

## Office Visits to Orthopedic Surgeons, National Ambulatory Medical Care Survey: United States, 1980–81

by Raymond O. Gagnon, Division of Health Care Statistics

### Introduction

This report presents statistics on the 55.5 million ambulatory visits made to orthopedic surgeons during the years 1980–81. The data were collected by means of the National Ambulatory Medical Care Survey (NAMCS), a sample survey of private office-based physicians in the United States, excluding Alaska and Hawaii. NAMCS was conducted annually from 1973 through 1981 and periodically thereafter. Data were again collected in 1985. An earlier report<sup>1</sup> on orthopedic surgeons covered the years 1975–76. This report serves as an update of that earlier report, comparing the data between these two different points in time, and including summary data on the use of medications not available in the earlier report.

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. A brief description of the sample design and sampling errors is provided in the "Technical notes" at the end of the report. Definitions of key terms used in the survey are also provided. The figure is a facsimile of the 1980–81 NAMCS Patient Record used by participating physicians to record information about their office visits. The Patient Record can be a useful reference as survey findings are reviewed.

<sup>1</sup>National Center for Health Statistics, H. Koch: Office visits to orthopedic surgeons, National Ambulatory Medical Care Survey, United States, 1975–76. *Advance Data From Vital and Health Statistics*. No. 33. DHEW Pub. No. (PHS) 78–1250. Public Health Service. Hyattsville, Md., July 18, 1978.

### Data highlights

During 1980–81 there were an estimated 55,470,000 visits made to the offices of orthopedic surgeons. Of the 13 most frequently visited specialties, orthopedic surgeons ranked seventh, just behind general surgeons (table 1).

In 1980–81 an estimated 69 percent of the visits to orthopedic surgeons were made to physicians in multiple-member practice arrangements, a proportion that substantially exceeded the average of 45 percent in overall office-based practice (table 2). Notably, the specialties of pediatrics and urology had similarly high proportions of visits to physicians in partnership or group practice.

**Table 1. Number of office visits to the 13 most frequently visited specialties, by type of specialty and rank order: United States, 1980–81**

| Rank | Type of specialty                 | Number of visits<br>in thousands |
|------|-----------------------------------|----------------------------------|
| 1    | General and family practice . . . | 381,710                          |
| 2    | Internal medicine . . . . .       | 144,172                          |
| 3    | Pediatrics . . . . .              | 128,762                          |
| 4    | Obstetrics and gynecology . . . . | 109,035                          |
| 5    | Ophthalmology . . . . .           | 62,485                           |
| 6    | General surgery . . . . .         | 61,013                           |
| 7    | Orthopedic surgery . . . . .      | 55,470                           |
| 8    | Dermatology . . . . .             | 51,262                           |
| 9    | Psychiatry . . . . .              | 31,810                           |
| 10   | Otolaryngology . . . . .          | 26,151                           |
| 11   | Urology . . . . .                 | 19,470                           |
| 12   | Cardiovascular diseases . . . . . | 14,781                           |
| 13   | Neurology . . . . .               | 6,379                            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>ASSURANCE OF CONFIDENTIALITY</b> —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 purposes of the survey and will not be disclosed or released to other persons or used for any other purpose.                                                                                                                                                                                                                      |                                                                                       | Department of Health, Education, and Welfare<br>Public Health Service<br>Office of Health Research, Statistics, and Technology<br>National Center for Health Statistics                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                              | <b>A No. 003939</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>PATIENT RECORD</b><br><b>NATIONAL AMBULATORY MEDICAL CARE SURVEY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>1. DATE OF VISIT</b><br>_____<br><small>Month Day Year</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>2. DATE OF BIRTH</b><br>_____<br><small>Month Day Year</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>3. SEX</b><br>1 <input type="checkbox"/> FEMALE<br>2 <input type="checkbox"/> MALE | <b>4. COLOR OR RACE</b><br>1 <input type="checkbox"/> WHITE<br>2 <input type="checkbox"/> BLACK<br>3 <input type="checkbox"/> ASIAN/PACIFIC ISLANDER<br>4 <input type="checkbox"/> AMERICAN INDIAN/ALASKAN NATIVE                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>5. ETHNICITY</b><br>1 <input type="checkbox"/> HISPANIC ORIGIN<br>2 <input type="checkbox"/> NOT HISPANIC | <b>6. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT</b> <i>[In patient's own words]</i><br>a. MOST IMPORTANT _____<br>b. OTHER _____                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>7. MAJOR REASON FOR THIS VISIT.</b> <i>[Check one]</i><br>1 <input type="checkbox"/> ACUTE PROBLEM<br>2 <input type="checkbox"/> CHRONIC PROBLEM, ROUTINE<br>3 <input type="checkbox"/> CHRONIC PROBLEM, FLAREUP<br>4 <input type="checkbox"/> POST SURGERY/POST INJURY<br>5 <input type="checkbox"/> NON-ILLNESS CARE (ROUTINE PRENATAL, GENERAL EXAM, WELL BABY, ETC.)                                                                                                                                                                               |                                                                                       | <b>8. DIAGNOSTIC SERVICES THIS VISIT</b> <i>[Check all ordered or provided]</i><br>1 <input type="checkbox"/> NONE<br>2 <input type="checkbox"/> LIMITED HISTORY/EXAM<br>3 <input type="checkbox"/> GENERAL HISTORY/EXAM<br>4 <input type="checkbox"/> PAP TEST<br>5 <input type="checkbox"/> CLINICAL LAB TEST<br>6 <input type="checkbox"/> X RAY<br>7 <input type="checkbox"/> BLOOD PRESSURE CHECK<br>8 <input type="checkbox"/> EKG<br>9 <input type="checkbox"/> VISION TEST<br>10 <input type="checkbox"/> ENDOSCOPY<br>11 <input type="checkbox"/> MENTAL STATUS EXAM<br>12 <input type="checkbox"/> OTHER <i>(Specify)</i> _____ |                                                                                                              | <b>9. PHYSICIAN'S DIAGNOSES</b><br>a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 6a. _____<br>b. OTHER SIGNIFICANT CURRENT DIAGNOSES _____                                                                                                                                                                                                                                                                                                                                                                              |  |
| <b>10. HAVE YOU SEEN PATIENT BEFORE?</b><br>1 <input type="checkbox"/> YES    2 <input type="checkbox"/> NO<br>IF YES, FOR THE CONDITION IN ITEM 9a? _____<br>1 <input type="checkbox"/> YES    2 <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                             |                                                                                       | <b>11. MEDICATION THERAPY THIS VISIT</b> <input type="checkbox"/> NONE<br><i>[Using brand or generic names, record all new and continued medications ordered, injected, administered, or otherwise provided at this visit. Include immunizing and desensitizing agents]</i><br>a. FOR PRINCIPAL DIAGNOSES IN ITEM 9a. _____<br>b. FOR ALL OTHER REASONS. _____<br>1. _____<br>2. _____<br>3. _____<br>4. _____                                                                                                                                                                                                                            |                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>12. NON-MEDICATION THERAPY</b> <i>[Check all services ordered or provided this visit]</i><br>1 <input type="checkbox"/> NONE<br>2 <input type="checkbox"/> PHYSIOTHERAPY<br>3 <input type="checkbox"/> OFFICE SURGERY<br>4 <input type="checkbox"/> FAMILY PLANNING<br>5 <input type="checkbox"/> PSYCHOTHERAPY/THERAPEUTIC LISTENING<br>6 <input type="checkbox"/> DIET COUNSELING<br>7 <input type="checkbox"/> FAMILY/SOCIAL COUNSELING<br>8 <input type="checkbox"/> MEDICAL COUNSELING<br>9 <input type="checkbox"/> OTHER <i>(Specify)</i> _____ |                                                                                       | <b>13. WAS PATIENT REFERRED FOR THIS VISIT BY ANOTHER PHYSICIAN?</b><br>1 <input type="checkbox"/> YES<br>2 <input type="checkbox"/> NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                              | <b>14. DISPOSITION THIS VISIT</b> <i>[Check all that apply]</i><br>1 <input type="checkbox"/> NO FOLLOW-UP PLANNED<br>2 <input type="checkbox"/> RETURN AT SPECIFIED TIME<br>3 <input type="checkbox"/> RETURN IF NEEDED, P.R.N.<br>4 <input type="checkbox"/> TELEPHONE FOLLOW-UP PLANNED<br>5 <input type="checkbox"/> REFERRED TO OTHER PHYSICIAN<br>6 <input type="checkbox"/> RETURNED TO REFERRING PHYSICIAN<br>7 <input type="checkbox"/> ADMIT TO HOSPITAL<br>8 <input type="checkbox"/> OTHER <i>(Specify)</i> _____ |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                              | <b>15. DURATION OF THIS VISIT</b> <i>[Time actually spent with physician]</i><br>_____<br>Minutes                                                                                                                                                                                                                                                                                                                                                                                                                             |  |

PHS-6105-A (9/79)

OMB No. 68-R1498

Figure. 1980-81 National Ambulatory Medical Care Survey Patient Record form

**Table 2. Number and percent distribution of office visits to orthopedic surgeons, and percent distribution of office visits to all specialists, by location and type of practice: United States, 1980-81**

| Location and type of practice            | Visits to orthopedic surgeons |                      | Visits to all specialists         |
|------------------------------------------|-------------------------------|----------------------|-----------------------------------|
|                                          | Number in thousands           | Percent distribution | Percent distribution <sup>1</sup> |
| All visits . . . . .                     | 55,470                        | 100.0                | 100.0                             |
| Location of practice                     |                               |                      |                                   |
| Metropolitan area <sup>2</sup> . . . . . | 46,530                        | 83.9                 | 76.0                              |
| Nonmetropolitan area . . . . .           | 8,940                         | 16.1                 | 24.0                              |
| Type of practice                         |                               |                      |                                   |
| Solo . . . . .                           | 17,220                        | 31.0                 | 54.8                              |
| Other . . . . .                          | 38,250                        | 69.0                 | 45.3                              |

<sup>1</sup>Based on an estimated 1,160,922,000 visits made to all office-based physicians in 1980-81.<sup>2</sup>Location within a standard metropolitan statistical area (SMSA). Composition of SMSA's does not reflect 1979 adjustment.**Table 3. Number and percent distribution of office visits to orthopedic surgeons, and percent distribution of office visits to all specialists, by characteristics of the patient: United States, 1980-81**

| Patient characteristic             | Visits to orthopedic surgeons |                      | Visits to all specialists         |
|------------------------------------|-------------------------------|----------------------|-----------------------------------|
|                                    | Number in thousands           | Percent distribution | Percent distribution <sup>1</sup> |
| All visits . . . . .               | 55,470                        | 100.0                | 100.0                             |
| Age                                |                               |                      |                                   |
| Under 15 years . . . . .           | 6,619                         | 11.9                 | 18.6                              |
| 15-24 years . . . . .              | 8,802                         | 15.9                 | 13.9                              |
| 25-44 years . . . . .              | 17,536                        | 31.6                 | 26.7                              |
| 45-64 years . . . . .              | 14,997                        | 27.0                 | 22.9                              |
| 65 years and over . . . . .        | 7,516                         | 13.6                 | 17.9                              |
| Sex                                |                               |                      |                                   |
| Female . . . . .                   | 26,057                        | 47.0                 | 60.3                              |
| Male . . . . .                     | 29,413                        | 53.0                 | 39.7                              |
| Prior visit status                 |                               |                      |                                   |
| New patient . . . . .              | 12,239                        | 22.1                 | 14.4                              |
| Old patient, new problem . . . . . | 3,922                         | 7.1                  | 22.3                              |
| Old patient, old problem . . . . . | 39,309                        | 70.9                 | 63.4                              |
| Referred by another physician      |                               |                      |                                   |
| Yes . . . . .                      | 6,071                         | 10.9                 | 4.4                               |
| No . . . . .                       | 49,399                        | 89.1                 | 95.6                              |

<sup>1</sup>Based on an estimated 1,160,922,000 visits made to all office-based physicians in 1980-81.

NOTE: Figures may not add to totals due to rounding.

The majority of visits to orthopedic surgeons (59 percent) were made by patients in the age groups 25-44 years and 45-64 years (table 3). The median age of patients was 38 years. The age distribution of patients visiting orthopedic surgeons more closely parallels that of neurologists than that of the other most frequently visited specialties; that is, the proportions of patients in each of the age groups in table 3 were similar for both specialties. Table 4 contains a ranking of the median age of patients for all of the most frequently visited specialties. The distribution of visits to orthopedic surgeons by sex revealed that 53 percent of the visits were made by males, a proportion that exceeded the average proportion of male visits in overall office-based practice (40 percent). Orthopedic surgery was one of three specialties where visits by males exceeded visits by females; the other two specialties were pediatrics and urology.

**Table 4. Ranking of the median age of patients for the 13 most frequently visited specialties: United States: 1980-81**

| Physician specialty                   | Median age of patients in years |
|---------------------------------------|---------------------------------|
| Cardiovascular diseases . . . . .     | 62                              |
| Internal medicine . . . . .           | 57                              |
| Urological surgery . . . . .          | 56                              |
| Ophthalmology . . . . .               | 56                              |
| General surgery . . . . .             | 44                              |
| Neurology . . . . .                   | 44                              |
| General and family practice . . . . . | 39                              |
| Orthopedic surgery . . . . .          | 38                              |
| Psychiatry . . . . .                  | 36                              |
| All specialties . . . . .             | 36                              |
| Otolaryngology . . . . .              | 33                              |
| Dermatology . . . . .                 | 30                              |
| Obstetrics and gynecology . . . . .   | 28                              |
| Pediatrics . . . . .                  | 3                               |

**Table 5. Number, percent, and cumulative percent of office visits to orthopedic surgeons, by the 25 most frequent principal reasons for visit: United States, January 1980–December 1981**

| Principal reason for visit and RVC code <sup>1,2</sup>                      | Number in thousands | Percent of visits <sup>3</sup> | Cumulative percent of visits |
|-----------------------------------------------------------------------------|---------------------|--------------------------------|------------------------------|
| 1. Knee symptoms . . . . . S925                                             | 6,821               | 12.3                           | 12.3                         |
| 2. Back symptoms . . . . . S905                                             | 4,114               | 7.4                            | 19.7                         |
| 3. Postoperative visit . . . . . T205                                       | 3,051               | 5.5                            | 25.2                         |
| 4. Foot and toe symptoms . . . . . S935                                     | 3,036               | 5.5                            | 30.7                         |
| 5. Low-back symptoms . . . . . S910                                         | 2,758               | 5.0                            | 35.7                         |
| 6. Progress visit, not elsewhere classified . . . . . T800                  | 2,682               | 4.8                            | 40.5                         |
| 7. Shoulder symptoms . . . . . S940                                         | 2,652               | 4.8                            | 45.3                         |
| 8. Neck symptoms . . . . . S900                                             | 2,071               | 3.7                            | 49.0                         |
| 9. Hand and finger symptoms . . . . . S960                                  | 1,919               | 3.5                            | 52.5                         |
| 10. Ankle symptoms . . . . . S930                                           | 1,605               | 2.9                            | 55.4                         |
| 11. Wrist symptoms . . . . . S955                                           | 1,589               | 2.9                            | 58.3                         |
| 12. Leg symptoms . . . . . S920                                             | 1,569               | 2.8                            | 61.1                         |
| 13. Hip symptoms . . . . . S915                                             | 1,489               | 2.7                            | 63.8                         |
| 14. Cast splint—application, removal . . . . . T540                         | 1,227               | 2.2                            | 66.0                         |
| 15. Elbow symptoms . . . . . S950                                           | 1,085               | 2.0                            | 68.0                         |
| 16. Fracture of leg . . . . . J020                                          | 965                 | 1.7                            | 69.7                         |
| 17. Fracture or dislocation of arm . . . . . J035                           | 960                 | 1.7                            | 71.4                         |
| 18. Arm symptoms . . . . . S945                                             | 938                 | 1.7                            | 73.1                         |
| 19. Pain and related symptoms, generalized, site unspecified . . . . . S060 | 884                 | 1.6                            | 74.7                         |
| 20. Knee injury, type unspecified . . . . . J535                            | 766                 | 1.4                            | 76.1                         |
| 21. Fracture, other and unspecified . . . . . J050                          | 706                 | 1.3                            | 77.4                         |
| 22. Hand and finger(s) injury, type unspecified . . . . . J570              | 663                 | 1.2                            | 78.6                         |
| 23. Musculoskeletal deformities . . . . . S975                              | 631                 | 1.1                            | 79.7                         |
| 24. Fracture or dislocation of wrist . . . . . J040                         | 527                 | 0.9                            | 80.6                         |
| 25. Other musculoskeletal or connective tissue disease . . . . . D910       | 512                 | 0.9                            | 81.5                         |

<sup>1</sup>Based on "A Reason for Visit Classification for Ambulatory Care" (RVC).<sup>2</sup>The 'S' codes refer to symptoms such as pain, swelling, headache, and chills. These symptoms exclude sprains, fractures, cuts, burns, and other injuries.<sup>3</sup>Based on a total of 55,470,119 visits.

The 25 reasons most frequently given by patients for visiting the orthopedic surgeon are shown in table 5. The two most frequent complaints—knee and back problems—accounted for 20 percent of all visits to orthopedic surgeons. Of a more general nature, symptoms referable to the musculoskeletal system (RVC codes S900–S999) accounted for 15 of the top 25 reasons. (Reasons for visit are coded and grouped in eight modules according to a classification system that is described in "A Reason for Visit Classification for Ambulatory Care" (RVC)).<sup>2</sup>

The 30 most frequent principal diagnoses rendered by orthopedic surgeons are shown in table 6. Excluding a followup exam after surgery and certain congenital deformities, all the diagnoses listed in the table are contained in two major classes:

1. Diseases of the musculoskeletal system and connective tissue (ICD–9–CM codes 710–739).
2. Injury and poisoning (ICD–9–CM codes 800–999).

In addition to most of the diagnoses in table 6, these two classes accounted for 84 percent of all the diagnoses rendered by orthopedic surgeons. (Diagnostic terms and codes were derived from the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM)).<sup>3</sup>

<sup>2</sup>National Center for Health Statistics, D. Schneider, L. Appleton, and T. McLemore: A reason for visit classification for ambulatory care. *Vital and Health Statistics*. Series 2, No. 78. DHEW Pub. No. (PHS) 79–1352. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1979.

<sup>3</sup>U.S. Public Health Service and Health Care Financing Administration: *International Classification of Diseases, 9th Revision, Clinical Modification*. DHHS Pub. No. (PHS) 80–1260. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1980.

Because the orthopedic surgeon deals mainly with sprains, strains, and fractures, it follows that the diagnostic services provided would be directly related. The logical course of treatment for a sprain, strain, or fracture would be a physical examination followed by an x ray, if warranted. This is generally what is revealed in table 7. A limited history and/or exam was conducted in 69 percent of the visits to orthopedic surgeons, and an x ray was taken in 39 percent of the visits. The latter proportion is more than 5 times greater than the average proportion of 7.5 percent of the visits in overall office-based practice where an x ray is taken.

Two diagnostic services that are rarely provided in the offices of orthopedic surgeons are clinical lab tests and blood pressure checks, which are provided in 2 percent and 3 percent of the visits, respectively. In overall office-based practice, clinical lab tests are provided in 22 percent of the visits, and blood pressure is checked in 34 percent of the visits. The lower proportion of these services provided by orthopedic surgeons reflects the types of problems presented to these specialists which simply do not require the rendering of such services.

Of the nonmedication therapy services provided, physiotherapy and office surgery were provided more by orthopedic surgeons than by most other specialties. Physiotherapy was provided in 22 percent of the visits to orthopedic surgeons, a proportion not only higher than the proportion for any other specialty, but 4 times higher than the average proportion of 5 percent for all office-based practice. Office surgery was provided in 12 percent of the visits to orthopedic surgeons, and this proportion was surpassed only by general surgeons (15 percent) and dermatologists (35 percent).

**Table 6. Number, percent, and cumulative percent of office visits to orthopedic surgeons, by the 30 most frequent principal diagnoses: United States, January 1980–December 1981**

| <i>Principal diagnosis and ICD-9-CM code<sup>1</sup></i>                         | <i>Number in thousands</i> | <i>Percent of visits<sup>2</sup></i> | <i>Cumulative percent of visits</i> |      |
|----------------------------------------------------------------------------------|----------------------------|--------------------------------------|-------------------------------------|------|
| 1. Peripheral enthesopathies and allied syndromes . . . . .                      | 726                        | 2,829                                | 5.1                                 | 5.1  |
| 2. Sprains and strains of other and unspecified parts of back . . . . .          | 847                        | 2,484                                | 4.5                                 | 9.6  |
| 3. Fracture of radius and ulna . . . . .                                         | 813                        | 2,462                                | 4.4                                 | 14.0 |
| 4. Other disorders of synovium, tendon, and bursa . . . . .                      | 727                        | 2,295                                | 4.1                                 | 18.1 |
| 5. Intervertebral disc disorders . . . . .                                       | 722                        | 2,234                                | 4.0                                 | 22.1 |
| 6. Followup examination, following surgery . . . . .                             | V67.0                      | 2,217                                | 4.0                                 | 26.1 |
| 7. Osteoarthritis and allied disorders . . . . .                                 | 715                        | 2,195                                | 4.0                                 | 30.1 |
| 8. Other and unspecified disorders of back . . . . .                             | 724                        | 1,740                                | 3.1                                 | 33.2 |
| 9. Dislocation of knee . . . . .                                                 | 836                        | 1,685                                | 3.0                                 | 36.2 |
| 10. Sprains and strains of ankle and foot . . . . .                              | 845                        | 1,394                                | 2.5                                 | 38.7 |
| 11. Fracture of ankle . . . . .                                                  | 824                        | 1,374                                | 2.5                                 | 41.2 |
| 12. Internal derangement of knee . . . . .                                       | 717                        | 1,358                                | 2.4                                 | 43.6 |
| 13. Sprains and strains of knee and leg . . . . .                                | 844                        | 1,251                                | 2.3                                 | 45.9 |
| 14. Sprains and strains of sacroiliac region . . . . .                           | 846                        | 1,199                                | 2.2                                 | 48.1 |
| 15. Fracture of humerus . . . . .                                                | 812                        | 1,110                                | 2.0                                 | 50.1 |
| 16. Other and unspecified disorders of joint . . . . .                           | 719                        | 1,090                                | 2.0                                 | 52.1 |
| 17. Fracture of one or more phalanges of hand . . . . .                          | 816                        | 906                                  | 1.6                                 | 53.7 |
| 18. Fracture of carpal bone(s) . . . . .                                         | 814                        | 904                                  | 1.6                                 | 55.3 |
| 19. Other and unspecified arthropathies . . . . .                                | 716                        | 858                                  | 1.5                                 | 56.8 |
| 20. Spondylosis and allied disorders . . . . .                                   | 721                        | 850                                  | 1.5                                 | 58.3 |
| 21. Fracture of tibia and fibula . . . . .                                       | 823                        | 832                                  | 1.5                                 | 59.8 |
| 22. Other acquired deformities of limbs . . . . .                                | 736                        | 809                                  | 1.5                                 | 61.3 |
| 23. Fracture of one or more tarsal and metatarsal bones . . . . .                | 825                        | 750                                  | 1.4                                 | 62.7 |
| 24. Other disorders of soft tissues . . . . .                                    | 729                        | 681                                  | 1.2                                 | 63.9 |
| 25. Fracture of vertebral column without mention of spinal cord injury . . . . . | 805                        | 624                                  | 1.1                                 | 65.0 |
| 26. Other derangement of joint . . . . .                                         | 718                        | 611                                  | 1.1                                 | 66.1 |
| 27. Certain congenital musculoskeletal deformities . . . . .                     | 754                        | 577                                  | 1.0                                 | 67.1 |
| 28. Curvature of spine . . . . .                                                 | 737                        | 572                                  | 1.0                                 | 68.1 |
| 29. Sprains and strains of shoulder and upper arm . . . . .                      | 840                        | 540                                  | 1.0                                 | 69.1 |
| 30. Fracture of metacarpal bone(s) . . . . .                                     | 815                        | 531                                  | 1.0                                 | 70.1 |

<sup>1</sup>Based on *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM).  
<sup>2</sup>Based on a total of 55,470,119 visits.

**Table 7. Number and percent of office visits to orthopedic surgeons, and percent of visits to all specialists, by selected diagnostic services and nonmedication therapy: United States, 1980–81**

| <i>Selected diagnostic services and nonmedication therapy</i> | <i>Visits to orthopedic surgeons</i> |                | <i>Visits to all specialists</i> |
|---------------------------------------------------------------|--------------------------------------|----------------|----------------------------------|
|                                                               | <i>Number in thousands</i>           | <i>Percent</i> | <i>Percent<sup>1</sup></i>       |
| <i>Diagnostic service</i>                                     |                                      |                |                                  |
| Limited history and examination . . . . .                     | 38,136                               | 68.8           | 64.4                             |
| General history and examination . . . . .                     | 5,880                                | 10.6           | 15.5                             |
| Clinical laboratory test . . . . .                            | 1,128                                | 2.0            | 21.9                             |
| X ray . . . . .                                               | 21,651                               | 39.0           | 7.5                              |
| Blood pressure check . . . . .                                | 1,617                                | 2.9            | 34.2                             |
| <i>Nonmedication therapy<sup>2</sup></i>                      |                                      |                |                                  |
| None . . . . .                                                | 27,386                               | 49.4           | 53.8                             |
| Physiotherapy . . . . .                                       | 12,004                               | 21.6           | 4.8                              |
| Office surgery . . . . .                                      | 6,632                                | 12.0           | 7.4                              |
| Medical counseling . . . . .                                  | 9,192                                | 16.6           | 23.0                             |

<sup>1</sup>Based on an estimated 1,160,922,000 visits made to all office-based physicians in 1980–81.

<sup>2</sup>Percentages will not add to 100.0 because more than 1 service or therapy may have been rendered during a visit.

As expected, postsurgery or postinjury was the major reason for 41 percent of the visits to orthopedic surgeons compared with 9 percent of the visits in overall office-based practice (table 8). General surgery, with 34 percent, was the only other specialty to have a higher proportion of visits for postsurgery or postinjury than for chronic problems.

"Disposition of visit" refers to the physician's advice at the end of the visit. For 83 percent of the visits to orthopedic surgeons, patients were advised to return either "at a specified

time" or "if needed." This proportion was the same for physicians in overall office-based practice. Admitting patients to the hospital is a relatively rare occurrence in office-based practice, occurring in 2 percent of the visits. Orthopedic surgeons, however, admitted patients to the hospital in 5 percent of their visits, which may be a reflection of their seeing more injuries than most physicians.

A mean visit to an orthopedic surgeon lasted 14 minutes compared with 15 minutes in overall office-based practice.

**Table 8. Number and percent distribution of office visits to orthopedic surgeons, and percent distribution of office visits to all specialists, by characteristics of the visit: United States, 1980–81**

| <i>Visit characteristic</i>           | <i>Visits to orthopedic surgeons</i> |                             | <i>Visits to all specialists</i>        |
|---------------------------------------|--------------------------------------|-----------------------------|-----------------------------------------|
|                                       | <i>Number in thousands</i>           | <i>Percent distribution</i> | <i>Percent distribution<sup>1</sup></i> |
| All visits . . . . .                  | 55,470                               | 100.0                       | 100.0                                   |
| Major reason for visit                |                                      |                             |                                         |
| Acute problem . . . . .               | 14,685                               | 26.5                        | 36.4                                    |
| Chronic problem, routine . . . . .    | 10,895                               | 19.6                        | 28.1                                    |
| Chronic problem, flareup . . . . .    | 5,873                                | 10.6                        | 9.2                                     |
| Postsurgery or postinjury . . . . .   | 22,792                               | 41.1                        | 8.8                                     |
| Nonillness care . . . . .             | 1,225                                | 2.2                         | 17.6                                    |
| Disposition                           |                                      |                             |                                         |
| No followup planned . . . . .         | 5,066                                | 9.1                         | 11.5                                    |
| Return at specified time . . . . .    | 36,071                               | 65.0                        | 60.7                                    |
| Return if needed . . . . .            | 10,042                               | 18.1                        | 22.7                                    |
| Referred to other physician . . . . . | 994                                  | 1.8                         | 2.6                                     |
| Admit to hospital . . . . .           | 2,506                                | 4.5                         | 2.3                                     |
| Duration                              |                                      |                             |                                         |
| Zero minutes <sup>2</sup> . . . . .   | 468                                  | 0.8                         | 2.6                                     |
| 1–5 minutes . . . . .                 | 11,035                               | 19.9                        | 12.6                                    |
| 6–10 minutes . . . . .                | 16,418                               | 29.6                        | 30.1                                    |
| 11–15 minutes . . . . .               | 13,988                               | 25.2                        | 27.8                                    |
| 16–30 minutes . . . . .               | 11,936                               | 21.5                        | 20.8                                    |
| 31 minutes or more . . . . .          | 1,626                                | 2.9                         | 6.1                                     |

<sup>1</sup>Based on an estimated 1,160,922,000 visits made to all office-based physicians in 1980–81.<sup>2</sup>No face-to-face contact with physician.**Table 9. Number and percent of drug mentions and office visits to orthopedic surgeons, and percent of drug mentions and office visits to all specialists, by selected therapeutic categories and number of medications provided: United States, 1980–81**

| <i>Therapeutic category<br/>and number of medications<sup>1</sup></i> | <i>Orthopedic surgeons</i> |                | <i>All specialists</i> |
|-----------------------------------------------------------------------|----------------------------|----------------|------------------------|
|                                                                       | <i>Number in thousands</i> | <i>Percent</i> | <i>Percent</i>         |
| Drug mentions . . . . .                                               | 22,477                     | ---            | ---                    |
| Therapeutic category                                                  |                            |                |                        |
| Anti-infective agents . . . . .                                       | 925                        | 4.1            | 15.8                   |
| Autonomic drugs . . . . .                                             | 1,224                      | 5.5            | 3.7                    |
| Central nervous system drugs . . . . .                                | 13,587                     | 60.5           | 16.2                   |
| Analgesics and antipyretics . . . . .                                 | 12,071                     | 53.7           | 8.8                    |
| Sedatives and hypnotics . . . . .                                     | 1,115                      | 5.0            | 3.6                    |
| Hormones and synthetic drugs . . . . .                                | 2,414                      | 10.7           | 8.3                    |
| Skin and mucous membrane preparations . . . . .                       | 2,117                      | 9.4            | 7.8                    |
| Office visits . . . . .                                               | 55,470                     | ---            | ---                    |
| Number of medications                                                 |                            |                |                        |
| None . . . . .                                                        | 39,794                     | 71.7           | 38.2                   |
| 1 . . . . .                                                           | 10,792                     | 19.5           | 30.9                   |
| 2 . . . . .                                                           | 3,333                      | 6.0            | 17.7                   |
| 3 or more . . . . .                                                   | 1,551                      | 2.8            | 13.2                   |

<sup>1</sup>Based on the pharmacologic-therapeutic classification of the American Society of Hospital Pharmacists; selected categories reproduced with the permission of the Society.

The median duration of visits to orthopedic surgeons was about 10 minutes, and for all physicians the median duration was 15 minutes.

The number of medications shown in table 9 refers to the frequency of drugs ordered or provided during office visits and includes new as well as continued medications. Orthopedic surgeons, with 22.5 million drug mentions, ranked ninth among the top specialties in the number of drug mentions

in 1980–81; however, they ranked first in the proportion of visits in which no drugs or medications were used. In 72 percent of the visits to orthopedic surgeons, no drugs or medications were ordered or provided, and in 20 percent of the visits only one drug was used.

The NAMCS drug data are classified into several therapeutic categories, but most of the 22.5 million drug mentions of orthopedic surgeons can be classified into five categories.

By far the largest single proportion (54 percent) of these drug mentions are analgesics, a finding that is not unexpected when one considers that the treatment of musculoskeletal pain forms such a large part of the orthopedic surgeon's practice. The findings that follow show that no other specialist challenges the orthopedic surgeon in this intensity of prescribing or ordering analgesics.

| <i>Specialty</i>                  | <i>Analgesics as a percent of<br/>all drug mentions</i> |
|-----------------------------------|---------------------------------------------------------|
| Orthopedic surgery . . . . .      | 54                                                      |
| General surgery . . . . .         | 15                                                      |
| Neurology . . . . .               | 15                                                      |
| General and family practice . . . | 10                                                      |
| Internal medicine . . . . .       | 10                                                      |
| Other specialties . . . . .       | less than 10                                            |

### Comparing 1975-76 data with 1980-81 data

There was an increase of 8.3 million visits to orthopedic surgeons from 1975-76 to 1980-81, but among the most frequently visited specialties providing ambulatory care, orthopedic surgeons ranked seventh in both time periods. The number of visits to orthopedic surgeons per 100 persons increased slightly from 11.3 in 1975-76 to 12.6 in 1980-81 (table 10).

The proportion of visits to orthopedic surgeons in multiple-member practice arrangements increased substantially from 55 percent in 1975-76 to 69 percent in 1980-81. Orthopedic surgeons in metropolitan areas experienced a slight increase in the proportion of visits, but the distribution of visits by sex remained unchanged, with males still accounting for 53 percent of the visits. The increase in visits by persons 65 years and over created an upward swing in the median age of patients from 35 to 38 years.

The proportion of visits for diseases of the musculoskeletal system increased from 30 to 38 percent; for injuries and poisonings, the proportion of visits increased from 36 to 45 percent. This proportional increase in visits for problems such as sprains, strains, and fractures was naturally accompanied by a corresponding increase in the respective treatment or services provided, such as limited medical examinations. The proportion of visits in which a limited medical examination was performed increased substantially after 1975, from 55 to 69 percent.

The average duration of visit remained about the same, as did the proportion of visits that culminated in the patient's admission to a hospital or in the patient's being scheduled for return visits.

**Table 10. Number of office visits per 100 persons per year to orthopedic surgeons and percent of visits, by selected characteristics: United States, 1975-76 and 1980-81**

| Characteristic                                                         | 1975-76 <sup>1</sup> | 1980-81 <sup>2</sup> |
|------------------------------------------------------------------------|----------------------|----------------------|
|                                                                        | Number               |                      |
| Total visits in thousands . . . . .                                    | 47,152               | 55,470               |
| Visits per 100 persons per year . . . . .                              | 11.3                 | 12.6                 |
| Median age of patients in years . . . . .                              | 35                   | 38                   |
| Average duration of visit in minutes . . . . .                         | 15                   | 14                   |
|                                                                        | Percent              |                      |
| Percent of all physician visits . . . . .                              | 4.1                  | 4.8                  |
| Type of practice                                                       |                      |                      |
| Solo . . . . .                                                         | 45.4                 | 31.0                 |
| Other <sup>3</sup> . . . . .                                           | 54.6                 | 69.0                 |
| Location of practice                                                   |                      |                      |
| Metropolitan area . . . . .                                            | 77.6                 | 83.9                 |
| Nonmetropolitan area . . . . .                                         | 22.4                 | 16.1                 |
| Sex of patient                                                         |                      |                      |
| Female . . . . .                                                       | 47.2                 | 47.0                 |
| Male . . . . .                                                         | 52.8                 | 53.0                 |
| Age of patient                                                         |                      |                      |
| Under 25 years . . . . .                                               | 32.7                 | 27.8                 |
| 25-44 years . . . . .                                                  | 30.4                 | 31.6                 |
| 45-64 years . . . . .                                                  | 27.4                 | 27.0                 |
| 65 years and over . . . . .                                            | 9.6                  | 13.6                 |
| Prior visit status                                                     |                      |                      |
| New patient . . . . .                                                  | 22.5                 | 22.1                 |
| Old patient, new problem . . . . .                                     | 6.9                  | 7.1                  |
| Old patient, old problem . . . . .                                     | 70.6                 | 70.9                 |
| Principal diagnosis                                                    |                      |                      |
| Neoplasms . . . . .                                                    | *0.7                 | *0.6                 |
| Diseases of the circulatory system . . . . .                           | 1.1                  | *0.5                 |
| Diseases of the respiratory system . . . . .                           | *0.9                 | *0.2                 |
| Diseases of the digestive system . . . . .                             | *0.6                 | *0.1                 |
| Diseases of the genitourinary system . . . . .                         | *0.4                 | *0.1                 |
| Diseases of the skin and subcutaneous tissue . . . . .                 | *1.0                 | 1.1                  |
| Diseases of the musculoskeletal system and connective tissue . . . . . | 29.6                 | 37.5                 |
| Injury and poisoning <sup>4</sup> . . . . .                            | 36.3                 | 45.0                 |
| Diagnostic services<br>and nonmedication therapy                       |                      |                      |
| Limited history and/or examination . . . . .                           | 55.2                 | 68.8                 |
| General history and/or examination . . . . .                           | 10.9                 | 10.6                 |
| Clinical laboratory test . . . . .                                     | 1.6                  | 2.0                  |
| X ray . . . . .                                                        | 36.3                 | 39.0                 |
| Office surgery . . . . .                                               | 14.3                 | 12.0                 |
| Duration of visit                                                      |                      |                      |
| Less than 11 minutes . . . . .                                         | 46.7                 | <sup>5</sup> 50.3    |
| More than 15 minutes . . . . .                                         | 28.6                 | 24.5                 |
| Disposition                                                            |                      |                      |
| Admit to hospital . . . . .                                            | 3.5                  | 4.5                  |
| Return at specified time . . . . .                                     | 66.3                 | 65.0                 |
| Return if needed . . . . .                                             | 16.3                 | 18.1                 |
| No followup planned . . . . .                                          | 10.5                 | 9.1                  |

<sup>1</sup>Based on an estimated 1,155,900,000 visits.<sup>2</sup>Based on an estimated 1,160,922,000 visits.<sup>3</sup>Includes partnership, group, and other types of practice.<sup>4</sup>In 1975 this category was "Accidents, poisonings, and violence."<sup>5</sup>Includes zero minutes.

## Technical notes

### Source of data and sample design

The estimates presented in this report are based on the findings of the National Ambulatory Medical Care Survey (NAMCS), a sample survey of office-based care conducted annually from 1973 through 1981 by the National Center for Health Statistics. The target universe of NAMCS is composed of office visits made by ambulatory patients to non-Federal and noninstitutional physicians who are principally engaged in office-based, patient-care practice. Visits to physicians practicing in Alaska and Hawaii are excluded from the range of NAMCS, as are visits to anesthesiologists, pathologists, and radiologists.

NAMCS uses a multistage probability sample design that involves a step-wise sampling of primary sampling units, physician practices within primary sampling units, and patient visits within physician practices. The physician sample (5,805 for the combined years 1980 and 1981) was selected from master files maintained by the American Medical Association and the American Osteopathic Association. Those members of the sample who proved to be within the scope of the survey participated at a rate of 77.3 percent. The participation rate for orthopedic surgeons, as an individual specialty, was 84.2 percent. Responding physicians completed visit records (figure) for a systematic random sample of their office visits made during a randomly assigned weekly reporting period. Telephone contacts were excluded. During 1980 and 1981 responding physicians completed a 2-year total of 89,447 Patient Record forms on which they recorded 97,796 drug mentions. Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained during an induction interview. The National Opinion Research Center, under contract to the National Center for Health Statistics, was responsible for the field operations of the survey.

### Sampling errors, statistical significance, and rounding

The standard error is a measure of the sampling variability that occurs by chance because only a sample, rather than an entire universe, is surveyed. The relative standard error of an estimate is obtained by dividing the standard error by the estimate itself and is expressed as a percent of the estimate. Approximate relative standard errors of estimates based on all physician specialties are shown in table I; the errors of estimates based on an individual specialty are shown in table II.

In this report, the determination of statistical significance is based on the *t*-test with a critical value of 1.96 (0.95 level of significance). Terms relating to differences, such as "higher" or "less," indicate that the differences are statistically significant. Terms such as "similar" or "no difference" mean that no statistical significance exists between the estimates being compared. A lack of comment in a comparison between any two estimates does not mean that the difference was tested and found to be not significant.

**Table I. Approximate relative standard errors for estimated numbers of office visits based on all physician specialties: National Ambulatory Medical Care Survey, 1980-81**

| <i>Estimated number of office visits in thousands</i> | <i>Relative standard error</i> |
|-------------------------------------------------------|--------------------------------|
|                                                       | Percent                        |
| 150 . . . . .                                         | 51.6                           |
| 250 . . . . .                                         | 40.1                           |
| 400 . . . . .                                         | 31.7                           |
| 500 . . . . .                                         | 28.4                           |
| 1,000 . . . . .                                       | 20.2                           |
| 2,000 . . . . .                                       | 14.5                           |
| 5,000 . . . . .                                       | 9.5                            |
| 10,000 . . . . .                                      | 7.1                            |
| 20,000 . . . . .                                      | 5.6                            |
| 50,000 . . . . .                                      | 4.4                            |
| 100,000 . . . . .                                     | 3.9                            |
| 500,000 . . . . .                                     | 3.5                            |
| 1,000,000 . . . . .                                   | 3.4                            |

NOTE: For example, an aggregate estimate of 35,000,000 office visits has a relative standard error of 5.0 percent or a standard error of 1,750,000 visits (5.0 percent of 35,000,000 visits).

**Table II. Approximate relative standard errors for estimated numbers of office visits based on an individual physician specialty: National Ambulatory Medical Care Survey, 1980-81**

| <i>Estimated number of office visits in thousands</i> | <i>Relative standard error</i> |
|-------------------------------------------------------|--------------------------------|
|                                                       | Percent                        |
| *150 . . . . .                                        | *53.8                          |
| *250 . . . . .                                        | *42.0                          |
| *400 . . . . .                                        | *33.3                          |
| 500 . . . . .                                         | 29.9                           |
| 1,000 . . . . .                                       | 21.6                           |
| 2,000 . . . . .                                       | 15.9                           |
| 5,000 . . . . .                                       | 11.1                           |
| 10,000 . . . . .                                      | 9.0                            |
| 20,000 . . . . .                                      | 7.7                            |
| 50,000 . . . . .                                      | 6.8                            |
| 100,000 . . . . .                                     | 6.5                            |
| 500,000 . . . . .                                     | 6.2                            |
| 1,000,000 . . . . .                                   | 6.2                            |

NOTE: For example, an aggregate estimate of 7,500,000 visits has a relative standard error of 10.0 percent or a standard error of 750,000 visits (10.0 percent of 7,500,000 visits).

Estimates of office visits have been rounded to the nearest thousand. For this reason detailed figures within tables do not always add to totals. Rates and percents were calculated on the basis of original, unrounded figures and will not necessarily agree precisely with percents calculated from rounded data.

### Definitions

**Ambulatory patient**—Ambulatory patients are individuals presenting themselves for personal health services who are neither bedridden nor currently admitted to any health care institution on the premises.

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

**Office**—Offices are places that physicians identify as locations for their ambulatory practices. Responsibility over time for patient care and professional services rendered there generally resides with the individual physician rather than with an institution.

**Visit**—A visit is a direct personal exchange for the purpose of seeking care and rendering health services between an ambulatory patient and a physician or a staff member working under the physician's supervision.

---

### Symbols

|       |                                                                                  |
|-------|----------------------------------------------------------------------------------|
| - - - | Data not available                                                               |
| ...   | Category not applicable                                                          |
| -     | Quantity zero                                                                    |
| 0.0   | Quantity more than zero but less than 0.05                                       |
| Z     | Quantity more than zero but less than 500 where numbers are rounded to thousands |
| *     | Figure does not meet standard of reliability or precision                        |
| #     | Figure suppressed to comply with confidentiality requirements                    |

---

**Recent Issues of *Advance Data From Vital and Health Statistics***

**No. 116.** Aging in the Eighties: Age 65 and Older and Living Alone—Contacts with Family, Friends, and Neighbors: Preliminary Data From the Supplement on Aging to the National Health Interview Survey: United States, January–June 1984 (In preparation)

**No. 115.** Aging in the Eighties: Preliminary Data From the Supplement on Aging to the National Health Interview Survey: United States, January–June 1984 (In preparation)

**No. 114.** Prevalence, Impact, and Demography of Known Diabetes in the United States (Issued February 12, 1986)

**No. 113.** Provisional Data From the Health Promotion and Disease Prevention Supplement to the National Health Interview Survey: United States, January–March 1985

**No. 112.** 1984 Summary: National Hospital Discharge Survey (Issued Sept. 27, 1985)

**No. 111.** An Overview of the 1982 National Master Facility Inventory Survey of Nursing and Related Care Homes (Issued September 1985)

---

**Suggested citation**

National Center for Health Statistics, R. O. Gagnon: Office visits to orthopedic surgeons; National Ambulatory Medical Care Survey, United States, 1980–81. *Advance Data From Vital and Health Statistics*, No. 117. DHHS Pub. No. (PHS) 86–1250. Public Health Service, Hyattsville, Md., April 1986.

---

**Copyright Information**

This report may be reprinted without further permission.

---

U.S. DEPARTMENT OF HEALTH AND  
HUMAN SERVICES  
Public Health Service  
National Center for Health Statistics  
3700 East-West Highway  
Hyattsville, Maryland 20782

|                                                                                      |
|--------------------------------------------------------------------------------------|
| THIRD CLASS MAIL<br>BULK RATE<br>POSTAGE & FEES PAID<br>PHS/NCHS<br>PERMIT No. G-281 |
|--------------------------------------------------------------------------------------|

---

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

---

To receive this publication regularly, contact  
the National Center for Health Statistics by  
calling 301 436–8500

---