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Advance Data

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Office Visits to Orthopedic Surgeons: United States, 1995–96

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Abstract

Objectives—This report describes the utilization of ambulatory medical care services as provided by nonfederally employed, office-based orthopedic surgeons during the period 1995–96. Statistics are presented on selected physician, patient, and visit characteristics.

Methods—The data presented in this report were collected from the 1995 and 1996 National Ambulatory Medical Care Surveys (NAMCS). NAMCS is a national probability sample survey of visits to nonfederally employed, office-based physicians. Sample data are weighted to produce annual estimates. The survey is a component of the National Health Care Survey, which measures health care utilization across a variety of providers. Data are presented in this report as annual averages, unless otherwise noted.

Results—During 1995–96, an estimated 76.5 million office visits were made to orthopedic surgeons, an average of 38.3 million visits per year. The annual average visit rate was 14.5 visits per 100 persons. This represents an increase over the 1975–76 estimate of 11.3 visits per 100 persons. Visits to orthopedic surgeons accounted for 5.3 percent of all office-based ambulatory care visits during 1995–96, but this specialty received 28.3 percent of all injury-related office visits. The most frequent reasons given by patients for visiting orthopedic surgeons were knee symptoms, postoperative visits, back symptoms, and shoulder symptoms.

Keywords: office visits • orthopedic surgery • ICD–9–CM • injury

Introduction

This report focuses on office visits to orthopedic surgeons. Orthopedics (from the Greek, *orthos*, meaning straight, normal, or correct, and *pais*, meaning child) is the branch of surgery that focuses on the preservation and restoration of the function of the skeletal system, its articulations, and associated structures (1). According to the American Medical Association, there were 17,053 nonfederally employed orthopedic surgeons primarily engaged in office-based, direct patient care in the United States in 1996 (2).

Data in this report are from the National Ambulatory Medical Care Survey (NAMCS). NAMCS was inaugurated in 1973 to collect data on the utilization of ambulatory medical care services provided by office-based physicians. It was conducted annually through 1981, again in 1985, and resumed an annual schedule in 1989. NAMCS is a component of the National Health Care Survey (NHCS), which measures health care utilization across a variety of providers. Data on other aspects of ambulatory medical care are collected through the National Hospital Ambulatory Medical Care Survey and the National Survey of Ambulatory Surgery, which are also components of the National Health Care Survey.

For some analyses, it is possible as well as preferable to combine data across ambulatory care settings. However, this report is concerned primarily with visits to office-based orthopedists. Within NHCS, only NAMCS data allow analysis by physician specialty, so data from the other components are not included here.

Previous *Advance Data* reports on visits to orthopedic surgeons using data from 1975–76 and 1980–81 have been published (3,4). In addition, reports summarizing general results from the 1995 and 1996 NAMCS and NHAMCS data are available (5–12). Survey data are also available in a variety of microdata formats including public-use data tapes, CD-ROM's, and downloadable files accessible over the Internet. For further information on NAMCS or NHAMCS data, contact the

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

CENTERS FOR DISEASE CONTROL AND PREVENTION

Ambulatory Care Statistics Branch at (301) 436–7132.

Methods

The data in this report were collected from the 1995 and 1996 National Ambulatory Medical Care Survey (NAMCS) over the 2-year period from January 1995 through December 1996. The target universe of the NAMCS includes visits made in the United States to the offices of nonfederally employed physicians (excluding those in the specialties of anesthesiology, radiology, and pathology) who were classified by the American Medical Association (AMA) or the American Osteopathic Association (AOA) as ''office-based, patient care.'' Visits to private, nonhospital-based clinics and health maintenance organizations were within the scope of the survey, but those that took place in federally operated facilities and hospital-based outpatient departments were not. Telephone contacts and visits made outside the physician's office were excluded.

A multistage probability sample design is used in the NAMCS involving samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within physician practices. The PSU's are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships (for some PSU's in New England).

The samples for the 1995 and 1996 NAMCS included a total of 6,897 nonfederally employed, office-based physicians, 573 of whom were doctors specializing in orthopedic surgery. The samples were selected from master files maintained by the AMA and the AOA. The determination of physician specialty was based on physicians' responses to the AMA Physicians' Professional Activities Questionnaire. A list of all specialties comprising the sample stratum of orthopedic surgery is included in the Definitions section of this report.

Physicians were screened at the time of the survey to ensure that they were eligible for survey participation. Of those screened, 4,729 physicians, including 450 orthopedic surgeons, were eligible (in scope) to participate in the survey. The remaining 2,168 physicians were ineligible (out-of-scope) due to reasons of being retired, employed primarily in teaching, research, or administration, or other reasons. Survey response rates, averaged across the 2 years, were 72 percent overall and 68 percent for orthopedic surgeons.

Sample physicians were asked to complete Patient Record forms (figure 1) for a systematic random sample of office visits occurring during a randomly assigned 1-week reporting period. Characteristics of the physician's practice, such as primary specialty and type of practice, were verified by the physicians during an induction interview. Responding physicians completed a total of 66,680 Patient Record forms in 1995 and 1996, including 6,030 Patient Record forms from orthopedic surgeons.

Limited data are also presented in this report for survey years 1975–76, 1980–81, 1985, 1990–91. For these years, the numbers of Patient Record forms received from orthopedic surgeons were 4,917, 4,408, 5,239, and 3,774, respectively.

The U.S. Bureau of the Census, Housing Surveys Branch, was responsible for the survey's data collection. Processing operations and medical coding were performed by Analytic Sciences, Inc., Durham, North Carolina.

Several medical classification systems were used to code data from NAMCS. The Patient Record form (PRF) contains an item on the patient's expressed reason for the visit. In this item, the respondent was asked to record the patient's ''complaint(s), symptom(s), or other reason(s) for this visit in the patient's (or patient surrogate's) own words.'' Up to three reasons for visit were classified and coded for each record according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (13).

In addition, the form contains an item on diagnosis. The respondent was asked to record the principal diagnosis or problem associated with the patient's most important reason for the current visit as well as any other significant current diagnoses. Up to three diagnoses per visit were classified and coded according to the *International Classification of Diseases, 9th Revision Clinical Modification* (ICD–9–CM) (14).

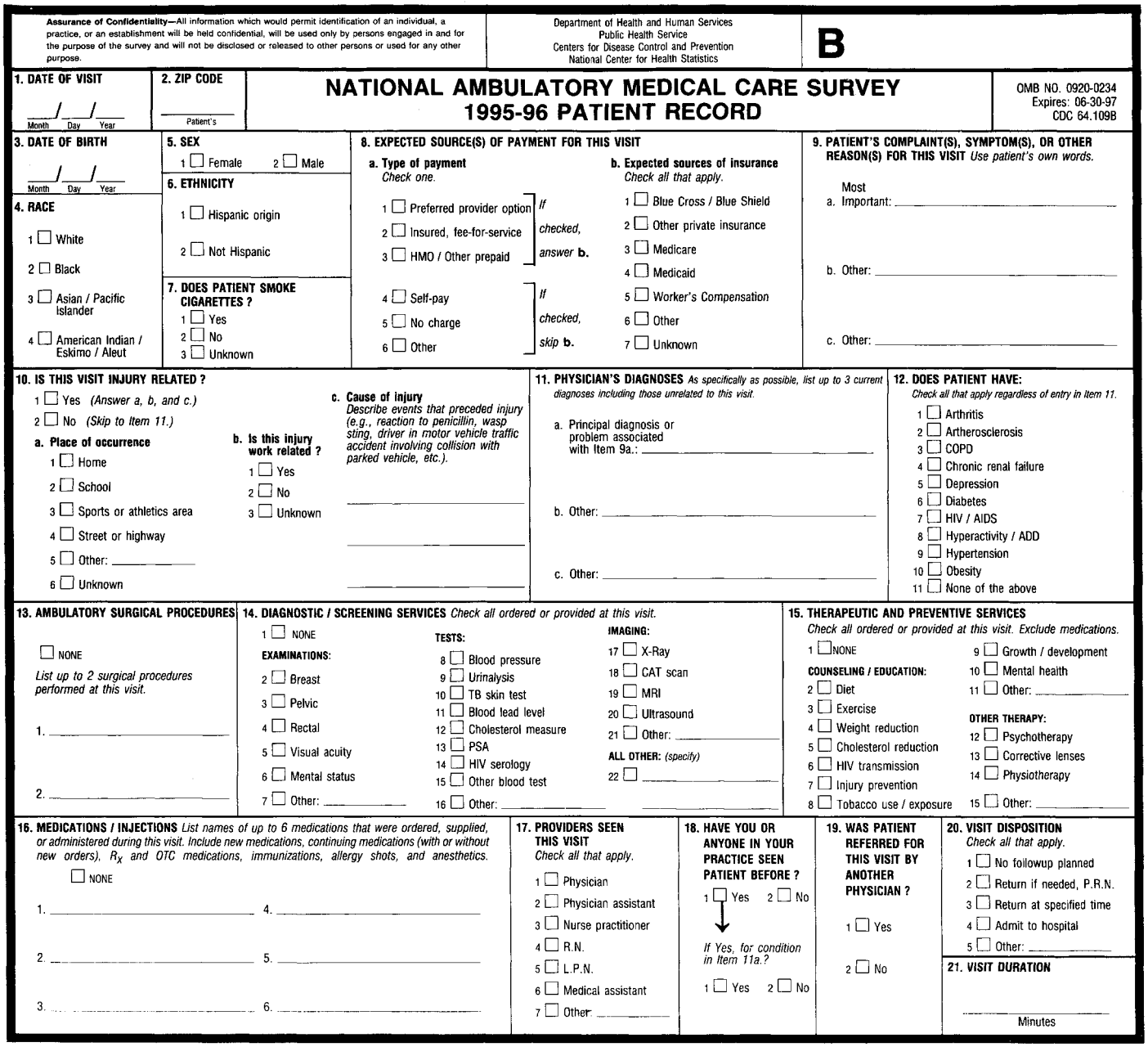
In the medication item, physicians were instructed to record all new or continued medications ordered, supplied, or administered at the visit. These included prescription and nonprescription preparations, immunization and desensitizing agents, and anesthetics. Up to six medications, called drug mentions, could be coded per visit according to a classification system developed at the National Center for Health Statistics. A report describing the method and instruments used to collect and process drug information is available (15). Therapeutic classification of the drugs mentioned on the PRF's was determined using the *National Drug Code Directory*, 1995 edition (16).

As used in NAMCS, the term ''drug'' is interchangeable with the term ''medication'' and the term ''prescribing'' is used broadly to mean ordering or providing any medication, whether prescription or over-the-counter. Visits with one or more drug mentions are termed ''drug visits'' in the survey.

The 1995 and 1996 National Ambulatory Medical Care Surveys shared identical survey instruments, definitions, and procedures. The resulting 2 years of data have been combined to provide more reliable estimates. In most cases, the estimates, percent distributions, and rates presented in this report reflect average annual estimates based on the combined 1995 and 1996 data. Estimates representing 2-year totals rather than averages are noted as such in the text.

Because the estimates presented in this report are based on a sample rather than on the entire universe of office visits, they are subject to sampling variability. The Technical notes at the end of this report include an explanation of sampling errors and guidelines for judging the precision of the estimates.

Several tables in this report present data on rates of office visits. The population figures used in calculating these rates are U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the



Assurance of Confidentiality—All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose.

Department of Health and Human Services
Public Health Service
Centers for Disease Control and Prevention
National Center for Health Statistics

B

NATIONAL AMBULATORY MEDICAL CARE SURVEY
1995-96 PATIENT RECORD

OMB NO. 0920-0234
Expires: 06-30-97
CDC 64.109B

1. DATE OF VISIT — Month / Day / Year
2. ZIP CODE — Patient's
3. DATE OF BIRTH — Month / Day / Year
4. RACE
1 White
2 Black
3 Asian / Pacific Islander
4 American Indian / Eskimo / Aleut
5. SEX
1 Female 2 Male
6. ETHNICITY
1 Hispanic origin
2 Not Hispanic
7. DOES PATIENT SMOKE CIGARETTES ?
1 Yes
2 No
3 Unknown
8. EXPECTED SOURCE(S) OF PAYMENT FOR THIS VISIT
a. Type of payment *Check one.*
1 Preferred provider option
2 Insured, fee-for-service
3 HMO / Other prepaid
If checked, answer b.
4 Self-pay
5 No charge
6 Other
If checked, skip b.
b. Expected sources of insurance *Check all that apply.*
1 Blue Cross / Blue Shield
2 Other private insurance
3 Medicare
4 Medicaid
5 Worker's Compensation
6 Other
7 Unknown
9. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT *Use patient's own words.*
Most
a. Important:
b. Other:
c. Other:
10. IS THIS VISIT INJURY RELATED ?
1 Yes *(Answer a, b, and c.)*
2 No *(Skip to Item 11.)*
a. Place of occurrence
1 Home
2 School
3 Sports or athletics area
4 Street or highway
5 Other:
6 Unknown
b. Is this injury work related ?
1 Yes
2 No
3 Unknown
c. Cause of injury *Describe events that preceded injury (e.g., reaction to penicillin, wasp sting, driver in motor vehicle traffic accident involving collision with parked vehicle, etc.).*
11. PHYSICIAN'S DIAGNOSES *As specifically as possible, list up to 3 current diagnoses including those unrelated to this visit.*
a. Principal diagnosis or problem associated with Item 9a.:
b. Other:
c. Other:
12. DOES PATIENT HAVE:
Check all that apply regardless of entry in Item 11.
1 Arthritis
2 Artherosclerosis
3 COPD
4 Chronic renal failure
5 Depression
6 Diabetes
7 HIV / AIDS
8 Hyperactivity / ADD
9 Hypertension
10 Obesity
11 None of the above
13. AMBULATORY SURGICAL PROCEDURES
NONE
List up to 2 surgical procedures performed at this visit.
1.
2.
14. DIAGNOSTIC / SCREENING SERVICES *Check all ordered or provided at this visit.*
1 NONE
EXAMINATIONS:
2 Breast
3 Pelvic
4 Rectal
5 Visual acuity
6 Mental status
7 Other:
TESTS:
8 Blood pressure
9 Urinalysis
10 TB skin test
11 Blood lead level
12 Cholesterol measure
13 PSA
14 HIV serology
15 Other blood test
16 Other:
IMAGING:
17 X-Ray
18 CAT scan
19 MRI
20 Ultrasound
21 Other:
ALL OTHER: *(specify)*
22
15. THERAPEUTIC AND PREVENTIVE SERVICES
Check all ordered or provided at this visit. Exclude medications.
1 NONE
COUNSELING / EDUCATION:
2 Diet
3 Exercise
4 Weight reduction
5 Cholesterol reduction
6 HIV transmission
7 Injury prevention
8 Tobacco use / exposure
9 Growth / development
10 Mental health
11 Other:
OTHER THERAPY:
12 Psychotherapy
13 Corrective lenses
14 Physiotherapy
15 Other:
16. MEDICATIONS / INJECTIONS *List names of up to 6 medications that were ordered, supplied, or administered during this visit. Include new medications, continuing medications (with or without new orders), R_X and OTC medications, immunizations, allergy shots, and anesthetics.*
NONE
1. 4.
2. 5.
3. 6.
17. PROVIDERS SEEN THIS VISIT *Check all that apply.*
1 Physician
2 Physician assistant
3 Nurse practitioner
4 R.N.
5 L.P.N.
6 Medical assistant
7 Other:
18. HAVE YOU OR ANYONE IN YOUR PRACTICE SEEN PATIENT BEFORE ?
1 Yes 2 No
If Yes, for condition in Item 11a.?
1 Yes 2 No
19. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN ?
1 Yes
2 No
20. VISIT DISPOSITION
Check all that apply.
1 No followup planned
2 Return if needed, P.R.N.
3 Return at specified time
4 Admit to hospital
5 Other:
21. VISIT DURATION
Minutes

Figure 1. National Ambulatory Medical Care Survey Patient Record form.

United States, averaged for July 1, 1995, and July 1, 1996, and have been adjusted for net underenumeration.

Throughout this report, visits to orthopedists are profiled and at times contrasted to visits to other office-based physicians. However, because orthopedics is a surgical specialty, most of the comparisons presented in the report are drawn between orthopedics and other surgical specialties. The list of surgical specialties in this comparison group is included in the Definitions section at the end of this report. There were 20,364 Patient Record forms received from physicians within this group during 1995 and 1996.

Results

During 1995–96, an estimated 76.5 million visits were made in the United States to nonfederally employed, office-based physicians specializing in orthopedic surgery—an average of 38.3 million visits per year and an annual rate of 14.5 visits per 100 persons. Visits to orthopedic surgeons accounted for 5.3 percent of the total number of physician office visits during this period (table 1). Information on physician practice characteristics, patient characteristics, and visit characteristics for these encounters is presented below.

Physician practice characteristics

Table 2 displays data on the geographic location of the orthopedist's practice as well as on the professional identity of the physician. Visit rates did not differ by geographic region, except that the West had a higher annual visit rate (17.6 visits per 100 persons) than did the South (12.5 visits per 100

Table 1. Annual number, percent distribution, and rate of office visits by physician specialty, averaged over a 2-year period: United States, 1995–96

Physician specialty	Number of visits in thousands	Percent distribution	Number of visits per 100 persons per year[1]
All visits	715,788	100.0	272.0
General and family practice	183,225	25.6	69.6
Internal medicine	104,431	14.6	39.7
Pediatrics	92,888	13.0	35.3
Obstetrics and gynecology	59,515	8.3	22.6
Ophthalmology	40,714	5.7	15.5
Orthopedic surgery	38,267	5.3	14.5
Dermatology	28,969	4.0	11.0
Psychiatry	20,287	2.8	7.7
General surgery	18,762	2.6	7.1
Otolaryngology	18,346	2.6	7.0
Cardiovascular diseases	14,705	2.1	5.6
Urology	13,780	1.9	5.2
Neurology	8,481	1.2	3.2
All other specialties	73,417	10.3	27.9

[1]Based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States for July 1, 1995, and July 1, 1996, averaged over the 2-year period.

NOTE: Numbers may not add to totals because of rounding.

Table 2. Annual number, rate, and percent distribution of office visits to orthopedic surgeons and percent distribution of office visits to other surgical specialties by selected physician practice characteristics, averaged over a 2-year period: United States, 1995–96

Physician practice characteristic	Orthopedic surgery			Other surgical specialties[1]
	Number of visits in thousands	Number of visits per 100 persons per year[2]	Percent distribution	Percent distribution
All visits	38,267	14.5	100.0	100.0
Geographic region				
Northeast	7,277	13.7	19.0	20.5
Midwest	9,552	15.5	25.0	22.8
South	11,488	12.5	30.0	33.7
West	9,950	17.6	26.0	22.9
Metropolitan location				
MSA[3]	32,641	15.5	85.3	87.3
Non-MSA [3]	5,626	10.8	14.7	12.7
Professional identity				
Doctor of medicine	37,207	14.1	97.2	97.6
Doctor of osteopathy	1,060	0.4	2.8	2.4

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.
[2]Based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States for July 1, 1995, and July 1, 1996, averaged over the 2-year period.
[3]MSA is metropolitan statistical area.

NOTE: Numbers may not add to totals because of rounding.

persons). The majority of visits to orthopedic surgeons (85.3 percent) took place in metropolitan areas; the visit rate was higher in such areas than in nonmetropolitan areas (15.5 visits and 10.8 visits, respectively). The majority of orthopedic surgery visits (97.2 percent) were made to doctors of medicine, and 2.8 percent were made to doctors of osteopathy.

Patient characteristics

Visits to orthopedic surgeons are shown by patient characteristics in figure 2 and table 3. The visit rate increased with each age group up to 45–64 years. For age groups 45–64 years, 65–74 years, and 75 years and over, the visit rates were not significantly different.

No significant difference was found between the overall visit rates for males and females (14.7 visits per 100 females per year compared with 14.4 visits per 100 males). However, males 15–24 years had a significantly higher rate of visits (12.6 visits per 100) compared with females 15–24 years (7.6 visits per 100). White persons had a higher rate of visits (15.8 visits per 100 persons per year) than did black persons (8.9 visits per 100 persons per year).

Visit characteristics

Referral status and prior visit status—About 4 of every 10 office visits to orthopedic surgeons (38.7 percent) were the result of a referral by another physician (table 4). Of visits made by new patients, more than one-half (57.8 percent) were referred by another physician. This is slightly higher than the corresponding share (55.8 percent) of visits to other surgical specialties. In contrast, about one-quarter (27.5 percent) of the visits by new patients to nonsurgical specialties were the result of referrals.

As shown in figure 3, about two-thirds (65.9 percent) of orthopedic surgery visits were made by patients returning for care of a previously treated problem, significantly lower than the corresponding percent among visits to other surgical specialties. Orthopedic surgery visits were more likely to be made by new patients (26.4 percent) than were visits to other surgical specialties (17.7 percent). In addition, visits to orthopedic surgeons were slightly less likely than visits to other surgical specialties to be made by established patients with new problems (7.7 percent and 10.1 percent, respectively).

Expected sources of payment—Data on expected sources of payment are shown in figure 4 and table 5. This item underwent substantial revision for the 1995–96 NAMCS. The first part of the new item concerns type of payment (for example, was the visit part of an insured fee-for-service arrangement, preferred

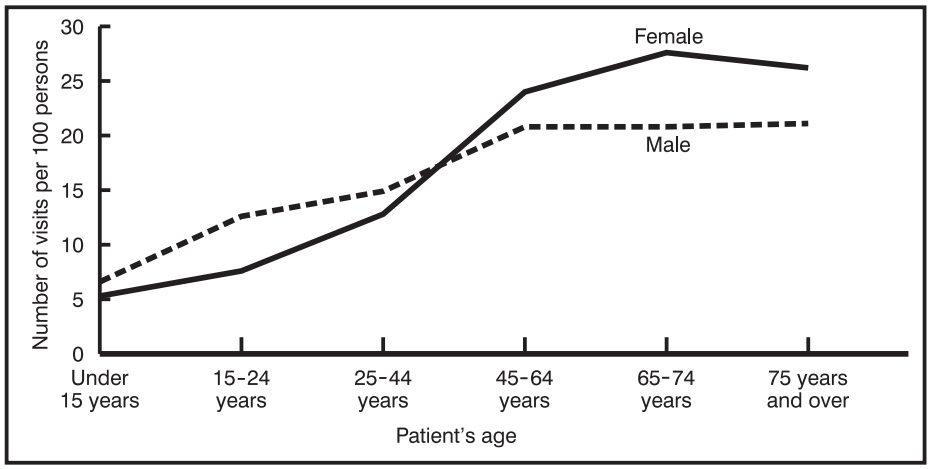


Figure 2. Annual rate of office visits to orthopedic surgeons by patient's age and sex: United States, 1995–96

Table 3. Annual number, rate, and percent distribution of office visits to orthopedic surgeons, and percent distribution of office visits to other surgical specialties by selected patient characteristics, averaged over a 2-year period: United States, 1995–96

Patient characteristic	Orthopedic surgery			Other surgical specialties[1]
	Number of visits in thousands	Number of visits per 100 persons per year[2]	Percent distribution	Percent distribution
Age				
All ages	38,267	14.5	100.0	100.0
Under 15 years	3,545	6.0	9.3	5.6
15–24 years	3,679	10.1	9.6	9.8
25–44 years	11,528	13.8	30.1	34.3
45–64 years	11,772	22.4	30.8	22.6
65–74 years	4,490	24.6	11.7	14.4
75 years and over	3,252	24.3	8.5	13.4
Sex and age				
Female:				
All ages	19,804	14.7	51.8	69.9
Under 15 years	1,534	5.3	4.0	2.4
15–24 years	1,377	7.6	3.6	8.4
25–44 years	5,425	12.8	14.2	28.1
45–64 years	6,503	24.0	17.0	14.8
65–74 years	2,789	27.6	7.3	8.3
75 years and over	2,176	26.2	5.7	7.8
Male:				
All ages	18,463	14.4	48.2	30.1
Under 15 years	2,011	6.6	5.3	3.1
15–24 years	2,303	12.6	6.0	1.4
25–44 years	6,103	14.9	15.9	6.2
45–64 years	5,269	20.8	13.8	7.7
65–74 years	1,701	20.8	4.4	6.1
75 years and over	1,076	21.1	2.8	5.5
Race				
White	34,277	15.8	89.6	88.0
Black	3,004	8.9	7.9	8.8
Other[3]	985	8.2	2.6	3.3

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.
[2]Visit rates are based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized U.S. population for July 1, 1995, and July 1, 1996, averaged over the 2-year period.
[3]Includes Asians/Pacific Islanders and American Indians/Eskimos/Aleuts.

NOTE: Numbers may not add to totals because of rounding.

provider option, or HMO/other prepaid plan). Other options that could be checked were self-pay, no charge, and ''other'' type of payment. Respondents were asked to check only one type of payment. If any of the first three options were checked, the respondent was then asked to complete part b of the item, expected sources of insurance for the visit. Respondents were asked to check all expected sources of insurance that were applicable.

Orthopedic surgery visits were more likely to be covered under insured, fee-for-service arrangements (46.6 percent) compared with visits to other surgical specialties (39.4 percent). But they were less likely to be paid under an HMO/other prepaid plan (19.5 percent versus 22.7 percent) or to be paid by the patient (4.4 percent versus 7.9 percent) than were visits to other surgical specialties.

Expected sources of payment, regardless of type of payment, were most often private insurance (48.5 percent), Medicare (18.4 percent), and Workers' Compensation (15.0 percent) (figure 4). Medicaid was reported as an expected source of payment at 4.0 percent of orthopedic surgery visits.

Patient's principal reason for visit—Table 6 shows the patient's principal reason for visiting the orthopedic surgeon, according to the eight reason-for-visit modules, or groups of reasons, outlined in *A Reason for Visit Classification for Ambulatory Care* (RVC) (13). Two-thirds of the visits to this specialty (65.6 percent) were due to a symptomatic problem or complaint, with the largest proportion of symptoms being those referable to the musculoskeletal system (60.6 percent). The treatment module, which includes various types of physical therapy and rehabilitation as well as preoperative and postoperative care, accounted for 16.1 percent of visits, while the injuries and adverse effects module was cited at 13.9 percent. (It should be noted that the RVC is based upon the patient's expressed reason for the visit. The symptom module will include a significant number of injury-related visits, for those instances where the

Table 4. Annual number and percent distribution of office visits to orthopedic surgeons and percent distribution of visits to other surgical specialties by patient's referral status, according to prior visit status, averaged over a 2-year period: United States, 1995–96

Referral status	Prior visit status							
	Orthopedic surgery				Other surgical specialties[1]			
	Total	New patient	Old patient, new problem	Old patient, old problem	Total	New patient	Old patient, new problem	Old patient, old problem
	Number of visits in thousands							
All visits	38,267	10,115	2,944	25,208	168,505	29,776	17,016	121,713
Referred for this visit	14,805	5,848	843	8,114	43,646	16,603	2,947	24,096
Not referred for this visit	23,462	4,267	2,101	17,094	124,859	13,172	14,070	97,617
	Percent distribution							
All visits	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Referred for this visit	38.7	57.8	28.6	32.2	25.9	55.8	17.3	19.8
Not referred for this visit	61.3	42.2	71.4	67.8	74.1	44.2	82.7	80.2
	Percent distribution							
All visits	100.0	26.4	7.7	65.9	100.0	17.7	10.1	72.2
Referred for this visit	100.0	39.5	5.7	54.8	100.0	38.0	6.8	55.2
Not referred for this visit	100.0	18.2	9.0	72.9	100.0	10.5	11.3	78.2

[1]A list of the specialties used to define this category is included in the Technical notes.

NOTE: Numbers may not add to totals because of rounding.

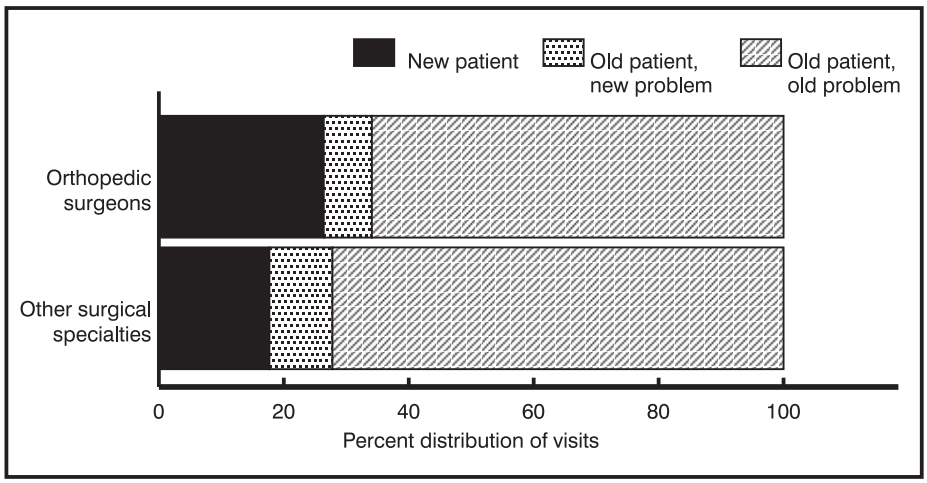


Figure 3. Percent distribution of office visits to orthopedic surgeons and other surgical specialties by patient's prior visit status: United States, 1995–96

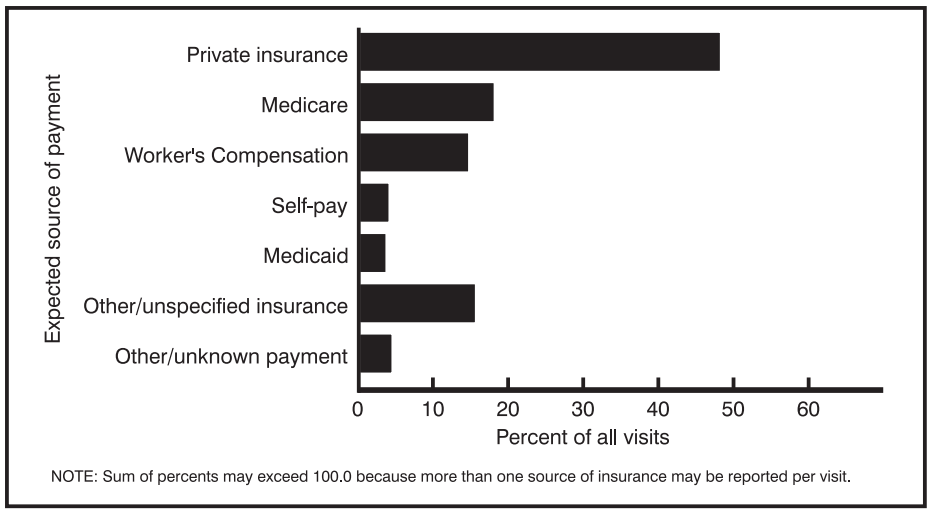


Figure 4. Percent of office visits to orthopedic surgeons by expected source of payment: United States, 1995–96

patient has described his or her problem to the physician in symptomatic terms rather than in terms denoting an injury.)

Specific reasons for visit are listed in table 7. The single most frequently mentioned principal reason for visiting the orthopedic surgeon, for either sex, was knee symptoms, accounting for 14.9 percent of the total. Postoperative visit (8.9 percent), back symptoms (upper and lower) (8.2 percent), and shoulder symptoms (7.9 percent) were also prominent.

It is important to keep in mind that the rank ordering found in this and other tables in this report may not always be reliable because near estimates may not be statistically different from each other due to sampling variability.

Injury-related visits—Orthopedic surgery practice is characterized by a preponderance of injury-related visits. There were an estimated 23.9 million injury-related office visits to orthopedic surgeons per year during 1995 and 1996, or an annual rate of 9.1 visits per 100 persons. Overall, more than 6 of every 10 visits to orthopedic surgeons were injury related. This distribution is in sharp contrast to that of other physician specialty groups, as shown in figure 5. When the distribution of injury visits across all physician specialties is examined, the prominence of orthopedic surgery can be clearly seen. Of all

Table 5. Annual number and percent distribution of office visits to orthopedic surgeons and percent distribution of visits to other surgical specialties by patient's type of payment and expected source(s) of insurance, averaged over a 2-year period: United States, 1995–96

Type of payment and expected sources of insurance[2]	Orthopedic surgery		Other surgical specialties[1]
	Number of visits in thousands	Percent distribution	Percent distribution
All visits	38,267	100.0	100.0
Insurance[3]	34,776	90.9	86.5
Insured, fee-for-service	17,822	46.6	39.4
Private insurance	9,760	25.5	24.5
Medicare	5,042	13.2	15.5
Medicaid	967	2.5	4.3
Workers' Compensation	3,452	9.0	0.9
Other	1,182	3.1	2.3
Unknown	290	0.8	0.8
HMO/Other prepaid[4]	7,455	19.5	22.7
Private insurance	3,821	10.0	11.7
Medicare	468	1.2	2.5
Medicaid	*	*	1.9
Workers' Compensation	319	0.8	*
Other	2,223	5.8	4.9
Unknown	1,016	2.7	2.8
Preferred provider option	4,802	12.5	13.0
Private insurance	3,428	9.0	9.1
Medicare	510	1.3	1.4
Medicaid	*	*	0.3
Worker's Compensation	272	0.7	*
Other	602	1.6	1.9
Unknown	234	0.6	1.0
Unspecified type of payment	4,696	12.3	11.4
Private insurance	1,540	4.0	4.9
Medicare	1,028	2.7	4.7
Medicaid	377	1.0	2.4
Workers' Compensation	1,707	4.5	0.5
Other	354	0.9	1.0
Unknown	*	*	0.4
Self-pay	1,676	4.4	7.9
Other	760	2.0	0.9
No charge	227	0.6	2.9
No answer[5]	829	2.2	1.8

* Figure does not meet standard of reliability or precision.
[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.
[2]Only one type of payment (preferred provider option, insured fee-for-service, HMO/other prepaid, self-pay, no charge, or other) was coded for each visit. These figures may not always add to totals because of rounding. For payment types of preferred provider option, insured fee-for-service, and HMO/other prepaid, respondents were also asked to check all of the applicable expected sources of insurance (private, Medicare, Medicaid, Workers' Compensation, or other sources). As a result, expected sources of insurance will not add to totals because more than one source could be reported per visit.
[3]Includes insured, fee-for-service; HMO/other prepaid; preferred provider option; and unspecified type of payment with source of insurance listed.
[4]HMO is health maintenance organization.
[5]Neither type of payment nor source of insurance was reported.

injury-related visits made to physician offices in 1995–96, more than one-quarter (28.3 percent) were to orthopedic surgeons (figure 6). In contrast, this specialty accounted for 5.3 percent of the total number of ambulatory care visits to physician offices in 1995–96.

Injury-related visits are presented in terms of patient's age, sex, and race in table 8. Visits were considered to be injury related if ''yes'' was checked in response to the question, ''Is this visit injury related?'' on the Patient Record form, or if an injury reason for visit or injury diagnosis was recorded, or if a cause of injury was specified on the form. The results from any one of these items, each of which measures a unique aspect of injury, would underestimate the number of injury-related visits.

Children under 15 years had the lowest rate of injury-related orthopedic surgery visits (4.6 visits per 100). But rates did not vary significantly for any of the older age groups.

The overall rate did not differ significantly by patient's sex, with 8.1 injury visits per 100 females per year compared with 10.1 visits per 100 males. However, comparing age groups by sex, younger males (under 15 years, 15–24 years, and 25–44 years) were more likely to make injury visits compared with females in the corresponding age groups. No statistical difference was noted between males and females in the three age groups over 44 years (figure 7). White persons made 9.8 injury visits per 100, compared with a significantly lower rate of 5.7 injury visits per 100 black persons.

Table 6. Annual number and percent distribution of office visits to orthopedic surgeons and percent distribution of office visits to other surgical specialties by patient's principal reason for visit, averaged over a 2-year period: United States, 1995–96

Principal reason for visit and RVC code[2]		Orthopedic surgery		Other surgical specialties[1]
		Number of visits in thousands	Percent distribution	Percent distribution
All visits		38,267	100.0	100.0
Symptom module	S001–S999	25,085	65.6	38.7
Symptoms referable to the musculoskeletal system	S900–S999	23,183	60.6	2.9
General symptoms	S001–S099	966	2.5	2.8
Symptoms referable to the nervous system (excluding sense organs)	S200–S259	537	1.4	1.2
Symptoms referable to the skin, hair, and nails	S830–S899	316	0.8	2.0
All other symptoms[3]		*	*	29.7
Disease module	D001–D999	941	2.5	11.6
Diagnostic, screening, and preventive module	X100–X599	266	0.7	28.8
Treatment module	T100–T899	6,165	16.1	15.2
Injuries and adverse effects module	J001–J999	5,324	13.9	1.6
Test results module	R100–R700	*	*	2.3
Administrative module	A100–A140	*	*	0.1
Other[4]	U990–U999	287	0.8	1.7

* Figure does not meet standard of reliability or precision.

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.

[2]Based on *A Reason for Visit Classification for Ambulatory Care* (RVC) (13).

[3]Includes symptoms referable to psychological and mental disorders; eyes and ears; respiratory system; cardiovascular and lymphatic system; genitourinary system; digestive system; and skin, hair, and nails. For surgical specialties other than orthopedics, prominent categories were symptoms referable to eyes and ears (13.2 percent of visits), symptoms referable to the genitourinary system (9.6 percent), symptoms referable to the respiratory system (3.5 percent), and symptoms referable to the digestive system (2.6 percent).

[4]Includes problems and complaints not elsewhere classified, entries of "none," blanks, and illegible entries.

NOTE: Numbers may not add to totals because of rounding.

Table 7. Annual number and percent distribution of office visits to orthopedic surgeons by the 20 principal reasons for visit most frequently mentioned by patients, according to patient's sex, averaged over a 2-year period: United States, 1995–96

Principal reason for visit and RVC code[1]		Number of visits in thousands	Total	Female	Male
			Percent distribution		
All visits		38,267	100.0	100.0	100.0
Knee symptoms	S925	5,701	14.9	14.9	14.9
Postoperative visit	T205	3,403	8.9	8.8	9.0
Back symptoms (upper and lower)	S905,S910	3,144	8.2	7.6	8.9
Shoulder symptoms	S940	3,011	7.9	7.3	8.5
Hand and finger symptoms	S960	2,039	5.3	5.2	5.5
Foot and toe symptoms	S935	1,580	4.1	4.7	3.5
Wrist symptoms	S955	1,566	4.1	4.9	3.3
Progress visit, not elsewhere classified	T800	1,472	3.8	3.5	4.2
Hip symptoms	S915	1,248	3.3	4.1	2.4
Ankle symptoms	S930	1,195	3.1	3.8	2.4
Neck symptoms	S900	978	2.6	2.7	2.4
Leg symptoms	S920	901	2.4	2.4	2.3
Elbow symptoms	S950	890	2.3	1.8	2.9
Fractures and dislocations of arm	J035	795	2.1	2.0	2.2
Pain and related symptoms, generalized, site unspecified	S060	594	1.6	1.4	1.7
Arm symptoms	S945	561	1.5	1.6	1.3
Fractures and dislocations of leg	J020	550	1.4	1.3	1.6
Disturbances of sensation	S220	458	1.2	1.4	*
Dressing, bandage — application, change	T540	433	1.1	*	1.3
All other reasons		7,749	20.3	19.4	20.9

* Figure does not meet standard of reliability or precision.

[1]Based on *A Reason for Visit Classification for Ambulatory Care* (13).

NOTE: Numbers may not add to totals because of rounding.

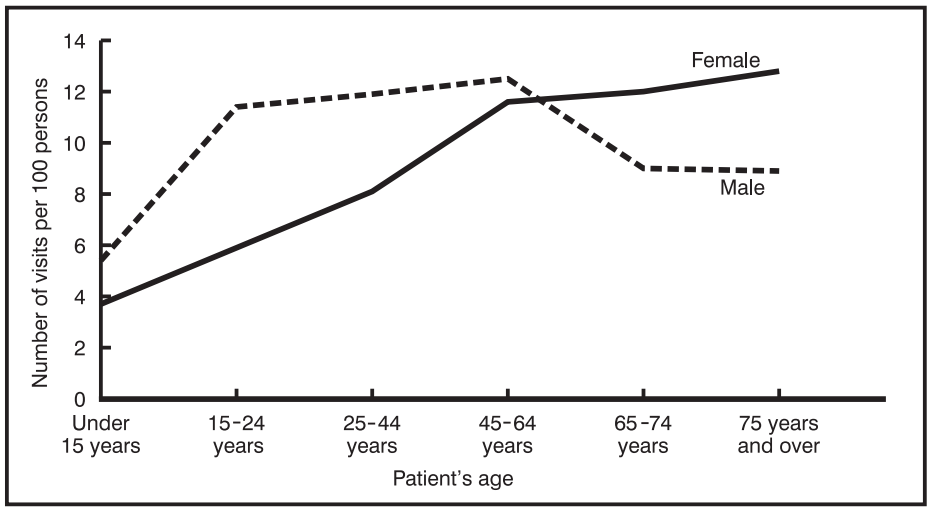


Figure 5. Annual rate of injury-related office visits to orthopedic surgeons by patient's age and sex: United States, 1995–96

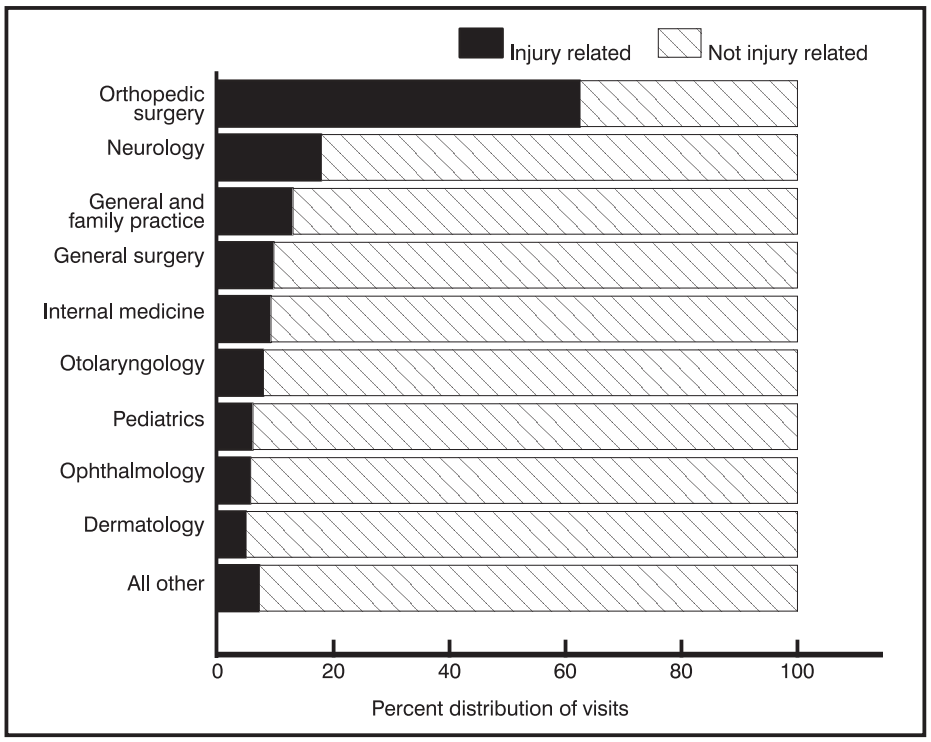


Figure 6. Percent distribution of office visits by injury status, according to physician specialty group: 1995–96

While the Patient Record form did ask about the place of occurrence of the injury and whether it was work related, item nonresponse was high enough that resulting estimates were potentially misleading and have not been included in this report. Data on the intent and mechanism of injury were also collected and classified, based on ICD–9–CM groupings of the first-listed external cause of injury code (E-code). However, detailed data on intent and mechanism are not included because of item nonresponse and small frequencies in the sample data. About one-third of the injury visits did not include a cause of injury on the Patient Record form. For visits for which a cause was indicated, falls, overexertion, motor vehicle traffic accidents, and striking against or struck by objects or persons were mentioned most frequently.

Diagnostic and screening services—More than 4 of every 10 visits to orthopedic surgeons included no diagnostic or screening services, compared with only 2 of every 10 visits to other surgical specialties (table 9). The most frequently mentioned specific category was x ray, which was reported at more than one-third of the visits (38.6 percent). In contrast, 5.4 percent of the visits to other surgical specialties included an x ray either ordered or provided.

Ambulatory surgery was cited at only 5.3 percent of visits, slightly less than the 8.1 percent of visits to other surgical specialties. It should be noted that the wording of this item was changed in 1995–96 so that respondents were instructed to record only ambulatory surgery performed at the visit. Previous surveys allowed physicians to record surgery that was either ordered or performed, which yielded larger estimates. Also, respondents tended to report surgical and nonsurgical procedures alike in the ambulatory surgery item, as well as in the open-ended responses to the diagnostic/screening services item. For this reason, it is recommended that any analysis of procedures take responses from both items into account.

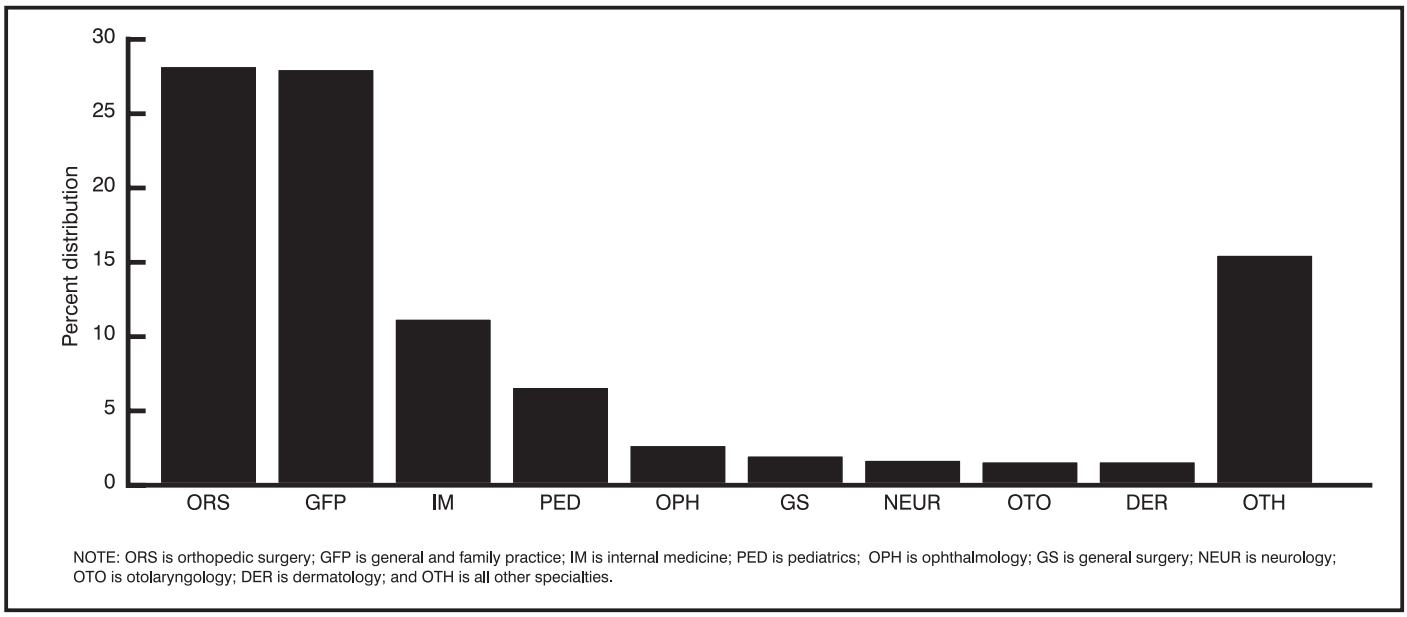
Combining responses from both the ambulatory surgery item and the open-ended responses to the diagnostic/screening services item yields the following data on surgical and nonsurgical procedures. The most frequent category was ''interview, evaluation, consultation, and examination.'' This was essentially a reflection of the nonspecific code, ''other nonoperative measurements and examinations,'' which was cited at 19.9 percent of the visits. The category ''repair and plastic operations on joint structures'' referred mainly to arthrocentesis (or joint aspiration) or injection of a therapeutic substance into a joint or ligament, and was cited at 1.3 percent of the visits. Also of note were the categories ''physical therapy, respiratory therapy, rehabilitation, and related procedures'' and ''replacement and removal of therapeutic appliances,'' which were each mentioned at 1.1 percent of the visits. It should be kept in mind that there was a checkbox for physiotherapy under the item, ''Therapeutic and Preventive Services,'' so that most of the reporting of this service is found there. Data were insufficient to generate more detailed

Table 8. Annual number, percent distribution, and rate of injury-related office visits to orthopedic surgeons, and percent of all visits in each category that are injury related by selected patient characteristics, averaged over a 2-year period: United States, 1995–96

Patient characteristic	Number of visits in thousands	Percent distribution	Number of visits per 100 persons per year[1]	Percent of all visits in each category that are injury related[2]
Age				
All ages	23,925	100.0	9.1	62.5
Under 15 years	2,714	11.3	4.6	76.6
15–24 years	3,148	13.2	8.7	85.6
25–44 years	8,280	34.6	9.9	71.8
45–64 years	6,320	26.4	12.0	53.7
65–74 years	1,946	8.1	10.6	43.3
75 years and over	1,517	6.3	11.3	46.6
Sex and age				
Female:				
All ages	10,976	45.9	8.1	55.4
Under 15 years	1,079	4.5	3.7	70.3
15–24 years	1,063	4.4	5.9	77.2
25–44 years	3,419	14.3	8.1	63.0
45–64 years	3,139	13.1	11.6	48.3
65–74 years	1,210	5.1	12.0	43.4
75 years and over	1,066	4.5	12.8	49.0
Male:				
All ages	12,949	54.1	10.1	70.1
Under 15 years	1,635	6.8	5.4	81.3
15–24 years	2,085	8.7	11.4	90.6
25–44 years	4,861	20.3	11.9	79.6
45–64 years	3,181	13.3	12.5	60.4
65–74 years	736	3.1	9.0	43.3
75 years and over	451	1.9	8.9	41.9
Race				
White	21,289	89.0	9.8	62.1
Black	1,911	8.0	5.7	63.6
Other[3]	725	3.0	6.1	73.6

[1]Visit rates are based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized U.S. population for July 1, 1995, and July 1, 1996, averaged over the 2-year period.
[2]Total number of visits in each category divided by number of injury-related visits in each category.
[3]Includes Asians/Pacific Islanders and American Indians/Eskimos/Aleuts.

NOTE: Numbers may not add to totals because of rounding.



NOTE: ORS is orthopedic surgery; GFP is general and family practice; IM is internal medicine; PED is pediatrics; OPH is ophthalmology; GS is general surgery; NEUR is neurology; OTO is otolaryngology; DER is dermatology; and OTH is all other specialties.

Figure 7. Percent distribution of injury-related office visits by physician specialty group: United States, 1995–96

Table 9. Annual number and percent distribution of office visits to orthopedic surgeons and percent distribution of visits to other surgical specialties by number of diagnostic and screening services ordered or provided and type of service, averaged over a 2-year period: United States, 1995–96

Diagnostic and screening services	Orthopedic surgery		Other surgical specialties[1]
	Number of visits in thousands	Percent distribution	Percent distribution
All visits	38,267	100.0	100.0
Number of services ordered or provided[2]			
None	16,635	43.5	20.6
1	16,796	43.9	34.7
2	4,240	11.1	17.4
3	395	1.0	11.0
4 or more	200	0.5	16.2
Examinations[3]			
Breast	*	*	17.1
Pelvic	*	*	23.4
Rectal	*	*	9.9
Visual acuity	*	*	21.0
Mental status	*	*	0.6
Other exam	8,346	21.8	16.5
Tests[3]			
Blood pressure	1,251	3.3	33.3
Urinalysis	219	0.6	22.3
TB skin test[4]	–	–	*
Blood lead level	*	*	*
Cholesterol	*	*	1.0
PSA test[5]	–	–	1.4
HIV serology[6]	*	*	0.4
Other blood test	360	0.9	7.9
Other test	357	0.9	17.7
Imaging[3]			
X ray	14,773	38.6	5.4
CAT scan[7]	185	0.5	0.9
MRI [8]	1,508	3.9	0.5
Ultrasound	*	*	4.1
Other imaging	249	0.7	1.3
Ambulatory surgery performed			
No procedures	36,256	94.7	91.9
One or more procedures	2,011	5.3	8.1

* Figure does not meet standard of reliability or precision.
– Quantity zero.
[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.
[2]Numbers may not add to totals because of rounding.
[3]Total may exceed total number of visits because more than one category may be reported per visit.
[4]TB is tuberculin.
[5]PSA is prostate specific antigen.
[6]HIV is human immunodeficiency virus.
[7]CAT is computerized axial tomography.
[8]MRI is magnetic resonance imaging.

estimates of specific procedures performed at orthopedic surgery visits.

While the NAMCS data can only provide limited data on ambulatory surgery as it relates to orthopedic surgery visits, the importance of the latter is clear because almost 10 percent of these visits were made for postoperative care (see the "Reason for visit" section above). Many of the procedures used by orthopedic surgeons are performed on an ambulatory basis in hospitals or in freestanding ambulatory surgery centers. Data from the National Survey of Ambulatory Surgery (NSAS), which includes these sites, indicate that there were an estimated 4.0 million ambulatory surgeries involving the musculoskeletal system in 1995, including 636,000 knee arthroscopies (17). In addition, 3.1 million operations on the musculoskeletal system were performed as inpatient procedures in hospitals in 1995 (18).

Principal diagnosis—In table 10, orthopedic surgery visits are shown by principal diagnosis using the relevant major disease categories specified by the ICD–9–CM in conjunction with more detailed diagnostic groupings within each major category. The diagnostic groupings were developed for use specifically with NAMCS data. A complete description of the ICD–9–CM codes used for each group is included in the Technical notes.

Four of every 10 visits (41.2 percent) to orthopedic surgeons resulted in a principal diagnosis classifiable to the injury and poisoning category of the ICD–9–CM (although for this specialty, poisoning was not relevant and all such diagnoses fell under the injury category). A similar proportion (40.4 percent) was classifiable to diseases of the musculoskeletal system and connective tissue.

A selection of the most frequently reported principal diagnoses at orthopedic surgery visits during 1995–96 are shown in table 11 by patient's age and sex. Overall, fracture of lower limb was cited most frequently, at 8.6 percent of visits. For patients under 25 years, fracture of lower limb accounted for 14.2 percent of all visits, followed by fracture of hand and fingers (9.8 percent) and fracture of radius and ulna (9.5 percent).

For those 25–44 years, peripheral enthesopathies (which include rotator cuff syndrome), joint derangements, and fracture of lower limb were listed most often. These diagnoses were also prominent for older patients (45–64 years and 65 years and over), along with an increasing proportion of diagnoses of osteoarthrosis (which includes arthritis), listed most frequently for persons 65 years and over.

Fracture of lower limb, peripheral enthesopathies, joint derangements, and osteoarthrosis were all among the most frequently listed principal diagnoses at orthopedic surgery visits by both males and females. Visits by females were more likely to include diagnoses of

Table 10. Annual number and percent distribution of office visits to orthopedic surgeons by diagnosis group, averaged over a 2-year period: United States, 1995–96

Diagnosis group[1]	Number of visits in thousands	Percent distribution
All visits	38,267	100.0
Injury and poisoning	15,784	41.2
Fracture of radius and ulna	1,546	4.0
Fracture of hand and fingers	1,544	4.0
Fracture of lower limb	3,277	8.6
Other fractures	1,223	3.2
Sprains and strains of wrist and hand	274	0.7
Sprains and strains of knee and leg	944	2.5
Sprains and strains of ankle	433	1.1
Sprains and strains of neck	524	1.4
Sprains and strains of back, excluding neck	939	2.5
Other sprains and strains	1,395	3.6
Intracranial injury, excluding those with skull fracture	*	*
Open wound of head	*	*
Open wound of hand and fingers	232	0.6
Other open wound	330	0.9
Superficial injury of cornea	–	–
Other superficial injury	*	*
Contusions with intact skin surfaces	541	1.4
Dislocation of knee	1,626	4.2
Other injuries	763	2.0
Poisonings	–	–
Other and unspecified effects of external causes	*	*
Complications of surgical and medical care, not elsewhere classified	*	*
Diseases of the musculoskeletal system and connective tissue	15,463	40.4
Rheumatoid arthritis	111	0.3
Osteoarthrosis and allied disorders	2,430	6.4
Other arthropathies and related disorders	889	2.3
Derangements and other and unspecified joint disorders	2,509	6.6
Intervertebral disc disorders	1,378	3.6
Lumbago	204	0.5
Other dorsopathies	1,462	3.8
Peripheral enthesopathies and allied disorders	2,736	7.2
Synovitis and tenosynovitis	1,018	2.7
Myalgia and myositis, unspecified	*	*
Other rheumatism, excluding back	1,247	3.3
Disorders of bone and cartilage	685	1.8
Other diseases of the musculoskeletal system and connective tissue	723	1.9
Diseases of the nervous system and sense organs	1,606	4.2
Carpal tunnel syndrome	1,149	3.0
Diseases of the skin and subcutaneous tissue	400	1.0
Supplementary classification	3,415	8.9
All other diagnoses[2]	1,078	2.8
Unknown[3]	520	1.4

* Figure does not meet standard of reliability or precision.

– Quantity zero.

[1]The subgroupings shown in this table are based on the principal diagnosis coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14). A complete list of the ICD–9–CM codes used to formulate these groupings is shown in the Technical notes. One modification was made for the purpose of this table, however. Because of its prominence, dislocation of knee (ICD–9–CM code 836) is shown as a separate category. The intent of this table is to provide a more detailed breakdown of the diagnostic content of ambulatory care visits than would be possible using only the major disease categories, or chapter headings, used in the ICD–9–CM.

[2]Includes infectious and parasitic diseases (001–139); neoplasms (140–239); endocrine, nutritional, and metabolic disorders (240–279); diseases of the blood and blood forming organs (280–289); mental disorders (290–319); diseases of the circulatory system (390–459); diseases of the respiratory system (460–519); diseases of the digestive system (520–579); diseases of the genitourinary system (580–629); complications of pregnancy, childbirth, and the puerperium (630–676); congenital anomalies (740–759); certain conditions originating in the perinatal period (760–779); and symptoms, signs, and ill-defined conditions (780–799).

[3]Includes blank diagnoses, uncodable diagnoses, and illegible diagnoses.

NOTE: Numbers may not add to totals because of rounding.

carpal tunnel syndrome than were visits by males (4.4 percent versus 1.5 percent).

While orthopedic surgeons received 5.3 percent of all visits to office-based physicians during 1995–96, they received 30.0 percent of all visits with a principal diagnosis of musculoskeletal disease and 31.8 percent of all visits with a principal diagnosis of injury. Nine of every 10 office visits for knee dislocations were made to orthopedic surgeons, as were 8 of 10 visits for fracture of radius and ulna. The proportion of visits to orthopedic surgeons for selected principal diagnoses is shown in table 12.

Tables 13 and 14 highlight the nature of orthopedic practice in terms of ''new problem'' visits and return visits for ''old problems.'' ''New problem visits'' are those either made by new patients or made by established patients for the treatment of new problems. Return visits for old problems are those made by established patients for the care of conditions that have been previously treated by the physician.

One-third of visits to orthopedic surgeons were ''new problem'' visits. Of these, peripheral enthesopathies and allied disorders was the most frequent diagnosis, although they accounted for only 2.9 percent of all orthopedic surgery visits. Of the 15 principal diagnosis categories that occurred most often as new problems, all but two also appeared among the top 15 diagnoses at return visits for old problems, underscoring the chronic nature of many orthopedic complaints. The principal diagnosis with the highest return visit rate (the ratio of return visits for old problems to new problem visits) was fracture of lower limb, with about three return visits for every new problem visit.

Therapeutic and preventive services—Table 15 presents data on therapeutic and preventive services ordered or provided at visits to orthopedic surgeons. Such visits were characterized by their relatively infrequent utilization of medication therapy, which was reported at less than one-third of orthopedic surgery visits (30.8 percent). This is significantly lower than the corresponding figure for other surgical specialties (45.2 percent). In contrast, 72.8 percent of the visits to specialties other than surgical included medication therapy. This distinction is presented in more detail in figure 8.

However, orthopedic surgery visits were more likely than visits to other surgical specialties to include nonmedication therapy, especially physiotherapy (18.5 percent), counseling or education related to exercise

Table 11. Annual number and percent distribution of office visits to orthopedic surgeons by selected principal diagnoses and patient's age and sex, averaged over a 2-year period: United States, 1995–96

Selected principal diagnosis and patient characteristic[1]	Number of visits in thousands	Percent distribution
All visits	38,267	100.0
Fracture of lower limb	3,277	8.6
Peripheral enthesopathies and allied disorders	2,736	7.2
Derangements and other and unspecified joint disorders	2,509	6.6
Osteoarthrosis and allied disorders	2,430	6.4
Dislocation of knee	1,626	4.2
Fracture of radius and ulna	1,546	4.0
Fracture of hand and fingers	1,544	4.0
Other dorsopathies[2]	1,462	3.8
Other sprains and strains[3]	1,395	3.6
Intervertebral disc disorders	1,378	3.6
Other rheumatism, excluding back[4]	1,247	3.3
Other fractures[5]	1,223	3.2
Carpal tunnel syndrome	1,149	3.0
Synovitis and tenosynovitis	1,018	2.7
Sprains and strains of knee and leg	944	2.5
Sprains and strains of back, excluding neck	939	2.5
Other arthropathies and related disorders[6]	889	2.3
Followup examination	875	2.3
Artificial opening status and other postsurgical states	863	2.3
Other factors influencing health status and contact with health services	821	2.1
Potential health hazards related to personal and family history	743	1.9
Other diseases of the musculoskeletal system and connective tissue[7]	723	1.9
Disorders of bone and cartilage	685	1.8
Contusions with intact skin surfaces	541	1.4
Sprains and strains of neck	524	1.4
Congenital anomalies	461	1.2
Sprains and strains of ankle	433	1.1
All other diagnoses	4,286	11.2
Under 25 years		
All visits	7,224	100.0
Fracture of lower limb	1,024	14.2
Fracture of hand and fingers	707	9.8
Fracture of radius and ulna	687	9.5
Other fractures[5]	480	6.6
Derangements and other and unspecified joint disorders	422	5.8
Other diseases of the musculoskeletal system and connective tissue[7]	353	4.9
Dislocation of knee	276	3.8
Sprains and strains of knee and leg	247	3.4
Followup examination	211	2.9
Other strains and sprains[3]	192	2.7
All other diagnoses	2,626	36.3
25–44 years		
All visits	11,528	100.0
Peripheral enthesopathies and allied disorders	1,109	9.6
Derangements and other and unspecified joint disorders	901	7.8
Fracture of lower limb	749	6.5
Dislocation of knee	665	5.8
Intervertebral disc disorders	580	5.0
Sprains and strains of knee and leg	503	4.4
Carpal tunnel syndrome	483	4.2
Sprains and strains of back, excluding neck	450	3.9
Other dorsopathies[2]	431	3.7
Fracture of hand and fingers	431	3.7
Other rheumatism, excluding back[4]	420	3.6
Other strains and sprains[3]	344	3.0
Artificial opening status and other postsurgical states	328	2.8
Synovitis and tenosynovitis	321	2.8
Fracture of radius and ulna	316	2.7
Disorders of bone and cartilage	256	2.2
Followup examination	242	2.1
Potential health hazards related to personal and family history	238	2.1
Sprains and strains of neck	230	2.0
All other diagnoses	2,531	22.0

(18.0 percent), and injury prevention (4.9 percent).

Tables 16–18 present detailed drug data relating to orthopedic surgery visits. There was an average of 17.1 million drug mentions per year for 1995 and 1996, yielding 14.6 mentions for every 10 drug visits (visits with one or more drug mentions) and 4.5 mentions per every 10 visits overall (table 16). Visits to orthopedic surgeons accounted for just 1.8 percent of the total drug mentions at visits to office-based physicians.

Table 17 shows the number of drug mentions by therapeutic classification, adapted from therapeutic categories used in the *National Drug Code Directory*, 1995 edition (16). When a particular drug was classifiable to more than one therapeutic category, it was listed under its primary therapeutic use.

Drugs for pain relief were predominant at visits to orthopedic surgeons, accounting for more than half of all the medications used at these visits. In comparison, this therapeutic class represented only 6.6 percent of mentions by other surgical specialties and 11.8 percent of mentions by nonsurgical specialties.

Within the general class of pain relief agents, nonsteroidal anti-inflammatory drugs (NSAID's) and nonnarcotic analgesics were used most frequently by orthopedic surgeons. Of the other drug classes, skin preparations and hormonal agents each accounted for about 10 percent of the total drug mentions at orthopedic surgery visits.

The generic ingredients used most frequently in medications ordered or provided at orthopedic surgery visits are shown in table 18. Acetaminophen was by far the most frequently occurring ingredient (17.6 percent of mentions), followed by ibuprofen (8.4 percent) and hydrocodone (7.0 percent). It should be noted that drugs containing more than one ingredient are listed in the data for each ingredient. For example, acetaminophen with codeine would be listed both under the count for acetaminophen as well as the count for codeine.

Providers seen—As displayed in table 19, nearly all orthopedic surgery visits were attended by a physician

Table 11. Annual number and percent distribution of office visits to orthopedic surgeons by selected principal diagnoses and patient's age and sex, averaged over a 2-year period: United States, 1995–96—Con.

Selected principal diagnosis and patient characteristic[1]	Number of visits in thousands	Percent distribution
45–64 years		
All visits	11,772	100.0
Peripheral enthesopathies and allied disorders	1,028	8.7
Osteoarthrosis and allied disorders	978	8.3
Derangements and other and unspecified joint disorders	842	7.2
Fracture of lower limb	755	6.4
Intervertebral disc disorders	542	4.6
Dislocation of knee	540	4.6
Other dorsopathies[2]	527	4.5
Other strains and sprains[3]	492	4.2
Carpal tunnel syndrome	447	3.8
Other rheumatism, excluding back[4]	444	3.8
Other arthropathies and related disorders[6]	423	3.6
Synovitis and tenosynovitis	379	3.2
Sprains and strains of back, excluding neck	351	3.0
Artificial opening status and other postsurgical states	289	2.5
Other factors influencing health status and contact with health services	280	2.4
Fracture of hand and fingers	277	2.4
Followup examination	251	2.1
All other diagnoses	2,927	24.9
65 years and over		
All visits	7,742	100.0
Osteoarthrosis and allied disorders	1,280	16.5
Fracture of lower limb	749	9.7
Peripheral enthesopathies and allied disorders	460	5.9
Other dorsopathies[2]	429	5.5
Other strains and sprains[3]	367	4.7
Other fractures[5]	352	4.6
Derangements and other and unspecified joint disorders	344	4.4
Other arthropathies and related disorders[6]	300	3.9
Other factors influencing health status and contact with health services	299	3.9
Fracture of radius and ulna	299	3.9
All other diagnoses	2,862	37.0
Female		
All visits	19,804	100.0
Fracture of lower limb	1,743	8.8
Peripheral enthesopathies and allied disorders	1,466	7.4
Derangements and other and unspecified joint disorders	1,391	7.0
Osteoarthrosis and allied disorders	1,342	6.8
Carpal tunnel syndrome	881	4.4
Other dorsopathies[2]	842	4.3
Other rheumatism, excluding back[4]	829	4.2
Fracture of radius and ulna	777	3.9
Synovitis and tenosynovitis	694	3.5
Dislocation of knee	631	3.2
Other fractures[5]	606	3.1
Intervertebral disc disorders	587	3.0
Other strains and sprains[3]	570	2.9
Fracture of hand and fingers	549	2.8
Other diseases of the musculoskeletal system and connective tissue[7]	516	2.6
Other arthropathies and related disorders[6]	485	2.4
Followup examination	471	2.4
Sprains and strains of back, excluding neck	447	2.3
Other factors influencing health status and contact with health services	428	2.2
Disorders of bone and cartilage	416	2.1
Artificial opening status and other postsurgical states	396	2.0
Potential health hazards related to personal and family history	389	2.0
Sprains and strains of neck	335	1.7
Sprains and strains of knee and leg	334	1.7
All other diagnoses	2,615	11.9

(99.4 percent), as were most visits to other surgical specialties (98.0 percent). However, with the exception of physician assistants, which were reported at similar percents of visits to each of the two groups, other medical personnel (medical assistants, registered nurses, and licensed practical nurses) were reported less frequently at orthopedic surgery visits compared with visits to other surgical specialties.

Disposition of visit—Visits to orthopedic surgeons were less likely to include instructions to return at a specific time (66.3 percent) compared with visits to other surgical specialties (70.7 percent), and were correspondingly more likely to include instructions to return "if needed." The proportion of visits that resulted in hospital admission was small (1.4 percent) and not different from the corresponding percent for other surgical specialties. Data on disposition of visit are presented in table 20.

Duration of visit—Data on duration of visits are shown in table 21. Average duration is based on the time spent in direct, face-to-face contact between the physician and the patient. It does not include visits of "zero" minutes duration, that is, visits in which the patient did not meet directly with the physician. It should be noted, however, that in the 1995–96 NAMCS data, the number of visits with "zero" minutes duration may be overestimated. This could have occurred because some records indicated that a physician was seen, but did not report a visit duration. The missing responses for duration were included in the "zero" minutes category. For the 1997 NAMCS, modifications in the data editing process should eliminate this problem.

Based on available duration data, 60.6 percent of orthopedic surgery visits lasted longer than 10 minutes, compared with 62.9 percent of visits to other surgical specialties. More than one-third (36.4 percent) of visits to orthopedic surgeons lasted more than 15 minutes. Average duration of orthopedic surgery visits was 18.8 minutes, compared with 19.9 minutes for visits to other surgical specialties.

Table 11. Annual number and percent distribution of office visits to orthopedic surgeons by selected principal diagnoses and patient's age and sex, averaged over a 2-year period: United States, 1995–96—Con.

Selected principal diagnosis and patient characteristic[1]	Number of visits in thousands	Percent distribution
Male		
All visits	18,463	100.0
Fracture of lower limb	1,534	8.3
Peripheral enthesopathies and allied disorders	1,270	6.9
Derangements and other and unspecified joint disorders	1,118	6.1
Osteoarthrosis and allied disorders	1,088	5.9
Fracture of hand and fingers	995	5.4
Dislocation of knee	994	5.4
Other strains and sprains[3]	825	4.5
Intervertebral disc disorders	790	4.3
Fracture of radius and ulna	769	4.2
Other dorsopathies[2]	621	3.4
Other fractures[5]	617	3.3
Sprains and strains of knee and leg	610	3.3
Sprains and strains of back, excluding neck	492	2.7
Artificial opening status and other postsurgical states	468	2.5
Other rheumatism, excluding back[4]	417	2.3
Followup examination	405	2.2
Other arthropathies and related disorders[6]	404	2.2
Other factors influencing health status and contact with health services	392	2.1
Potential health hazards related to personal and family history	354	1.9
Synovitis and tenosynovitis	324	1.8
Contusions with intact skin surfaces	306	1.7
Carpal tunnel syndrome	268	1.5
Disorders of bone and cartilage	268	1.5
Sprains and strains of ankle	247	1.3
All other diagnoses	2,885	15.6

[1]The diagnosis groups shown in this table are based on the principal diagnosis coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14). A complete list of the ICD–9–CM codes used to formulate these groupings is shown in the Technical notes. One modification was made for the purpose of this table, however. Because of its prominence, dislocation of knee (ICD–9–CM code 836) is shown as a separate category.
[2]"Other dorsopathies" includes ankylosing spondylitis, spondylosis and allied disorders; certain disorders of the cervical region; and other and unspecified back disorders, excluding lumbago.
[3]Other sprains and strains" are all those excluding wrist, hand, knee, leg, ankle, neck, and back, which are classified separately.
[4]"Other rheumatism, excluding back" includes polymalgia rheumatica; disorders of synovium, tendon, and bursa (except synovitis and tenosynovitis, classified separately); disorders of the muscle, ligagment, and fascia; and other disorders of soft tissues (except unspecified myalgia and myositis, classified separately).
[5]"Other fractures" are all those excluding radius, ulna, hand, fingers, and lower limb, which are classified separately.
[6]"Other arthropathies and related disorders" are all those excluding rheumatoid arthritis and osteoarthritis, which are classified separately.
[7]"Other diseases of the musculoskeletal system and connective tissue" includes flat foot; acquired deformities including curvature of spine; and nonallopathic lesions, not elsewhere classified.

NOTE: Numbers may not add to totals because of rounding.

Visits to orthopedic surgeons between 1975 and 1996

The overall number of visits to orthopedic surgeons increased by about 62 percent, from a 2-year average of 23.6 million in 1975–76 to 38.3 million in 1995–96. The 1975–76 total represented 4.1 percent of all visits to office-based physicians during that time period. The 1995–96 share, 5.3 percent, was significantly higher. According to data from the American Medical Association, there were 8,120 nonfederally employed, office-based orthopedic surgeons in the United States in 1975 compared with 17,053 in 1996, an increase of 110 percent (2,19).

The actual, or crude, rate of visits to orthopedic surgeons increased from an average of 11.3 visits per 100 persons per year in 1975–76 to 14.5 visits per 100 persons per year in 1995–96 (table 22). Age-adjusted rates were also calculated, using the 1970 U.S. civilian noninstitutionalized population as a standard, and showed a significant increase over the time period. A linear contrast method was used to analyze the trend in visit rates. By age group, annual visit rates did not change substantially between 1975 and 1996 for persons under the age of 44, but did increase significantly for persons in the age groups 45–64 years, 65–74 years, and 75 years and over (figure 9).

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Table 12. Annual number of office visits to all specialties and to orthopedic surgeons and percent of all visits to orthopedic surgeons by selected principal diagnoses, averaged over a 2-year period: United States, 1995–96

Principal diagnosis[1]	All specialties	Orthopedic surgery	Percent of visits with this diagnosis to orthopedic surgeons
	Number of visits in thousands		
All visits	715,788	38,267	5.3
Diseases of the nervous system and sense organs	71,171	1,606	2.3
Carpal tunnel syndrome	2,088	1,149	55.1
Diseases of the musculoskeletal system and connective tissue	51,500	15,463	30.0
Osteoarthrosis and allied disorders	6,212	2,430	39.1
Other arthropathies and related disorders	4,401	889	20.2
Derangements and other and unspecified joint disorders	5,341	2,509	47.0
Intervertebral disc disorders	4,291	1,378	32.1
Other dorsopathies	8,033	1,462	18.2
Peripheral enthesopathies and allied disorders	5,373	2,736	50.9
Synovitis and tenosynovitis	1,795	1,018	56.7
Other rheumatism, excluding back	5,592	1,247	22.3
Disorders of bone and cartilage	2,389	685	28.7
Other diseases of the musculoskeletal system and connective tissue	1,988	723	36.3
Injury and poisoning	49,576	15,784	31.8
Fracture of radius and ulna	1,868	1,546	82.8
Fracture of hand and fingers	2,061	1,544	74.9
Fracture of lower limb	4,204	3,277	77.9
Other fractures	2,566	1,223	47.7
Sprains and strains of knee and leg	1,801	944	52.4
Sprains and strains of ankle	1,261	433	34.3
Sprains and strains of neck	3,622	524	14.5
Sprains and strains of back, excluding neck	5,131	939	18.3
Other sprains and strains	4,291	1,395	32.5
Contusions with intact skin surfaces	3,736	541	14.5
Dislocation of knee	1,750	1,626	92.9
All other visits	543,542	5,414	1.0

[1]The diagnosis groups shown in this table are based on the principal diagnosis coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14). A complete list of the ICD–9–CM codes used to formulate these groupings is shown in the Technical notes. One modification was made for the purpose of this table, however. Because of its prominence, dislocation of knee (ICD–9–CM code 836) is shown as a separate category.

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Table 13. Annual number and percent distribution of office visits to orthopedic surgeons by visit status and selected principal diagnoses, averaged over a 2-year period: United States, 1995–96

Visit status and principal diagnosis[1]	Number of visits in thousands	Percent distribution
All visits	38,267	100.0
Visits for new problems[2]		
All visits	13,059	34.1
Peripheral enthesopathies and allied disorders	1,122	2.9
Fracture of lower limb	880	2.3
Derangements and other and unspecified joint disorders	862	2.3
Osteoarthrosis and allied disorders	681	1.8
Other dorsopathies[3]	633	1.7
Fracture of hand and fingers	572	1.5
Dislocation of knee	560	1.5
Other rheumatism, excluding back[4]	549	1.4
Fracture of radius and ulna	483	1.3
Synovitis and tenosynovitis	454	1.2
Other sprains and strains[5]	444	1.2
Sprains and strains of back, excluding neck	427	1.1
Intervertebral disc disorders	409	1.1
Carpal tunnel syndrome	367	1.0
Other fractures[6]	363	0.9
All other diagnoses	4,254	11.1
Return visits for old problems[7]		
All visits	25,208	65.9
Fracture of lower limb	2,397	6.3
Osteoarthrosis and allied disorders	1,749	4.6
Derangements and other and unspecified joint disorders	1,647	4.3
Peripheral enthesopathies and allied disorders	1,615	4.2
Dislocation of knee	1,065	2.8
Fracture of radius and ulna	1,063	2.8
Fracture of hand and fingers	973	2.5
Intervertebral disc disorders	969	2.5
Other sprains and strains[5]	951	2.5
Other fractures[6]	860	2.2
Followup examination	848	2.2
Other dorsopathies[3]	830	2.2
Carpal tunnel syndrome	783	2.0
Artificial opening status and other postsurgical states	763	2.0
Other rheumatism, excluding back[4]	697	1.8
All other diagnoses	7,998	20.9

[1]The diagnosis groups shown in this table are based on the principal diagnosis coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14). A complete list of the ICD–9–CM codes used to formulate these groupings is shown in the Technical notes. One modification was made for the purpose of this table, however. Because of its prominence, dislocation of knee (ICD–9–CM code 836) is shown as a separate category.

[2]New problem visits include those made by new patients and those made by established patients for new problems.

[3]"Other dorsopathies" includes ankylosing spondylitis, spondylosis and allied disorders, certain disorders of the cervical region, and other and unspecified back disorders, excluding lumbago.

[4]"Other rheumatism, excluding back" includes polymalgia rheumatica, disorders of synovium, tendon, and bursa (except synovitis and tenosynovitis, classified separately), disorders of the muscle, ligament, and fascia, and other disorders of soft tissues (except unspecified myalgia and myositis, classified separately).

[5]"Other sprains and strains" are all those excluding wrist, hand, knee, leg, ankle, neck, and back, which are classified separately.

[6]"Other fractures" are all those excluding radius, ulna, hand, fingers, and lower limb, which are classified separately.

[7]Return visits for old problems are those made by established patients for care of problems previously treated by the physician.

NOTE: Numbers may not add to totals because of rounding.

Table 14. Annual number of office visits to orthopedic surgeons by selected principal diagnoses, according to prior visit status, and return visit rate, averaged over a 2-year period: United States, 1995–96

Principal diagnosis[1]	New problem visits[2]	Return visits for old problems[3]	Return visit rate[4]
All visits	13,059	25,208	1.9
Fracture of lower limb	880	2,397	2.7
Osteoarthrosis and allied disorders	681	1,749	2.6
Intervertebral disc disorders	409	969	2.4
Other fractures[5]	363	860	2.4
Fracture of radius and ulna	483	1,063	2.2
Other sprains and strains[6]	444	951	2.1
Carpal tunnel syndrome	367	783	2.1
Sprains and strains of knee and leg	307	637	2.0
Other arthropathies and related disorders[7]	346	543	2.0
Derangements and other and unspecified joint disorders	862	1,647	1.9
Dislocation of knee	560	1,065	1.9
Fracture of hand and fingers	572	973	1.7
Peripheral enthesopathies and allied disorders	1,122	1,615	1.4
Other dorsopathies[8]	633	830	1.3
Other rheumatism, excluding back[9]	549	697	1.3
Synovitis and tenosynovitis	454	564	1.2
Sprains and strains of back, excluding neck	427	512	1.2
All other diagnoses	4,254	8,533	2.0

[1]The diagnosis groups shown in this table are based on the principal diagnosis coded according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14). A complete list of the ICD–9–CM codes used to formulate these groupings is shown in the Technical notes. One modification was made for the purpose of this table, however. Because of its prominence, dislocation of knee (ICD–9–CM code 836) is shown as a separate category.
[2]Visits for new problems include those made by new patients and those made by established patients for new problems.
[3]Return visits for old problems are those made by established patients for care of problems that have been previously treated by the physician.
[4]Return visit rate is the number of return visits for old problems divided by the number of new problem visits.
[5]"Other fractures" are all those excluding radius, ulna, hand, fingers, and lower limb, which are classified separately.
[6]"Other sprains and strains" are all those excluding wrist, hand, knee, leg, ankle, neck, and back, which are classified separately.
[7]"Other arthropathies and related disorders" are all those excluding rheumatoid arthritis and osteoarthritis, which are classified separately.
[8]"Other dorsopathies" includes ankylosing spondylitis, spondylosis and allied disorders; certain disorders of the cervical region; and other and unspecified back disorders, excluding lumbago.
[9]"Other rheumatism, excluding back" includes polymalgia rheumatica; disorders of synovium, tendon, and bursa (except synovitis and tenosynovitis, classified separately); disorders of the muscle, ligament, and fascia; and other disorders of soft tissues (except unspecified myalgia and myositis, classified separately).

Table 15. Annual number and percent distribution of office visits to orthopedic surgeons and percent distribution of office visits to other surgical specialties by therapeutic and preventive services ordered or provided, averaged over a 2-year period: United States, 1995–96

Therapeutic and preventive services	Orthopedic surgery		Other surgical specialties[1]
	Number of visits in thousands	Percent distribution	Percent distribution
All visits	38,267	100.0	100.0
Medication therapy[2]			
New or continued medication	11,768	30.8	45.2
1 drug	8,201	21.4	26.5
2 drugs	2,439	6.4	11.3
3 drugs	708	1.8	4.3
4 or more drugs	420	1.1	3.1
No medication reported	26,499	69.2	54.8
Counseling, education, and other nonmedication therapy[3,4]			
None	21,859	57.1	72.2
Physiotherapy	7,097	18.5	0.6
Exercise	6,904	18.0	6.4
Injury prevention	1,858	4.9	0.6
Weight reduction	646	1.7	2.1
Diet	539	1.4	8.2
Other counseling[5]	2,445	6.4	15.3
Other therapy[6]	1,579	4.1	5.3

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.
[2]Numbers may not add to totals because of rounding.
[3]Numbers may not add to totals because more than one category may be reported per visit.
[4]Only categories with reliable estimates for visits to orthopedic surgeons are shown.
[5]Includes categories of growth/development, tobacco use/exposure, cholesterol reduction, HIV transmission, mental health, and "other" counseling. "Other" counseling accounted for 5.4 percent and 11.1 percent of the visits to orthopedic surgeons and other surgical specialties, respectively.
[6]Includes categories of psychotherapy, corrective lenses, and "other" therapy.

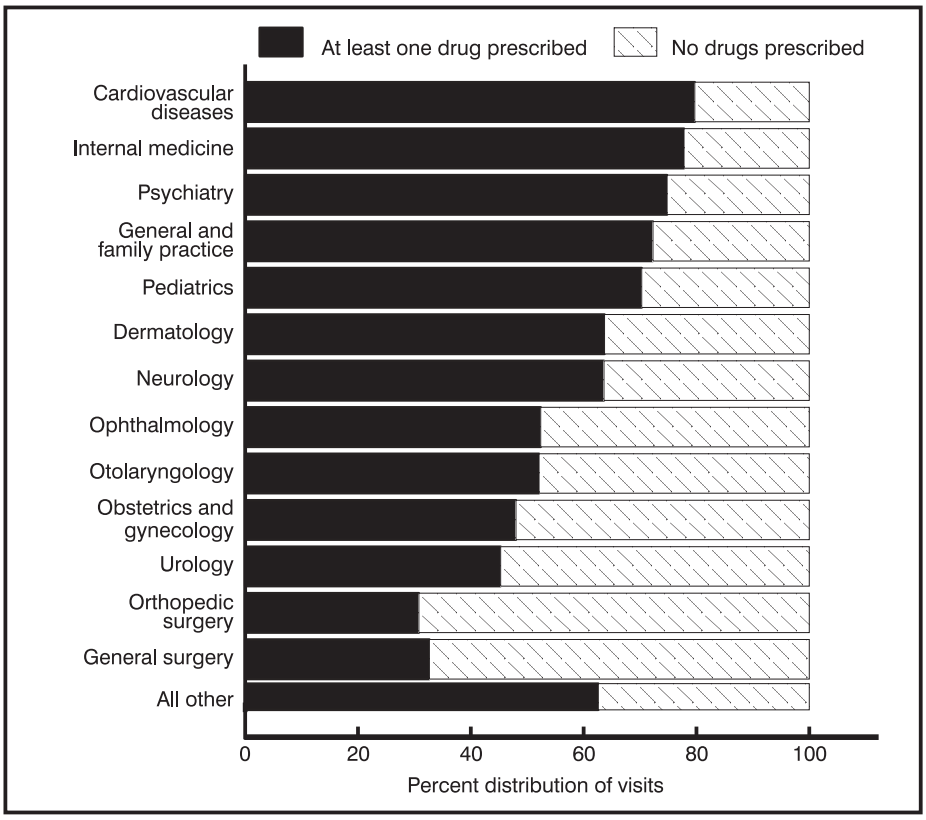

Figure 8. Percent distribution of office visits by medication therapy utilized, according to physician specialty group: 1995–96

Table 16. Annual number and percent distribution of drug mentions and drug utilization rate at office visits by physician specialty, averaged over a 2-year period: United States, 1995–96

Physician specialty	Number of drug mentions in thousands[1]	Percent distribution	Number of drug mentions per 10 visits[2]
All specialties	954,565	100.0	13.3
Cardiovascular diseases	40,389	4.2	27.5
Internal medicine	196,956	20.6	18.9
General and family practice	279,861	29.3	15.3
Neurology	12,135	1.3	14.3
Psychiatry	27,718	2.9	13.7
Pediatrics	111,314	11.7	12.0
Dermatology	34,273	3.6	11.8
Ophthalmology	42,261	4.4	10.4
Otolaryngology	15,775	1.7	8.6
Obstetrics and gynecology	41,599	4.4	7.0
Urology	8,979	0.9	6.5
General surgery	10,347	1.1	5.5
Orthopedic surgery	17,126	1.8	4.5
All other specialties	115,833	12.1	15.8

[1]Respondents were asked to record all new or continued medications ordered, supplied, or administered at the office visit, including prescription and nonprescription preparations, immunization and desensitizing agents, and anesthetics. Up to six medications, or drug mentions, were coded per visit.

[2]Number of drug mentions divided by number of office visits multiplied by 10.

NOTE: Numbers may not add to totals because of rounding.

Table 17. Annual number and percent distribution of drug mentions at office visits to orthopedic surgeons and to other surgical specialties by therapeutic classification, averaged over a 2-year period: United States, 1995–96

Therapeutic classification[2]	Orthopedic surgery		Other surgical specialties[1]
	Number of drug mentions in thousands	Percent distribution	Percent distribution
All mentions	17,126	100.0	100.0
Drugs used for relief of pain	9,331	54.5	6.6
Nonsteroidal anti-inflammatory drug	3,478	20.3	2.1
Analgesics, nonnarcotic	3,038	17.7	2.8
Antiarthritics	1,698	9.9	0.4
Analgesics, narcotic	622	3.6	0.7
Analgesics, general	398	2.3	0.3
Skin/mucous membrane	1,843	10.8	5.5
Hormones and agents affecting hormonal mechanisms	1,755	10.2	16.0
Anesthetic drugs	656	3.8	1.4
Neurologic drugs	649	3.8	1.0
Antimicrobial agents	580	3.4	10.7
Cardiovascular-renal drugs	576	3.4	7.1
Central nervous system	459	2.7	2.6
Gastrointestinal agents	251	1.5	2.3
Other[3]	583	3.4	42.9
Unclassified, miscellaneous	443	2.6	3.9

[1]Based on an estimated annual average of 129,173,000 drug mentions at office visits to physicians in surgical specialties other than orthopedic surgery for 1995 and 1996.
[2]Therapeutic classification is based on the standard drug classification used in the *National Drug Code Directory*, 1995 edition (16).
[3]Includes hematologic agents, metabolic and nutrient agents, immunologic agents, oncolytics, ophthalmic drugs, otologic drugs, antiparasitic agents, and respiratory tract drugs. Prominent categories for surgical specialties other than orthopedics were ophthalmic (21.8 percent of mentions), metabolic and nutrient agents (9.2 percent), and respiratory tract drugs (6.5 percent).

NOTE: Numbers may not add to totals because of rounding.

Table 18. Annual number of occurrences, percent of all drug mentions, and therapeutic classification of the 15 generic substances most frequently used at office visits to orthopedic surgeons, averaged over a 2-year period: United States, 1995–96

Generic substance[1]	Number of occurrences in thousands	Percent of all drug mentions[2]	Therapeutic classification[3]
All mentions	20,267	. . .	
Acetaminophen	3,012	17.6	Analgesics, nonnarcotic
Ibuprofen	1,443	8.4	NSAID[4]
Hydrocodone	1,198	7.0	Analgesics, nonnarcotic
Naproxen	1,159	6.8	NSAID[4]
Lidocaine	822	4.8	Topical analgesics
Propoxyphene	765	4.5	Analgesics, nonnarcotic; analgesics, narcotic
Nabumetone	633	3.7	Antiarthritics
Cortisone	594	3.5	Adrenal corticosteroids
Codeine	545	3.2	Analgesics, nonnarcotic
Methylprednisolone	531	3.1	Adrenal corticosteroids
Etodolac	525	3.1	Antiarthritics
Betamethasone	505	2.9	Topical steroids
Bupivacaine	450	2.6	Anesthetics, local
Triamcinolone	416	2.4	Topical steroids
Oxaprozin	365	2.1	Antiarthritics

. . . Category not applicable.
[1]Frequency of mention combines single-ingredient agents with mentions of the agent as an ingredient in a combination drug.
[2]Based on an estimated 34.3 million drug mentions at office visits to orthopedic surgeons during 1995–96, or an average of 17.1 million mentions per year.
[3]Therapeutic classification is based on the *National Drug Code Directory*, 1995 edition (16). Some of the generic ingredients listed in this table are dispensed as combination drugs that may have differing therapeutic uses. In such cases, the most frequently occurring primary use is shown.
[4]NSAID is nonsteroidal anti-inflammatory drug.

Table 19. Annual number and percent of office visits to orthopedic surgeons and percent of visits to all other surgical specialties by providers seen, averaged over a 2-year period: United States, 1995–96

Provider seen	Orthopedic surgery		Other surgical specialties[1]
	Number of visits in thousands	Percent of visits	Percent of visits
All visits	38,267	. . .	. . .
Physician	38,036	99.4	98.0
Physician assistant	976	2.6	2.5
Nurse practitioner	*	*	0.8
Registered nurse	3,707	9.7	13.2
Licensed practical nurse	2,427	6.3	8.7
Medical assistant	6,430	16.8	26.3
Other provider	3,403	8.9	7.0

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.

NOTE: Numbers may not add to totals because more than one category may be reported per visit.

Table 20. Annual number and percent of office visits to orthopedic surgeons and percent of visits to other surgical specialties by disposition of visit, averaged over a 2-year period: United States, 1995–96

Disposition of visit	Orthopedic surgery		Other surgical specialties[1]
	Number of visits in thousands	Percent of visits	Percent of visits
All visits	38,267	. . .	. . .
Return at specified time	25,354	66.3	70.7
Return if needed	8,923	23.3	20.5
No followup planned	2,214	5.8	5.3
Admit to hospital	523	1.4	1.4
Other disposition	1,598	4.2	5.0

. . . Category not applicable.

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.

NOTE: Numbers may not add to totals because more than one disposition may be reported per visit.

Table 21. Annual number and percent distribution of office visits to orthopedic surgeons and percent distribution of office visits to other surgical specialties by duration of visit, averaged over a 2-year period: United States, 1995–96

Duration of visit	Orthopedic surgery		Other surgical specialties[1]
	Number of visits in thousands	Percent distribution	Percent distribution
All visits	38,267	100.0	100.0
0 minutes[2]	5,391	14.1	12.6
1–5 minutes	1,854	4.8	4.4
6–10 minutes	7,866	20.6	20.2
11–15 minutes	9,249	24.2	27.6
16–30 minutes	11,543	30.2	27.1
More than 30 minutes	2,364	6.2	8.2

[1]Based on an estimated annual average of 168,505,000 visits to physicians in surgical specialties, excluding orthopedic surgery, for 1995 and 1996. A list of the specialties used to define this category is included in the Technical notes.

[2]Visits at which there was no face-to-face contact between patient and physician.

NOTE: Numbers may not add to totals because of rounding.

Table 22. Annual number, percent distribution, and rate of office visits to orthopedic surgeons by patient's age: United States, 1975–96

Patient's age	1975–76	1980–81	1985	1989–90	1995–96
	Number of visits in thousands[1]				
All ages	23,576	27,735	31,482	34,033	38,267
Under 15 years	3,873	3,309	3,387	3,339	3,545
15–24 years	3,831	4,401	4,653	4,565	3,679
25–44 years	7,156	8,768	10,679	11,892	11,528
45–64 years	6,455	7,498	8,382	8,069	11,772
65–74 years	1,473	2,452	2,682	3,567	4,490
75 years and over	787	1,307	1,699	2,602	3,252
	Percent distribution				
All ages	100.0	100.0	100.0	100.0	100.0
Under 15 years	16.4	11.9	10.8	9.8	9.3
15–24 years	16.3	15.9	14.8	13.4	9.6
25–44 years	30.4	31.6	33.9	34.9	30.1
45–64 years	27.4	27.0	26.6	23.7	30.8
65–74 years	6.2	8.8	8.5	10.5	11.7
75 years and over	3.3	4.7	5.4	7.6	8.5
	Number of visits per 100 persons per year[2]				
All ages	11.3	12.6	14.4	13.9	14.5
Under 15 years	7.3	6.6	6.6	6.1	6.0
15–24 years	9.9	11.0	12.2	12.9	10.1
25–44 years	13.6	14.2	18.4	15.0	13.8
45–64 years	15.0	17.2	18.9	17.4	22.4
65–74 years	10.8	16.0	16.2	19.9	24.6
75 years and over	10.0	14.6	16.4	22.6	24.3

[1]Numbers are shown as 2-year averages except for 1985.
[2]Based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population for July 1 of each survey year. Rates for combined years are based on an average of the population estimates for July 1 of each year of the 2-year period. Survey years from 1975–1985 did not include Alaska or Hawaii. Overall rates are actual (crude) rates. For purposes of comparison, overall visit rates were also age-adjusted to the 1970 U.S. civilian noninstitutionalized population; results are as follows: 11.1, 12.2, 13.8, 13.1, and 13.7 visits per 100 persons, respectively.

NOTE: Numbers may not add to totals because of rounding.

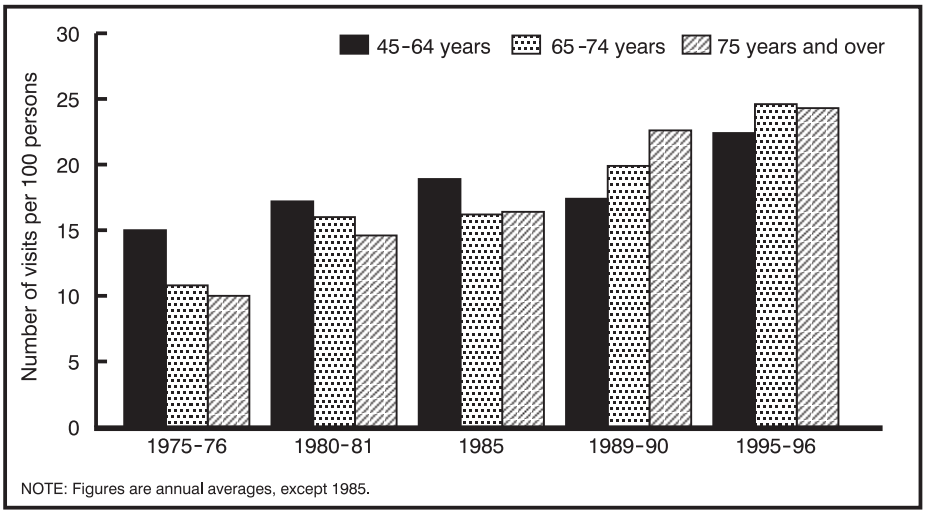

Figure 9. Annual rate of office visits to orthopedic surgeons, by selected age groups: United States, 1995–96

Technical notes

Sampling errors

The standard error is primarily a measure of the sampling variability that occurs by chance when only a sample, rather than an entire universe, is surveyed. The standard error also reflects part of the measurement error, but does not measure any systematic biases in the data. The chances are 95 out of 100 that an estimate from the sample differs from the value that would be obtained from a complete census by less than twice the standard error.

The standard errors that were used in tests of significance for this report were calculated using generalized linear models for predicting the relative standard error for estimates based on the linear relationship between the actual standard error, as approximated using SUDAAN software, and the size of the estimate. SUDAAN computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and the approach it uses has been published (20). The relative standard error (RSE) of an estimate is obtained by dividing the standard error by the estimate itself. The result is then expressed as a percent of the estimate.

Approximate relative standard errors (RSE's) for visits to combined specialties, to orthopedic surgeons, and to other surgical specialties are shown in table I; approximate relative standard errors for estimated numbers of drug mentions are presented in table II. Multiplying the estimate by the RSE will provide an estimate of the standard error for the estimate. Table III presents approximate standard errors for estimated percents of visits to combined specialties, orthopedic surgeons, and other surgical specialties. Table IV presents corresponding information for estimated percents of drug mentions at office visits to these groups.

Approximate relative standard errors for estimates of visits to orthopedic surgeons may be calculated using the following general formula, where x is the aggregate of interest in thousands,

Table I. Approximate relative standard errors for estimated numbers of office visits for all specialties combined, for orthopedic surgery, and for other surgical specialties: National Ambulatory Medical Care Survey, 1995–96

Estimated number of office visits in thousands (annual averages)	Relative standard error in percent		
	All specialties[1]	Orthopedic surgery	Other surgical specialties[2]
100	53.3	26.8	38.0
200	37.8	19.6	27.1
500	24.1	13.6	17.6
1,000	17.2	10.9	13.0
2,000	12.5	9.3	9.9
5,000	8.5	8.1	7.4
10,000	6.6	7.7	6.4
20,000	5.4	7.5	5.8
50,000	4.6	7.3	5.4
100,000	4.2	7.3	5.3
200,000	4.1	7.3	5.2
500,000	4.0	7.2	5.2
1,000,000	3.9	7.2	5.2

[1]These figures can also be used as approximations of relative standard errors for estimates of visits to office-based physicians excluding orthopedic surgeons.

[2]A list of the specialties used to define this category is included in the Technical notes.

Example of use of table: An estimate of 10 million visits per year for 1995 and 1996 to orthopedic surgeons has a relative standard error of 7.7 percent or a standard error of 770,000 (7.7 percent of 10 million).

NOTE: The smallest reliable estimate of visits to orthopedic surgeons is 79,000 visits per year based on the relative standard error. However, it should also be noted that estimates based on fewer than 30 sample records are considered to be unreliable regardless of the magnitude of the relative standard error. The smallest reliable estimates of visits to combined specialties is 319,000 per year, and the smallest reliable estimate of visits to combined surgical specialties, excluding orthopedic surgery, is 163,000 per year.

Table II. Approximate relative standard errors for estimated numbers of drug mentions for all specialties combined, for orthopedic surgery, and for other surgical specialties: National Ambulatory Medical Care Survey, 1995–96

Estimated number of drug mentions in thousands (annual averages)	Relative standard error in percent		
	All specialties[1]	Orthopedic surgery	Other surgical specialties[2]
100	84.6	33.0	45.3
200	59.9	24.1	32.4
500	38.0	16.7	21.3
1,000	27.0	13.3	15.9
2,000	19.3	11.2	12.4
5,000	12.6	9.7	9.6
10,000	9.4	9.2	8.5
20,000	7.2	8.9	7.9
50,000	5.6	8.7	7.5
100,000	4.9	8.7	7.4
200,000	4.5	8.7	7.3
500,000	4.3	8.7	7.3
1,000,000	4.2	8.7	7.3

[1]These figures can also be used as approximations of relative standard errors for visits to office-based physicians excluding orthopedic surgeons.

[2]A list of the specialties used to define this category is included in the Technical notes.

Example of use of table: An estimate of 10 million drug mentions per year for 1995 and 1996 to orthopedic surgeons has a relative standard error of 9.2 percent or a standard error of 920,000 (9.2 percent of 10 million).

NOTE: The smallest reliable estimate of drug mentions at office visits to orthopedic surgeons is 124,000 per year based on the relative standard error. However, it should also be noted that estimates based on fewer than 30 sample records are considered to be unreliable regardless of the magnitude of the relative standard error. The smallest reliable estimate of drug mentions at office visits to combined specialties is 819,000 per year, and to combined surgical specialties, excluding orthopedic surgery, is 237,000 per year.

and A and B are the appropriate coefficients from table V or VI.

$$\mathrm{RSE}(x) = \sqrt{A + \frac{B}{x}} \cdot 100$$

Similarly, approximate relative standard errors for estimates of percents may be calculated using the following general formula, where p is the percent of interest expressed as a proportion, and x is the denominator of the percent in thousands, using the appropriate coefficient from table V or VI.

$$\mathrm{RSE}(x) = \sqrt{\frac{B \cdot (1-p)}{p \cdot x}} \cdot 100$$

The standard error for a rate may be obtained by multiplying the relative standard error of the total estimate by the rate.

Published and flagged estimates

Estimates are not presented unless a reasonable assumption regarding their probability distributions is possible on the basis of the Central Limit Theorem. The Central Limit Theorem states that, given a sufficiently large sample size, the sample estimate approximates the population estimate and, upon repeated sampling, its distribution would be approximately normal.

In this report, estimates are not presented if they are based on fewer than 30 cases in the sample data; only an asterisk (*) appears in the tables. Estimates based on 30 or more cases include an asterisk only if the relative standard error of the estimate exceeds 30 percent. Approximate relative standard errors were computed using a generalized variance curve and the computed curve coefficients as described above.

Adjustments for nonresponse

Estimates from NAMCS data were adjusted to account for sample physicians who were in scope but did not participate in the study. This adjustment was calculated to minimize the impact of response on final estimates by imputing to nonresponding physicians data from visits to similar physicians. For this purpose, physicians were judged similar if they had the same specialty designation and practiced in the same PSU.

Tests of significance and rounding

In this report, the determination of statistical inference is based on the two-tailed t-test. The Bonferroni

Table III. Approximate standard errors of percents of estimated numbers of office visits to combined specialties, orthopedic surgery, and other surgical specialties: National Ambulatory Medical Care Survey, 1995–96

Base of percent (visits in thousands, expressed as annual averages)	Estimated percent						
	1 or 99	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50
	Standard error in percentage points						
Orthopedic surgery							
100	2.6	5.6	7.8	10.3	11.8	12.7	12.9
200	1.8	4.0	5.5	7.3	8.4	9.0	9.1
500	1.2	2.5	3.5	4.6	5.3	5.7	5.8
1,000	0.8	1.8	2.5	3.3	3.8	4.0	4.1
2,000	0.6	1.3	1.7	2.3	2.7	2.8	2.9
5,000	0.4	0.8	1.1	1.5	1.7	1.8	1.8
10,000	0.3	0.6	0.8	1.0	1.2	1.3	1.3
20,000	0.2	0.4	0.6	0.7	0.8	0.9	0.9
38,267	0.1	0.3	0.4	0.5	0.6	0.7	0.7
50,000	0.1	0.3	0.4	0.5	0.5	0.6	0.6
100,000	0.1	0.2	0.2	0.3	0.4	0.4	0.4
Combined specialties[1]							
100	5.3	11.6	15.9	21.3	24.4	26.0	26.6
200	3.7	8.2	11.3	15.0	17.2	18.4	18.8
500	2.4	5.2	7.1	9.5	10.9	11.6	11.9
1,000	1.7	3.7	5.0	6.7	7.7	8.2	8.4
2,000	1.2	2.6	3.6	4.8	5.5	5.8	5.9
5,000	0.8	1.6	2.3	3.0	3.4	3.7	3.8
10,000	0.5	1.2	1.6	2.1	2.4	2.6	2.7
20,000	0.4	0.8	1.1	1.5	1.7	1.8	1.9
50,000	0.2	0.5	0.7	1.0	1.1	1.2	1.2
100,000	0.2	0.4	0.5	0.7	0.8	0.8	0.8
200,000	0.1	0.3	0.4	0.5	0.6	0.6	0.6
500,000	0.1	0.2	0.2	0.3	0.3	0.4	0.4
1,000,000	0.1	0.1	0.2	0.2	0.3	0.3	0.3
Combined surgical specialties, excluding orthopedic surgery[2]							
100	3.8	8.2	11.3	15.1	17.3	18.5	18.8
200	2.7	5.8	8.0	10.7	12.2	13.0	13.3
500	1.7	3.7	5.1	6.7	7.7	8.3	8.4
1,000	1.2	2.6	3.6	4.8	5.5	5.8	6.0
2,000	0.8	1.8	2.5	3.4	3.9	4.1	4.2
5,000	0.5	1.2	1.6	2.1	2.4	2.6	2.7
10,000	0.4	0.8	1.1	1.5	1.7	1.8	1.9
20,000	0.3	0.6	0.8	1.1	1.2	1.3	1.3
50,000	0.2	0.4	0.5	0.7	0.8	0.8	0.8
100,000	0.1	0.3	0.4	0.5	0.6	0.6	0.6
168,505	0.1	0.2	0.3	0.4	0.4	0.5	0.5
200,000	0.1	0.2	0.3	0.3	0.4	0.4	0.4
500,000	0.1	0.1	0.2	0.2	0.3	0.3	0.3
1,000,000	0.1	0.1	0.2	0.2	0.2	0.2	0.2

[1]These figures can also be used as approximations of the standard errors of percents of visits to office-based physicians excluding orthopedic surgeons.
[2]A list of the specialties used to define this category is included in the Technical notes.
Example of use of table: An estimate of 10 percent based on an average of 38 million visits to orthopedic surgeons per year for 1995 and 1996 has a standard error of 0.4 percent or a relative standard error of 4.0 percent (0.4 percent divided by 10 percent).

inequality was used to establish the critical value for statistically significant differences (0.05 level of significance) based on the number of possible comparisons within a particular variable (or combination of variables) of interest. Terms relating to differences such as ''greater than'' or ''less than'' indicate that the difference is statistically significant. A lack of comment regarding the difference between any two estimates does not mean that the difference was tested and found to be not significant. In the tables, estimates of visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals. Rates and percents were calculated from original unrounded figures and do not necessarily agree with percents calculated from rounded data.

Diagnosis groupings

Principal diagnoses, shown in tables 10–14 of this report, are grouped according to a classification system developed for use with NAMCS data. This grouping is based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14), but also reflects the frequency of particular diagnoses occurring in the NAMCS data. It is meant to provide additional detail on the diagnostic content of ambulatory care as characterized by the survey. Table VII shows the groupings used in this report.

Population figures and rate calculation

The population figures used in computing annual visit rates by age, sex, and race for this report are shown in table VIII. The figures represent U.S. Bureau of the Census estimates of the civilian noninstitutionalized population as of July 1, 1995, and July 1, 1996. Figures are based on monthly postcensal estimates and, for 1995, are consistent with census reports PE-10/PPL-41, Addendum 1. For 1996, they are consistent with an unpublished national estimates release package PPL-57 (U.S. Population Estimates by Age, Sex, Race and Hispanic Origin: 1990–96). All estimates have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix. Regional U.S. population estimates were obtained from the Division of Health Interview Statistics, NCHS.

In table 22, overall visit rates were age-adjusted for comparative purposes using the 1970 U.S. civilian noninstitutionalized population with six age groups (under 15, 15–24, 25–44, 45–64, 65–74, and 75 years and over). A description of this process has been published (21). Table IX shows the 1970 population used for age-adjustment in this report.

Weighted least squares as a test for trend

For this report, a linear contrast method, available through SUDAAN

Table IV. Approximate standard errors of percents of estimated numbers of drug mentions at office visits to combined specialties, orthopedic surgery, and other surgical specialties: National Ambulatory Medical Medical Care Survey, 1995–96

Base of percent (mentions in thousands, expressed as annual averages)	Estimated percent						
	1 or 99	5 or 95	10 or 90	20 or 80	30 or 70	40 or 80	50
	Standard error in percentage points						
Orthopedic surgery							
100	3.2	7.0	9.6	12.8	14.6	15.6	16.0
200	2.3	4.9	6.8	9.0	10.3	11.1	11.3
500	1.4	3.1	4.3	5.7	6.5	7.0	7.1
1,000	1.0	2.2	3.0	4.0	4.6	4.9	5.1
2,000	0.7	1.6	2.1	2.9	3.3	3.5	3.6
5,000	0.5	1.0	1.4	1.8	2.1	2.2	2.3
10,000	0.3	0.7	1.0	1.3	1.5	1.6	1.6
17,126	0.3	0.5	0.7	1.0	1.1	1.2	1.2
20,000	0.2	0.5	0.7	0.9	1.0	1.1	1.1
50,000	0.1	0.3	0.4	0.6	0.7	0.7	0.7
100,000	0.1	0.2	0.3	0.4	0.5	0.5	0.5
Combined specialties[1]							
100	8.4	18.4	25.3	33.8	38.7	41.4	42.2
200	5.9	13.0	17.9	23.9	27.4	29.3	29.9
500	3.8	8.2	11.3	15.1	17.3	18.5	18.9
1,000	2.7	5.8	8.0	10.7	12.2	13.1	13.4
2,000	1.9	4.1	5.7	7.6	8.7	9.3	9.5
5,000	1.2	2.6	3.6	4.8	5.5	5.9	6.0
10,000	0.8	1.8	2.5	3.4	3.9	4.1	4.2
20,000	0.6	1.3	1.8	2.4	2.7	2.9	3.0
50,000	0.4	0.8	1.1	1.5	1.7	1.9	1.9
100,000	0.3	0.6	0.8	1.1	1.2	1.3	1.3
200,000	0.2	0.4	0.6	0.8	0.9	0.9	1.0
500,000	0.1	0.3	0.4	0.5	0.6	0.6	0.6
1,000,000	0.1	0.2	0.3	0.3	0.4	0.4	0.4
Combined surgical specialties, excluding orthopedic surgery[2]							
100	4.5	9.8	13.4	17.9	20.5	21.9	22.4
200	3.2	6.9	9.5	12.7	14.5	15.5	15.8
500	2.0	4.4	6.0	8.0	9.2	9.8	10.0
1,000	1.4	3.1	4.2	5.7	6.5	6.9	7.1
2,000	1.0	2.2	3.0	4.0	4.6	4.9	5.0
5,000	0.6	1.4	1.9	2.5	2.9	3.1	3.2
10,000	0.5	1.0	1.3	1.8	2.1	2.2	2.2
20,000	0.3	0.7	1.0	1.3	1.5	1.6	1.6
50,000	0.2	0.4	0.6	0.8	0.9	1.0	1.0
129,173	0.1	0.3	0.4	0.5	0.6	0.6	0.6
200,000	0.1	0.2	0.3	0.4	0.5	0.5	0.5
500,000	0.1	0.1	0.2	0.3	0.3	0.3	0.3
1,000,000	0.1	0.1	0.2	0.2	0.2	0.2	0.2

[1]These figures can also be used as approximations of the standard errors of percents of drug mentions at visits to office-based physicians excluding orthopedic surgeons.

[2]A list of the specialties used to define this category is included in the Technical notes.

Example of use of table: An estimate of 30 percent based on an average of 20 million drug mentions per year at office visits to orthopedic surgeons for 1995 and 1996 has a standard error of 1.0 percent, or a relative standard error of 3.3 percent (1.0 percent divided by 30 percent).

software and the PROC DESCRIPT procedure, was used to analyze trends in orthopedic surgery visit rates between 1975 and 1996. Alternatively, a weighted least-squares method is available for data users who need to approximate standard errors for visit estimates using the generalized variance curve as described above. Results were found to be significant using either approach. A description of the weighted least-squares method has been published (21).

Age-adjusted visit rates were used in the analysis of overall trends during the period covered by this report. Standard errors for crude visit rates and age-adjusted visit rates were approximated using SUDAAN software. Alternatively, standard errors for age-adjusted visit rates may be calculated using a method previously published, although the results may be less exact than those obtained by using SUDAAN (22).

Definition of terms

Ambulatory patient—An ambulatory patient is an individual seeking personal health services who is not currently admitted to any health care institution on the premises.

Drug mention—A drug mention is the physician's entry on the Patient Record form of a pharmaceutical agent—by any route of administration—for prevention, diagnosis, or treatment. Generic as well as brand-name drugs are included, as are nonprescription and prescription drugs. Along with all new drugs, the physician also records continued medications if the patient was specifically instructed during the visit to continue the medication. Physicians may report up to six medications per visit.

Drug visit—A drug visit is a visit at which medication was prescribed or provided by the physician.

Office—An office is the space identified by a physician as a location for his or her ambulatory practice. Offices customarily include consultation, examination, or treatment spaces that patients associate with the particular physician.

Orthopedic surgery—A physician described in this report as an orthopedic surgeon has self-designated any of the following practice specialties on the American Medical Association's Physicians' Professional Activities Questionnaire: hand surgery (orthopedic surgery), adult reconstructive orthopedics, foot and ankle orthopedics, musculoskeletal oncology, pediatric orthopedics, orthopedic surgery, sports medicine (orthopedic surgery), orthopedic surgery of the spine, and orthopedic trauma. The physician's specialty is also verified during the induction interview.

Other surgical specialties—Used as a comparison group in several of the tables in this report, ''other surgical specialties'' includes physicians in any of these groups: abdominal surgery, cardiothoracic surgery, cardiovascular surgery, colon and rectal surgery, critical

Table V. Coefficients appropriate for determining approximate relative standard errors by type of estimate and physician specialty: National Ambulatory Medical Care Survey, 1995–96

Type of estimate and physician specialty	Coefficient for use with estimates in thousands		Lowest reliable estimate (annual average) in thousands
	A	*B*	
Visits			
Overall totals[1]	0.001513	28.2270	319
General and family practice	0.005899	27.6000	329
Internal medicine	0.004813	20.8300	245
Pediatrics	0.007158	20.4300	247
General surgery	0.006310	5.5154	66
Obstetrics and gynecology	0.006091	15.7660	188
Orthopedic surgery	0.005225	6.6703	79
Cardiovascular diseases	0.012207	5.7641	75
Dermatology	0.008619	7.8369	97
Urology	0.010115	6.5252	82
Psychiatry	0.011074	6.0783	78
Neurology	0.014090	4.1729	55
Ophthalmology	0.008257	10.0400	123
Otolaryngology	0.008529	6.6027	82
All other specialties	0.006567	20.3810	245
Drug mentions			
Overall totals[1]	0.001676	71.3680	809
General and family practice	0.006817	47.0910	567
Internal medicine	0.005961	47.2570	563
Pediatrics	0.010554	26.6300	336
General surgery	0.029166	6.8226	113
Obstetrics and gynecology	0.010266	27.9520	351
Orthopedic surgery	0.007408	10.1800	124
Cardiovascular diseases	0.019274	12.6040	179
Dermatology	0.012986	9.7592	127
Urology	0.017795	7.2158	100
Psychiatry	0.018001	11.4620	160
Neurology	0.042139	4.5706	96
Ophthalmology	0.014995	16.8740	225
Otolaryngology	0.014318	7.8315	104
All other specialties	0.014644	34.7750	462

[1]These coefficients can be used to calculate approximate relative standard errors for estimated numbers of visits to office-based physicians excluding orthopedic surgeons. To calculate approximate relative standard errors for estimated numbers of visits to surgical specialties as a group (excluding orthopedic surgery) the A coefficient is .002801 and the B coefficient is 14.184. To calculate approximate relative standard errors for estimated numbers of drug mentions at office visits to surgical specialties as a group (excluding orthopedic surgery), the A coefficient is .005294 and the B coefficient is 19.987.

NOTE: These coefficients are appropriate for use with NAMCS data where doctors of osteopathy are aggregated with doctors of medicine according to their self-designated practice specialty. Coefficients for use with NAMCS data where doctors of osteopathy are considered separately from doctors of medicine are available.

Table VI. Coefficients appropriate for determining approximate relative standard errors for estimated numbers of office visits to orthopedic surgeons: National Ambulatory Medical Care Survey, 1975–96

Year	Coefficient for use with estimates in thousands	
	A	*B*
1975–76	0.000911	54.14306
1980–81	0.003757	42.88175
1985	0.003343	10.78551
1989–90	0.012368	8.46453
1995–96	0.005225	13.34054

NOTE: Coefficients for 1975–76, 1980–81, and 1989–90 were originally computed for use with 2-year totals of survey data rather than annual averages. Coefficients for 1995–96, which were initially computed for use with annual averages, are shown in this table for use with data expressed as 2-year totals, to be consistent with the format used in prior data years. In order to convert these coefficients for use with annual averages, divide the B coefficient by 2.

care surgery, facial plastic surgery, general surgery, head and neck surgery, hand surgery (plastic surgery), critical care (neurological surgery), neurological surgery, obstetrics and gynecology, ophthalmology, otolaryngology, pediatric surgery (neurology), pediatric surgery, plastic surgery, surgical oncology, thoracic surgery, transplant surgery, traumatic surgery, urological surgery, and vascular surgery.

Physician—A physician is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) who is currently in office-based practice and who spends some time caring for ambulatory patients. Excluded from NAMCS are physicians who are hospital based; who specialize in anesthesiology, pathology, or radiology; who are federally employed; who treat only institutionalized patients; or who are employed full time by an institution and spend no time seeing ambulatory patients.

Visit—A visit is a direct personal exchange between an ambulatory patient and a physician or a staff member working under the physician's supervision, for the purpose of seeking care and rendering personal health services. Excluded from NAMCS are visits where medical care was not provided, such as visits made to drop off specimens, pay bills, make appointments, and walk-outs.

Table VII. Reclassification of principal diagnosis codes for use with National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey data

Principal diagnosis	ICD–9–CM code[1]
Infectious and parasitic diseases	001–139
Streptococcal sore throat	034.0
HIV infection[2]	042
Viral warts	078.1
Unspecified viral and chlamydial infections	079.9
Dermatophytosis	110
Candidiasis	112
Other infectious and parasitic diseases	001–033,034.1–041.9,045.0–078.0,078.2–079.8,080–104, 111,114–139
Neoplasms	140–239
Malignant neoplasm of colon and rectum	153–154,197.5
Malignant neoplasm of skin	172–173,176.0,198.2
Malignant neoplasm of breast	174–175,198.81
Malignant neoplasm of prostate	185
Malignant neoplasm of lymphatic and hematopoietic tissue	176.5,196,200–208
Other malignant neoplasms	140–152,155–171,176.1–176.4,176.6–184,186–195,197.0–197.4,197.6–198.1, 198.3–198.7,198.82–199,230–234
Benign neoplasm of skin	216
Other benign neoplasm	210–215,217–229
Neoplasm of uncertain behavior and unspecified nature	235–239
Endocrine, nutritional and metabolic diseases, and immunity disorders	240–279
Acquired hypothyroidism	244
Other disorders of the thyroid gland	240–243,245–246
Diabetes mellitus	250
Disorders of lipoid metabolism	272
Obesity	278.0
Other endocrine, nutritional and metabolic diseases, and immunity disorders	251–271,273–277,278.1–279
Diseases of the blood and blood-forming organs	280–289
Anemias	280–285
Other diseases of the blood and blood-forming organs	286–289
Mental disorders	290–319
Schizophrenic disorders	295
Major depressive disorder	296.2–296.3
Other psychoses	290–294, 296.0–296.1,296.4–299
Anxiety states	300.0
Neurotic depression	300.4
Alcohol dependence syndrome	303
Drug dependence and nondependent use of drugs	304–305
Acute reaction to stress and adjustment reaction	308–309
Depressive reaction, not elsewhere classified	311
Attention deficit disorder	314.0
Other mental disorders	300.1–300.3,300.5–300.9,301–302,306–307,310,312–313,314.1–319
Diseases of the nervous system and sense organs	320–389
Migraine	346
Other disorders of the central nervous system	320–326,330–337,340–345,347–349
Carpal tunnel syndrome	354.0
Other disorders of the nervous system	350–353,354.1–359
Retinal detachment and other retinal disorders	361–362
Glaucoma	365
Cataract	366
Disorders of refraction and accommodation	367
Conjunctivitis	372.0–372.3
Disorders of eyelids	373–374
Other disorders of the eye and adnexa	360,363–364,368–369,370–371,372.4–372.9,375–379
Disorders of external ear	380
Otitis media and Eustachian tube disorders	381–382
Other diseases of the ear and mastoid process	383–389
Diseases of the circulatory system	390–459
Angina pectoris	413
Coronary atherosclerosis	414.0
Other ischemic heart disease	410–412,414.1–414.9
Cardiac dysrhythmias	427
Congestive heart failure	428.0
Other heart disease	391–392.0,393–398,402,404,415–416,420–426,428.1–429
Essential hypertension	401
Cerebrovascular disease	430–438
Diseases of the arteries, arterioles, and capillaries	440–448
Hemorrhoids	455
Other diseases of the circulatory system	390,392.9,403,405,417,451–454,456–459

Table VII. Reclassification of principal diagnosis codes for use with National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey data—Con.

Principal diagnosis	ICD–9–CM code[1]
Diseases of the respiratory system	460–519
Acute sinusitis	461
Acute pharyngitis	462
Acute tonsillitis	463
Acute bronchitis and bronchiolitis	466
Other acute respiratory infections	460,464–465
Chronic sinusitis	473
Allergic rhinitis	477
Pneumonia	480–486
Chronic and unspecified bronchitis	490–491
Asthma	493
Other chronic obstructive pulmonary disease and allied conditions	492,494–496
Other diseases of the respiratory system	470–472,474–476,478,487,500–519
Diseases of the digestive system	520–579
Diseases of the teeth and supporting structures	520–525
Gastritis and duodenitis	535
Esophagitis	530.1
Ulcer of stomach and small intestine	531–534
Hernia of abdominal cavity	550–553
Noninfectious enteritis and colitis	555–558
Diverticula of intestine	562
Constipation	564.0
Irritable colon	564.1
Anal and rectal diseases	565–566,569.0–569.4
Disorders of the gallbladder and biliary tract	574–576
Gastrointestinal hemorrhage	578
Other diseases of the digestive system	526.0–530.0,530.2–530.9,536–543,560,564.2–564.9,576–568,569.5–573.9,577,579
Diseases of the genitourinary system	580–629
Calculus of kidney and ureter	592
Cystitis and other disorders of the bladder	595–596
Urinary tract infection, site not specified	599.0
Other diseases of the urinary system	580–589,590–591,593–594,597–598,599.1–599.9
Hyperplasia of prostate	600
Other disorders of male genital organs	601–608
Disorders of breast	610–611
Inflammatory disorders of female pelvic organs	614–616
Noninflammatory disorders of female genital organs	620,622–624
Disorders of menstruation and abnormal bleeding	626
Menopausal and postmenopausal disorders	627
Other disorders of the female genital tract	617–619,621,625,628,629
Complications of pregnancy, childbirth, and the puerperium	630–677
Diseases of the skin and subcutaneous tissue	680–709
Cellulitis and abscess	681–682
Other infection of the skin and subcutaneous tissue	680,683–686
Contact dermatitis and other eczema	692
Psoriasis and similar disorders	696
Other inflammatory conditions of skin and subcutaneous tissue	690–691,693–695,697–698
Corns, callosities, and other hypertrophic and atrophic skin conditions	700–701
Actinic and seborrheic keratosis	702.0–702.1
Acne	706.0–706.1
Sebaceous cyst	706.2
Urticaria	708
Other disorders of the skin and subcutaneous tissue	702.8,703–705,706.3–707.9,709
Diseases of the musculoskeletal system and connective tissue	710–739
Rheumatoid arthritis	714.0
Osteoarthrosis and allied disorders	715
Other arthropathies and related disorders	710–713,714.1–714.9,716
Derangements and other and unspecified joint disorders	717–719
Intervertebral disc disorders	722
Lumbago	724.2
Other dorsopathies	720–721,723.0–724.1,724.3–724.9
Peripheral enthesopathies and allied disorders	726
Synovitis and tenosynovitis	727.0
Myalgia and myositis, unspecified	729.1
Other rheumatism, excluding back	725,727.1–727.9,728,729.0,729.2–729.9
Disorders of bone and cartilage	730–733
Other diseases of the musculoskeletal system and connective tissue	734–739

Table VII. Reclassification of principal diagnosis codes for use with National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey data—Con.

Principal diagnosis	ICD–9–CM code[1]
Congenital anomalies	740–759
Certain conditions originating in the perinatal period	760–779
Symptoms, signs, and ill-defined conditions	780–799
Syncope and collapse	780.2
Convulsions	780.3
Dizziness and giddiness	780.4
Pyrexia of unknown origin	780.6
Symptoms involving skin and other integumentary tissue	782
Headache	784.0
Epistaxis	784.7
Abnormal heart sounds	785.0–785.3
Dyspnea and respiratory abnormalities	786.0
Cough	786.2
Chest pain	786.5
Symptoms involving urinary system	788
Abdominal pain	789.0
Other symptoms, signs, and ill-defined conditions	780.0–780.1,780.5,780.7–780.9,781,783,784.1–784.6,784.8–784.9, 785.4–785.9,786.1,786.3–786.4,786.6–787,789.1–799.9
Injury and poisoning	800–999
Fracture of radius and ulna	813
Fracture of hand and fingers	814–817
Fracture of lower limb	820–829
Other fractures	800–812,818–819
Sprains and strains of wrist and hand	842
Sprains and strains of knee and leg	844
Sprains and strains of ankle	845.0
Sprains and strains of neck	847.0
Other sprains and strains of back	846,847.1–847.9
Other sprains and strains	840–841,843,845.1,848
Intracranial injury, excluding those with skull fracture	850–854
Open wound of head	870–873
Open wound of hand and fingers	882–883
Other open wound	874–881,884–897
Superficial injury of cornea	918.1
Other superficial injury	910.0–918.0,918.2,919.9
Contusions with intact skin surfaces	920–924
Other injuries	830–839,860–869,900–909,925–959
Poisonings	960–989
Other and unspecified effects of external causes	990–995
Complications of surgical and medical care, not elsewhere classified	996–999
Supplementary classification of factors influencing health status and contact with health services	V01–V82
Potential health hazards related to communicable diseases	V01–V09
Potential health hazards related to personal and family history	V10–V19
Routine infant or child health check	V20.2
Normal pregnancy	V22
Postpartum care and examination	V24
Encounter for contraceptive management	V25
Other encounter related to reproduction	V23–V24,V26–V28
Lens replaced by pseudophakos	V43.1
Artificial opening status and other postsurgical states	V44–V45
Attention to surgical dressing and sutures	V58.3
Followup examination	V67
General medical examination	V70
Observation and evaluation for suspected conditions not found	V71
Gynecological examination	V72.3
Other factors influencing health status and contact with health services	V20.0–V20.1,V21,V29.0–V43.0,V43.2–V43.8,V46–V66,V68–V69, V72.0–V72.2,V72.4–V82.9

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (14).
[2]HIV is human immunodeficiency virus.

Table VIII. U.S. population estimates used in computing annual visit rates for the National Ambulatory Medical Care Survey by age, race, and sex, 1995–96

Race and sex	All ages	Under 15 years	15–24 years	25–44 years	45–64 years	65–74 years	75 years and over
All races	263,164,954	59,476,892	36,277,705	83,277,174	52,462,324	18,272,004	13,398,856
Male	128,303,352	30,436,465	18,260,703	40,994,209	25,351,707	8,167,207	5,093,062
Female	134,861,603	29,040,427	18,017,003	42,282,966	27,110,617	10,104,798	8,305,794
White	217,575,584	46,763,886	28,893,536	68,631,785	44,982,046	16,191,841	12,112,492
Male	106,815,630	23,986,250	14,673,784	34,264,499	21,980,879	7,291,312	4,618,908
Female	110,759,954	22,777,636	14,219,753	34,367,286	23,001,167	8,900,529	7,493,584
Black	33,638,928	9,594,974	5,475,175	10,548,881	5,421,594	1,578,487	1,019,818
Male	15,658,010	4,860,774	2,610,101	4,762,130	2,405,176	658,767	361,063
Female	17,980,919	4,734,201	2,865,075	5,786,751	3,016,418	919,721	658,755
Other	11,950,443	3,118,032	1,908,994	4,096,509	2,058,684	501,677	266,547
Male	5,829,713	1,589,442	976,819	1,967,580	965,653	217,128	113,092
Female	6,120,730	1,528,590	932,176	2,128,929	1,093,032	284,549	153,456

SOURCE: Figures represent the average of the U.S. population for 1995 and 1996. For 1995, figures are based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1995. Figures are consistent with Census reports PE-10/PPL-41, Addendum 1, and have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

For 1996, figures are based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1996. Figures are consistent with an unpublished hard-copy national population estimates release package PPL-57 (U.S. Population Estimates by Age, Sex, Race and Hispanic Origin: 1990–1996) and have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

Table IX. Population and age groups used to age-adjust National Ambulatory Medical Care Survey data: U.S. civilian noninstitutionalized population, 1970

Age	Number in thousands
All ages	199,584
Under 15 years	57,745
15–24 years	34,145
25–44 years	47,044
45–64 years	41,537
65–74 years	12,224
75 years and over	6,889

SOURCE: Based on U.S. Bureau of the Census: Estimates of the Population of the United States by Age, Sex, and Race: 1970–1977. Population Estimates and Projections. Current Population Reports. Series P-25, No. 721, Washington. U.S. Government Printing Office, April 1978.

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