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Office Visits to Orthopedic Surgeons, National Ambulatory Medical Care Survey: United States, 1975-1976¹

Using data from the National Ambulatory Medical Care Survey (NAMCS), this report describes an estimated 47,152,000 visits made to the offices of orthopedic surgeons over the 2-year span from January 1975 through December 1976. NAMCS is a sample survey designed to explore the provision and utilization of ambulatory care in the physician's office, the setting where most Americans seek health care. The survey is conducted yearly throughout the coterminous United States by the Division of Health Resources Utilization Statistics of the National Center for Health Statistics. The survey sample is selected from doctors of medicine and osteopathy who are principally engaged in office-based, patient-care practice. Excluded from the sample are an indeterminate number of physicians who render some office-based ambulatory care but whose patient-care activities are secondary to another primary role such as teaching, research, or administration. Also excluded from the NAMCS scope are physicians who are hospital based; those whose specialty is anesthesiology, pathology, or radiology; and physicians in Federal Service.

Because the estimates presented in this report are based on a sample rather than on the entire universe of office-based, patient-care physicians, they are subject to sampling variability. See the Technical Notes for an explanation and for guidelines in judging the relative precision of estimates presented in this report.

The directions offered there also provide the basis for judging the statistical significance of differences between estimates.

DATA HIGHLIGHTS

With an estimated 47,152,000 office visits during the 2-year span 1975-76, orthopedic surgeons occupied a position of middle prominence in the provision of office-based ambulatory care. This is evident from the listing in table 1.

Understandably heading the list are the five primary care and/or more generalized practitioners. Among the other office-based providers of ambulatory care—those generally characterized by a more focused clinical specialization—orthopedic surgeons were second only to ophthalmologists in volume of visits.

Table 1. Number of office visits to the 13 most visited specialists, by type of specialty and rank order: United States, 1975-76

Rank	Type of specialty	Number of visits in thousands
1	General and family practice	460,297
2	Internal medicine	130,367
3	Pediatrics	107,085
4	Obstetrics and gynecology	97,070
5	General surgery	77,259
6	Ophthalmology	53,969
7	Orthopedic surgery	47,152
8	Dermatology	35,721
9	Psychiatry	30,616
10	Otolaryngology	27,192
11	Urology	20,728
12	Cardiovascular disease	13,517
13	Neurology	3,784

¹This report was prepared by Hugo Koch, Division of Health Resources Utilization Statistics.

Compared with the entire universe of office-based physicians, orthopedic surgeons reversed the overall preference for solo over multiple-member practice (table 2); more than one-half of visits to orthopedic surgeons (55 percent) were made to physicians in multiple-member practice arrangements.

Table 2. Number and percent distribution of office visits to orthopedic surgeons, and percent distribution of office visits to all specialists, by characteristics of physician: United States, 1975-76

Physician characteristic	Visits to orthopedic surgeons		Visits to all specialists
	Number in thousands	Percent distribution	Percent distribution ¹
All visits.....	47,152	100.0	100.0
<u>Location of practice</u>			
Metropolitan area ²	36,585	77.6	73.3
Nonmetropolitan area.....	10,567	22.4	26.7
<u>Type of practice</u>			
Solo.....	21,401	45.4	60.0
Other.....	25,751	54.6	40.0

¹Based on an estimated 1,155,900,000 visits made to all office-based physicians in 1975 and 1976.

²Location within a standard metropolitan statistical area (SMSA). Composition of SMSA's does not reflect 1974 adjustment.

A majority of visits to orthopedic surgeons (58 percent) were made by patients in the age group 25-64 years (table 3). Median age for visits was about 35 years.

An estimated 53 percent of visits to orthopedic surgeons were made by male patients (table 3), a proportion that substantially exceeded the average proportion of male visits found in overall office-based practice (40 percent). Indeed, orthopedic surgery is one of the few specialties where visits by males equaled or exceeded visits by females; the other notable examples were pediatrics, urology, and cardiovascular disease.

The 23 percent of visits to orthopedic surgeons made by new patients is relatively high

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, 1975-76

Patient characteristic	Visits to orthopedic surgeons		Visits to all specialists
	Number in thousands	Percent distribution	Percent distribution ¹
All visits.....	47,152	100.0	100.0
<u>Age</u>			
Under 15 years.....	7,747	16.4	18.1
15-24 years.....	7,663	16.3	15.1
25-44 years.....	14,313	30.4	25.5
45-64 years.....	12,911	27.4	25.1
65 years and over.....	4,519	9.6	16.2
<u>Sex</u>			
Female.....	22,248	47.2	60.4
Male.....	24,904	52.8	39.6
<u>Prior visit status</u>			
New patient.....	10,620	22.5	14.6
Old patient, new problem.....	3,258	6.9	23.2
Old patient, old problem.....	33,274	70.6	62.3

¹Based on an estimated 1,155,900,000 visits made to all office-based physicians in 1975 and 1976.

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

compared with the average 15 percent found in overall office-based practice (table 3). Contributing in large degree to this increased presence of new patients is the finding that 7.1 percent of all visits to orthopedic surgeons were referrals from other physicians or agencies—i.e., almost one-third of the visits by new patients were referred visits. This referral rate is considerably larger than the average rate of 2.6 percent found for all office-based physicians; indeed, it is exceeded by only two other most visited specialties—urology and neurology.

For every visit at which a new problem was presented to the orthopedic surgeon (i.e., any visit by a new patient or a visit by an old patient with a new problem) there were an average of 2.4 return visits per year, a return-visit rate that

Table 4. Number, percent, and cumulative percent of office visits to orthopedic surgeons, by the 10 principal diagnoses most commonly rendered by the orthopedic surgeon: United States, 1975-76

Principal diagnosis and ICDA code	Visits to orthopedic surgeons		
	Number in thousands	Percent	Cumulative percent
Medical and surgical aftercare..... Y10	8,925	18.9	18.9
Synovitis, bursitis, and tenosynovitis..... 731	3,179	6.7	25.6
Sprains, strains of other and unspecified parts of back 847	2,364	5.0	30.6
Osteoarthritis and allied conditions..... 713	1,989	4.2	34.8
Displacement of intervertebral disc..... 725	1,829	3.9	38.7
Sprains, strains of sacroiliac region..... 846	1,663	3.5	42.2
Fracture of radius and ulna..... 813	1,358	2.9	45.1
Dislocation of knee..... 836	1,064	2.3	47.4
Other diseases of musculoskeletal system, other deformities..... 738	1,061	2.3	49.7
Vertebrogenic pain syndrome..... 728	1,031	2.2	51.9

substantially exceeded the average of 1.6 return visits found in overall office practice.²

Some problem of the musculoskeletal system (e.g., pain, swelling, injury, etc.) was the reason most frequently given by patients for visiting the orthopedic surgeon. The largest proportion of these complaints or symptoms centered on the hip and lower extremity (reported in 28 percent of visits); second in order of frequency were problems of the shoulder and upper extremity (reported in 25 percent of visits); next in frequency were back problems (reported in 20 percent of visits); and finally were complaints about problems with the face and neck (reported in 13 percent of visits).

Table 4 presents data on the principal diagnoses frequently rendered by the orthopedic surgeon. The *principal* diagnosis was the first-listed diagnosis on a survey form that permitted up to three diagnostic entries. Diagnostic terms and codes are those established by the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States, 1968* (ICDA). Two major diagnostic groups accounted for two-thirds of all the principal diagnoses made by the orthopedic surgeon; these were "Accidents, . . ., and violence" (36 percent of all diagnoses) and "Diseases of the musculoskeletal system and connective tissue" (30 percent).

²To obtain this return-visit rate, divide all visits classified as "old patient, old problem" by visits representing new-problem encounters (i.e., visits by "new patient" plus visits by "old patient, new problem").

To establish or, more typically, to confirm and limit a diagnosis, orthopedic surgeons placed chief reliance on two diagnostic procedures—the limited examination and the X-ray (table 5). In keeping with the nature of their specialty, they used X-ray about five times more frequently than the average office-based physician. In

Table 5. Number and percent of office visits to orthopedic surgeons, and percent of visits to all specialists, by selected diagnostic and therapeutic services ordered or provided: United States, 1975-76

Selected services ordered or provided	Visits to orthopedic surgeons		Visits to all specialists
	Number in thousands	Percent of visits	Percent of visits ¹
<u>Diagnostic service</u>			
Limited history and examination.....	26,019	55.2	51.6
General history and examination.....	5,142	10.9	16.3
Clinical laboratory test.....	745	1.6	22.8
X-ray.....	17,096	36.3	7.6
Blood pressure check..	690	1.5	33.2
<u>Therapeutic service</u>			
Drug prescribed.....	8,030	17.0	43.6
Injection.....	2,998	6.4	13.1
Office surgery.....	6,748	14.3	6.9
Physiotherapy.....	4,477	9.5	2.6
Medical counseling.....	7,766	16.5	13.0

¹Based on an estimated 1,155,900,000 visits made to all office-based physicians in 1975 and 1976.

Table 6. 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, 1975-76

Visit characteristic	Visits to orthopedic surgeons		Visits to all specialists
	Number in thousands	Percent distribution	Percent distribution ¹
All visits.....	47,152	100.0	100.0
<u>Seriousness of problem</u>			
Serious and very serious.....	11,203	23.8	19.2
Slightly serious.....	18,137	38.5	32.3
Not serious.....	17,813	37.8	48.5
<u>Disposition (selected actions)</u>			
No followup.....	4,969	10.5	12.3
Return at specified time.....	31,261	66.3	60.2
Return if needed.....	7,695	16.3	21.9
Referred to other physician or agency..	1,064	2.3	2.8
Admit to hospital.....	1,646	3.5	2.1
<u>Duration</u>			
0 minutes (no face-to-face contact with physician).....	517	1.1	1.8
1-5 minutes.....	7,801	16.6	15.1
6-10 minutes.....	13,672	29.0	31.5
11-15 minutes.....	11,650	24.7	26.6
16-30 minutes.....	11,132	23.6	19.5
31 minutes or more....	2,378	5.0	5.5

¹Based on an estimated 1,155,900,000 visits made to all office-based physicians in 1975 and 1976.

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

further contrast with the average experience, orthopedic surgeons made relatively less use of drugs and injections and relatively more of manipulative and surgical forms of treatment (e.g., physiotherapy and such surgical procedures as wound suture, fracture reduction, and the application or removal of supportive materials for fractures and sprains).

Table 6 presents data on the severity of the patient problems presented to the orthopedic surgeon. These data express the doctor's judgment of the extent of impairment that might result if no care were available. In keeping with the average tendency among office-based practitioners, orthopedic surgeons judged most of their patients' problems (3 of every 4) to range from slightly serious to not serious in prognosis.

Data on disposition (table 6) show that scheduled followup—directed after 2 of every 3 visits—is the rule with office-based orthopedic surgeons as it is with all office-based practitioners. Admission to the hospital, though somewhat more common in the office-based practice of the orthopedic surgeon than it is in overall office-based practice, is still a rare event (3.5 percent of visits).

The duration of visit (the portion of an office visit that involves face-to-face contact between patient and orthopedic surgeon) was under 16 minutes for about 70 percent of office visits (table 6). Agreeing closely with the finding for all office-based practitioners, the average face-to-face encounter between patient and orthopedic surgeon was probably about 15 minutes in duration.

TECHNICAL NOTES

SOURCE OF DATA: The information presented in this report is based on data collected in the National Ambulatory Medical Care Survey (NAMCS) during 1975 and 1976. The target population of NAMCS encompasses office visits within the coterminous United States made by ambulatory patients to physicians not in Federal Service who are principally engaged in office practice and not in the specialties of anesthesiology, pathology, or radiology.

SAMPLE DESIGN: NAMCS utilizes a multistage probability design that involves samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within practices. Each year a sample of practicing physicians is selected from master files maintained by the American Medical Association and the American Osteopathic Association. (This sample included 136 orthopedic surgeons in 1975 and 140 in 1976.) These physicians are requested to complete Patient Records (brief encounter forms) for a systematic random sample of office visits taking place within their practice during a randomly assigned weekly reporting period. A facsimile of the Patient Record used during 1975-76 is shown in a previous issue of *Advance Data From Vital and Health Statistics*, No. 12, October 12, 1977. Characteristics of the physician's practice, such as primary specialty and type of practice, are obtained during an induction interview. A detailed description of the NAMCS design and procedures has been published in Series 13-No. 33, *Vital and Health Statistics*, DHEW Pub. No. (PHS) 78-1784, Public Health Service, Washington, U.S. Government Printing Office, Dec. 1977.

SAMPLING ERRORS: Because the estimates for this report are based on a sample rather than on the entire universe, they are subject to sampling variability. The standard error is primarily a measure of sampling variability. The relative standard error of an estimate is obtained by dividing the standard error of the estimate by the estimate itself and is expressed as a percent of the estimate. Relative standard errors of selected aggregate statistics are shown in table I. The standard errors appropriate for estimated percentages of visits are shown in table II.

Table I. Approximate relative standard errors of estimated number of office visits: United States, 1975-76

Estimated number of office visits in thousands	Relative standard error in percent
600	30.2
1,000	23.5
2,000	16.7
4,000	12.0
10,000	8.0
40,000	4.8
200,000	3.4
1,000,000	3.1

Example of use of table: An aggregate estimate of 25,000,000 visits has a relative standard error of 6.4 percent or a standard error of 1,600,000 visits (6.4 percent of 25,000,000).

Table II. Approximate standard errors of percentages of estimated number of office visits: United States, 1975-76

Base of percent (number of visits in thousands)	Estimated percent					
	1 or 99	5 or 95	10 or 90	20 or 80	30 or 70	50
	Standard error in percentage points					
600	3.0	6.5	9.0	12.0	13.8	15.0
1,000	2.3	5.1	7.0	9.3	10.7	11.6
2,000	1.6	3.6	4.9	6.6	7.5	8.2
4,000	1.2	2.5	3.5	4.7	5.3	5.8
10,000	0.7	1.6	2.2	2.9	3.4	3.7
40,000	0.4	0.8	1.1	1.5	1.7	1.8
200,000	0.2	0.4	0.5	0.7	0.8	0.8
1,000,000	0.1	0.2	0.2	0.3	0.3	0.4

Example of use of table: An estimate of 20 percent based on an aggregate estimate of 80,000,000 visits has a standard error of 1.3 percent. The relative standard error of 20 percent is 6.5 percent (1.3 percent ÷ 20 percent).

DEFINITIONS: An *ambulatory patient* is an individual presenting himself for personal health services who is neither bedridden nor currently admitted to any health care institution.

An *office* is a place that the physician identifies as a location for his ambulatory practice. Responsibility over time for patient care and professional services rendered there generally resides with the individual physician, rather than an institution.

A *visit* is a direct personal exchange between an ambulatory patient and a physician or a staff member working under the physician's super-

vision for the purpose of seeking care and rendering health services.

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.

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SYMBOLS

Data not available-----	---
Category not applicable-----	...
Quantity zero-----	-
Quantity more than 0 but less than 0.05-----	0.0
Figure does not meet standards of reliability or precision-----	*
Data suppressed to comply with confidentiality requirements-----	#