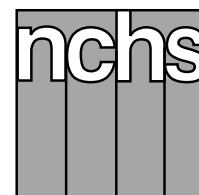


Advance Data



From Vital and Health Statistics of the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

National Ambulatory Medical Care Survey: 1998 Summary

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Abstract

Objective—This report describes ambulatory care visits made to physician offices within the United States. Statistics are presented on selected characteristics of the physician's practice, the patient, and the visit.

Methods—The data presented in this report were collected from the 1998 National Ambulatory Medical Care Survey (NAMCS). NAMCS is part of the ambulatory care component of the National Health Care Survey, which measures health care utilization across various types of providers. NAMCS is a national probability sample survey of visits to office-based physicians in the United States. Sample data are weighted to produce annual estimates.

Results—During 1998 an estimated 829.3 million visits were made to physician offices in the United States, an overall rate of 3.1 visits per person. One quarter of these visits were made to general and family physicians, which was a significantly higher proportion compared to the other 13 specialties. Persons aged 75 years and over had the highest rate of physician office visits, 6.6 visits per person. Females had a significantly higher rate of visits to physician offices than males. Of all visits made to these offices in 1998, approximately 55 percent listed private insurance as the primary expected source of payment, and almost 30 percent were made by patients belonging to a health maintenance organization (HMO). There were an estimated 89.8 million injury-related visits during 1998, or 33.3 visits per 100 persons. Seventy percent of these visits were for unintentional injuries.

Keywords: physicians • diagnoses • injury • ICD-9-CM

Introduction

The National Ambulatory Medical Care Survey (NAMCS), which began in 1973, collects data on the utilization of ambulatory medical care services provided by office-based physicians. It

was conducted annually until 1981, again in 1985, and resumed an annual schedule in 1989. The NAMCS is complemented by the National Hospital Ambulatory Medical Care Survey (NHAMCS), which was inaugurated in 1992 to expand the scope of data

collection to the medical services provided by hospital outpatient and emergency departments. Together the NAMCS and the NHAMCS data provide an important tool for tracking ambulatory care utilization in the United States. A third survey, the National Survey of Ambulatory Surgery, was conducted in 1994 and 1995 to focus on the rapidly increasing use of ambulatory surgery centers that are not covered in the NAMCS or the NHAMCS. These surveys are part of the National Health Care Survey, which measures health care utilization across various types of providers. More information about the National Health Care Survey can be found at the National Center for Health Statistics' (NCHS) Internet address: www.cdc.gov/nchs/nhcs.htm. For more information on the NHAMCS (hospital outpatient and emergency departments), please refer to the 1998 annual summaries (1,2). A separate report combining NAMCS and NHAMCS data provides a comprehensive picture of ambulatory medical care utilization (3). It shows that 83 percent of ambulatory care delivered by non-Federal physicians, as identified by the NAMCS and the NHAMCS, is provided in office-based practices. Hospital ambulatory patients are known to differ



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention
National Center for Health Statistics



Assurance of confidentiality – All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).				Department of Health and Human Services Public Health Service Centers for Disease Control and Prevention National Center for Health Statistics															
NATIONAL AMBULATORY MEDICAL CARE SURVEY 1997-98 PATIENT RECORD								OMB No. 0920-0234 Expires: 07/31/99 CDC 64.131B											
1. DATE OF VISIT _____/_____/_____ Month Day Year		3. SEX <input type="checkbox"/> Female <input type="checkbox"/> Male Is patient pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		4. RACE <input type="checkbox"/> White <input type="checkbox"/> Black <input type="checkbox"/> Asian/Pacific Islander <input type="checkbox"/> American Indian/Eskimo/Aleut 5. ETHNICITY <input type="checkbox"/> Hispanic origin <input type="checkbox"/> Not Hispanic		6. WAS PATIENT REFERRED BY ANOTHER PHYSICIAN OR BY A HEALTH PLAN FOR THIS VISIT? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		7. WAS AUTHORIZATION REQUIRED FOR CARE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		8. ARE YOU THE PATIENT'S PRIMARY CARE PHYSICIAN? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		9. PRIMARY EXPECTED SOURCE OF PAYMENT FOR THIS VISIT Check one. <input type="checkbox"/> Private insurance <input type="checkbox"/> Medicare <input type="checkbox"/> Medicaid <input type="checkbox"/> Worker's Compensation <input type="checkbox"/> Self-pay <input type="checkbox"/> No charge <input type="checkbox"/> Other <input type="checkbox"/> Unknown		10. DOES PATIENT BELONG TO AN HMO? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		11. IS THIS A CAPITATED VISIT? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		12. HAVE YOU OR ANYONE IN YOUR PRACTICE/DEPARTMENT SEEN PATIENT BEFORE? <input type="checkbox"/> Yes, established patient <input type="checkbox"/> No, new patient	
13. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT Use patient's own words. 1. Most important: _____ 2. Other: _____ 3. Other: _____				14. MAJOR REASON FOR THIS VISIT Check one. <input type="checkbox"/> Acute problem <input type="checkbox"/> Chronic problem, routine <input type="checkbox"/> Chronic problem, flareup <input type="checkbox"/> Pre- or post-surgery/injury followup <input type="checkbox"/> Non-illness care (e.g., routine prenatal, general exam., well baby)				15. IS THIS VISIT RELATED TO INJURY OR POISONING? Refers to all types of injury or poisoning, including adverse drug experiences, medical misadventures, etc. <input type="checkbox"/> Yes (Answer a, b, c, and d.) <input type="checkbox"/> No (Skip to item 16.) a. Place of occurrence Check one <input type="checkbox"/> Residence <input type="checkbox"/> Other public building <input type="checkbox"/> Recreation/sports area <input type="checkbox"/> Industrial places <input type="checkbox"/> Street or highway <input type="checkbox"/> Other <input type="checkbox"/> School <input type="checkbox"/> Unknown b. Is this injury intentional? <input type="checkbox"/> Yes (self-inflicted) <input type="checkbox"/> Yes (assault) <input type="checkbox"/> No, unintentional <input type="checkbox"/> Unknown c. Is this injury work related? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown d. Cause of injury Describe events that preceded injury (e.g. reaction to penicillin, wasp sting, driver in motor vehicle traffic accident involving collision with parked vehicle, shot with a handgun during a brawl, etc.) _____				16. PHYSICIAN'S DIAGNOSES FOR THIS VISIT As specifically as possible, list diagnoses related to this visit including chronic conditions (e.g. depression, obesity, asthma, etc.) 1. Primary diagnosis: _____ 2. Other: _____ 3. Other: _____							
17. DIAGNOSTIC/SCREENING SERVICES Check all ordered or provided at this visit. <input type="checkbox"/> None EXAMINATIONS: TESTS AND MEASUREMENTS: <input type="checkbox"/> Breast <input type="checkbox"/> Blood pressure <input type="checkbox"/> Cholesterol measure <input type="checkbox"/> Pelvic <input type="checkbox"/> Strep test <input type="checkbox"/> HIV serology <input type="checkbox"/> Rectal <input type="checkbox"/> Pap test <input type="checkbox"/> Other STD test <input type="checkbox"/> Skin <input type="checkbox"/> Urinalysis <input type="checkbox"/> Hematocrit/hemoglobin <input type="checkbox"/> Visual acuity <input type="checkbox"/> Pregnancy test <input type="checkbox"/> Other blood test <input type="checkbox"/> Glaucoma <input type="checkbox"/> PSA <input type="checkbox"/> EKG <input type="checkbox"/> Hearing <input type="checkbox"/> Blood lead level IMAGING: <input type="checkbox"/> X-Ray <input type="checkbox"/> CAT scan/MRI <input type="checkbox"/> Mammography <input type="checkbox"/> Ultrasound ALL OTHER: Specify <input checked="" type="checkbox"/> <input type="checkbox"/> _____										18. THERAPEUTIC AND PREVENTIVE SERVICES Check all ordered or provided at this visit. Exclude medications. <input type="checkbox"/> None COUNSELING/EDUCATION: <input type="checkbox"/> Diet/nutrition <input type="checkbox"/> Tobacco use/exposure <input type="checkbox"/> Exercise <input type="checkbox"/> Growth/development <input type="checkbox"/> HIV/STD transmission <input type="checkbox"/> Mental health <input type="checkbox"/> Family planning/contraception <input type="checkbox"/> Stress management <input type="checkbox"/> Prenatal instructions <input type="checkbox"/> Skin cancer prevention <input type="checkbox"/> Breast self-exam <input type="checkbox"/> Injury prevention OTHER THERAPY: <input type="checkbox"/> Psychotherapy <input type="checkbox"/> Psycho-pharmacotherapy <input type="checkbox"/> Physiotherapy ALL OTHER: Specify <input checked="" type="checkbox"/> <input type="checkbox"/> _____									
19. AMBULATORY SURGICAL PROCEDURES <input type="checkbox"/> None List up to 2 surgical procedures actually performed at this visit. Include biopsy. 1. _____ 2. _____				20. MEDICATIONS/INJECTIONS List names of up to 6 medications that were ordered, supplied, administered or continued during this visit. Include R, and OTC medications, immunizations, allergy shots, and anesthetics. <input type="checkbox"/> None Check the box next to drug name if it is from the patient's insurance formulary list. <input type="checkbox"/> Check here if NO drugs are from a formulary list. 1. <input type="checkbox"/> _____ 4. <input type="checkbox"/> _____ 2. <input type="checkbox"/> _____ 5. <input type="checkbox"/> _____ 3. <input type="checkbox"/> _____ 6. <input type="checkbox"/> _____				21. PROVIDERS SEEN THIS VISIT Check all that apply. <input type="checkbox"/> Physician <input type="checkbox"/> L.P.N. <input type="checkbox"/> Physician assistant <input type="checkbox"/> Medical/nursing assistant <input type="checkbox"/> Nurse practitioner <input type="checkbox"/> Nurse midwife <input type="checkbox"/> R.N. <input type="checkbox"/> Other				22. TIME SPENT WITH PHYSICIAN If not seen by physician, enter zero. _____ Minutes							

Figure 1. Patient Record form

from office patients in their demographic characteristics and in medical aspects.

This report presents national annual estimates of physician office visits for 1998. Physician practice, patient, and visit characteristics are described.

Methods

The data presented in this report are from the 1998 National Ambulatory Medical Care Survey. The NAMCS is a national probability sample survey conducted by the Division of Health Care Statistics of the NCHS, Centers for Disease Control and Prevention. Survey

dates for the NAMCS were December 29, 1997, through December 27, 1998.

The target universe of the NAMCS includes visits made in the United States to the offices of nonfederally employed physicians (excluding those in the specialties of anesthesiology, radiology, and pathology) who were classified by the American Medical Association (AMA) and the American Osteopathic Association (AOA) as "office-based, patient care." Visits to private, nonhospital-based clinics and HMO's were within the scope of the survey, but those that took place in federally operated facilities and hospital-based

outpatient departments were not.

Telephone contacts and visits made outside the physician's office were also excluded.

The NAMCS utilizes a multistage probability sample design involving samples of primary sampling units (PSU's), physician practices within PSU's, and patient visits within physician practices. PSU's are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships for some PSU's in New England. A sample of 2,500 physicians was selected from the master files of the AMA and the AOA, and

1,806 were in scope, or eligible to participate in the survey. Sample physicians were asked to complete Patient Record forms for a systematic random sample of office visits occurring during a randomly assigned 1-week reporting period (figure 1). The response rate for in-scope physicians was 67.9 percent, and a total of 23,339 Patient Record forms were submitted.

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

Several medical classification systems were used to code data from the NAMCS. The Patient Record form contains an item on the patient's expressed reason for the visit. In this item the respondents were asked to record the patient's "complaint(s), symptom(s), or other reason(s) for this visit in the patient's (or patient surrogate's) own words." Up to three reasons for visit were coded according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (4). The RVC is an NCHS-developed classification scheme that has been used for over 20 years to code patient's complaints or reasons for seeking care. The RVC includes all the reasons for which patients see their physicians. A large percent of the visits are due to specific symptoms the patient is currently experiencing. Other reasons include prior diagnoses, routine examinations and screening, treatment for conditions and operations, various therapies, and injuries. Also included are visits to receive test results and to fulfill third party requirements for a physical examination, such as for employment or a driver's license. All of these complaints or reasons are grouped into eight modules in the RVC, with the symptoms module further divided into symptoms that refer to specific body systems such as digestive or respiratory. Each section is further detailed by a 3-digit reason or even a 4-digit reason when further detail is required (for example, S845- "Symptoms of skin mole," is further detailed to S845.1-

"Change in size and color" and S845.2- "Bleeding mole").

The Patient Record form contains an item on the cause of injury for injury-related visits. Up to three external causes of injury were coded according to the "Supplementary Classification of External Causes of Injury and Poisoning" found in the *International Classification of Diseases, 9th Revision Clinical Modification* (ICD-9-CM) (5).

In addition, the form contains an item on diagnosis. The physician was asked to record the primary diagnosis or problem associated with the patient's most important reason for the current visit as well as any other significant current diagnoses. Up to three diagnoses were coded according to the ICD-9-CM (5).

The Patient Record form includes items on ambulatory surgical procedures and diagnostic/screening services. Physicians were asked to write in up to two services that were not listed as check boxes in the open-ended "other" categories (items 17 and 18) and to record up to two ambulatory surgical procedures performed at the visit (item 19). These procedures and services were coded according to the ICD-9-CM, volume 3 (5).

For the medication item, respondents were instructed to record all new or continued medications ordered, supplied, or administered at the visit, including prescription and nonprescription preparations, immunization and desensitizing agents, and anesthetics. Up to six medications, referred to in this survey as drug mentions, were coded per visit according to a classification system developed at NCHS. A report describing the method and instruments used to collect and process drug information is available (6). Therapeutic classification of the drugs mentioned on the Patient Record forms was determined using the *National Drug Code Directory*, 1995 edition (7).

Item nonresponse rates in the NAMCS are generally low (5 percent or less). However, levels of nonresponse can vary considerably in the survey, with one item in 1998 having a nonresponse rate near 50 percent. Most nonresponse occurs when the needed

information is not available in the medical record and/or is unknown to the person filling out the survey instrument. Nonresponse can also result when the information is available, but survey procedures are not followed and the item is left blank. For the purposes of this report, the tables include a combined entry of unknown/blank to display missing data. For items where combined item nonresponse is between 30 and 50 percent, the percent distribution is not described in the text but is presented in the tables. These data should be interpreted with caution. If nonresponse is random, the observed distribution for the reported item would be close to the true distribution. However, if nonresponse is not random, the observed distribution could vary significantly from the actual distribution. Researchers need to decide how best to treat items with high levels of missing responses. The data are not presented in tabular form for items with nonresponse greater than 50 percent. The [Technical notes](#) provide nonresponse rates for items with more than 5 percent missing data.

The U.S. Bureau of the Census, Housing Surveys Branch, was responsible for data collection. Data processing operations and medical coding were performed by Analytic Sciences, Inc., Durham, North Carolina. As part of the quality assurance procedure, a 10-percent quality control sample of survey records was independently keyed and coded. Coding error rates ranged between 0.1 and 1.3 percent for various survey items.

Several of the tables in this report present data on rates of physician office visits. The population figures used in calculating these rates are U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1998. The figures have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix. The population figures have been published (3).

Results

There were an estimated 829.3 million visits to office-based physicians in 1998, a rate of 3.1 visits per person. This rate did not differ significantly

Table 1. Number, percent distribution, and annual rate of office visits by selected physician practice characteristics: United States, 1998

Physician practice characteristic	Number of visits in thousands	Percent distribution	Number of visits per 100 persons per year ^{1,2}
All visits	829,280	100.0	307.8
Physician specialty			
General and family practice	201,946	24.4	75.0
Internal medicine	141,702	17.1	52.6
Pediatrics	95,538	11.5	35.5
Obstetrics and gynecology	83,827	10.1	³ 31.1
Ophthalmology	49,817	6.0	18.5
Orthopedic surgery	39,910	4.8	14.8
Dermatology	33,409	4.0	12.4
Otolaryngology	20,401	2.5	7.6
General surgery	20,039	2.4	7.4
Psychiatry	19,886	2.4	7.4
Cardiovascular diseases	18,420	2.2	6.8
Urology	14,834	1.8	5.5
Neurology	9,057	1.1	3.4
All other specialties	80,496	9.7	29.9
Professional identity			
Doctor of medicine	769,816	92.8	285.8
Doctor of osteopathy	59,464	7.2	22.1
Geographic region			
Northeast	171,292	20.7	329.9
Midwest	181,306	21.9	271.7
South	278,933	33.6	291.9
West	197,748	23.8	360.9
Metropolitan status			
MSA	652,877	78.7	306.9
Non-MSA	176,404	21.3	313.3

¹Based on the U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1998. Figures are consistent with the downloadable series, U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–98. It is available at the U.S. Bureau of the Census Internet site: http://ftp.census.gov/population/www/estimates/nat_90s_4.html. Figures have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

²Regional and metropolitan estimates have been provided by the Division of Health Interview Statistics (DHIS), National Center for Health Statistics, and are based on the U. S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States as of July 1, 1997. DHIS estimates are provisional at this time and differ slightly from monthly postcensal estimates because of differences in the adjustment process.

³The visit rate is 60.7 per 100 females.

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

from the visit rate in 1997. Annual visit rates have ranged between 2.6 and 3.1 visits per person between 1975 and 1998 (8–17). Selected characteristics of the encounter pertaining to the physician's practice, the patient, and the visit are described in the following text.

Physician practice characteristics

The distribution of office visits according to physician specialty is presented in [table 1](#). The largest share of visits was made to physicians in general and family practice (GFP) (24.4 percent). Visit rates to each of the 13 physician specialty groups were not found to differ significantly from 1997

visit rates. The distribution of visits is not the same as the distribution of physicians as GFP's tend to see more patients per week than other specialties (data not shown). For example, GFP's comprise 18 percent of office-based physicians but make about 25 percent of the patient encounters. A report summarizing visits as related to the distribution of physicians and variation among physician practices is forthcoming.

Doctors of osteopathy received 59.5 million visits during 1998, or 7.2 percent of all office visits. Visits to this specialty occurred at a rate of 22.1 per 100 persons, not significantly different than 1997.

Visits according to geographic and metropolitan characteristics of the physician's practice are also displayed in [table 1](#). The only significant difference noted between the regions was between the West (360.9 visits per 100 persons) and the Midwest (271.7 visits per 100 persons). Neither region or metropolitan status visit rates differed between 1997 and 1998.

Additional information on the physician's practice has been collected annually in the NAMCS by means of the Physician Induction Interview form (PII). The PII is used to obtain basic information on the practice, establish the visit sampling rate, and record the final disposition of the interview. In 1998, selected items on the physician and physician practice, including employment status, ownership, practice size, office type, and laboratory testing, were edited and weighted to produce national estimates of office visits by these characteristics. In the cases where the physician saw patients in multiple offices, the practice characteristics for the visits to each office are presented. These data are displayed in [table 2](#).

Ten percent of the visits to primary care specialties were to physician practices that were owned by a hospital. This was significantly higher than the corresponding percent for the visits to surgical and nonsurgical specialties. Four-fifths (80.1 percent) of the visits made to surgical specialties in 1998 were to practices owned by the physician, compared to two-thirds (64.6 percent) of the visits made to primary care specialties. The majority of office visits (59.9 percent) were made to physicians engaged in group practice. Two-fifths (40.1 percent) of the visits were to solo practitioners.

Patient characteristics

Office visits by patient's age, sex, and race are shown in [table 3](#). Females made 60.3 percent of all office visits during 1998. The percent of visits made by females as well as the visit rate were higher than for males for patients aged 15–24, 25–44, and 45–64 years. This pattern was also observed in the 1990–97 National Ambulatory Medical Care Surveys.

Table 2. Number and percent distribution of office visits, by selected physician practice characteristics, according to physician specialty group: United States, 1998

Physician practice characteristic	Physician specialty group				Physician specialty group			
	All specialties	Primary care	Surgical	Nonsurgical	All specialties	Primary care	Surgical	Nonsurgical
	Number of visits in thousands				Percent distribution			
All visits	829,280	521,756	162,103	145,421	100.0	100.0	100.0	100.0
Employment status								
Owner	567,933	337,263	129,873	100,797	68.5	64.6	80.1	69.3
Employee	217,316	154,822	23,299	39,195	26.2	29.7	14.4	27.0
Contractor	44,031	29,671	8,931	5,429	5.3	5.7	5.5	3.7
Ownership								
Physician/group	637,727	384,050	141,652	112,026	76.9	73.6	87.4	77.0
Healthcare corporation	70,566	49,407	4,933	16,226	8.5	9.5	3.0	11.2
Hospital	61,549	50,615	5,948	4,985	7.4	9.7	3.7	3.4
HMO	32,735	20,826	5,345	6,564	4.0	4.0	3.3	4.5
Other ¹	26,704	16,858	4,225	5,621	3.2	3.2	2.6	3.9
Practice size								
Solo	332,689	208,009	62,063	62,617	40.1	39.9	38.3	43.1
2–4	272,549	170,868	57,514	44,167	32.9	32.7	35.5	30.4
5–9	126,186	82,231	25,187	18,768	15.2	15.8	15.5	12.9
10–49	61,944	37,288	11,254	13,402	7.5	7.1	6.9	9.2
50+	15,801	14,142	1,659	—	1.9	2.7	1.0	—
Blank	20,112	9,218	4,427	6,468	2.4	1.8	2.7	4.4
Office type								
Private practice	720,022	441,619	150,826	127,577	86.8	84.6	93.0	87.7
Clinic/urgent center	40,667	32,699	2,361	5,607	4.9	6.3	1.5	3.9
HMO ¹	32,398	21,097	6,054	5,247	3.9	4.0	3.7	3.6
Private clinic	13,930	9,839	1,313	2,778	1.7	1.9	0.8	1.9
Neighborhood mental health	13,476	12,103	—	1,373	1.6	2.3	—	0.9
Local government clinic	8,788	4,398	1,550	2,840	1.1	0.8	1.0	2.0
Lab testing in office								
Yes	445,034	369,921	24,850	50,263	53.7	70.9	15.3	34.6
No	380,745	149,758	136,974	94,013	45.9	28.7	84.5	64.6
Blank	3,501	2,077	*	1,145	0.4	0.4	*	0.8

— Quantity zero.

* Figure does not meet standard of reliability or precision.

0.0 Quality more than zero but less than 0.05.

¹HMO is health maintenance organization.²Other includes owners like local government (State, county, or city) and charitable organizations.

NOTES: A detailed listing of the physician specialties included in each group are shown in table III of the Technical notes. Numbers may not add to totals because of rounding.

Figure 2 shows office-based utilization rates by patient's age and sex. Confidence intervals are presented to graphically display the sizes of differences in the point estimates relative to their individual stabilities and to permit the reader to assess general patterns or trends in the data. The pattern suggests an increase in the visit rates by age group for females, and a curvilinear pattern for males. Persons aged 75 years and over had the highest visit rate of the six age categories, analyzed at 6.6 visits per person.

White persons made 84.7 percent of all office visits, with black persons and Asian and Pacific Islanders accounting for 10.8 percent and 3.8 percent, respectively. American Indians, Eskimos,

and Aleuts accounted for 0.7 percent of the visits. The visit rate for the white population was 3.2 visits per person and 2.6 visits per person for the black population.

Item 3 on the NAMCS Patient Record form asks, "Is patient pregnant?" Results are discussed in terms of women of childbearing age (15–44 years). For 13.8 percent of these visits, pregnancy status was unknown or blank. At another 66.5 percent of the visits, the patient was not pregnant. The remainder, 19.7 percent of visits, were made by women who were pregnant (data not shown).

Visit characteristics

Referral status and prior-visit status—Table 4 shows data on office

visits categorized by patient's referral status and prior-visit status. Overall, patients who had seen the physician on a prior occasion, "old patients," accounted for 86.4 percent of the office visits. Those patients that were referred for this visit by another physician or health plan accounted for 16.2 percent of the office visits. Almost one-half (45.7 percent) of all visits by new patients were referred by another physician or a health plan (data not shown).

In general, there were more referral visits to specialty care providers than to primary care specialties. Table 5 shows this contrast. The first four specialties in the table show that fewer than 15 percent of visits were referrals from

Table 3. Number, percent distribution, and annual rate of office visits, by patient's age, sex, and race: United States, 1998

Patient's age, sex, and race	Number of visits in thousands	Percent distribution	Number of visits per person per year ¹
All visits	829,280	100.0	3.1
Age			
Under 15 years	145,842	17.6	2.4
15–24 years	71,283	8.6	1.9
25–44 years	211,775	25.5	2.6
45–64 years	203,296	24.5	3.6
65–74 years	102,306	12.3	5.7
75 years and over	94,779	11.4	6.6
Sex and age			
Female	500,365	60.3	3.6
Under 15 years	68,018	8.2	2.3
15–24 years	48,750	5.9	2.6
25–44 years	144,827	17.5	3.4
45–64 years	120,822	14.6	4.1
65–74 years	58,808	7.1	6.0
75 years and over	59,141	7.1	6.7
Male	328,916	39.7	2.5
Under 15 years	77,825	9.4	2.5
15–24 years	22,532	2.7	1.2
25–44 years	66,948	8.1	1.6
45–64 years	82,474	9.9	3.0
65–74 years	43,498	5.2	5.4
75 years and over	35,638	4.3	6.4
Race and age			
White	702,190	84.7	3.2
Under 15 years	113,358	13.7	2.4
15–24 years	59,927	7.2	2.0
25–44 years	177,947	21.5	2.6
45–64 years	173,822	21.0	3.6
65–74 years	90,379	10.9	5.7
75 years and over	86,757	10.5	6.7
Black	89,832	10.8	2.6
Under 15 years	22,327	2.7	2.3
15–24 years	8,417	1.0	1.5
25–44 years	24,238	2.9	2.3
45–64 years	20,742	2.5	3.5
65–74 years	8,271	1.0	5.1
75 years and over	5,837	0.7	5.4
All other races			
Asian, Pacific Islander	31,495	3.8	3.0
American Indian, Eskimo, Aleut	5,764	0.7	2.4

¹Based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1998. Figures are consistent with the downloadable series, U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–98. It is available at the U.S. Bureau of the Census Internet site: http://ftp.census.gov/population/www/estimates/nat_90s_4.html. Figures have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

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

another physician or health plan, this pattern is seen for new patients and continuing or “old” patients. In contrast, referrals to other types of specialties were generally much higher. For example, among neurologists, 26.4 percent of new and 31.9 percent of continuing visits were referred from another physician. This translates to 6 out of every 10 (or 58.3 percent) of visits for that specialty.

Impact of managed care—Because of increased interest on the impact of managed care on the health care delivery system, NCHS added items on the NAMCS PRF to attempt to measure the degree to which a patient's care is being managed. Because it is difficult to determine whether the patient is a managed care enrollee, there are several different aspects of managed care measured in the 1998 NAMCS; whether

the visit was made to the patient's primary care physician, whether the patient belonged to a HMO, whether authorization was required for the visit, and whether the visit was capitated.

The ability of the primary care physician to manage the patient's care and use of tests and specialists is a key concept of managed care. Note that there are two concepts of primary care measured in the NAMCS. One is the specialty of the physician, which is grouped into primary care, surgical, and nonsurgical specialties as defined in [table III](#) of the [Technical notes](#), and the other is whether care for the sampled visit is provided by the patient's primary care physician (item 8 on the PRF), regardless of the physician's specialty. Overall, one-half of all office-based visits were to the patient's primary care physician ([table 6](#)). However, not all of the patients' primary care physicians had a specialty that is considered to be a primary care specialty. Approximately 8.1 percent of patient visits to their primary care physicians were to doctors whose specialty was best described as surgical or nonsurgical (data not shown). Examining it from the physician's practice point of view, 73.1 percent of visits to primary care specialists were those for which the physician noted that she or he was the patient's primary care physician. However, 20 percent of visits to nonsurgical specialists were also cases for which the physician was the primary care provider for that patient ([figure 3](#)). Many of these type visits were to physicians who consider themselves cardiologists (19.8 percent), pulmonary disease specialists (11.3 percent), and rheumatologists (9.9 percent) (data not shown).

An HMO is defined as a health care delivery system that offers comprehensive health services provided by an established panel or network of providers to a voluntary enrolled population for a prepaid fixed fee and whose members are required to utilize services within the panel of contracted providers. Item 10 permits the estimation of the volume of visits by patients who are members of an HMO and should, by definition, be receiving managed care. As shown in [table 6](#), 30 percent of all visits were made by

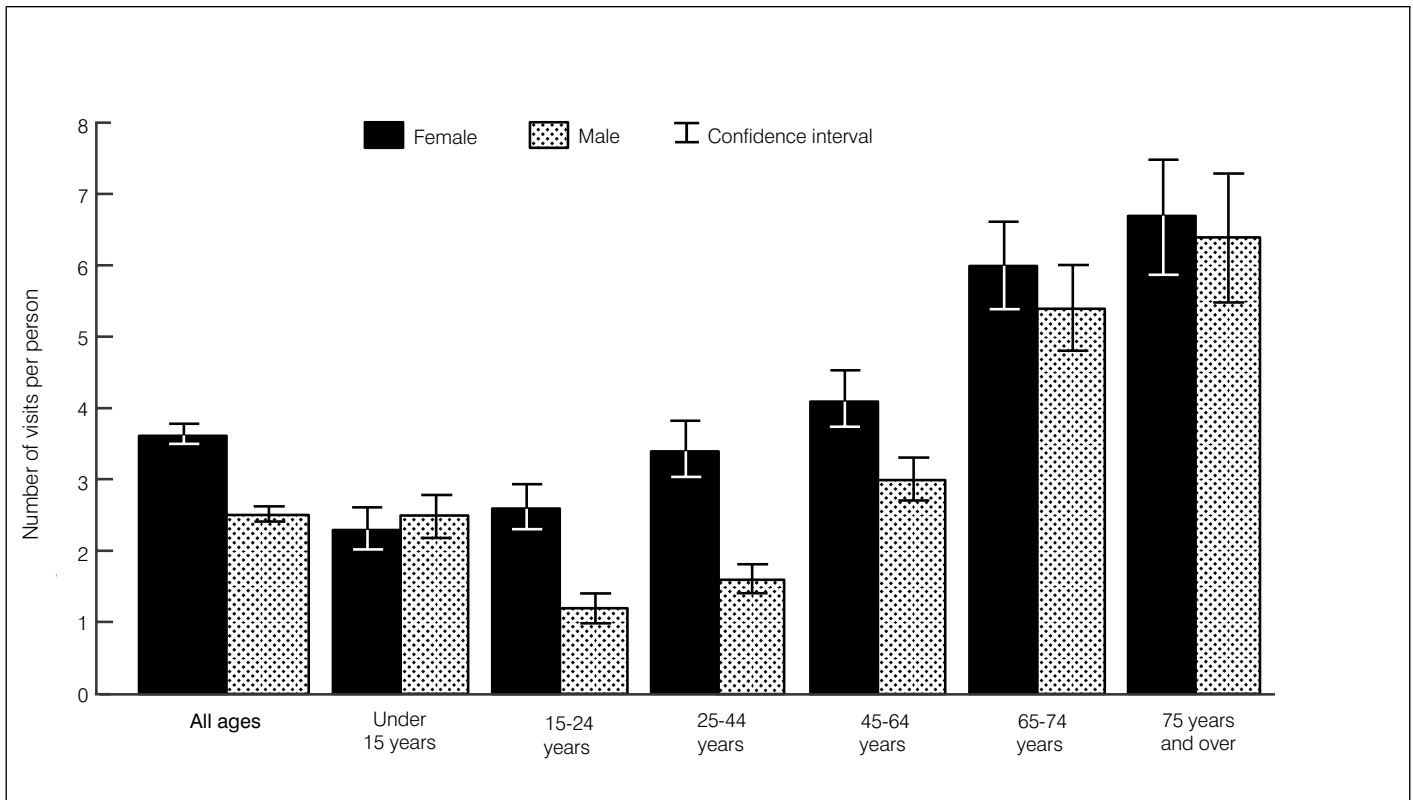


Figure 2. Annual rate of visits to office-based physicians by patient's age and sex: United States, 1998.

Table 4. Number and percent distribution of office visits, by patient's referral status and prior-visit status: United States, 1998

	Number of visits in thousands	Percent distribution
All visits	829,280	100.0
Referral status		
Referred by another physician or health plan for this visit	134,305	16.2
Not referred by another physician or health plan for this visit . . .	659,832	79.6
Unknown/blank	35,144	4.2
Prior visit status		
New patient	105,418	12.7
Old patient	716,363	86.4
Unknown/blank	7,500	0.9

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

patients who belong to an HMO. Visits by HMO patients were equally likely to be to the patient's primary care physician as were visits by patients who were not members of HMO's (53.4 percent versus 51.5 percent). However, visits by HMO patients were twice as likely as visits by non-HMO patients to be referred (24.0 versus 12.0 percent, respectively) (data not shown).

Authorization was required to see the physician at 10.7 percent of

office-based visits (table 6). However, visits to physicians other than the patient's primary care physician were more likely to require authorization (19.8 percent versus 2.9 percent for visits to the patients' primary care physicians). Capitated visits accounted for 13.7 percent of all office-based visits in 1998. Visits where the patient saw his or her primary care physician were more likely to be capitated compared to visits where the patient saw a physician other than his or her primary care physician (17.3 percent versus 10.8 percent).

Primary expected source of payment—The expected source of payment item is concerned only with the primary expected source of payment for the office visit. Data for this item are shown in table 7 and figure 4. Private insurance was cited most frequently (55.2 percent of visits). The distribution of expected pay sources in 1998 did not differ significantly from the corresponding 1997 figures. As expected, the expected source of payment distribution of office-based visits for HMO members was different than the distribution of visits by patients who were not members of an HMO. The majority of visits by HMO members were classified as privately insured in item 9 of the PRF (77.7 percent), 9.2 percent had Medicare, and 4.2 had Medicaid as the expected source. Less than 1 percent had self-pay marked (data not shown). Likewise, the proportion of visits by HMO patients versus patients who are not members of HMO's varied by expected source of payment: For example, 45.4 percent of visits paid by private insurance were by members of HMO's; whereas 9.2 and 15.2 percent of visits paid by Medicare

Table 5. Number and percent distribution of office visits, by physician specialty, according to referral status and prior-visit status: United States, 1998

Physician specialty	Number of visits in thousands ¹	Total	Referred by another physician or health plan for this visit		Not referred by another physician or health plan for this visit		Unknown/blank referral for this visit	
			New patient	Old patient	New patient	Old patient	New patient	Old patient
All visits	829,280	100.0	5.8	10.3	6.2	72.8	0.7	3.3
General and family practice	201,946	100.0	1.0	3.0	7.9	83.7	*	2.9
Internal medicine	141,702	100.0	1.2	3.2	5.3	83.7	1.1	4.5
Pediatrics	95,538	100.0	*	3.6	4.2	87.6	*	2.3
Obstetrics and gynecology	83,827	100.0	2.7	9.6	7.8	76.0	*	2.9
Ophthalmology	49,817	100.0	9.8	11.6	9.4	64.7	*	3.0
Orthopedic surgery	39,910	100.0	16.4	27.9	6.8	42.2	*	*
Dermatology	33,409	100.0	13.8	17.5	10.4	54.1	*	2.8
Psychiatry	19,886	100.0	5.5	21.3	*	67.9	*	*
General surgery	20,039	100.0	18.9	30.4	2.9	41.6	*	5.0
Otolaryngology	20,401	100.0	17.8	23.1	9.7	44.9	*	*
Cardiovascular diseases	18,420	100.0	8.9	14.5	*	72.3	*	*
Urology	14,834	100.0	16.1	19.4	4.2	54.7	*	*
Neurology	9,057	100.0	26.4	31.9	*	34.7	*	*
All other specialties	80,496	100.0	12.5	20.8	3.4	57.2	*	5.3

* Figure does not meet standard of reliability or precision.

¹Nonresponses for prior-visit status have been removed from the total, accounting for 7.5 million visits or 0.9 percent, overall.

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

Table 6. Number and percent distribution of office visits, by authorization required, capitated visit, and HMO status, according to whether the visit is to the patient's primary care physician: United States, 1998

Visit characteristic	All visits	Are you the patient's primary care physician?		
		Yes	No	Unknown/blank
Number of visits in thousands				
All visits	829,280	415,271	379,497	34,513
Percent distribution	100.0	50.1	45.8	4.2
Was authorization required for care?				
Yes	88,456	11,995	75,120	1,341
No	690,004	392,894	281,399	15,711
Unknown/blank	50,821	10,382	22,978	17,460
Is this a capitated visit?				
Yes	113,832	71,629	40,813	1,391
No	626,089	316,039	294,303	15,747
Unknown/blank	89,359	27,603	44,382	17,375
HMO status ¹				
Yes	248,696	132,700	111,171	4,825
No	509,579	262,235	233,196	14,148
Unknown/blank	71,006	20,336	35,130	15,541
Percent distribution				
All visits	100.0	100.0	100.0	100.0
Was authorization required for care?				
Yes	10.7	2.9	19.8	3.9
No	83.2	94.6	74.2	45.5
Unknown/blank	6.1	2.5	6.1	50.6
Is this a capitated visit?				
Yes	13.7	17.2	10.8	4.0
No	75.5	76.1	77.6	45.6
Unknown/blank	10.8	6.6	11.7	50.3
HMO status ¹				
Yes	30.0	32.0	29.3	14.0
No	61.4	63.1	61.4	41.0
Unknown/blank	8.6	4.9	9.3	45.0

¹HMO is health maintenance organization.

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

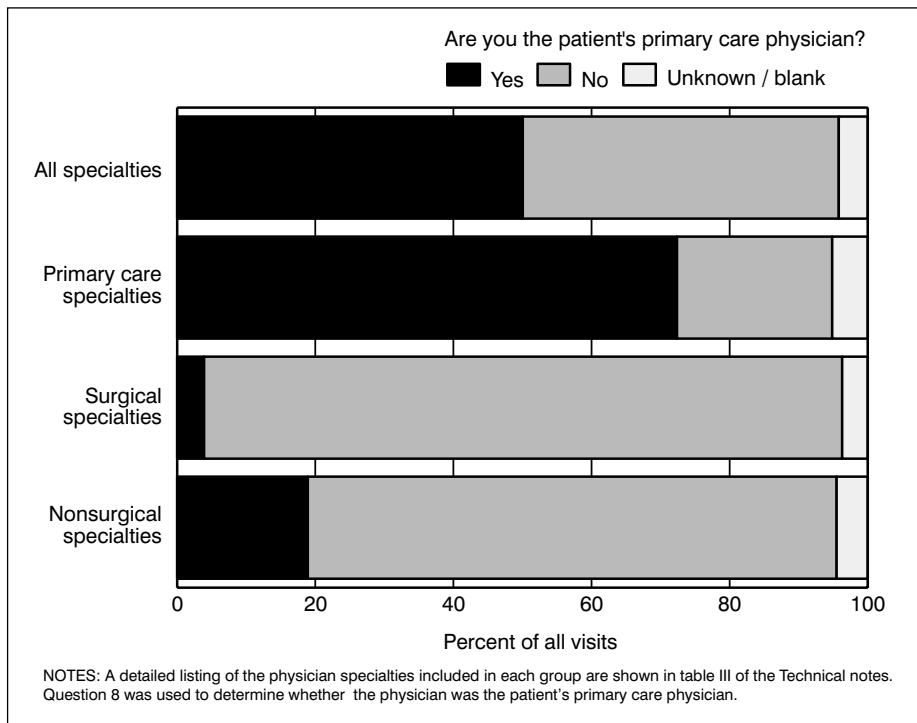


Figure 3. Percent distribution of office visits by whether the provider was the patient's primary care physician, according to physician's specialty group: United States, 1998

Table 7. Number and percent distribution of office visits, by expected primary source of payment: United States, 1998

Visit characteristic	Number of visits in thousands	Percent distribution
All visits	829,280	100.0
Expected source of payment		
Private insurance.	457,328	55.2
Medicare	159,442	19.2
Medicaid	71,642	8.6
Self-pay	55,883	6.7
Worker's compensation	17,255	2.1
No charge	7,904	1.0
Other	42,198	5.1
Unknown/blank	17,629	2.1

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

and Medicaid, respectively, were by members of HMO's (data not shown). Only 3.0 percent of self-paid visits were by members of HMO's. Medicaid visits were more likely to be to the patient's primary care physician (65.5 percent) compared with visits by patients with private insurance, Medicare, or self-payment (53.4, 50.5, and 47.8 percent respectively, data not shown).

Patient's principal reason for visit—The principal reason for visit is the problem, complaint, or reason listed in item 13a on the Patient Record form. As described earlier, up to three reasons

for visit were coded according to the RVC (4), which is divided into the eight modules or groups of reasons displayed in table 8. More than one-half of all visits were made for reasons classified as symptoms (55.2 percent). Respiratory symptoms accounted for 10.7 percent of all visits, and musculoskeletal symptoms accounted for 9.8 percent.

The 20 most frequently mentioned principal reasons for visit, representing 41.5 percent of all visits, are shown in table 9. General medical examination was the most frequently mentioned reason for visit (7.2 percent of the total),

while cough was the most frequently mentioned reason having to do with illness or injury (3.6 percent). Nineteen of the top 20 reasons for office visits in 1998 were also listed among the 20 most frequently mentioned reasons in 1997, albeit in different order. It should be noted that estimates that differ in ranked order may not be significantly different from each other.

Major reason for this visit—The intent of this item is to provide a better picture of the general nature of the office visit—whether for an acute problem; routine chronic problem; flare-up of a chronic problem; pre- or post-surgery visit or injury follow-up; or for nonillness care, including routine medical examinations. This item differs from the principal reason for visit (item 13a) in that it presents the physician's perspective of the major reason the patient sought care rather than the patient's reason. Results from this item are displayed in table 10. Thirty-seven percent of the visits were for an acute problem. But, among visits by persons under age 15, 56.1 percent were for acute problems. In general, more than one-quarter (26.6 percent) of all visits were for a routine chronic problem. This percent rose to 42.7 percent of the visits for persons 75 years and over. About one-sixth (18.0 percent) of all visits were for nonillness care. Females had a higher proportion of visits for nonillness care compared to males. This reflects, in part, that nonillness care includes prenatal examinations.

Injury-related visits—Data on injury-related visits are presented in terms of patient's age, sex, and race in table 11 and figure 5. Visits were considered to be injury related if "yes" was checked in response to item 15 of the Patient Record form, or if an injury reason for visit or injury diagnosis was recorded, or if a cause of injury was specified. Using the results from any one of those items alone would underestimate the number of injury-related visits. Each of these items measures a unique aspect of injury. Employing this definition, the number of injury-related visits was 30 percent greater compared with using the injury check box alone.

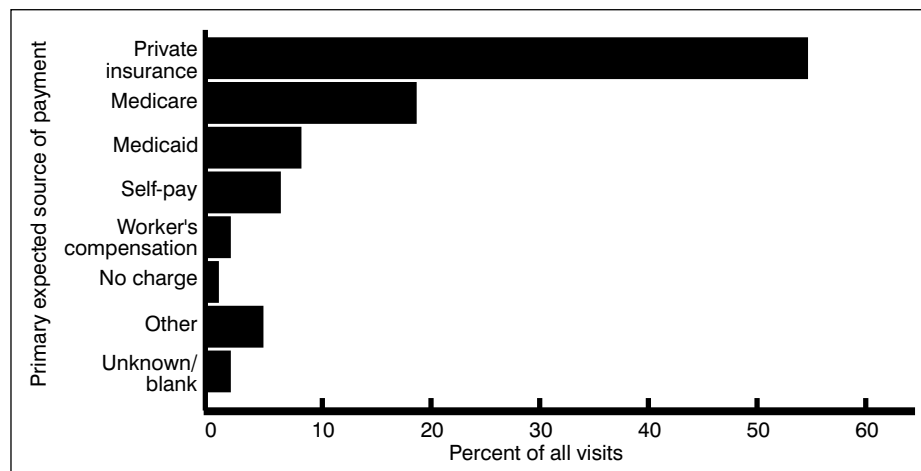
Table 8. Number and percent distribution of office visits, by patient's principal reason for visit: United States, 1998

Principal reason for visit and RVC code ¹	Number of visits in thousands	Percent distribution
All visits	829,280	100.0
Symptom module. S001–S999	452,992	55.2
General symptoms. S001–S099	56,838	6.9
Symptoms referable to psychological/mental disorders. S100–S199	24,496	3.0
Symptoms referable to the nervous system (excluding sense organs) S200–S259	24,043	2.9
Symptoms referable to the cardiovascular/lymphatic system S260–S299	4,671	0.6
Symptoms referable to the eyes and ears S300–S399	52,537	6.3
Symptoms referable to the respiratory system S400–S499	88,827	10.7
Symptoms referable to the digestive system S500–S639	38,281	4.6
Symptoms referable to the genitourinary system S640–S829	37,186	4.5
Symptoms referable to the skin, hair, and nails S830–S899	44,837	5.4
Symptoms referable to the musculoskeletal system. S900–S999	81,276	9.8
Disease module D001–D999	80,505	9.8
Diagnostic, screening, and preventive module X100–599	149,149	18.2
Treatment module T100–T899	84,598	10.3
Injuries and adverse effects module J001–J999	25,693	3.1
Test results module R100–R700	12,116	1.5
Administrative module. A100–A140	8,281	1.0
Other ²	15,948	1.9

¹Based on *A Reason for Visit Classification for Ambulatory Care (RVC)* (4).

²Includes problems and complaints not elsewhere classified, entries of "none," blanks, and illegible entries.

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

**Figure 4. Percent distribution of office visits by expected source of payment: United States, 1998**

There were an estimated 89.8 million injury-related office visits in 1998, representing 10.8 percent of all visits and yielding a rate of 33.3 visits per 100 persons. Corresponding figures for 1997 were 81.7 million and 10.4 percent of visits, respectively. Injury visits rates for females were not significantly different than the rate for males in any age group. For females, the injury visit rate tended to increase with age as shown in [figure 5](#).

The injury visit rate for white persons was 34.7 visits per 100 persons

in 1998, not significantly higher than the injury visit rate of 26.9 per 100 black persons. There were also no differences in injury visit rates by race within gender groups (data not shown). The injury visit rate for either white persons or black persons were not significantly different in 1998 compared to 1997.

Item 15 on the PRF captures data on the place of occurrence, intentionality of the injury, and whether the injury was work related. Unfortunately, these items all had high levels of missing data (49.1 percent, 26.9 percent, and

43.5 percent, respectively). The available data for intentionality indicated that about 70 percent of the injury visits were due to unintentional injuries. More complete reporting could change the distribution ([table 12](#)).

Intentionality of the injury is measured in two separate ways in the NAMCS. One is a checkbox format in item 15b as reported previously, and the other is derived from the cause of injury code assigned to the verbatim text in item 15c, indicating the events surrounding the injury or poisoning. Both items attempt to measure whether the injury was purposely inflicted—by the patient him or herself or by another person, or whether the injury was unintentional, resulting from a legal or military intervention, or whether the injury was of undetermined intent. Intentionality measured from the cause of injury code has the advantage of having a set of codes indicating injury or poisoning resulting from medical treatment. Discrepancies may arise between the two measures because of respondent interpretation of intent; for example, in some cases, the physician or office staff may have checked the “assault” category for dog bite injuries. However, dog bites are an unintentional injury based on the ICD–9–CM E-codes.

Table 9. Number and percent distribution of office visits by the 20 principal reasons for visit most frequently mentioned by patients according to patient's sex: United States, 1998

Principal reason for visit and RVC code ¹	Number of visits in thousands	Total	Patient's sex	
			Female ²	Male ³
Percent distribution				
All visits	829,280	100.0	100.0	100.0
General medical examination X100	59,340	7.2	7.5	6.7
Cough S440	29,564	3.6	3.2	4.1
Routine prenatal examination X205	29,014	3.5	5.8	...
Progress visit, not otherwise specified T800	27,768	3.4	3.2	3.6
Symptoms referable to throat S455	17,025	2.1	1.9	2.2
Postoperative visit T205	16,622	2.0	2.0	2.1
Vision dysfunctions S305	15,189	1.8	1.8	1.9
Fever S010	13,554	1.6	1.4	2.0
Well baby examination X105	13,470	1.6	1.2	2.2
Stomach pain, cramps, and spasms S545	13,134	1.6	1.8	1.3
Earache or ear infection S355	12,417	1.5	1.5	1.6
Skin rash. S860	11,988	1.5	1.3	1.7
Back symptoms. S905	11,888	1.4	1.3	1.7
Headache, pain in head S210	11,403	1.4	1.5	1.2
Chest pain and related symptoms S050	11,040	1.3	1.1	1.7
Knee symptoms S925	10,792	1.3	1.3	1.3
Nasal congestion S400	10,167	1.2	1.1	1.5
Medication, other, and unspecified kinds T115	9,770	1.2	1.1	1.3
Depression S110	9,708	1.2	1.2	1.1
Hypertension D510	8,929	1.1	1.0	1.1
All other reasons	486,498	58.5	57.8	59.7

... Category not applicable.

¹Based on A Reason for Visit Classification for Ambulatory Care (RVC) (4).

²Based on 500,365,000 visits made by females.

³Based on 328,916,000 visits made by males.

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

Another factor that contributes to inconsistency in measuring intent is that cause of injury in some cases was missing whereas the checkbox was completed.

Table 13 shows office-based visits by the intent and mechanism of the first-listed external cause of injury as categorized by the ICD-9-CM groupings detailed in the [Technical notes](#). Sixty-three percent were due to unintentional injuries. Falls were cited most often, accounting for 14.1 percent of all injury visits. Approximately 5 percent of injury visits were due to medical misadventures, surgery complications, or adverse drug reactions. Cause of injury was not recorded for 29.5 percent of the injury visits.

Primary diagnosis—Item 16 of the Patient Record form asks the physician to record the primary diagnosis or problem associated with the patient's most important reason for the current visit as well as any other significant current diagnoses. Displayed in [table 14](#) are office visits by primary diagnosis using the major disease categories

specified by the ICD-9-CM (5). The supplementary classification, used for diagnoses that are not classifiable to injury or illness (for example, general medical examination, routine prenatal examination, and health supervision of an infant or child), accounted for 17.6 percent of all office visits. Diseases of the respiratory system (13.1 percent) and diseases of the nervous system and sense organs (9.8 percent) were also prominent on the list.

A selection of the most frequently reported primary diagnoses for 1998 is featured in [table 15](#). The categories shown in this table are based on the ICD-9-CM. The diagnosis groupings in [table 15](#) accounted for 42.3 percent of all NAMCS visits during the year. The three most frequent illness diagnoses were acute upper respiratory infections, essential hypertension, and arthropathies and related disorders (e.g., osteoarthritis).

Diagnostic and screening services—Item 17 includes check boxes for examinations, tests and measurements, and imagings. The most

frequently cited examinations at office visits were skin (8.5 percent of visits), pelvic (7.9 percent), visual acuity (6.9 percent), and breast (6.3 percent). Blood pressure (45.5 percent) and urinalysis (10.8 percent) were the leading tests. Imaging was ordered or provided at 10.1 percent of office visits but most often in the form of an x ray (6.0 percent of the visits). Injury visits were twice as likely as noninjury visits to have diagnostic imaging ordered or provided (22.1 versus 9.6 percent) (data not shown). Thirty percent of the visits had no diagnostic or screening services ordered or provided ([table 16](#)). Males were more likely than females to have no diagnostic or screening services mentioned (34.9 percent versus 26.8 percent, respectively). They were also less likely to have their blood pressure checked, but more likely to have their cholesterol checked.

Therapeutic and preventive services—Data on therapeutic and preventive services ordered or provided at office visits (except for medication therapy that was reported separately)

Table 10. Number and percent distribution of office visits by patient's age, sex, and race, according to major reason for visit: United States, 1998

Patient characteristic	Major reason for this visit						
	Total	Acute problem	Chronic problem, routine	Chronic problem, flareup	Pre- or post-surgery/ injury follow-up	Nonillness care	Blank/ unknown
Number of visits in thousands							
All visits	829,280	307,542	220,744	75,977	62,650	149,382	12,984
Age							
Under 15 years	145,842	81,775	15,057	6,213	5,339	35,228	2,230
15–24 years	71,283	27,982	10,501	4,655	3,742	23,263	1,139
25–44 years	211,775	77,337	45,551	20,254	16,000	49,503	3,130
45–64 years	203,296	67,245	69,010	22,023	17,005	25,126	2,888
65–74 years	102,306	29,488	40,151	11,098	10,369	9,459	1,742
75 years and over	94,779	23,715	40,475	11,735	10,196	6,803	1,855
Sex							
Female	500,365	176,082	126,427	46,317	36,515	106,628	8,395
Male	328,916	131,460	94,317	29,660	26,135	42,754	4,589
Race							
White	702,190	256,618	189,454	65,344	55,634	123,332	11,807
Black	89,832	33,926	23,544	7,497	5,060	18,727	1,078
Other	37,259	16,998	7,746	3,136	1,956	7,332	100
Percent distribution							
All visits	100.0	37.1	26.6	9.2	7.6	18.0	1.6
Age							
Under 15 years	100.0	56.1	10.3	4.3	3.7	24.2	1.5
15–24 years	100.0	39.3	14.7	6.5	5.2	32.6	1.6
25–44 years	100.0	36.5	21.5	9.6	7.6	23.4	1.5
45–64 years	100.0	33.1	33.9	10.8	8.4	12.4	1.4
65–74 years	100.0	28.8	39.2	10.8	10.1	9.2	1.7
75 years and over	100.0	25.0	42.7	12.4	10.8	7.2	2.0
Sex							
Female	100.0	35.2	25.3	9.3	7.3	21.3	1.7
Male	100.0	40.0	28.7	9.0	7.9	13.0	1.4
Race							
White	100.0	36.5	27.0	9.3	7.9	17.6	1.7
Black	100.0	37.8	26.2	8.3	5.6	20.8	1.2
Other	100.0	45.6	20.8	8.4	5.2	19.7	*

* Figure does not meet standard of reliability or precision.

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

were collected in item 18 of the Patient Record form. As shown in [table 17](#), these services were recorded at more than one-third (37.6 percent) of all office visits during 1998. Counseling or education related to diet (14.8 percent) and exercise (10.3 percent) were mentioned most frequently. Physiotherapy, psychotherapy, and psycho-pharmacotherapy accounted for 2.6, 1.9, and 1.9 percent of office visits, respectively.

Procedures—In item 19 physicians were instructed to record up to two ambulatory surgical procedures performed at this visit. Item 17, “Diagnostic and screening services” and

item 18 “Therapeutic and preventive services,” both included two open-ended “other” categories in addition to the check box categories. After analyzing the data from these categories and from the ambulatory surgery data reported in item 19, it was discovered that in many instances the same procedure was being recorded in different places. [Table 18](#) presents data from item 19 and the open-ended responses to items 17 and 18 as coded to volume 3 of the ICD–9–CM (5). “Other local excision or destruction of lesion or tissue or skin and subcutaneous tissue” was most frequently mentioned, accounting for 1.4 percent of all office-based visits.

Two percent of the visits had at least one ambulatory surgical procedure (defined as ICD–9–CM volume 3, codes between 01 and 87) (data not shown).

Medication therapy—Visits with one or more drugs listed on the Patient Record form are termed “drug visits” in the NAMCS. Up to six medications, called drug mentions, were coded per drug visit. As used in the NAMCS, the term “drug” is interchangeable with the term “medication” and the term “prescribing” is used broadly to mean ordering or providing any medication, whether prescription or over-the-counter. Data on medication therapy are shown in [tables 19–23](#). Medication therapy was

Table 11. Number, percent distribution, and annual rate of injury-related office visits, by patient's age, sex, and race: United States, 1998

Patient's age, sex, and race	Number of visits in thousands	Percent distribution	Number of visits per 100 persons per year ¹
All injury-related visits	89,816	100.0	33.3
Age			
Under 15 years	11,672	13.0	19.5
15–24 years	9,418	10.5	25.2
25–44 years	31,043	34.6	37.4
45–64 years	23,274	25.9	41.0
65–74 years	7,199	8.0	40.0
75 years and over	7,211	8.0	50.1
Sex and age			
Female	46,325	51.6	33.5
Under 15 years	5,099	5.7	17.4
15–24 years	4,056	4.5	21.8
25–44 years	15,613	17.4	36.9
45–64 years	12,098	13.5	41.3
65–74 years	4,290	4.8	43.4
75 years and over	5,170	5.8	58.7
Male	43,491	48.4	33.1
Under 15 years	6,573	7.3	21.5
15–24 years	5,362	6.0	28.5
25–44 years	15,431	17.2	37.9
45–64 years	11,176	12.4	40.8
65–74 years	2,909	3.2	36.0
75 years and over	2,041	2.3	36.6
Race			
White	76,815	85.5	34.7
Black	9,347	10.4	26.9
Other	3,654	4.1	28.1

¹Based on the U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutional population of the United States as of July 1, 1998. Figures are consistent with the downloadable series, U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–98. It is available at the U.S. Bureau of the Census Internet site: http://ftp.census.gov/population/www/estimates/nat_90s_4.html. Figures have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

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

the most commonly mentioned therapeutic service in 1998, reported at 539.8 million office visits or 65.1 percent of the total (table 19).

There were about 1.2 billion drugs mentioned at visits to office-based physicians during 1998. This yields an average of 1.4 drug mentions per office visit or 2.2 drug mentions per drug visit. Data on the number of drug visits and drug mentions by physician specialty are shown in table 20. The percent of drug visits ranged from 83.3 percent for cardiologists to 18.2 percent for general surgeons.

Drug mentions are displayed by therapeutic class in table 21. This classification is based on the therapeutic categories used in the *National Drug Code Directory*, 1995 edition (7). It should be noted that some drugs have more than one therapeutic application. In cases of this type, the drug was

classified under its primary therapeutic use. Cardiovascular-renal drugs, (15.8 percent), respiratory tract drugs (11.6 percent), and drugs used for pain relief (11.5 percent) were listed most frequently.

The 20 most frequently used generic substances in 1998 are shown in table 22. 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 the count for acetaminophen and the count for codeine. Acetaminophen and amoxicillin were the two generic substances most frequently used in drugs ordered or provided by the physician at office visits in 1998, occurring in 3.8 percent and 2.7 percent of drug mentions, respectively.

Table 23 presents the 20 medications most frequently mentioned

by physicians in the NAMCS, according to the entry name of drug. Entry name refers to the actual designation used by the physician on the Patient Record form and may be a trade name, generic name, or simply a desired therapeutic effect. Amoxicillin accounted for 16.7 million mentions (1.4 percent of the total) and was followed by Tylenol, Claritin, Lasix, and Premarin. All of these were among the top 10 drug entry names mentioned in 1997.

Providers seen—Item 21 of the PRF asks the physician to record all providers seen during the sampled visit. Table 24 details the providers seen by physician specialty. Overall, 96.1 percent of visits were attended by a physician. Medical assistants were seen at one-fifth (22.5 percent) of office visits. Use of nurses and medical assistants varied by physician specialty.

Time spent with physician—Data on the duration of office visits are presented in table 25. Duration of visit refers to the amount of time spent in face-to-face contact between the physician and the patient. This time is estimated and recorded by the physician and is instructed not to 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 patient records and/or test results. In cases where the patient received care from a member of the physician's staff but did not actually see the physician during the visit, duration was to be recorded as "0" minutes.

Approximately 86 percent of office visits where there was face-to-face contact between the physician and patient, had a duration between 6 and 30 minutes in 1998. The mean duration for visits at which the physician was seen was 18.3 minutes. At 32.3 million visits, or 3.9 percent, there was no face-to-face contact between physician and patient.

Additional reports that utilize 1998 NAMCS data are in the *Advance Data from Vital and Health Statistics* series. Data from the 1998 NAMCS are currently available as downloadable data files accessed through the new Ambulatory Health Care home page on the Internet (www.cdc.gov/nchs/about/

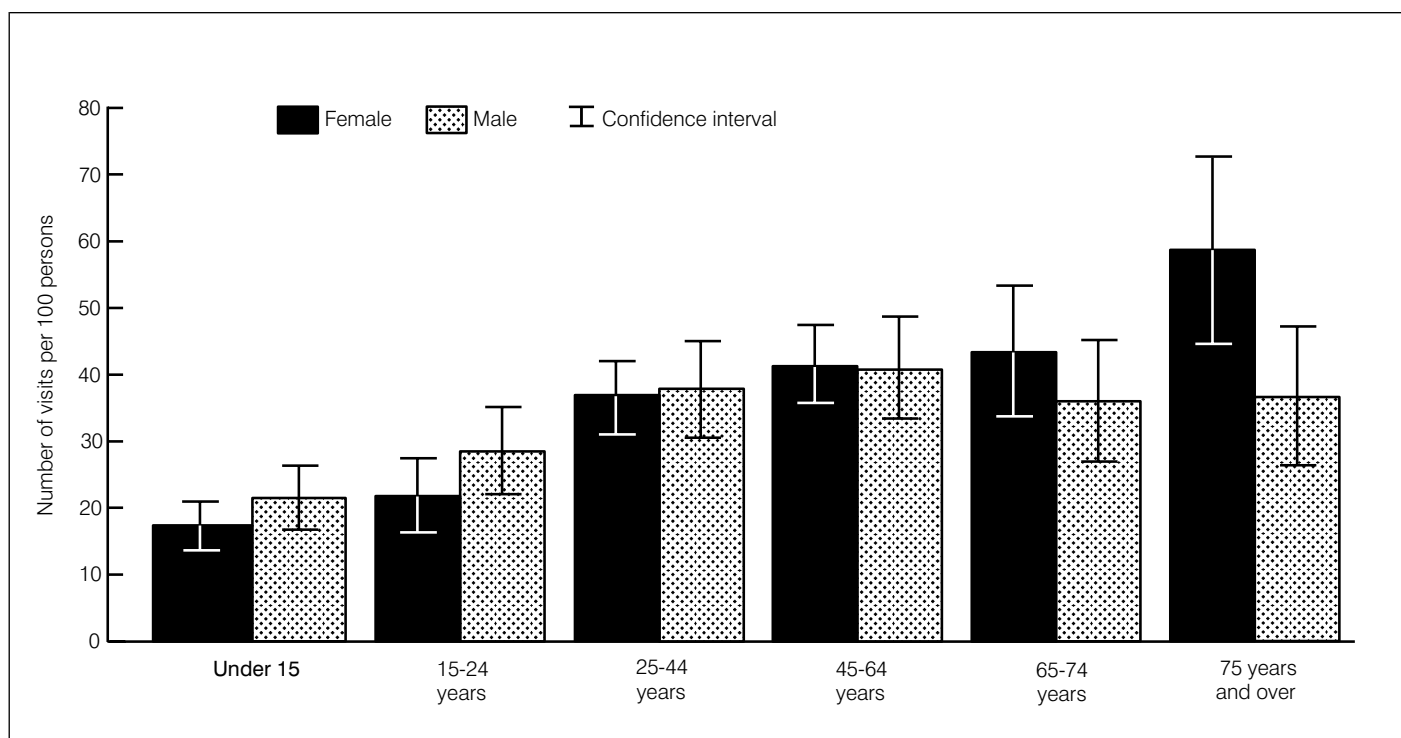


Figure 5. Annual rate of injury-related visits to office-based physicians by patient's age and sex: United States, 1998

Table 12. Number and percent distribution of injury-related office visits, by selected characteristics of the injury: United States, 1998

Selected characteristic of the injury	Number of visits in thousands	Percent distribution
All injury-related visits	89,817	100.0
Place of occurrence		
Residence	13,883	15.5
Recreation/sports area	6,021	6.7
Street or highway	8,461	9.4
School	2,450	2.7
Other public building	2,783	3.1
Industrial places	9,734	10.8
Other	2,427	2.7
Unknown	44,057	49.1
Intentionality		
Yes (self-inflicted)	*	*
Yes (assault)	1,853	2.1
No (unintentional)	63,538	70.7
Unknown/blank	24,196	26.9
Work related		
Yes	19,239	21.4
No	31,497	35.1
Unknown/blank	39,080	43.5

* Figure does not meet standard of reliability or precision.

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

major/ahcd/ahcd1.htm). Other formats that will be available soon include public use data tapes and CD-ROM. For the second year, the NAMCS data verbatim text that describes the cause of injury may be analyzed. Questions regarding this report, future reports, or the NAMCS may be directed to the Ambulatory Care Statistics Branch at (301) 458-4600.

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Table 13. Number and percent distribution of injury-related office visits, by intent and mechanism of external cause: United States, 1998

Intent and mechanism ¹	Number of visits in thousands	Percent distribution
All injury-related visits	89,817	100.0
Unintentional injuries	56,716	63.1
Falls	12,644	14.1
Striking against or struck accidentally by object or persons	7,317	8.1
Motor vehicle traffic	7,285	8.1
Overexertion and strenuous movements	7,026	7.8
Natural and environmental factors	4,267	4.8
Cutting or piercing instruments or objects	1,738	1.9
Other and not elsewhere classified ²	17,163	19.1
Mechanism unspecified	6,295	7.0
Intentional injuries	1,686	1.9
Assault	1,640	1.8
Injuries of undetermined intent	*	0.0
Adverse effects of medical treatment	4,791	5.3
Blank cause ³	26,518	29.5

* Figure does not meet standard of reliability of precision.

0.0 Quality more than zero but less than 0.05.

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM), Supplementary Classification of External Causes of Injury and Poisoning (5). A detailed description of the ICD-9-CM E-codes used to create the groupings in this table is provided in the Technical notes.

²Includes suffocation, poisoning, other transportation, machinery, firearm, fire and flames, drowning/submersion, nontraffic motor vehicle, and pedal cycle.

³Includes illegible entries and blanks.

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

Table 14. Number and percent distribution of office visits, by physician's primary diagnosis: United States, 1998

Major disease category ICD-9-CM code range ¹	Number of visits in thousands	Percent distribution
All visits	829,280	100.0
Infectious and parasitic diseases 001-139	25,292	3.0
Neoplasms 140-239	25,314	3.1
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	37,570	4.5
Mental disorders 290-319	36,695	4.4
Diseases of the nervous system and sense organs 320-389	81,099	9.8
Diseases of the circulatory system 390-459	62,606	7.5
Diseases of the respiratory system 460-519	108,894	13.1
Diseases of the digestive system 520-579	33,391	4.0
Diseases of the genitourinary system 580-629	48,939	5.9
Diseases of the skin and subcutaneous tissue 680-709	43,439	5.2
Diseases of the musculoskeletal system and connective tissue 710-739	57,778	7.0
Symptoms, signs, and ill-defined conditions 780-799	44,655	5.4
Injury and poisoning 800-999	50,672	6.1
Supplementary classification V01-V82	145,881	17.6
All other diagnoses ²	21,172	2.6
Unknown ³	5,884	0.7

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) (5).

²Includes 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).

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

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

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Table 15. Number and percent distribution of office visits, by selected primary diagnosis groups and patient's sex: United States, 1998

Primary diagnosis group and ICD–9–CM code(s) ¹	Number of visits in thousands	Total	Patient's sex	
			Female ²	Male ³
Percent distribution				
All visits	829,280	100.0	100.0	100.0
Acute upper respiratory infections, excluding pharyngitis460–461,463–4	34,247	4.1	3.7	4.8
Normal pregnancyV22	31,031	3.7	6.2	0.0
Routine infant or child health checkV20.2	30,083	3.6	2.7	5.0
Essential hypertension401	28,445	3.4	3.4	3.5
Arthropathies and related disorders710–719	20,989	2.5	2.8	2.1
Diabetes mellitus250	20,354	2.5	2.0	3.1
General medical examinationV70	19,066	2.3	2.1	2.5
Otitis media and Eustachian tube disorders381–382	17,315	2.1	1.7	2.7
Rheumatism, excluding back725–729	16,993	2.0	2.1	2.0
Malignant neoplasms140–208, 230–234	15,579	1.9	1.5	2.4
Dorsopathies720–724	15,544	1.9	1.7	2.1
Chronic and unspecified bronchitis490–491	13,177	1.6	1.4	1.9
Asthma493	12,868	1.6	1.5	1.7
Ischemic heart disease410–414	12,236	1.5	1.1	2.1
Chronic sinusitis473	12,078	1.5	1.4	1.5
Heart disease, excluding ischemic391–392.0,393–398,402,404,415–416,420–429	10,889	1.3	1.2	1.5
Cataract366	10,214	1.2	1.3	1.2
Gynecological examinationV72.3	9,943	1.2	2.0	0.0
Acute pharyngitis462	9,847	1.2	1.1	1.4
Benign and uncertain neoplasms216–229, 235–239	9,735	1.2	1.3	1.0
All other	478,647	57.7	57.8	57.5

0.0 Quality more than zero but less than 0.05.

¹These groups are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) (5). However, certain codes have been combined in this table to form larger categories that better describe the utilization of ambulatory care services.²Based on 500,365,000 visits made by females.³Based on 328,916,000 visits made by males.

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

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Table 16. Number and percent of office visits, by diagnostic and screening services ordered or provided and patient's sex: United States, 1998

Diagnostic and screening services ordered or provided	Number of visits in thousands ¹	Total	Patient's sex	
			Female ²	Male ³
Percent of visits				
All visits	829,280	...	...	...
None	248,887	30.0	26.8	34.9
Examinations				
Skin	70,107	8.5	8.3	8.7
Pelvic	65,115	7.9	12.8	0.4
Visual	57,199	6.9	6.3	7.8
Breast	52,203	6.3	10.1	0.5
Rectal	32,135	3.9	4.0	3.7
Glaucoma	29,610	3.6	3.6	3.5
Hearing	13,592	1.6	1.2	2.3
Tests				
Blood pressure	377,180	45.5	50.0	38.6
Urinalysis	89,835	10.8	13.0	7.6
Hematocrit /hemoglobin	46,613	5.6	5.8	5.4
Pap	40,601	4.9	8.0	...
Cholesterol	30,176	3.6	2.9	4.8
EKG ⁴	23,035	2.8	2.5	3.3
Strep	13,234	1.6	1.4	1.9
PSA ⁵	9,992	1.2	...	3.0
Pregnancy	5,018	0.6	1.0	...
Blood lead level	3,536	0.4	*	0.6
HIV serology ⁶	3,038	0.4	0.4	*
Other STD ⁷	6,237	0.8	0.8	0.6
Other blood test	100,623	12.1	11.7	12.8
Imaging				
x ray	49,622	6.0	5.2	7.3
Ultrasound	21,291	2.6	3.5	1.2
Mammography	15,335	1.8	3.0	...
CAT scan/MRI ^{8,9}	9,889	1.2	0.9	1.6

... Category not applicable.

* Figure does not meet standard of reliability or precision.

¹Numbers may not add to totals because more than one condition may be reported per visit.²Based on 500,365,000 visits made by females.³Based on 328,916,000 visits made by males.⁴EKG is electrocardiogram.⁵PSA is prostate-specific antigen.⁶HIV is human immunodeficiency virus.⁷STD is sexually transmitted disease.⁸CAT is computerized axial tomography.⁹MRI is magnetic resonance imaging.

Table 17. Number and percent of office visits, by therapeutic and preventive services ordered or provided and patient's sex: United States, 1998

Therapeutic and preventive services ordered or provided	Number of visits in thousands ¹	Total	Patient's sex	
			Female ²	Male ³
Percent of visits				
All visits	829,280	...	...	...
None	517,807	62.4	61.2	64.3
Counseling/education				
Diet	122,858	14.8	14.9	14.6
Exercise	85,713	10.3	10.6	9.9
Injury prevention	25,073	3.0	2.5	3.9
Tobacco use/exposure	24,003	2.9	2.7	3.2
Prenatal instructions	23,084	2.8	4.6	*
Stress management	21,313	2.6	2.9	2.1
Breast self-examination	20,225	2.4	4.0	*
Growth/development.	19,421	2.3	2.0	2.9
Mental health	17,970	2.2	2.1	2.3
Skin cancer prevention	15,177	1.8	1.9	1.8
Family planning/contraception	12,958	1.6	2.5	*
HIV/STD transmission ^{4,5}	8,980	1.1	1.1	1.0
Other therapy				
Physiotherapy.	21,927	2.6	2.5	2.8
Psychotherapy	16,112	1.9	1.9	2.1
Psycho-pharmacotherapy.	15,750	1.9	1.8	2.0
Other	64,912	7.8	7.5	8.3

... Category not applicable.

* Figure does not meet standard of reliability or precision.

¹Numbers may not add to totals because more than one type of therapeutic or preventive service may be reported per visit.²Based on 471,481,000 visits made by females.³Based on 315,891,000 visits made by males.⁴HIV is human immunodeficiency virus.⁵STD is sexually transmitted disease.**Table 18. Number and percent of office visits, by the 20 write-in procedures most often ordered or performed: United States, 1998**

Procedures ordered or performed and ICD-9-CM code ¹	Number of visits in thousands	Percent of visits
All visits	829,280	...
Other local excision or destruction of lesion or tissue of skin and subcutaneous tissue	86.30	11,884
Eye examination, not otherwise specified	95.09	9,389
Vital capacity determination	89.37	5,193
Fetal monitoring, not otherwise specified	75.34	4,795
General physical examination	89.70	4,762
Other cardiovascular stress test	89.44	3,968
Biopsy of skin and subcutaneous tissue	86.11	3,377
Other microscopic examination from lower gastrointestinal tract and of stool	90.99	2,854
Neurologic examination	89.13	2,567
Irrigation of ear	96.52	2,106
Fundus photography	95.11	2,095
Colonoscopy	45.23	2,062
Other immobilization, pressure, and attention to wound	93.59	1,880
Fitting and dispensing of spectacles	95.31	1,823
Removal of other therapeutic device	97.89	1,814
Measurement of systemic arterial blood gases	89.65	1,600
Cardiovascular stress test using treadmill	89.41	1,532
Closed biopsy of uterus	68.16	1,528
Other cystoscopy of bladder	57.32	1,494
Electromyography	93.08	1,466

... Category not applicable.

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM) (5).

Table 19. Number and percent distribution of office visits, by medication therapy and number of medications provided or prescribed according to patient's sex: United States, 1998

Visit characteristic	Number of visits in thousands	Total	Female ¹	Male ²
Medication therapy ³		Percent distribution		
All visits	829,280	100.0	100.0	100.0
Drug visits ⁴	539,847	65.1	64.8	65.5
Visits without mention of medication	289,433	34.9	35.2	34.5
Number of medications provided or prescribed by physician				
All visits	829,280	100.0	100.0	100.0
0	289,433	34.9	35.2	34.5
1	237,063	28.6	28.5	28.7
2	136,227	16.4	16.3	16.6
3	76,536	9.2	9.3	9.2
4	38,059	4.6	4.4	4.9
5	20,743	2.5	2.5	2.5
6	31,220	3.8	3.9	3.6

¹Based on 500,365,000 visits made by females.²Based on 328,916,000 visits made by males.³Includes prescription drugs, over-the-counter preparations, immunizing agents, and desensitizing agents.⁴Visits at which one or more drugs were provided or prescribed by the physician.

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

Table 20. Number and percent distribution of drug visits and drug mentions, by physician specialty: United States, 1998

Physician specialty	Drug visits		Drug mentions		Percent drug visits ²	Number of drug mentions per 100 visits ³
	Number in thousands ¹	Percent distribution	Number in thousands	Percent distribution		
All specialties	539,847	100.0	1,181,939	100.0	65.1	142.5
General and family practice . .	152,474	28.2	333,606	28.2	75.5	165.2
Internal medicine	110,528	20.5	291,794	24.7	78.0	205.9
Pediatrics	65,337	12.1	109,696	9.3	68.4	114.8
Obstetrics and gynecology . .	40,073	7.4	56,798	4.8	47.8	67.8
Dermatology	23,896	4.4	43,532	3.7	71.5	130.3
Ophthalmology	23,014	4.3	45,034	3.8	46.2	90.4
Cardiovascular diseases	15,337	2.8	55,279	4.7	83.3	300.1
Psychiatry	15,179	2.8	29,738	2.5	76.3	149.5
Orthopedic surgery	12,554	2.3	18,312	1.5	31.5	45.9
Otolaryngology	10,253	1.9	17,929	1.5	50.3	87.9
Urology	7,018	1.3	11,792	1.0	47.3	79.5
Neurology	5,858	1.1	12,495	1.1	64.7	138.0
General surgery	3,646	0.7	6,299	0.5	18.2	31.4
All other specialties	54,682	10.1	149,636	12.7	67.9	185.9

¹Visits at which one or more drugs was provided or prescribed by the physician.²Percent of visits to that specialist that included one or more drug mentions (number of drug visits divided by number of office visits multiplied by 100).³Average number of drugs that were mentioned per every 100 visits to each specialty (number of drug mentions divided by total number of visits multiplied by 100).

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

Table 21. Number, percent distribution, and annual rate of drug mentions, by therapeutic classification: United States, 1998

Therapeutic classification ¹	Number of drug mentions in thousands	Percent distribution	Number of drug mentions per 100 visits ²
All drug mentions.	1,181,939	100.0	142.5
Cardiovascular-renal drugs.	187,259	15.8	22.6
Respiratory tract drugs	137,140	11.6	16.5
Drugs used for relief of pain	135,640	11.5	16.4
Antimicrobial agents	120,802	10.2	14.6
Hormones and agents affecting hormonal mechanisms	120,641	10.2	14.5
Central nervous system.	85,811	7.3	10.3
Skin/mucous membrane	72,610	6.1	8.8
Metabolic and nutrient agents	71,323	6.0	8.6
Gastrointestinal agents	51,825	4.4	6.2
Immunologic agents	49,400	4.2	6.0
Ophthalmic drugs	38,924	3.3	4.7
Neurologic drugs	27,575	2.3	3.3
Hematologic agents	23,440	2.0	2.8
Oncolytic agents	8,000	0.7	1.0
Anesthetic drugs	7,252	0.6	0.9
Contrast media/radiopharmaceuticals	7,156	0.6	0.9
Antiparasitics	5,675	0.5	0.7
Otologics	4,835	0.4	0.6
Other and unclassified ³	26,630	2.3	3.2

¹Based on the standard drug classification used in the *National Drug Code Directory*, 1995 edition (7).²Number of drug mentions divided by total number of visits multiplied by 100.³Includes antidotes, unclassified/miscellaneous drugs, and homeopathic products.

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

Table 22. Number of generic substances and percent of all drug mentions for the 20 most frequently occurring generic substances in drug mentions at office visits: United States, 1998

Generic substance	Number of occurrences in thousands ¹	Percent of drug mentions ²
All generic substances	1,433,741	...
Acetaminophen	44,667	3.8
Amoxicillin	32,050	2.7
Albuterol	23,044	1.9
Ibuprofen.	20,843	1.8
Hydrochlorothiazide	20,455	1.7
Aspirin	20,295	1.7
Estrogens	19,696	1.7
Guaifenesin	17,665	1.5
Furosemide	16,206	1.4
Levothyroxine	14,820	1.3
Loratadine	14,283	1.2
Hydrocodone	13,129	1.1
Phenylephrine	11,964	1.0
Vitamin A	11,828	1.0
Estradiol	11,646	1.0
Triamcinolone	11,613	1.0
Phenylpropanolamine	11,606	1.0
Prednisone	11,473	1.0
Ergocalciferol	11,225	0.9
Atenolol	10,941	0.9

... Category not applicable.

¹Frequency of mention combines single-ingredient agents with mentions of the agent as an ingredient in a combination drug.²Based on an estimated 1,181,939,000 drug mentions in 1998.

Table 23. Number, percent distribution, and therapeutic classification for the 20 drugs most frequently prescribed at office visits, by entry name of drug: United States, 1998

Entry name of drug ¹	Number of drug mentions in thousands	Percent distribution	Therapeutic classification ²
All drug mentions.	1,181,939	100.0	...
Amoxicillin	16,744	1.4	Penicillins
Tylenol	15,840	1.3	Analgesics, nonnarcotic
Claritin	14,218	1.2	Antihistamines
Lasix	13,850	1.2	Diuretics
Premarin	12,735	1.1	Estrogens and progestins
Synthroid.	12,304	1.0	Agents used to treat thyroid disease
Prednisone	11,226	0.9	Adrenal corticosteroids
Albuterol Sulfate	10,435	0.9	Antiasthmatics/bronchodilators
Prenatal vitamins	10,320	0.9	Vitamins/minerals
Norvasc	9,354	0.8	Calcium channel blockers
Prilosec.	9,338	0.8	Acid/peptic disorders
A. S. A	9,306	0.8	Analgesics, nonnarcotic
Motrin.	8,790	0.7	Nonsteroidal anti-inflammatory drug (NSAID)
Hepatitis B vaccine	8,535	0.7	Vaccines/Antisera
Proventil	8,450	0.7	Calcium channel blockers
Zoloft	8,364	0.7	Antidepressants
Augmentin	8,178	0.7	Penicillins
Prozac	8,152	0.7	Antidepressants
Coumadin	8,066	0.7	Anticoagulants/thrombolytics
Lipitor	7,679	0.6	Calcium channel blockers
All other	970,058	82.1	...

... Category not applicable.

¹The entry made by the physician on the prescription or other medical records. This may be a trade name, generic name, or desired therapeutic effect.

²Based on the *National Drug Code Directory*, 1995 edition (7). In cases where a drug had more than one therapeutic use, it was classified under its primary therapeutic use.

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

Table 24. Number and percent of office visits by providers seen, according to physician specialty: United States, 1998

Physician specialty	Number of visits in thousands ²	Providers seen this visit ¹						
		Physician	Medical assistant	Registered nurse	Licensed practical nurse	Physician assistant	Nurse practitioner	Other provider
Number of visits in thousands								
All visits	829,280	796,991	186,795	116,104	93,838	16,293	7,207	38,250
General and family practice	201,946	194,413	48,305	28,053	38,248	2,618	*	5,972
Internal medicine	141,702	134,708	39,077	20,848	15,832	1,523	*	5,062
Pediatrics	95,538	91,962	17,928	10,288	12,051	991	2,266	1,933
Obstetrics and gynecology	83,827	78,343	22,244	15,416	12,454	*	*	*
Ophthalmology	49,817	49,213	18,454	*	*	5,092	—	8,344
Orthopedic surgery.	39,910	39,524	3,953	2,096	*	942	—	4,519
Dermatology.	33,410	32,342	9,107	4,405	1,348	676	*	1,352
Psychiatry	19,886	19,780	—	922	*	*	*	*
General surgery	20,039	19,797	2,381	4,486	1,866	*	*	355
Otolaryngology	20,401	19,319	1,864	2,654	921	*	—	1,563
Cardiovascular diseases	18,420	17,819	5,023	3,711	1,673	*	*	819
Urology	14,834	14,261	3,576	2,474	1,759	*	*	*
Neurology	9,057	8,904	596	485	655	*	*	429
All other specialties	80,496	76,605	14,287	19,918	4,713	3,336	*	7,012
Percent of visits								
All specialties . . . . .	...	96.1	22.5	14.0	11.3	2.0	0.9	4.6
General and family practice . . . . .	...	96.3	23.9	13.9	18.9	1.3	*	3.0
Internal medicine . . . . .	...	95.1	27.6	14.7	11.2	1.1	*	3.6
Pediatrics . . . . .	...	96.3	18.8	10.8	12.6	1.0	2.4	2.0
Obstetrics and gynecology . . . . .	...	93.5	26.5	18.4	14.9	*	*	*
Ophthalmology . . . . .	...	98.8	37.0	*	*	10.2	—	16.7
Orthopedic surgery. . . . .	...	99.0	9.9	5.3	*	2.4	—	11.3
Dermatology. . . . .	...	96.8	27.3	13.2	4.0	2.0	*	4.0
Psychiatry . . . . .	...	99.5	—	4.6	*	*	*	*
General surgery . . . . .	...	98.8	11.9	22.4	9.3	*	*	1.8
Otolaryngology . . . . .	...	94.7	9.1	13.0	4.5	*	—	7.7
Cardiovascular diseases . . . . .	...	96.7	27.3	20.1	9.1	*	*	4.4
Urology . . . . .	...	96.1	24.1	16.7	11.9	*	*	*
Neurology . . . . .	...	98.3	6.6	5.4	7.2	*	*	4.7
All other specialties . . . . .	...	95.2	17.7	24.7	5.9	4.1	*	8.7

* Figure does not meet standard of reliability or precision.

— Quantity zero.

... Category not applicable.

¹Estimates for nurse midwives have been omitted from the table because of low frequencies in the sample data.²Numbers do not add to totals because more than one provider may be reported per visit.**Table 25. Number and percent distribution of office visits by duration of visit: United States, 1998**

Duration	Number of visits in thousands	Percent distribution
All visits	829,280	100.0
Visits at which no physician was seen	32,290	3.9
Visits at which a physician was seen	796,990	96.1
Total	796,990	100.0
1–5 minutes	29,251	3.5
6–10 minutes	184,310	22.2
11–15 minutes	299,655	36.1
16–30 minutes	231,469	27.9
31–60 minutes	48,599	5.9
61 minutes and over	3,706	0.4

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

Technical notes

Sampling errors

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

The standard errors used in this report were approximated using SUDAAN software. SUDAAN computes standard errors by using a first-order Taylor approximation of the

deviation of estimates from their expected values. A description of the software and the approach it uses has been published (18). The relative standard error (RSE) of an estimate is obtained by dividing the standard error by the estimate itself. The result is then expressed as a percent of the estimate. When it is not feasible to use statistical software, such as SUDAAN, for analyzing complex survey data, one may calculate approximate relative standard errors for aggregate estimates by using the following general formula, where x is the aggregate of interest in thousands, A and B are the appropriate coefficients from table I.

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

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

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

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

Published and flagged estimates

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

In this report estimates are not presented if they are based on fewer than 30 cases in the sample data; only an asterisk (*) appears in the tables. Estimates based on 30 cases or more are asterisked only if the relative standard error of the estimate exceeds 30 percent.

Nonsampling errors

As in any survey, results are subject to sampling and nonsampling errors. Nonsampling errors include reporting and processing errors, as well as biases due to nonresponse and incomplete response. The magnitude of the nonsampling errors cannot be computed. However, these errors were kept to a minimum by procedures built into the operation of the survey. To eliminate ambiguities and encourage uniform reporting, attention was given to the phrasing of items, terms, and definitions. Also, pretesting of most data items and survey procedures was performed. Quality control procedures and consistency and edit checks reduced errors in data coding and processing. Coding error rates ranged from 0.1 to 1.3 for various data items.

Table I. Coefficients appropriate for determining approximate relative standard errors by type of estimate and physician specialty: National Ambulatory Medical Care Survey, 1998

Type of estimate and physician speciality	Coefficient for use with estimates in thousands		Lowest reliable estimate in thousands
	A	B	
Visits			
Overall totals	0.002231	81.046	923
General and family practice	0.007726	64.189	780
Internal medicine	0.008905	69.716	860
Pediatrics	0.008956	65.619	810
General surgery	0.011328	25.119	319
Obstetrics and gynecology	0.013855	61.845	812
Orthopedic surgery	0.016444	75.447	1,026
Cardiovascular diseases	0.014066	23.840	314
Dermatology	0.010294	24.158	303
Urology	0.018507	18.960	265
Psychiatry	0.016119	27.401	371
Neurology	0.019706	12.981	185
Ophthalmology	0.008327	42.597	522
Otolaryngology	0.014896	16.071	214
All other specialties	0.015688	94.152	1,267
Drug mentions			
Overall totals	0.003050	221.507	2,548
General and family practice	0.010827	173.607	2,193
Internal medicine	0.013262	212.891	2,774
Pediatrics	0.010118	142.982	1,790
General surgery	0.021786	29.697	435
Obstetrics and gynecology	0.015444	109.286	1,466
Orthopedic surgery	0.018017	91.352	1,269
Cardiovascular diseases	0.015255	128.588	1,720
Dermatology	0.012961	57.343	744
Urology	0.025040	41.127	633
Psychiatry	0.019765	73.447	1,046
Neurology	0.022198	32.612	481
Ophthalmology	0.012131	97.622	1,254
Otolaryngology	0.019871	35.291	503
All other specialties	0.019524	301.463	4,278

NOTE: These coefficients apply to National Ambulatory Medical Care Survey data where doctors of osteopathy (D.O.'s) have been aggregated with doctors of medicine (M.D.'s) according to their self-designated practice specialty. For those who wish to conduct a separate analysis on visits to doctors of osteopathy, the A and B coefficients for use with visit estimates in thousands are 0.015155 and 45.256, respectively. The corresponding coefficients for estimates of drug mentions in thousands are 0.019222 and 97.577.

Adjustments for survey

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

Adjustments for item

nonresponse—Weighted item nonresponse rates were 5.0 percent or less for all data items with the following exceptions: Is patient pregnant? (13.8 percent of females, 15–44 years of age), ethnicity (20.6 percent), Was authorization required for care? (6.4 percent), Does patient belong to an HMO? (8.4 percent), Is this a capitated visit (10.0 percent), Cause of injury (29.5 percent), Place of injury (49.1 percent), Is this injury intentional (26.9 percent of injury visits), Is this injury work related? (44.8 percent of injury visits), and Is medication from patient's formulary list? (36.2 percent).

For some items missing values were imputed by randomly assigning a value

from a Patient Record form with similar characteristics; imputations were based on physician specialty, geographical region, and 3-digit ICD–9–CM codes for principal diagnosis. Imputations were performed for the following variables—birth year (2.4 percent), sex (1.2 percent), race (12.8 percent), and time spent with physician (10.4 percent). Before 1997 imputations were also performed for the following variables: Ethnicity; provider seen; Was patient seen before; and if yes, For the current principal diagnosis; Referral; and Disposition of visit. Blank or otherwise missing responses are so noted in the data.

Tests of significance and rounding

In this report the determination of statistical inference is based on a two-tailed t-test. The Bonferroni inequality was used to establish the critical value for statistically significant differences (0.05 level of significance) based on the number of possible comparisons within a particular variable (or combination of variables) of interest. Terms relating to differences such as “greater than” or “less than” indicate that the difference is statistically

significant. A lack of comment regarding the difference between any two estimates does not mean that the difference was tested and found to be not significant.

In the tables estimates of office visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals. Rates and percent were calculated from original unrounded figures and do not necessarily agree with figures calculated from rounded data.

Injury groupings

Table 13 of this report presents data on the intent and mechanism producing the injuries that resulted in ambulatory care visits to physician offices. Cause of injury is collected for each sampled visit in the NAMCS and is coded according to the ICD–9–CM's “Supplementary Classification of External Causes of Injury and Poisoning.” For table 13, however, the first-listed cause of injury data were regrouped to highlight the interaction between intentionality of the injury and the mechanism that actually produced the injury. Table II shows the groupings used to produce this table.

Table II. Reclassification of external cause-of-injury codes for use with National Ambulatory Medical Care Survey data

Intent and mechanism of injury	Cause of injury code ¹
Unintentional injuries	E800–E869, E880–E929
Falls	E880.0–E886.9, E888
Motor vehicle traffic	E810–E819
Striking against or struck accidentally by objects or persons . . .	E916–E917
Overexertion and strenuous movements	E927
Cutting or piercing instruments or objects	E920
Natural and environmental factors	E900–E909, E928.0–E928.2
Poisoning by drugs, medicinal substances, biologicals, other solid and liquid substances, gases, and vapors	E850–E869
Fire and flames, hot substance or object, caustic or corrosive material, and steam	E890–E899, E924
Machinery	E919
Pedal cycle, nontraffic, and other	E800–E807(.3), E820–E825(.6), E826.1, E826.9
Motor vehicle, nontraffic	E820–E825 (.0,.5,.7,.9)
Other transportation	E800–807(. 0–.2,.8–.9), E826 (.0,.2–.8), E827–E829, E831, E833–E845
Firearm missile	E922
Other and not elsewhere classified	E846–E848, E911–E915, E918, E921, E923, E925–E926, E929.0–E929.5, E928.8, E929.8
Mechanism unspecified	E887, E928.9, E929.9
Intentional injuries	E950–E959, E960–E969, E970–E978, E990–E999
Assault	E960–E969
Self-inflicted	E950–E959
Other causes of violence	E970–E978, E990–E999
Injuries of undetermined intent	E980–E989
Adverse effects of medical treatment	E870–E879, E930–E949

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM), Supplementary Classification of External Causes of Injury and Poisoning (5).

Physician specialty groupings

The NAMCS survey design grouped physicians into 15 strata, or specialty groups, for sampling purposes. One stratum, doctors of osteopathy, was based on information from the American Osteopathic Association (AOA). The other groups (general and family practice, internal medicine, pediatrics, general surgery, obstetrics and gynecology, orthopedic surgery, cardiovascular diseases, dermatology, urology, psychiatry, neurology, ophthalmology, otolaryngology, and a residual category of other specialties) were developed based on information from the American Medical Association (AMA).

Estimates are presented in this report with doctors of osteopathy combined with doctors of medicine, unless otherwise noted. In [table 2](#) and [figure 4](#), data on office visits are presented using the broader categories of primary care, surgical, and non-surgical specialties. [Table III](#) shows the specialties used to define these categories.

Population figures and rate calculation

The figures represent the U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population as of July 1, 1998. Figures are consistent with the downloadable series,

U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–98. It is available at the U.S. Bureau of the Census Internet site: http://ftp.census.gov/population/www/estimates/nat_90s_4.html. Figures have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

Definition of terms

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

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

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

Illness-related visit—A visit is considered illness related if it was not an injury visit as defined later.

Injury-related visit—A visit is injury related if “yes” was checked in response to item 15, “Is this visit related to injury or poisoning?” or if a cause of injury or a nature of injury diagnosis was provided, or if an injury-related reason for visit was reported.

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

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

Table III. Reclassification of physician specialty for use with National Ambulatory Medical Care Survey data

Physician specialty group	Physician specialty
Primary care specialties	General/family practice, internal medicine, adolescent medicine, pediatrics, pediatric sports medicine, adolescent medicine (internal medicine), gynecology, maternal and fetal medicine, obstetrics and gynecology, obstetrics, geriatric medicine (internal medicine), and sports medicine (internal medicine).
Surgical specialties	Hand surgery, adult reconstructive orthopedics, foot and ankle orthopedics, musculoskeletal oncology, pediatric orthopedics, orthopedic surgery, sports medicine (orthopedic surgery), orthopedic surgery of the spine, orthopedic trauma, gynecological oncology, urology, pediatric urology, ophthalmology, pediatric ophthalmology, otology, otolaryngology, pediatric otolaryngology, general surgery, critical care medicine (obstetrics and gynecology), abdominal surgery, cardiovascular surgery, colon and rectal surgery, cardiothoracic surgery, facial plastic surgery, head and neck surgery, hand surgery (plastic surgery), hand surgery (surgery), critical care (neurological surgery), neurological surgery, pediatric surgery (neurology), pediatric surgery, plastic surgery, surgical oncology, thoracic surgery, and transplant surgery.
Nonsurgical specialties	Allergy, addiction medicine, addiction psychiatry, allergy and immunology, allergy and immunology/diagnostic laboratory immunology, bronchoesophageal medicine, clinical genetics, clinical biochemical genetics, clinical cytogenetics, clinical molecular genetics, critical care medicine, dermatological immunology/diagnostic laboratory immunology, diabetes, emergency medicine, endocrinology, sports medicine (emergency medicine), medical toxicology (emergency medicine), gastroenterology, general preventive medicine, hematology, hepatology, hematology/oncology, cardiac electrophysiology, infectious diseases, immunology, legal medicine, medical management, medical genetics, nephrology, nutrition, occupational medicine, medical oncology, clinical pharmacology, pulmonary critical care medicine, pediatric emergency medicine (emergency medicine) public health and general preventive medicine, pediatric/diagnostic laboratory immunology, palliative medicine, physical medicine and rehabilitation, pain medicine, medical toxicology (preventive medicine), pulmonary diseases, rheumatology, spinal cord injury, sleep medicine, and undersea medicine.

Trade name disclaimer

The use of trade names is for identification only and does not imply endorsement by the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

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