.0–6,8,9,785.0–2
Tachycardia or rapid heart . . . . .	427.0–3,785.0
Heart murmurs . . . . .	785.2
Other and unspecified heart rhythm disorders . . . . .	427.4–6,8,9, 785.1
Congenital heart disease . . . . .	745,746
Other selected diseases of the heart (excludes hypertension). . . . .	415–417,420.9,421.0,9,422.9,423,424,425.0–5,9,426,428,429.0–5,8,9
Rheumatic fever, with or without heart disease. . . . .	390,392–399
High blood pressure (hypertension) . . . . .	401–405
Cerebrovascular disease . . . . .	430–435,436–438
Hardening of the arteries . . . . .	440
Aneurysm . . . . .	441.0–6,442
Phlebitis, thrombophlebitis . . . . .	451
Varicose veins of lower extremities . . . . .	454
Hemorrhoids . . . . .	455
Poor circulation . . . . .	459,8,9

#### 2. *Chronic respiratory conditions*

Chronic bronchitis . . . . .	490,491
Emphysema . . . . .	492
Asthma . . . . .	493
Hay fever or allergic rhinitis without asthma . . . . .	477
Nasal polyps . . . . .	471
Chronic sinusitis . . . . .	473
Deviated nasal septum . . . . .	470
Chronic disease of tonsils and adenoids . . . . .	474
Chronic laryngitis . . . . .	476
Pleurisy . . . . .	511
Pneumoconiosis and asbestosis . . . . .	500–505

Malignant neoplasms of lung and bronchus and other respiratory sites . . . . .	160,161,162.0,2-9,163
Other diseases of the lung . . . . .	515-518
<i>3. Chronic digestive conditions</i>	
Gallbladder stones . . . . .	574
Liver diseases, including cirrhosis . . . . .	571,572,573.0,3-9
Ulcer, gastric, duodenal, and/or peptic . . . . .	531-533
Gastric ulcer . . . . .	531
Duodenal ulcer . . . . .	532
Peptic ulcer . . . . .	533
Hernia of abdominal cavity . . . . .	550-553
Disease of the esophagus . . . . .	530
Gastritis and duodenitis . . . . .	535
Indigestion and other functional disorders of the stomach and digestive system . . . . .	536,787
Enteritis and colitis . . . . .	555,556,558
Spastic colon . . . . .	564.1
Diverticula of intestines . . . . .	562
Constipation . . . . .	564.0
Other stomach and intestinal disorders . . . . .	534,537,560,569
Malignant neoplasms of stomach, intestines, colon, and rectum . . . . .	151-154
<i>4. Impairment and chronic condition of nervous system and sense organs</i>	
Blindness and other visual impairments . . . . .	X00-X03
Blind, both eyes . . . . .	X00
Other visual impairments . . . . .	X01-X03
Deafness and other hearing impairments . . . . .	X05-X09
Deaf, both ears . . . . .	X05
Other hearing impairments . . . . .	X06-X09
Speech impairments . . . . .	X10-X11
Impairment of sensation . . . . .	X12
Mental retardation . . . . .	X19
Absence of extremities or parts of extremities (excluding absence of tips of fingers or toes only) . . . . .	X20-X29
Absence of upper extremities or parts of upper extremities . . . . .	X20-X25
Absence of lower extremities or parts of lower extremities . . . . .	X26-X29
Absence of lung . . . . .	X30
Absence of kidney . . . . .	X31
Absence of breast . . . . .	X32
Absence of bone, joint, or muscle of extremity . . . . .	X34
Absence of tips of fingers, toes . . . . .	X35
Paralysis of extremities, complete or partial . . . . .	X40-X59
Paralysis of extremities, complete . . . . .	X40-X49
Paralysis of extremities, partial . . . . .	X50-X59
Cerebral palsy . . . . .	X50
Paralysis of other site, complete or partial . . . . .	X60-X64
Deformities or orthopedic impairments, total . . . . .	X70,X71,X73-X80,X84-X86,X89
Deformities or orthopedic impairments of back . . . . .	X70,X71,X80
Curvature or other deformity of back or spine . . . . .	X70
Deformities or orthopedic impairments of upper extremities . . . . .	X73,X74,X84
Orthopedic impairment, shoulder . . . . .	X84
Deformities or orthopedic impairments of lower extremities . . . . .	X75-X78,X85,X86
Flat feet . . . . .	X77
Other deformities or orthopedic impairments . . . . .	X79,X89
Cleft palate . . . . .	X91
Conditions of nervous system and sense organs	
Glaucoma . . . . .	365
Cataracts . . . . .	366
Color blindness . . . . .	368.5
Diseases of retina . . . . .	361,362.1-9
Tinnitus . . . . .	388.3
Epilepsy . . . . .	345
Migraine headache . . . . .	340
Other headache (excludes tension headache) . . . . .	784.0
Multiple sclerosis . . . . .	340
<i>5. Chronic conditions of skin and subcutaneous tissue and musculoskeletal system and connective tissue</i>	
Condition of skin and subcutaneous tissue	
Sebaceous skin cyst . . . . .	706.2
Acne . . . . .	706.0,1
Psoriasis . . . . .	696
Dermatitis . . . . .	690-694
Dry (itching) skin, not elsewhere classified . . . . .	698.9
Chronic ulcer of skin . . . . .	707
Ingrown nails . . . . .	703.0
Corns and calluses . . . . .	700
Benign neoplasms of the skin . . . . .	216
Malignant neoplasms of the skin . . . . .	172,173
Condition of musculoskeletal system and connective tissue	
Arthritis . . . . .	711.0,9,712.8,9,714-716,720.0,721
Rheumatism, unspecified . . . . .	729.0
Sciatica (including lumbago) . . . . .	724.2,3
Intervertebral disc disorders . . . . .	722
Bone spur or tendinitis, not otherwise specified . . . . .	726.9
Disorders of bone or cartilage . . . . .	730.0-3,9, 731.0,2,732,733
Bunions . . . . .	727.1
Bursitis, not elsewhere classified . . . . .	726.0-8, 727.0,2-9
<i>6. Endocrine, nutritional, and metabolic disease and immunity disorders, diseases of the blood and blood-forming organs, and chronic genitourinary conditions</i>	
Endocrine, nutritional, and metabolic disease and immunity disorder	
Gout . . . . .	274
Goiter . . . . .	240,241,242.0-3
Other diseases of the thyroid . . . . .	242.4,8,9,243-246
Diabetes . . . . .	250
Diseases of the blood and blood-forming organs	
Anemias . . . . .	280-285

## Genitourinary conditions

Kidney stones . . . . .	592
Kidney infections . . . . .	590
Other kidney trouble, not elsewhere classified . . . . .	581-583,593
Bladder infections . . . . .	595.0-3,8,9
Other disorders of bladder . . . . .	594.1,596
Diseases of prostate . . . . .	600.0-3,5-9,601,602
Inflammatory disease of female genital organs . . . . .	614-616
Noninflammatory disease of female genital organs . . . . .	620-624
Menstrual disorders . . . . .	626
Other diseases of female genital organs . . . . .	617-619, 625,627,628.0,2-9, 629.0,1,8
Female trouble, not otherwise specified . . . . .	629.9
Malignant neoplasm of breast . . . . .	174
Malignant neoplasm of female genital organs . . . . .	179-184
Malignant neoplasm of prostate . . . . .	185
Benign neoplasm of breast . . . . .	217
Benign neoplasm of female genital organs . . . . .	218-221

*Prevalence of condition*—In general, prevalence of condition 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 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 had been previously unaware.

## 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 activities 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 (1) ordinary play for children under 5 years of age, (2) attending school for those 5-17 years of age, (3) working or keeping house for persons 18-69 years of age, and (4) capacity for independent living (e.g., 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 aged 18-69 years 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 aged 65-69 years 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: (1) unable to perform the major activity, (2) able to perform the major activity but limited in the kind or amount of this activity, (3) not limited in the major activity but limited in the kind or amount of other activities, and (4) not limited in any way. In regard to these four categories, NHIS publications often classify persons only by whether they are limited (groups 1-3) or not limited (group 4). 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 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 that 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 due to 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 cuts down on his or her 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 the number of days during which a person restricted his or her activity. *Condition days* are the number of 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 conditions or more cause a day of restricted activity, the conditions may be (1) both (all) acute, (2) one (some) acute and the other (some) chronic, or (3) both (all) chronic. The number of restricted-activity days associated with acute conditions includes groups (1) and (2); the number of such days associated with chronic conditions includes groups (2) and (3). 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.

## Terms relating to physician contacts

*Physician contact*—A physician contact is defined as consultation with a physician, in person or by telephone, for examination, diagnosis, treatment, or advice. (Physician contacts with hospital inpatients are not included.) The contact is considered to be a physician contact if the service is provided directly by the physician or by a nurse or other person acting under a physician's supervision. For the purpose of this definition, "physician" includes doctors of medicine and osteopathic physicians. The term "doctor" is used in the interview rather than "physician" because of popular usage. However, the concept toward which all instructions are directed is that which is described here.

Physician contacts for services provided on a mass basis are not included in the tabulations. A service received on a mass basis is defined as any service involving only a single test (such as a test for diabetes) or a single procedure (such as a measles inoculation) when this single service is administered identically to all persons who are at the place for this purpose. Hence obtaining a chest x ray in a tuberculosis chest x-ray trailer is not included as a

physician contact. However, a special chest x ray given in a physician's office or in an outpatient clinic is considered a physician contact.

If a physician is called to a house to see more than one person, the call is considered a separate physician contact for each person about whom the physician is consulted.

A physician contact is associated with the person about whom the advice is sought, even if that person does not actually see or consult the physician. For example, if a mother consults a physician about one of her children, the physician contact is ascribed to the child.

## Terms relating to hospitalizations

*Hospital*—For this survey, a hospital is defined as any institution either (1) named in the listing of hospitals in the current *American Hospital Association Guide to the Health Care Field* or (2) found on the *Master Facility Inventory List* maintained by the National Center for Health Statistics.

*Hospital episode*—A hospital episode is any continuous period of stay of 1 night or more in a hospital as an inpatient except the period of stay of a well newborn infant.

## 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:

<i>Region</i>	<i>States included</i>
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:

- 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.

- 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.



# Appendix III Questionnaires and flashcards

**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(a) of the Public Health Service Act (42 USC 242m). Public reporting burden for this collection of information is estimated to average 15 average minutes per response. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to PHS Reports Clearance Officer, ATTN: PRA, Humphrey Building, Room 721 H, 200 Independence Avenue, SW, Washington, DC 20201; and to the Office of Management and Budget, Paperwork Reduction Project (0920-0214), Washington, DC 20503.

FORM HIS-1 (1989)  
U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
ACTING AS COLLECTING AGENCY FOR THE  
U.S. PUBLIC HEALTH SERVICE

1. Book \_\_\_ of \_\_\_ books

2. R.O. number

3. Sample

4. Segment type  
 Area  Permit  Block

5. Control number  
PSU | Segment | Serial

## NATIONAL HEALTH INTERVIEW SURVEY

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

City \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_ ZIP Code \_\_\_\_\_

LISTING SHEET  
Sheet No. \_\_\_\_\_  
Line No. \_\_\_\_\_

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

City \_\_\_\_\_ State \_\_\_\_\_ County \_\_\_\_\_ ZIP Code \_\_\_\_\_

6c. Special place name \_\_\_\_\_ Sample unit number \_\_\_\_\_ Type code \_\_\_\_\_

AREA AND BLOCK SEGMENTS

### A. HOUSEHOLD COMPOSITION PAGE

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.

1b. What are the names of all other persons living or staying here? Enter names in columns. If "Yes," enter names in columns.

1c. I have listed (read names). Have I missed:  
 — any babies or small children?  Yes  No  
 — any lodgers, boarders, or persons you employ who live here?  Yes  No  
 — anyone who USUALLY lives here but is now away from home traveling or in a hospital?  Yes  No  
 — anyone else staying here?  Yes  No

1d. 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?

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.)

REFERENCE PERIODS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A1	2-WEEK PERIOD																			
A1	12-MONTH DATE																			
A1	13-MONTH HOSPITAL DATE																			
A2	ASK CONDITION LIST _____																			
A3	Refer to ages of all related HH members.																			

1. First name \_\_\_\_\_ Mid. init \_\_\_\_\_ App. \_\_\_\_\_  
Last name \_\_\_\_\_ Sex  M  F

2. Relationship REFERENCE PERSON \_\_\_\_\_

3. Date of birth \_\_\_\_\_ Date \_\_\_\_\_ Year \_\_\_\_\_

HOSP. WORK RD 2 WK. DV  
 None  Wk  Yes  None  
 Number 2  Wk 2  No Number

C1

C2

A3  All persons 65 and over (5)  
 Other (4)

**B. LIMITATION OF ACTIVITIES PAGE**

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

**B. LIMITATION OF ACTIVITIES PAGE, Continued**

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

**B. LIMITATION OF ACTIVITIES PAGE, Continued**

<b>B4</b>	Refer to age.	<b>B4</b>	0 <input type="checkbox"/> Under 5 (NP)    2 <input type="checkbox"/> 60-69 (14) 1 <input type="checkbox"/> 5-59 (B5)    3 <input type="checkbox"/> 70 and over (NP)
<b>B5</b>	Refer to "Old age" and "LA" boxes. Mark first appropriate box.	<b>B5</b>	<input type="checkbox"/> "Old age" box marked (14) <input type="checkbox"/> Entry in "LA" box (14) <input type="checkbox"/> Other (NP)
<b>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?</b> ----- If under 18, skip to next person; otherwise ask: <b>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>		<b>14a.</b>	1 <input type="checkbox"/> Yes (15) <input type="checkbox"/> No ----- <b>b.</b> 2 <input type="checkbox"/> Yes    3 <input type="checkbox"/> No (NP)
<b>15a. What (other) condition causes this?</b> Ask if injury or operation: <b>When did [the (injury) occur?/--- have the operation?]</b> Ask if operation over 3 months ago: <b>For what condition did --- have the operation?</b> If pregnancy/delivery or 0-3 months injury or operation - Reask question 14 where limitation reported, saying: <b>Except for --- (condition), ...?</b> OR reask 15b/c. ----- <b>b. Besides (condition) is there any other condition that causes this limitation?</b> ----- <b>c. Is this limitation caused by any (other) specific condition?</b> ----- Mark box if only one condition. <b>d. Which of these conditions would you say is the MAIN cause of this limitation?</b>		<b>15a.</b>	(Enter condition in C2, THEN 15b) 1 <input type="checkbox"/> Old age (Mark "Old age" box, THEN 15c) ----- <b>b.</b> <input type="checkbox"/> Yes (Reask 15a and b) <input type="checkbox"/> No (15d) ----- <b>c.</b> <input type="checkbox"/> Yes (Reask 15a and b) <input type="checkbox"/> No ----- <b>d.</b> <input type="checkbox"/> Only 1 condition ----- Main cause
FOOTNOTES			

**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    oo  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?**

- oo  None (4)     (4)

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

- Yes    oo  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?**

- oo  None

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

- Yes    oo  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?**

- oo  None (6)     (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?**

- oo  None

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    oo  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?**

- oo  None

**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

## 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 had any of these conditions, even if you have mentioned them before.

1	2																																																				
<p><b>1a. Does anyone in the family (<u>read names</u>) NOW HAVE —</b> If "Yes," ask 1b and c.</p> <p><b>b. Who is this?</b></p> <p><b>c. Does anyone else NOW have —</b> Enter condition and letter in appropriate person's column.</p> <p><b>A. PERMANENT stiffness or any deformity of the foot, leg, fingers, arm, or back?</b> (Permanent stiffness — joints will not move at all.)</p> <p><b>B. Paralysis of any kind?</b></p> <p><b>1d. DURING THE PAST 12 MONTHS, did anyone in the family have —</b> If "Yes," ask 1e and f.</p> <p><b>e. Who was this?</b></p> <p><b>f. DURING THE PAST 12 MONTHS, did anyone else have —</b> Enter condition and letter in appropriate person's column. C—L are conditions affecting the bone and muscle. M—W are conditions affecting the skin.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"><b>C. Arthritis of any kind or rheumatism?</b></td> <td style="width: 50%; padding: 2px;"><i>Reask 1d</i> <b>M. 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FORM HIS-1 (1989) (3-21-89)

## H. CONDITION LISTS 3 AND 4

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 had any of these conditions, even if you have mentioned them before.

**3**

- 3a. DURING THE PAST 12 MONTHS, did anyone in the family (*read names*) have —**  
If "Yes," ask 3b and c.
- b. Who was this?**
- c. DURING THE PAST 12 MONTHS, did anyone else have —**  
Enter condition and letter in appropriate person's column.  
Make no entry in item C2 for cold; flu; red, sore, or strep throat; or "virus" even if reported in this list.  
Conditions affecting the digestive system.

Reask 3a	
<p><b>A. Gallstones?</b></p> <p><b>B. Any other gallbladder trouble?</b></p> <p><b>C. Cirrhosis of the liver?</b></p> <p><b>D. Fatty liver?</b></p> <p><b>E. Hepatitis?</b></p> <p><b>F. Yellow jaundice?</b></p> <p><b>G. Any other liver trouble?</b></p> <p><b>H. An ulcer?</b></p> <p><b>I. A hernia or rupture?</b></p> <p><b>J. Any disease of the esophagus?</b></p> <p><b>K. Gastritis?</b></p> <p><b>L. FREQUENT indigestion?</b></p> <p><b>M. Any other stomach trouble?</b></p>	<p><b>N. Enteritis?</b></p> <p><b>O. Diverticulitis? (Dye-ver-tic-yoo-lye'tis)</b></p> <p><b>P. Colitis?</b></p> <p><b>Q. A spastic colon?</b></p> <p><b>R. FREQUENT constipation?</b></p> <p><b>S. Any other bowel trouble?</b></p> <p><b>T. Any other intestinal trouble?</b></p> <p><b>U. Cancer of the stomach, intestines, colon, or rectum?</b></p> <p><b>V. During the past 12 months, did anyone (else) in the family have any other condition of the digestive system?</b> <i>If "Yes," ask: Who was this? — What was the condition? Enter in item C2, THEN reask V.</i></p>

**4**

- 4a. DURING THE PAST 12 MONTHS, did anyone in the family (*read names*) have —**  
If "Yes," ask 4b and c.
- b. Who was this?**
- c. DURING THE PAST 12 MONTHS, did anyone else have —**  
Enter condition and letter in appropriate person's column.  
A—B are conditions affecting the glandular system.  
C is a blood condition.  
D—I are conditions affecting the nervous system.  
J—Y are conditions affecting the genito-urinary system.

Reask 4a	
<p><b>A. A goiter or other thyroid trouble?</b></p> <p><b>B. Diabetes?</b></p> <p><b>C. Anemia of any kind?</b></p> <p><b>D. Epilepsy?</b></p> <p><b>E. REPEATED seizures, convulsions, or blackouts?</b></p> <p><b>F. Multiple sclerosis?</b></p> <p><b>G. Migraine?</b></p> <p><b>H. FREQUENT headaches?</b></p> <p><b>I. Neuralgia or neuritis?</b></p> <p><b>J. Nephritis?</b></p> <p><b>K. Kidney stones?</b></p> <p><b>L. REPEATED kidney infections?</b></p> <p><b>M. A missing kidney?</b></p>	<p><b>N. Any other kidney trouble?</b></p> <p><b>O. Bladder trouble?</b></p> <p><b>P. Any disease of the genital organs?</b></p> <p><b>Q. A missing breast?</b></p> <p><b>R. Breast cancer?</b></p> <p><b>S. *Cancer of the prostate?</b></p> <p><b>T. *Any other prostate trouble?</b></p> <p><b>U. **Trouble with menstruation?</b></p> <p><b>V. **A hysterectomy? If "Yes," ask: For what condition did — have a hysterectomy?</b></p> <p><b>W. **A tumor, cyst, or growth of the uterus or ovaries?</b></p> <p><b>X. **Any other disease of the uterus or ovaries?</b></p> <p><b>Y. **Any other female trouble?</b></p>

\*Ask only if males in family.  
\*\*Ask only if females in family.

## H. CONDITION LISTS 5 AND 6

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 had any of these conditions, even if you have mentioned them before.**

<p><b>5</b></p> <p><b>5a. Has anyone in the family</b> <i>{read names}</i> <b>EVER had —</b> If "Yes," ask 5b and c.</p> <p><b>b. Who was this?</b></p> <p><b>c. Has anyone else EVER had —</b> Enter condition and letter in appropriate person's column. Conditions affecting the heart and circulatory system.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 50%; padding: 2px;">A. Rheumatic fever?</td> <td style="width: 50%; padding: 2px;">G. A stroke or a cerebrovascular accident? (ser'a-bro vas ku-lar)</td> </tr> <tr> <td style="padding: 2px;">B. Rheumatic heart disease?</td> <td style="padding: 2px;">H. A hemorrhage of the brain?</td> </tr> <tr> <td style="padding: 2px;">C. Hardening of the arteries or arteriosclerosis?</td> <td style="padding: 2px;">I. Angina pectoris? (pek'to-ris)</td> </tr> <tr> <td style="padding: 2px;">D. Congenital heart disease?</td> <td style="padding: 2px;">J. 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A tumor or growth of the bronchial tube or lung?</td> <td></td> </tr> </table> <p><i>*If reported in this list only, ask:</i></p> <p><b>1. How many times did — have</b> <i>{condition}</i> <b>in the past 12 months?</b> If 2 or more times, enter condition in item C2. If only 1 time, ask:</p> <p><b>2. How long did it last? If 1 month or longer, enter in item C2.</b> If less than 1 month, do not record.</p> <p><i>If tonsils or adenoids were removed during past 12 months, enter the condition causing removal in item C2.</i></p>	A. Bronchitis?	<i>Reask 6a.</i> K. A missing lung?	B. Asthma?	L. Lung cancer?	C. Hay fever?	M. Emphysema?	D. Sinus trouble?	N. Pleurisy?	E. A nasal polyp?	O. Tuberculosis?	F. A deflected or deviated nasal septum?	P. Any other work-related respiratory condition, such as dust on the lungs, silicosis, asbestosis, or pneu-mo-co-ni-o-sis?	G. *Tonsillitis or enlargement of the tonsils or adenoids?	Q. 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**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 <input type="checkbox"/> Interview week (Reask 2)       | 5 <input type="checkbox"/> 2 yrs., less than 5 yrs. |
| 1 <input type="checkbox"/> 2-wk. ref. pd.                 | 6 <input type="checkbox"/> 5 yrs. or more           |
| 2 <input type="checkbox"/> Over 2 weeks, less than 6 mos. | 7 <input type="checkbox"/> Dr. seen, DK when        |
| 3 <input type="checkbox"/> 6 mos., less than 1 yr.        | 8 <input type="checkbox"/> DK if Dr. seen } (3b)    |
| 4 <input type="checkbox"/> 1 yr., less than 2 yrs.        | 9 <input type="checkbox"/> Dr. never seen }         |

**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 <input type="checkbox"/> Color Blindness (NC)                               | 2 <input type="checkbox"/> Cancer (3a)  |
| 3 <input type="checkbox"/> Normal pregnancy, normal delivery, vesectomy } (5) | 4 <input type="checkbox"/> Old age (NC) |
|                                                                               | 8 <input type="checkbox"/> 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:

Allment	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)
Bolt	Inflammation	Stiff(ness)
Cancer	Neuralgia	Tumor
Cramps (except menstrual)	Neurtia	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?**

- 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

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

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?)

**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)?  
 Yes  No

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

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

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

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

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

**K4**  Not an accident/injury (NC)  
 First accident/injury for this person (14)  
 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?  
 At home (inside house)  
 At home (adjacent premises)  
 Street and highway (includes roadway and public sidewalk)  
 Farm  
 Industrial place (includes premises)  
 School (includes premises)  
 Place of recreation and sports, except at school  
 Other (Specify)

Mark box if under 18.  Under 18 (16)

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

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

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

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

**b.** Was more than one vehicle involved?  
 Yes  No

**c.** Was [it/either one] moving at the time?  
 Yes  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.

L. DEMOGRAPHIC BACKGROUND PAGE

<b>L1</b> Refer to age.	<b>L1</b> <input type="checkbox"/> Under 5 (NPI) <input type="checkbox"/> 5-17 (2) <input type="checkbox"/> 18 and over (1)
-------------------------	--------------------------------------------------------------------------------------------------------------------------------------

<p><i>Hand Card R. Ask first alternative for first person; ask second alternative for other persons.</i></p> <p><b>3a. [What is the number of the group or groups which represents --- race?]</b>  <b>[What is --- race?]</b></p> <p><i>Circle all that apply</i></p> <table style="width:100%; border:none;"> <tr> <td style="width:50%;">1 - Aleut, Eskimo, or American Indian</td> <td style="width:50%;">4 - White</td> </tr> <tr> <td>2 - Asian or Pacific Islander</td> <td>5 - Another group not listed - <i>Specify</i></td> </tr> <tr> <td>3 - Black</td> <td></td> </tr> </table> <p><i>Ask if multiple entries:</i></p> <p><b>b. Which of those groups; that is, (<u>entries in 3a</u>) would you say BEST represents --- race?</b></p> <hr style="border-top: 1px dashed black;"/> <p><b>c. Mark observed race of respondent(s) only.</b></p>	1 - Aleut, Eskimo, or American Indian	4 - White	2 - Asian or Pacific Islander	5 - Another group not listed - <i>Specify</i>	3 - Black		<p><b>3a.</b> 1 2 3 4 5 <input checked="" type="checkbox"/></p> <p style="text-align: center;">_____ (Specify)</p> <hr style="border-top: 1px dashed black;"/> <p><b>b.</b> 1 2 3 4 5 <input checked="" type="checkbox"/></p> <p style="text-align: center;">_____ (Specify)</p> <hr style="border-top: 1px dashed black;"/> <p><b>c.</b> 1 <input type="checkbox"/> W 2 <input type="checkbox"/> B 3 <input type="checkbox"/> O</p>
1 - Aleut, Eskimo, or American Indian	4 - White						
2 - Asian or Pacific Islander	5 - Another group not listed - <i>Specify</i>						
3 - Black							

<p><i>Hand Card O.</i></p> <p><b>4a. Are any of those groups --- national origin or ancestry? (Where did --- ancestors come from?)</b></p> <hr style="border-top: 1px dashed black;"/> <p><b>b. Please give me the number of the group.</b>  <i>Circle all that apply.</i></p> <table style="width:100%; border:none;"> <tr> <td style="width:50%;">1 - Puerto Rican</td> <td style="width:50%;">5 - Chicano</td> </tr> <tr> <td>2 - Cuban</td> <td>6 - Other Latin American</td> </tr> <tr> <td>3 - Mexican/Mexicano</td> <td>7 - Other Spanish</td> </tr> <tr> <td>4 - Mexican American</td> <td></td> </tr> </table>	1 - Puerto Rican	5 - Chicano	2 - Cuban	6 - Other Latin American	3 - Mexican/Mexicano	7 - Other Spanish	4 - Mexican American		<p><b>4a.</b> 1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No (NPI)</p> <hr style="border-top: 1px dashed black;"/> <p><b>b.</b></p> <p style="text-align: center;">1 2 3 4 5 6 7</p>
1 - Puerto Rican	5 - Chicano								
2 - Cuban	6 - Other Latin American								
3 - Mexican/Mexicano	7 - Other Spanish								
4 - Mexican American									

<p><b>8a. Was the total combined FAMILY income during the past 12 months - that is, yours, (<u>read names, including Armed Forces members living at home</u>) 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.</b></p> <p><i>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.</i></p> <hr style="border-top: 1px dashed black;"/> <p><i>Read parenthetical phrase if Armed Forces member living at home or if necessary.</i></p> <p><b>b. Of those income groups, which letter best represents the total combined FAMILY income during the past 12 months (that is, yours, (<u>read names, including Armed Forces members living at home</u>))? Include wages, salaries, and other items we just talked about.</b></p> <p><i>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.</i></p>	<p><b>8a.</b> 1 <input type="checkbox"/> \$20,000 or more (Hand Card I) 2 <input type="checkbox"/> Less than \$20,000 (Hand Card J)</p> <hr style="border-top: 1px dashed black;"/> <p><b>b.</b></p> <table style="width:100%; border:none;"> <tr> <td>00 <input type="checkbox"/> A</td> <td>10 <input type="checkbox"/> K</td> <td>20 <input type="checkbox"/> U</td> </tr> <tr> <td>01 <input type="checkbox"/> B</td> <td>11 <input type="checkbox"/> L</td> <td>21 <input type="checkbox"/> V</td> </tr> <tr> <td>02 <input type="checkbox"/> C</td> <td>12 <input type="checkbox"/> M</td> <td>22 <input type="checkbox"/> W</td> </tr> <tr> <td>03 <input type="checkbox"/> D</td> <td>13 <input type="checkbox"/> N</td> <td>23 <input type="checkbox"/> X</td> </tr> <tr> <td>04 <input type="checkbox"/> E</td> <td>14 <input type="checkbox"/> O</td> <td>24 <input type="checkbox"/> Y</td> </tr> <tr> <td>05 <input type="checkbox"/> F</td> <td>15 <input type="checkbox"/> P</td> <td>25 <input type="checkbox"/> Z</td> </tr> <tr> <td>06 <input type="checkbox"/> G</td> <td>16 <input type="checkbox"/> Q</td> <td>26 <input type="checkbox"/> ZZ</td> </tr> <tr> <td>07 <input type="checkbox"/> H</td> <td>17 <input type="checkbox"/> R</td> <td></td> </tr> <tr> <td>08 <input type="checkbox"/> I</td> <td>18 <input type="checkbox"/> S</td> <td></td> </tr> <tr> <td>09 <input type="checkbox"/> J</td> <td>19 <input type="checkbox"/> T</td> <td></td> </tr> </table>	00 <input type="checkbox"/> A	10 <input type="checkbox"/> K	20 <input type="checkbox"/> U	01 <input type="checkbox"/> B	11 <input type="checkbox"/> L	21 <input type="checkbox"/> V	02 <input type="checkbox"/> C	12 <input type="checkbox"/> M	22 <input type="checkbox"/> W	03 <input type="checkbox"/> D	13 <input type="checkbox"/> N	23 <input type="checkbox"/> X	04 <input type="checkbox"/> E	14 <input type="checkbox"/> O	24 <input type="checkbox"/> Y	05 <input type="checkbox"/> F	15 <input type="checkbox"/> P	25 <input type="checkbox"/> Z	06 <input type="checkbox"/> G	16 <input type="checkbox"/> Q	26 <input type="checkbox"/> ZZ	07 <input type="checkbox"/> H	17 <input type="checkbox"/> R		08 <input type="checkbox"/> I	18 <input type="checkbox"/> S		09 <input type="checkbox"/> J	19 <input type="checkbox"/> T	
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**CARD R**

**RACE**

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

160-261 (11-2000) (10-20-01)

**CARD I**

**INCOME**

- 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

160-261 (11-2000) (10-20-01)

**CARD J**

**INCOME**

- 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

(Cut along this line.)

160-261 (11-2000) (10-20-01)

# Vital and Health Statistics series descriptions

- SERIES 1. Programs and Collection Procedures**—These reports describe the data collection programs of the National Center for Health Statistics. They include descriptions of the methods used to collect and process the data, definitions, and other material necessary for understanding the data.
- SERIES 2. Data Evaluation and Methods Research**—These reports are studies of new statistical methods and include analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory. These studies also include experimental tests of new survey methods and comparisons of U.S. methodology with those of other countries.
- SERIES 3. Analytical and Epidemiological Studies**—These reports present analytical or interpretive studies based on vital and health statistics. These reports carry the analyses further than the expository types of reports in the other series.
- SERIES 4. Documents and Committee Reports**—These are final reports of major committees concerned with vital and health statistics and documents such as recommended model vital registration laws and revised birth and death certificates.
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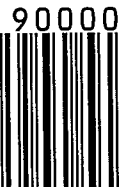
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