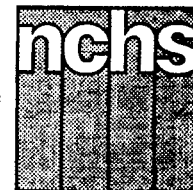


# Advance Data



From Vital and Health Statistics of the National Center for Health Statistics

## National Ambulatory Medical Care Survey: 1989 Summary

by James E. DeLozier, M.S., and Raymond O. Gagnon, Division of Health Care Statistics

Estimates presented in this report are based on data collected during the National Ambulatory Medical Care Survey (NAMCS), a national probability sample survey conducted by the Division of Health Care Statistics, National Center for Health Statistics, Centers for Disease Control.

During the 12-month period from March 1989 to March 1990, an estimated 692.7 million office visits were made to nonfederally employed, office-based physicians in the United States. This represents an increase of about 56 million visits (8.8 percent) since 1985. Part of this increase is accounted for by the addition of Alaska and Hawaii to the NAMCS in 1989. The rate of office visits has been stable since 1975, with about 2.7 visits per person per year. The rate was 2.8 for 1989; this is not a statistically significant increase but warrants further examination later in this report.

This report provides an overview of the data from the 1989 NAMCS. These data should be considered provisional because final editing may result in minor changes in the estimates. The use of office-based ambulatory care services is described

in terms of the number, percent, and rate of office visits. Statistics are presented on physician, patient, and visit characteristics.

Figure 1 is a facsimile of the 1989 NAMCS Patient Record used by participating physicians to record information about their patients' office visits. It will serve as a useful reference when reviewing survey findings.

Because the estimates presented in this report are based on a sample rather than on the entire universe of office visits, the data are subject to sampling variability. The technical notes at the end of this report provide a brief description of the sample design, an explanation of sampling errors, and guidelines to judge the precision of the estimates. A detailed description of the 1989 NAMCS sample design and survey methodology is forthcoming.

The physician sample for NAMCS was selected with the cooperation of the American Medical Association and the American Osteopathic Association. Their contribution to this effort is gratefully acknowledged.

### Data highlights

#### Physician characteristics

The distribution of office visits according to physician specialty is shown in table 1 and figure 2 for the most frequently visited specialists.

Visits to physicians specializing in general and family practice (GFP) accounted for 29.8 percent of office visits in 1989, not statistically different from the proportion of visits in 1985 (30.5 percent). This may indicate the end of a trend that has shown a steady decrease in the proportion of GFP visits from a high of 41.5 percent in 1974, the first year the NAMCS was conducted. This trend has paralleled the decline in the proportion of general and family physicians during the same time period (1). Of the 13 most frequently visited specialists, only pediatricians showed a significant increase in the proportion of visits since 1985, increasing from 11.4 percent to 12.6 percent of total visits.

#### Patient characteristics

Office visit data according to patient age, sex, and race are shown in tables 2 and 3. Females accounted



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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Assurance of Confidentiality—All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to other persons or used for any other purpose.		Department of Health and Human Services Centers for Disease Control Public Health Service National Center for Health Statistics		<b>A</b>	
<b>1. DATE OF VISIT</b> ____/____/____ <small>Month Day Year</small>		<b>PATIENT RECORD</b> <b>NATIONAL AMBULATORY MEDICAL CARE SURVEY</b>			OMB No. 0920-0234 Expires 8-31-89 (PHS) 6105A
<b>2. ZIP CODE</b> _____	<b>4. SEX</b> 1 <input type="checkbox"/> FEMALE 2 <input type="checkbox"/> MALE	<b>5. COLOR OR RACE</b> 1 <input type="checkbox"/> WHITE 2 <input type="checkbox"/> BLACK 3 <input type="checkbox"/> ASIAN/PACIFIC ISLANDER 4 <input type="checkbox"/> AMERICAN INDIAN/ESKIMO/ALEUT	<b>6. ETHNICITY</b> 1 <input type="checkbox"/> HISPANIC ORIGIN 2 <input type="checkbox"/> NOT HISPANIC	<b>7. EXPECTED SOURCE(S) OF PAYMENT</b> <i>[Check all that apply]</i> 1 <input type="checkbox"/> SELF-PAY 4 <input type="checkbox"/> BLUE CROSS/BLUE SHIELD 7 <input type="checkbox"/> NO CHARGE 2 <input type="checkbox"/> MEDICARE 5 <input type="checkbox"/> OTHER COMMERCIAL INSURANCE 8 <input type="checkbox"/> OTHER <i>[Specify]</i> 3 <input type="checkbox"/> MEDICAID 6 <input type="checkbox"/> PRE-PAID PLAN HMO/PA/PPD	
<b>3. DATE OF BIRTH</b> ____/____/____ <small>Month Day Year</small>		<b>9. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT</b> <i>[in patient's own words]</i>  a. MOST IMPORTANT _____  b. OTHER _____		<b>10. PHYSICIAN'S DIAGNOSES</b>  a. PRINCIPAL DIAGNOSIS/PROBLEM ASSOCIATED WITH ITEM 9a. _____  b. OTHER SIGNIFICANT CURRENT DIAGNOSES _____	
<b>12. DIAGNOSTIC/SCREENING SERVICES THIS VISIT</b> <i>[Check all ordered or provided]</i> 1 <input type="checkbox"/> NONE 7 <input type="checkbox"/> BLOOD PRESSURE CHECK 13 <input type="checkbox"/> ORAL GLUCOSE TOL. 2 <input type="checkbox"/> PAP TEST 8 <input type="checkbox"/> URINALYSIS 14 <input type="checkbox"/> CHOLESTEROL MEASURE 3 <input type="checkbox"/> PELVIC EXAM 9 <input type="checkbox"/> CHEST X-RAY 15 <input type="checkbox"/> HIV SEROLOGY 4 <input type="checkbox"/> BREAST PALPATION 10 <input type="checkbox"/> DIGITAL RECTAL EXAM 16 <input type="checkbox"/> OTHER BLOOD TEST 5 <input type="checkbox"/> MAMMOGRAM 11 <input type="checkbox"/> PROCT/SIGMOIDOSCOPY 17 <input type="checkbox"/> OTHER <i>[Specify]</i> 6 <input type="checkbox"/> VISUAL ACUITY 12 <input type="checkbox"/> STOOL BLOOD EXAM		<b>13. COUNSELING/ADVICE</b> <i>[Check all ordered or provided]</i> 1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> WEIGHT REDUCTION 3 <input type="checkbox"/> CHOLESTEROL REDUCTION 4 <input type="checkbox"/> SMOKING CESSATION 5 <input type="checkbox"/> HIV TRANSMISSION 6 <input type="checkbox"/> BREAST SELF-EXAM 7 <input type="checkbox"/> OTHER		<b>14. NON-MEDICATION THERAPY</b> <i>[Check all ordered or provided]</i> 1 <input type="checkbox"/> NONE 2 <input type="checkbox"/> PSYCHOTHERAPY 3 <input type="checkbox"/> CORRECTIVE LENSES 4 <input type="checkbox"/> AMBULATORY SURGERY 5 <input type="checkbox"/> PHYSIOTHERAPY 6 <input type="checkbox"/> OTHER <i>[Specify]</i>	
<b>15. MEDICATION THERAPY</b> <i>[Record all new or continued medications ordered or provided at this visit. Use the same brand name or generic name entered on any Rx or office medical record. Include immunizing and desensitizing agents.]</i>  IF NONE, CHECK HERE <input type="checkbox"/>			<b>16. DISPOSITION THIS VISIT</b> <i>[Check all that apply]</i> 1 <input type="checkbox"/> NO FOLLOW-UP PLANNED 2 <input type="checkbox"/> RETURN AT SPECIFIED TIME 3 <input type="checkbox"/> RETURN IF NEEDED, P.R.N. 4 <input type="checkbox"/> TELEPHONE FOLLOW-UP PLANNED 5 <input type="checkbox"/> REFERRED TO OTHER PHYSICIAN 6 <input type="checkbox"/> RETURNED TO REFERRING PHYSICIAN 7 <input type="checkbox"/> ADMIT TO HOSPITAL 8 <input type="checkbox"/> OTHER <i>[Specify]</i> _____		<b>17. DURATION OF THIS VISIT</b> <i>[Time actually spent with physician]</i>  _____ Minutes
1. _____			a. NEW MEDICATION? YES NO b. FOR DX IN ITEM 10a? YES NO		
2. _____			1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>		
3. _____			1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>		
4. _____			1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>		
5. _____			1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>		

\* U.S. GOVERNMENT PRINTING OFFICE: 1989-226-197

Figure 1. 1989 National Ambulatory Medical Care Survey Patient Record

for about 60 percent of all office visits and for a majority of the visits in each age group except the youngest. The annual visit rate was also higher for females than for males in all age groups except the youngest. For both sexes, the visit rates increased with age after 15 years of age.

As noted earlier, the overall visit rate of 2.8 office visits per person for 1989 is not statistically different from the rate for 1985 and prior years of 2.7. An examination of age-specific

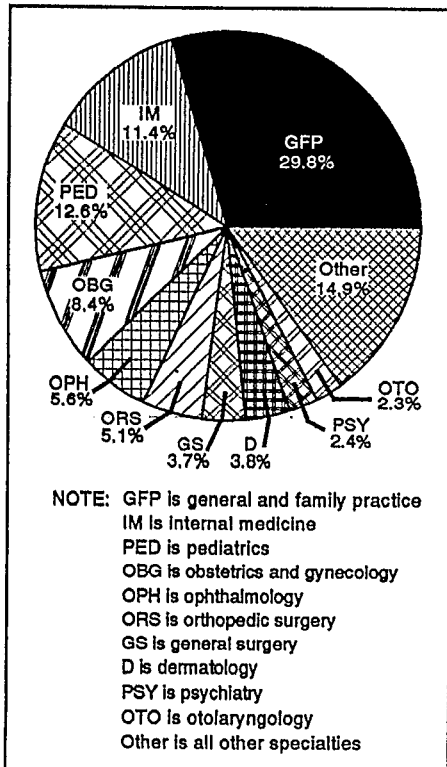
visit rates, however, indicates that the rates for the oldest and youngest patients have increased (figure 3). From 1975 through 1989, the visit rate for patients 65 years of age and over increased from 4.3 to 5.2; and for patients under 15 years of age, it increased from 1.9 to 2.6 visits per year. Data for males and females separately show similar increases in visit rates for the youngest and oldest age groups.

Visits by white persons accounted for about 85 percent of the office visits in 1989, a significantly smaller proportion of visits than the estimate of about 90 percent in 1985. Two factors account for some of this difference. First, the method of reporting race changed; the 1989 data shown in table 3 include an "unspecified" category that was not used in earlier NAMCS data. Prior to 1989, unspecified responses to this item were randomly imputed a race

**Table 1. Number and percent distribution of office visits, by physician specialty and professional identity: United States, 1989**

Physician specialty and professional identity	Number of visits in thousands	Percent distribution
All visits	692,702	100.0
<b>Physician specialty</b>		
General and family practice	206,301	29.8
Pediatrics	87,411	12.6
Internal medicine	78,816	11.4
Obstetrics and gynecology	58,381	8.4
Ophthalmology	38,761	5.6
Orthopedic surgery	35,148	5.1
Dermatology	26,319	3.8
General surgery	25,379	3.7
Psychiatry	16,616	2.4
Otolaryngology	15,956	2.3
Cardiovascular disease	10,840	1.6
Urological surgery	10,157	1.5
Neurology	6,105	0.9
All other specialties	76,511	11.0
<b>Professional identity</b>		
Doctor of medicine	651,392	94.0
Doctor of osteopathy	41,310	6.0

designation. Following that procedure in 1989 would have resulted in about 87.5 percent of the visits being accounted for by white persons. Second, the addition of Alaska and



**Figure 2. Percent distribution of office visits by physician specialty: United States, 1989**

**Table 2. Number, percent distribution, and annual rate of office visits, by sex and age of patient: United States, 1989**

Sex and age	Number of visits in thousands	Percent distribution	Number of visits per person per year <sup>1</sup>
<b>Both sexes</b>			
All ages	692,702	100.0	2.8
Under 15 years	137,502	19.9	2.6
15-24 years	66,868	9.7	1.9
25-44 years	192,593	27.8	2.4
45-64 years	145,160	21.0	3.1
65-74 years	83,692	12.1	4.7
75 years and over	66,888	9.7	5.9
<b>Female</b>			
All ages	417,496	60.3	3.3
Under 15 years	65,138	9.4	2.5
15-24 years	43,065	6.2	2.4
25-44 years	130,222	18.8	3.2
45-64 years	87,076	12.6	3.6
65-74 years	49,560	7.2	5.0
75 years and over	42,435	6.1	5.9
<b>Male</b>			
All ages	275,206	39.7	2.3
Under 15 years	72,364	10.4	2.6
15-24 years	23,803	3.4	1.4
25-44 years	62,370	9.0	1.6
45-64 years	58,084	8.4	2.6
65-74 years	34,133	4.9	4.3
75 years and over	24,453	3.5	5.8

<sup>1</sup>Rates are based on estimates of the civilian noninstitutionalized population of the United States, as of July 1, 1989.

Hawaii to the 1989 sample design contributed to both the decrease in the proportion of visits by white persons and the increase in the proportion of visits by Asians and Pacific Islanders. The estimated 2.7 percent of visits made by Asians and Pacific Islanders, shown in table 3, is more than double the 1.2 percent found in 1985.

**Visit characteristics**

*Prior visit status*—About 83 percent of visits were by patients who had seen the physician before (table 4). Furthermore, a majority of visits (61 percent) were made by patients who were returning for care of problems that had previously been treated by the physician. These figures are substantially the same as those for 1985 and prior years of the NAMCS.

*Reason for visit*—The data in tables 5 and 6 represent the principal reason for visiting the physician's office as expressed by the patient or a patient surrogate. The principal reason is the problem, complaint, or reason listed first in item 9a of the

Patient Record. These data have been classified and coded according to the Reason for Visit Classification for Ambulatory Care (RVC) (2).

The RVC is divided into eight modules (or groups of reasons), as shown in table 5. Those reasons for visit classified as symptoms accounted for about 57 percent of all visits, with respiratory and musculoskeletal symptoms each accounting for about 11 percent of all visits.

The 20 most common principal reasons for visit are shown in table 6 and accounted for nearly 40 percent of all visits. Of these 20 reasons, 18 also appeared in the list of the most

**Table 3. Number and percent distribution of office visits, by race: United States, 1989**

Race	Number of visits in thousands	Percent distribution
All races	692,702	100.0
White	587,976	84.9
All other	83,327	12.0
Black	62,146	9.0
Asian or Pacific Islander	18,948	2.7
American Indian or Alaskan Native	2,233	0.3
Unspecified	21,399	3.1

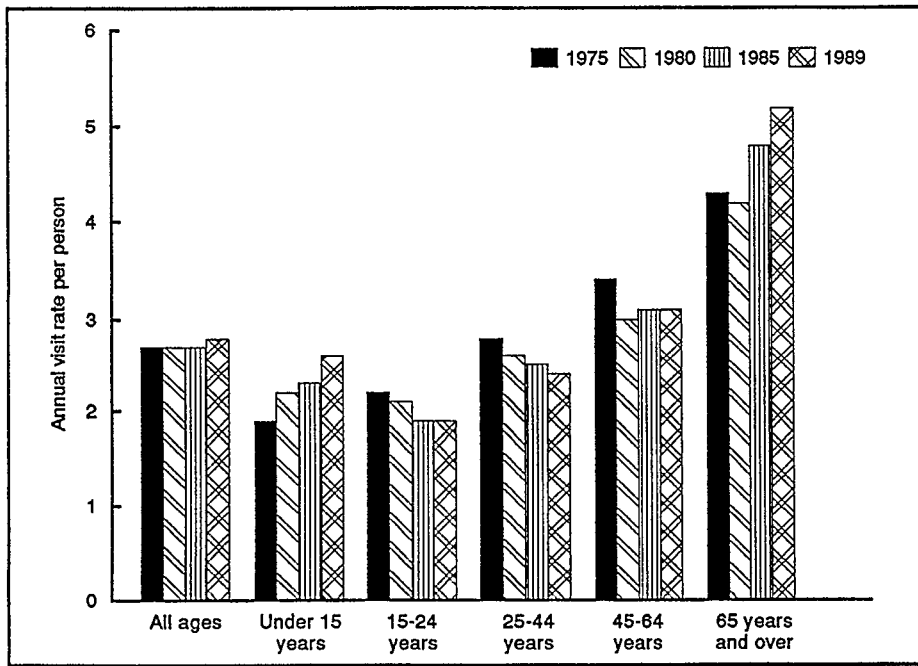


Figure 3. Annual visit rate per person by patient age: United States, 1975, 1980, 1985, and 1989

frequent reasons for visit in 1981 and 1985.

**Diagnostic and screening services**—Information on various diagnostic and screening services that may be ordered or provided during an office visit is presented in table 7. The list of services included on the NAMCS Patient Record (item 12) is changed periodically to enable collection of data on a wide variety of tests and procedures. Services included for a particular survey year are determined by the needs expressed by data users, recommendations of advisors, and anticipated future health data needs. Some items in table 7 were new in

Table 4. Number and percent distribution of office visits, by referral status and prior visit status: United States, 1989

Referral status and prior visit status	Number of visits in thousands	Percent distribution
All visits	692,702	100.0
<b>Referral status</b>		
Referred by another physician	37,643	5.4
Not referred by another physician	655,059	94.6
<b>Prior visit status</b>		
New patient	114,855	16.6
Old patient	577,847	83.4
New problem	155,640	22.5
Old problem	422,207	61.0

the 1989 NAMCS. All other items were included in the NAMCS in 1985 and/or prior survey years. Estimates of the percent of visits for those repeated categories are substantially the same as corresponding estimates in 1985.

Among the new service categories are tests and procedures generally used for screening and early detection

Table 5. Number and percent distribution of office visits by patient's principal reason for visit: United States, 1989

Principal reason for visit and RVC code <sup>1</sup>	Number of visits in thousands	Percent distribution
All visits	692,702	100.0
<b>Symptom module</b> . . . . . S001-S999		
General symptoms . . . . . S001-S099	46,493	6.7
Symptoms referable to psychological and mental disorders . . . . . S100-S199	18,060	2.6
Symptoms referable to the nervous system (excluding sense organs) . . . . . S200-S259	20,122	2.9
Symptoms referable to the cardiovascular and lymphatic systems . . . . . S260-S299	4,057	0.6
Symptoms referable to eyes and ears . . . . . S300-S399	47,493	6.9
Symptoms referable to the respiratory system . . . . . S400-S499	76,682	11.1
Symptoms referable to the digestive system . . . . . S500-S639	31,544	4.6
Symptoms referable to the genitourinary system . . . . . S640-S829	32,030	4.6
Symptoms referable to the skin, nails, and hair . . . . . S830-S899	43,240	6.2
Symptoms referable to the musculoskeletal system . . . . . S900-S999	75,155	10.9
<b>Disease module</b> . . . . . D001-D999		
Diagnostic, screening, and preventive module . . . . . X100-X599	108,572	15.7
Treatment module . . . . . T100-T899	64,487	9.3
Injuries and adverse effects module . . . . . J001-J999	25,583	3.7
Test results module . . . . . R100-R700	7,527	1.1
Administrative module . . . . . A100-A140	8,325	1.2
Other <sup>2</sup> . . . . . U990-U999	13,725	2.0

<sup>1</sup>Based on "A Reason for Visit Classification for Ambulatory Care" (RVC), *Vital and Health Statistics, Series 2, No. 78, Feb. 1979.*  
<sup>2</sup>Includes blanks, problems, and complaints not elsewhere classified, entries of "none," and illegible entries.

of disease. Noteworthy among these are breast palpation and mammograms ordered or provided at 9.0 percent and 2.5 percent, respectively, of female visits. Digital rectal examinations were ordered or provided at 3.6 percent of visits and cholesterol measures also at 3.6 percent of visits.

**Principal diagnosis**—Data on the principal diagnosis rendered by the physician are presented in tables 8 and 9. The principal diagnosis refers to the first-listed diagnosis in item 10a of the Patient Record. These data were coded and classified according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (3). In table 8, the diagnoses data are grouped into major disease categories as specified in the ICD-9-CM. The Supplementary Classification of the ICD-9-CM, which includes general medical, well child, and normal pregnancy exams, accounted for the largest proportion of visits (15.3 percent). Diseases of the respiratory system represented the second largest proportion, with 13.7 percent of the visits.

The 20 most common diagnoses, listed in table 9 and categorized at the three-digit coding level of the

**Table 6. Number and percent distribution of office visits, by the 20 most common principal reasons for visit: United States, 1989**

Rank	Most common principal reason for visits in and RVC code <sup>1</sup>	Number of visits in thousands	Percent distribution
1	General medical examination . . . . . X100	27,909	4.0
2	Cough . . . . . S440	24,997	3.6
3	Prenatal examination . . . . . X205	24,056	3.5
4	Symptoms referable to the throat. . . . . S455	16,972	2.5
5	Postoperative visit . . . . . T205	16,660	2.4
6	Well baby examination . . . . . X105	14,831	2.1
7	Earache, or ear infection . . . . . S355	14,468	2.1
8	Back symptoms . . . . . S905	13,744	2.0
9	Skin rash. . . . . S860	12,325	1.8
10	Stomach pain, cramps, and spasms. . . . . S545	12,313	1.8
11	Fever . . . . . S010	11,634	1.7
12	Vision dysfunctions . . . . . S305	10,253	1.5
13	Hypertension . . . . . D510	10,055	1.5
14	Knee symptoms . . . . . S925	9,816	1.4
15	Blood pressure test . . . . . X320	9,792	1.4
16	Headache, pain in head . . . . . S210	9,609	1.4
17	Headcold, upper respiratory infection . . . . . S445	8,669	1.3
18	Nasal congestion. . . . . S400	8,647	1.2
19	Chest pain and related symptoms . . . . . S050	8,399	1.2
20	Neck symptoms . . . . . S900	8,112	1.2
	All other reasons . . . . .	419,439	60.6

<sup>1</sup>Based on "A Reason for Visit Classification for Ambulatory Care" (RVC), *Vital and Health Statistics*, Series 2, No. 78, Feb. 1979.

**Table 7. Number and percent of office visits, by diagnostic service and sex: United States, 1989**

Diagnostic service	Number of visits in thousands	Both sexes	Percent	
			Female	Male
None . . . . .	265,834	38.4	34.7	43.9
Pap test . . . . .	32,766	4.7	7.8	—
Pelvic exam . . . . .	51,965	7.5	12.5	—
Breast palpation <sup>1</sup> . . . . .	37,929	5.5	9.0	0.1
Mammogram <sup>1</sup> . . . . .	10,655	1.5	2.6	—
Visual acuity . . . . .	45,192	6.5	5.9	7.5
Blood pressure check. . . . .	241,899	34.9	38.9	28.9
Urinalysis . . . . .	87,716	12.7	14.8	9.4
Chest x ray . . . . .	18,419	2.7	2.3	3.1
Digital rectal examination <sup>1</sup> . . . . .	25,071	3.6	4.1	3.0
Proctoscopy or sigmoidoscopy . . . . .	3,134	0.5	0.4	0.6
Stool blood examination <sup>1</sup> . . . . .	15,576	2.2	2.4	2.1
Oral glucose tolerance <sup>1</sup> . . . . .	3,056	0.4	0.5	0.3
Cholesterol measure <sup>1</sup> . . . . .	24,828	3.6	3.6	3.5
HIV serology <sup>2</sup> . . . . .	1,013	0.1	0.1	0.2
Other blood test . . . . .	88,210	12.7	13.1	12.1
Other . . . . .	176,242	25.4	25.1	26.0

<sup>1</sup>Category is new in the 1989 NAMCS.

<sup>2</sup>HIV is human immunodeficiency virus.

categories were new in the 1989 NAMCS. Physicians were instructed to check the appropriate category(ies) when the counseling was a "significant part of the visit" or when the patient was instructed to seek the service from another source. Counseling concerning weight reduction (6.3 percent of visits) was the most frequent category listed. More common counseling topics, such as medical, social, and family counseling, were included in the "other" category (27.9 percent of visits). More detailed data in this area are being collected in the 1991 NAMCS.

Ambulatory surgery was ordered or provided in 1.9 percent of visits, a significant decrease from the estimate of 6.6 percent of visits in 1985. The reason for the decrease is not known but is thought to be the result of a different interpretation of the question by the respondents rather than a real decline in the volume of ambulatory surgery. More detailed data on ambulatory surgery are being collected in the 1991 NAMCS, which may help explain these data.

**Medication therapy**—In item 15 of the Patient Record, the physician was asked to "Record all new or continued medications ordered or provided at this visit. . . . Include immunizations and desensitizing agents." As used in the NAMCS, the term "drug" is interchangeable with the term "medication," and the term "prescribing" is used in the broad sense to mean ordering or providing any medication, either prescription or nonprescription.

Data on the provision of medication by office-based physicians are highlighted in tables 11, 12, and 13. Data on drug visits, visits during which at least one medication was provided or prescribed, are presented in table 11. As noted above, approximately 60 percent of all office visits resulted in the use of one or more drugs, chiefly for therapy but also as diagnostic or preventive agents. By specialty, the percent of visits that were drug visits ranged from 82 percent for cardiovascular disease specialists to about 27 percent for orthopedic surgeons.

ICD-9-CM, accounted for 35 percent of all visits. Essential hypertension was the most common diagnosis (as it was in 1985 and 1981), accounting for 4 percent of all visits. Of the 20 diagnoses listed in table 9, 18 also appeared in the list of the most frequent diagnoses in 1985.

**Therapeutic services**—Selected types of therapy ordered or provided during the visit, including counseling and medications, are presented in table 10. These data are a summation of

information from items 13, 14, and 15 of the Patient Record. Medications (including prescriptions and over-the-counter drugs, immunizations, and desensitizing agents) were utilized in 60.2 percent of all office visits. (More details on the medication data are presented below.)

Counseling, broadly defined to include formal and informal counseling, advice, and patient education, was ordered or provided in about 37.1 percent of the visits. The counseling

**Table 8. Number and percent distribution of office visits, by principal diagnosis: United States, 1989**

Principal diagnosis and ICD-9-CM code <sup>1</sup>	Number of visits in thousands	Percent distribution
All diagnoses . . . . .	692,702	100.0
Infectious and parasitic diseases . . . . . 001-139	25,466	3.7
Neoplasms . . . . . 140-239	22,319	3.2
Endocrine, nutritional, and metabolic diseases and immunity disorders . . . . . 240-279	27,863	4.0
Mental disorders . . . . . 290-319	25,386	3.7
Diseases of the nervous system and sense organs . . . . . 320-389	74,557	10.8
Diseases of the circulatory system . . . . . 390-459	56,014	8.1
Diseases of the respiratory system . . . . . 460-519	94,593	13.7
Diseases of the digestive system . . . . . 520-579	26,743	3.9
Diseases of the genitourinary system . . . . . 580-629	38,472	5.6
Diseases of the skin and subcutaneous tissue . . . . . 680-709	38,640	5.6
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	47,906	6.9
Symptoms, signs, and ill-defined conditions . . . . . 780-799	28,883	4.2
Injury and poisoning . . . . . 800-999	55,936	8.1
Supplementary classification . . . . . V01-V82	105,642	15.3
All other diagnoses <sup>2</sup> . . . . .	11,210	1.6
Unknown diagnoses <sup>3</sup> . . . . .	13,073	1.9

<sup>1</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.

<sup>2</sup>Includes diseases of the blood and blood-forming organs (280-289); complications of pregnancy, childbirth, and the puerperium (630-676); congenital anomalies (740-759); and certain conditions originating in the perinatal period (760-779).

<sup>3</sup>Includes blank diagnoses, noncodable diagnoses, and illegible diagnoses.

**Table 9. Number and percent distribution of office visits, by the 20 most common principal diagnoses: United States, 1989**

Rank	Most common principal diagnosis and ICD-9-CM code <sup>1</sup>	Number of visits in thousands	Percent distribution
	Total . . . . .	692,702	100.0
1	Essential hypertension . . . . . 401	27,708	4.0
2	Normal pregnancy . . . . . V22	23,578	3.4
3	General medical examination . . . . . V70	20,166	2.9
4	Suppurative and unspecified otitis media . . . . . 382	20,033	2.9
5	Acute respiratory infections of multiple or unspecified sites . . . . . 465	15,765	2.3
6	Health supervision of infant or child . . . . . V20	15,669	2.3
7	Diabetes mellitus . . . . . 250	13,237	1.9
8	Allergic rhinitis . . . . . 477	11,631	1.7
9	Bronchitis, not specified as acute or chronic . . . . . 490	11,160	1.6
10	Acute pharyngitis . . . . . 462	10,958	1.6
11	Chronic sinusitis . . . . . 473	8,700	1.3
12	Neurotic disorders . . . . . 300	8,511	1.2
13	Diseases of sebaceous glands . . . . . 706	8,146	1.2
14	Disorders of refraction and accommodation . . . . . 367	7,686	1.1
15	Sprains and strains of back except sacroiliac . . . . . 847	7,614	1.1
16	Asthma . . . . . 493	6,822	1.0
17	Contact dermatitis and other eczema . . . . . 692	6,542	0.9
18	Cataract . . . . . 366	6,335	0.9
19	Osteoarthritis and allied disorders . . . . . 715	6,259	0.9
20	Chronic ischemic heart disease except angina pectoris . . . . . 414	5,712	0.8
	All other reasons . . . . .	450,469	65.0

<sup>1</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*.

Data on the number and percent of drug mentions, that is, the total number of medications listed in item 15 of the Patient Record, are also presented in tables 11, 12, and 13. During office visits, there were about 730.8 million drug mentions in 1989, an average of 1.1 drug mentions for every visit or 1.8 drug mentions for

every visit at which medication(s) was prescribed.

Total drug mentions are distributed according to major therapeutic class in table 12. This classification is adapted from the therapeutic categories of the National Drug Code, 1982 (4). It should be noted that some drugs may have

**Table 10. Number and percent of office visits by therapeutic service ordered or provided: United States, 1989**

Therapeutic service	Number of visits in thousands	Percent
None . . . . .	142,493	20.6
Medications <sup>1</sup> . . . . .	416,789	60.2
Counseling . . . . .	244,015	37.1
Weight reduction . . . . .	43,853	6.3
Cholesterol reduction . . . . .	21,533	3.1
Smoking cessation . . . . .	15,109	2.2
HIV transmission . . . . .	1,044	0.2
Breast self exam. . . . .	15,779	23.8
Other counseling . . . . .	193,272	27.9
Psychotherapy . . . . .	22,182	3.2
Corrective lenses . . . . .	8,572	1.2
Ambulatory surgery . . . . .	13,095	1.9
Physiotherapy . . . . .	16,204	2.3
Other therapeutic service . . . . .	78,797	11.4

<sup>1</sup>Includes prescription drugs, over-the-counter medications, immunizations, and so forth.

<sup>2</sup>Percent based on female visits only.

application in more than one therapeutic category. In that event, each drug was assigned to the category for which it is most frequently prescribed.

Antimicrobial agents constitute the largest therapeutic class, accounting for 16.7 percent of drug mentions. More than a third of these are from the penicillin group. Cardiovascular-renal and pain-relief drugs were also prominent, with 14.9 and 10.7 percent, respectively, of the total mentions. More than a third of the cardiovascular drugs are antihypertensive agents, and nearly half of the pain-relief drugs are antiarthritics.

The 20 generic substances most frequently provided or prescribed in office visits are shown in table 13. In this table, drug products containing more than one ingredient (combination products) are included in the data for each ingredient. For example, acetaminophen with codeine is included in both the count for acetaminophen and the count for codeine.

The NAMCS drug data base permits classification by such variables as specific product name; generic class; entry form chosen by the physician, that is, brand name, generic name, or the desired therapeutic effect; prescription status, that is, prescription or nonprescription; federally controlled substance status;

**Table 11. Number and percent distribution of drug visits and drug mentions, by physician specialty: United States, 1989**

Physician specialty	Number of drug visits in thousands <sup>1</sup>	Percent distribution	Number of drug mentions in thousands	Percent distribution	Percent drug visits <sup>2</sup>
All specialties . . . . .	416,789	100.0	730,756	100.0	60.2
General and family practice . . . . .	145,947	35.0	258,914	35.4	70.7
Internal medicine . . . . .	59,412	14.3	125,641	17.2	75.4
Pediatrics . . . . .	58,673	14.1	84,514	11.6	67.1
Obstetrics and gynecology . . . . .	25,989	6.2	34,736	4.8	44.5
Dermatology . . . . .	17,261	4.1	32,237	4.4	65.6
Ophthalmology . . . . .	15,462	3.7	23,896	3.3	39.9
Orthopedic surgery . . . . .	9,628	2.3	12,587	1.7	27.4
Cardiovascular disease . . . . .	8,891	2.1	25,585	3.5	82.0
General surgery . . . . .	8,414	2.0	15,249	2.1	33.2
Psychiatry . . . . .	8,119	1.9	13,351	1.8	48.9
Otolaryngology . . . . .	7,861	1.9	12,601	1.7	49.3
Urological surgery . . . . .	4,331	1.0	5,804	0.8	42.6
Neurology . . . . .	3,676	0.9	6,578	0.9	60.2
All other specialties . . . . .	43,123	10.3	79,063	10.8	56.4

<sup>1</sup>Visits at which one or more drugs were prescribed.

<sup>2</sup>Number of drug visits divided by number of office visits multiplied by 100.

**Table 12. Number and percent distribution of drug mentions, by therapeutic classification: United States, 1989**

Therapeutic class <sup>1</sup>	Number of mentions in thousands	Percent distribution
Total mentions . . . . .	730,756	100.0
Antimicrobial . . . . .	122,046	16.7
Cardiovascular-renal . . . . .	109,235	14.9
Pain relief . . . . .	78,216	10.7
Respiratory tract . . . . .	71,584	9.8
Hormones and related agents . . . . .	63,577	8.7
Dermatologic . . . . .	47,960	6.6
Psychopharmacologic . . . . .	38,236	5.2
Metabolic and nutrient . . . . .	31,770	4.3
Gastrointestinal . . . . .	29,770	4.1
Ophthalmic . . . . .	25,674	3.5
Immunologic . . . . .	19,408	2.7
Neurologic . . . . .	14,118	1.9
Hematologic . . . . .	10,114	1.4
Other and unclassified . . . . .	69,048	9.4

<sup>1</sup>Therapeutic class based on the standard drug classification used in the *National Drug Code Directory, 1982 Edition*.

composition status, that is, single or multiple ingredient; and therapeutic category. A report that describes the method and instruments used to collect and process drug information for the NAMCS has been published (5). Future reports will present detailed drug data from the 1989 NAMCS.

**Disposition**—Data on the visit disposition show that the majority of office visits involved some type of scheduled followup (table 14). For about 65 percent of the visits, a return visit or telephone followup was planned. Only 1 percent of the office visits resulted in admission to a hospital.

**Table 13. Number and percent of drug mentions for the 20 most frequently used generic substances: United States, 1989**

Rank	Generic substance <sup>1</sup>	Number of mentions in thousands <sup>1</sup>	Percent of total mentions
1	Amoxicillin . . . . .	34,851	4.8
2	Acetaminophen . . . . .	23,780	3.3
3	Erythromycin . . . . .	19,569	2.7
4	Hydrochlorothiazide . . . . .	15,889	2.2
5	Codeine . . . . .	12,118	1.7
6	Phenylephrine . . . . .	11,638	1.6
7	Ibuprofen . . . . .	11,569	1.6
8	Aspirin . . . . .	10,916	1.5
9	Phenylpropanolamine . . . . .	10,641	1.5
10	Trimethoprim . . . . .	10,302	1.4
11	Naproxen . . . . .	10,295	1.4
12	Sulfamethoxazole . . . . .	10,201	1.4
13	Furosemide . . . . .	9,970	1.4
14	Digoxin . . . . .	9,227	1.3
15	Estradiol . . . . .	9,051	1.2
16	Chlorpheniramine . . . . .	8,896	1.2
17	Riboflavin . . . . .	8,878	1.2
18	Vitamin A . . . . .	8,859	1.2
19	Theophylline . . . . .	8,776	1.2
20	Ergocalciferol . . . . .	8,347	1.1

<sup>1</sup>Frequency of mention combines single-ingredient agents with mentions of the agent as an ingredient in a combination drug.

**Duration of visit**—Duration of visit refers to the amount of time a physician spent in face-to-face contact with a patient. This time is estimated and recorded by the physician and does not include time spent waiting to see the physician, time spent receiving care from someone other than the physician without the presence of the physician, or time spent by the physician in reviewing records and test results. In cases where the patient received care from a member of the physician's staff, but did not actually see the physician

**Table 14. Number and percent of office visits, by disposition: United States, 1989**

Disposition	Number of visits in thousands	Percent
No followup planned . . . . .	66,377	9.6
Return at specified time . . . . .	424,583	61.3
Return if needed . . . . .	160,282	23.1
Telephone followup planned . . . . .	24,962	3.6
Referred to other physician . . . . .	20,071	2.9
Returned to referring physician . . . . .	6,139	0.9
Admit to hospital . . . . .	7,163	1.0
Other . . . . .	15,536	2.2

**Table 15. Number and percent distribution of office visits, by duration of visit: United States, 1989**

Duration	Number of visits in thousands	Percent distribution
All durations . . . . .	692,702	100.0
0 minutes <sup>1</sup> . . . . .	15,484	2.2
1–5 minutes . . . . .	65,153	9.4
6–10 minutes . . . . .	191,103	27.6
11–15 minutes . . . . .	215,017	31.0
16–30 minutes . . . . .	164,845	23.8
31 minutes and over . . . . .	41,100	5.9
Mean duration: 15.9 minutes		

<sup>1</sup>Represents office visits in which there was no face-to-face contact between the patient and the physician.

during the visit, the duration of visit was recorded as “zero” minutes. Some 70 percent of the visits had a duration of 15 minutes or less (table 15). The mean duration of all visits was 15.9 minutes.

More detailed 1989 NAMCS data are forthcoming in the *Vital and Health Statistics* series. In addition, survey data will be available on computer tape from the National Technical Information Service at a nominal cost about July 1991. Questions regarding this report, future reports, or the NAMCS may be directed to the Ambulatory Care Statistics Branch by calling (301) 436-7132.

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## Technical notes

### Source of data and sample design

The information presented in this report is based on data collected by means of the National Ambulatory Medical Care Survey (NAMCS) from March 20, 1989, through March 18, 1990. The target universe of NAMCS includes office visits made in the United States by ambulatory patients to nonfederally employed physicians who are principally engaged in office practice but not in the specialties of anesthesiology, pathology, or radiology. Telephone contacts and nonoffice visits are excluded.

A multistage probability sample design is used in NAMCS, involving samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within physician practices. For 1989, a sample of 2,535 non-Federal, office-based physicians was selected from master files maintained by the American Medical Association and American Osteopathic Association. The physician response rate for the 1989 NAMCS was 74 percent. Sample physicians were asked to complete Patient Records (see figure 1) for a systematic random sample of office visits occurring during a randomly assigned 1-week reporting period. Responding physicians completed 38,384 Patient Records.

Characteristics of the physician's practice, such as primary specialty and type of practice, were obtained from the physicians during an induction interview. The U.S. Bureau of the Census, Housing Surveys Branch, was responsible for the survey's data collection. Processing operations and medical coding were performed by the National Center for Health Statistics, Hospital Discharge and Ambulatory Care Survey Section, Research Triangle Park, North Carolina.

### Sampling errors

The standard error is primarily a measure of the sampling variability

**Table I. Provisional relative standard errors for estimated numbers of office visits: National Ambulatory Medical Care Survey, 1989**

Estimated number of office visits in thousands	Relative standard error in percent
200	60.3
500	38.3
875	30.0
1,000	27.2
2,000	19.5
5,000	12.7
10,000	9.4
20,000	7.3
50,000	5.6
100,000	4.9
600,000	4.2

Example of use of table: An aggregate estimate of 50 million visits has a relative standard error of 5.6 percent or a standard error of 2.8 million visits (5.6 percent of 50 million).

that occurs by chance when 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; the result is then expressed as a percent of the estimate. Approximate relative standard errors of selected aggregate statistics are shown in table I, and the standard errors for estimated percent of visits are shown in table II. Standard errors for estimates of drug mentions will be included in future reports.

### Adjustments for nonresponse

Estimates from NAMCS data were adjusted to account for sample physicians who were in scope but who did not participate in the study. This adjustment was calculated to minimize the impact of response on

final estimates by imputing to nonresponding physicians data from visits to similar physicians. For this purpose, physicians were judged similar if they had the same specialty designation and practiced in the same PSU.

### Test of significance and rounding

In this report, the determination of statistical significance is based on a two-sided *t*-test with a critical value of 1.96 (0.05 level of confidence). Terms relating to difference, such as "greater than" or "less than," indicate that the difference is statistically significant. In the tables, estimates of office visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals. Rates and percents were calculated from original unrounded figures and do not necessarily agree with percents calculated from rounded data.

### Definition of terms

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

*Physician* — A physician is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) who is currently in office-based practice and who spends some time caring for ambulatory patients. Excluded from

**Table II. Provisional standard errors for percents of estimated numbers of office visits: National Ambulatory Medical Care Survey, 1989**

Base of percent (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					
200	6.0	13.8	20.1	30.1	39.4	60.2
500	3.8	8.7	12.7	19.0	24.9	38.1
1,000	2.7	6.2	9.0	13.5	17.6	26.9
2,000	1.9	4.4	6.3	9.5	12.5	19.0
5,000	1.2	2.8	4.0	6.0	7.9	12.0
10,000	0.9	2.0	2.8	4.3	5.6	8.5
20,000	0.6	1.4	2.0	3.0	3.9	6.0
50,000	0.4	0.9	1.3	1.9	2.5	3.8
100,000	0.3	0.6	0.9	1.3	1.8	2.7
600,000	0.1	0.3	0.4	0.5	0.7	1.1

Example of use of table: An estimate of 20 percent based on an aggregate estimate of 50 million visits has a standard error of 1.9 percent or a relative standard error of 9.5 percent (1.9 percent divided by 20 percent).

the NAMCS are physicians who are hospital based; who specialize in anesthesiology, pathology, or radiology; who are federally employed; who treat only institutionalized patients; or who are employed full time by an institution and spend no time seeing ambulatory patients.

*Office*—Offices are the premises physicians identify as locations for their ambulatory practice; these customarily include consultation, examination, or treatment spaces that the patients associate with the particular physician.

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

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

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

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**Symbols**

- Data not available
  - . . . Category not applicable
  - Quantity zero
  - 0.0 Quantity more than zero but less than 0.05
  - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
  - \* Figure does not meet standard of reliability or precision (estimate has relative standard error of more than 30 percent)
  - # Figure suppressed to comply with confidentiality requirements
-

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