National Hospital Ambulatory Medical Care Survey: 1999 Outpatient Department Summary

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Abstract

Objective—This report describes ambulatory care visits to hospital outpatient departments (OPD's) in the United States. Statistics are presented on selected hospital, clinic, patient, and visit characterstics. Highlights of trends in OPD utilization from 1992 through 1999 are also presented.

Methods—The data presented in this report were collected from the 1999 National Hospital Ambulatory Medical Care Survey (NHAMCS). NHAMCS is part of the ambulatory care component of the National Health Care Survey that measures health care utilization across various types of providers. NHAMCS is a national probability sample survey of visits to hospital outpatient and emergency departments of non-Federal, short-stay, and general hospitals in the United States. Sample data are weighted to produce annual national estimates. Trends are based on NHAMCS data for 1992, 1993–94, 1995–96, 1997–98, and 1999.

Results—During 1999 an estimated 84.6 million visits were made to hospital OPD's in the United States, about 31.1 per 100 persons. The volume of OPD visits increased by 50 percent, whereas the rate of visits increased by 38 percent from 1992 through 1999. Females had higher OPD visit rates than males; however, since 1992 males experienced a greater increase in visit rates than females (42 percent and 36 percent, respectively). The OPD utilization rate for black persons was 78 percent higher than that for white persons. Of all visits made to hospital OPD's in 1999, 38.9 percent and 23.5 percent, respectively, listed private insurance and Medicaid as the primary expected source of payment and 21.2 percent were made by patients belonging to a health maintenance organization (HMO). The rate of visits for private insurance/HMO increased by 73 percent from 1992 through 1999, while self-pay and Medicaid decreased (26 percent and 40 percent, respectively). There were an estimated 9.3 million injury-related OPD visits during 1999. Diagnostic and screening services were provided at 77.3 percent of visits, nonmedication therapeutic and preventive services were provided at 35.7 percent of visits, and medications were prescribed at 66.1 percent of visits. In 1999 visits where any physicians were seen such as, staff physician, resident/intern, or other physician, accounted for about 71 percent of all OPD visits. From 1992 through 1999, the proportion of visits where a resident/intern was seen decreased by 50 percent.

Keywords: NHAMCS • outpatient department visits • diagnoses • medications • ICD–9–CM

Introduction

The National Hospital Ambulatory Medical Care Survey (NHAMCS) was inaugurated in 1992 to gather, analyze, and disseminate information about the health care provided by hospital outpatient departments (OPD's) and emergency departments (ED's). The NHAMCS is part of the ambulatory component of the National Health Care Survey, a family of surveys that measures health care utilization across various types of providers.

Ambulatory medical care is the predominant method of providing health care services in the United States and occurs in a wide range of settings. The largest proportion of ambulatory care services occurs in physician offices (1). Since 1973 the National Center for Health Statistics (NCHS) has collected data on patient visits to physicians' offices through the National Ambulatory Medical Care Survey (NAMCS). However, visits to hospital OPD's and ED's, which represent a significant segment of ambulatory care visits, are not included in the NAMCS. Furthermore, hospital ambulatory patients are known to differ from office patients in their demographic characteristics and in medical aspects (1).

This report presents data from the 1999 NHAMCS, a nationally representative survey of hospital OPD utilization. Hospital, patient, and

visit characteristics are described. In addition, NHAMCS trend data on OPD utilization from 1992 through 1999 are presented here. Other *Advanced Data* reports highlight visits to ED's (2) and physician offices (3).

Data Highlights

OPD utilization

- In 1999, 84.6 million visits were made to hospital OPD's, about 31.1 visits per 100 persons. From 1992 through 1999, the annual number of visits increased by 50 percent, resulting in a daily increase of 77,000 visits per day among OPD's in the United States. The rate of visits increased by 38 percent since 1992.

Patient characteristics

- Females had higher OPD visit rates than males in the age groups between 15 and 44 years. From 1992 through 1999, female and male visits increased by 36 percent and 42 percent, respectively.
- Black persons had a higher OPD visit rate than white persons. From 1992 through 1999, visits by white persons increased by 42 percent; however, no trend was found for black persons.

Hospital characteristics

- Eighty-three percent of all OPD visits were in metropolitan statistical areas (MSA's).
- General medicine clinics represented 61.5 percent of all OPD visits.

Expected source of payment

- Private insurance and Medicaid were recorded at 38.9 percent and 23.5 percent of OPD visits, respectively.

Chief complaints and diagnoses

- The most frequently mentioned reasons for visit related to a symptomatic problem were cough, throat symptoms, fever, and abdominal pain.
- There were 9.3 million injury-related OPD visits, about 3.4 visits per 100 persons. Approximately 51 percent of the injury-related visits were made by

males overall and about 33 percent by males 25–44 years of age. An estimated 77 percent of injury-related visits were due to unintentional injuries.
- The four most frequent illness-related diagnoses were acute upper respiratory infections, essential hypertension, diabetes mellitus, and malignant neoplasms.

Medications and other services

- Acetaminophen and amoxicillin were the most frequently prescribed generic drugs.
- The drug mention rate rose by 34 percent from 112 medications per 100 OPD visits in 1992 to 150 in 1999.
- About three-quarters of OPD visits had at least one diagnostic and screening service ordered or provided.
- Therapeutic and preventive services were ordered or provided at 35.7 percent of visits.

Providers and disposition

- No physician was seen at 17.5 percent of visits. Visits where any physician was seen decreased by 12 percent since 1992. The percent of visits where a resident/intern was seen decreased by 50 percent from 1992 through 1999.
- More than one-half of OPD visits were given an appointment to return to a clinic.

Methods

The data presented in this report are from the 1999 NHAMCS, a national probability sample survey conducted by the Division of Health Care Statistics of the National Center for Health Statistics, Centers for Disease Control and Prevention. The survey was conducted from December 21, 1998, through December 19, 1999.

The target universe of the NHAMCS is in-person visits made in the United States to OPD's and ED's of non-Federal, short-stay hospitals (hospitals with an average length of stay of less than 30 days) or those whose specialty is general (medical or surgical) or children's general. The sampling

frame consisted of hospitals listed in the April 1991 SMG Hospital Database. The data presented in this report are representative of 1999 utilization statistics for hospitals existent in 1991.

A four-stage probability sample design is used in the NHAMCS (4). The design involves samples of primary sampling units (PSU's), hospitals within PSU's, OPD's within hospitals and/or clinics within OPD's, and patient visits within OPD's and/or clinics. The PSU sample consists of 112 PSU's that comprise a probability subsample of the PSU's used in the 1985–94 National Health Interview Survey. The sample for 1999 consisted of 489 hospitals. Of this group, 281 had eligible OPD's and 241 of these participated in the survey, resulting in a hospital OPD participation rate of almost 86 percent.

If an OPD had five or fewer clinics, all were included in the sample. For OPD's with more than five clinics, a systematic sample of clinics proportional to size was included in the survey. A clinic was defined as an administrative unit of the OPD where ambulatory medical care is provided under the supervision of a physician. Clinics where only ancillary services, such as radiology, laboratory services, physical rehabilitation, renal dialysis, and pharmacy, were provided or other settings in which physician services were not typically provided were out of scope for the survey. A total of 895 clinics were selected from the 241 participating OPD's. Of this group of clinics, 858 provided data to the survey.

Hospital staff were asked to complete Patient Record forms (see figure I in the Technical notes) for a systematic random sample of patient visits occurring during a randomly assigned 4-week reporting period. The number of Patient Record forms completed for OPD's was 29,487.

Because the estimates presented in this report are based on a sample rather than on the entire universe of OPD visits, they are subject to sampling variability. The Technical notes at the end of the report include an explanation of sampling errors with guidelines for judging the precision of the estimates. The standard errors reported here are calculated using Taylor approximations

in SUDAAN that take into account the complex sample design of the NHAMCS (5).

The U.S. Bureau of the Census was responsible for data collection. Data processing operations and medical coding were performed by Analytical 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 1.6 percent for various survey items.

Several of the tables in this report present data on rates of OPD visits. The population figures used in calculating these rates are from the U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States, July 1, 1999, and have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

Trend data are presented from 1992, when the survey was initiated. Where possible, two years of data were combined to make point estimates more reliable. For details on the surveys conducted in other years, refer to the annual reports (6–12). Because the maximum number of medications recorded on the Patient Record form changed from five to six in 1995, the trend analysis was limited to the first five mentions per visit. Because there were no observed significant differences in the crude and age-adjusted utilization rates, only the crude rates are presented. Significance of trends was based on a weighted least-squares regression analysis at the .01 level of significance.

In order to provide facility-level estimates from the NHAMCS, visit data were aggregated by hospital to yield hospital estimates for various characteristics collected in 1999. A hospital weight was applied to make national estimates of hospital characteristics. Variation will be larger in hospital estimates than visit estimates because each sampled hospital provides sample records for a randomly assigned 4-week reporting period rather than the entire year. Thus, hospital statistics are subject to seasonal variation, which is not present in the visit statistics.

Results

Patient characteristics

There were an estimated 84.6 million visits in 1999, about 31.1 per 100 persons. While the population of the United States increased by 8 percent since 1992, the amount of OPD utilization increased by 50 percent from 56.6 million to 84.6 million visits annually. The operating OPD's in non-Federal, short-stay hospitals in the United States accommodated 77,000 more visits each day in 1999 than in 1992. The overall rate of visits per 100 persons increased by 38 percent from 1992 through 1999 (figure 1). OPD visits by patient's age, sex, and race are shown in table 1. In 1999 about 26 percent of OPD visits were made by patients 25–44 years of age. OPD visits for the 45–64-year-old age group increased by 53 percent since 1992. The visit rate for females was higher than for males overall, driven by differences in the 15–24 and 25–44-year-old age groups (figure 2). In figures 2 and 3, 95-percent confidence intervals are given to graphically display the stability of the individual point estimates and to permit the reader to assess general patterns in the data. Visit rates for females and males 45–64 years of age increased by 47 percent and 64 percent, respectively. In addition, visit rates for

males under 15 years of age increased by 37 percent since 1992.

White persons made 75.1 percent of all OPD visits, while black persons and Asians/Pacific Islanders accounted for 21.0 percent and 3.2 percent, respectively. American Indians/Alaska Natives accounted for 0.4 percent of the visits. The OPD utilization rate for black persons was 78 percent higher than for white persons (figure 3). There was a linear trend for black and white persons by age. OPD visit rates for white persons increased by 42 percent from 1992 through 1999, whereas no trend was found in visit rates for black persons (figure 4).

Hospital characteristics

Ownership—OPD's within the scope of the NHAMCS are more likely to be operated by voluntary nonprofit hospitals. About 68 percent of OPD visits were made to voluntary nonprofit hospitals, while 30.3 percent of visits occurred in non-Federal government (i.e., State, county, city) hospitals (table 1). Government hospitals operate about 12 percent of the in-scope OPD's.

Geographic region—The visit rates in the Northeast (41.1 visits per 100 persons) and Midwest (34.3 per 100 persons) were higher than in the West (26.1 visits per 100 persons) (table 1). The proportions of OPD visits in the
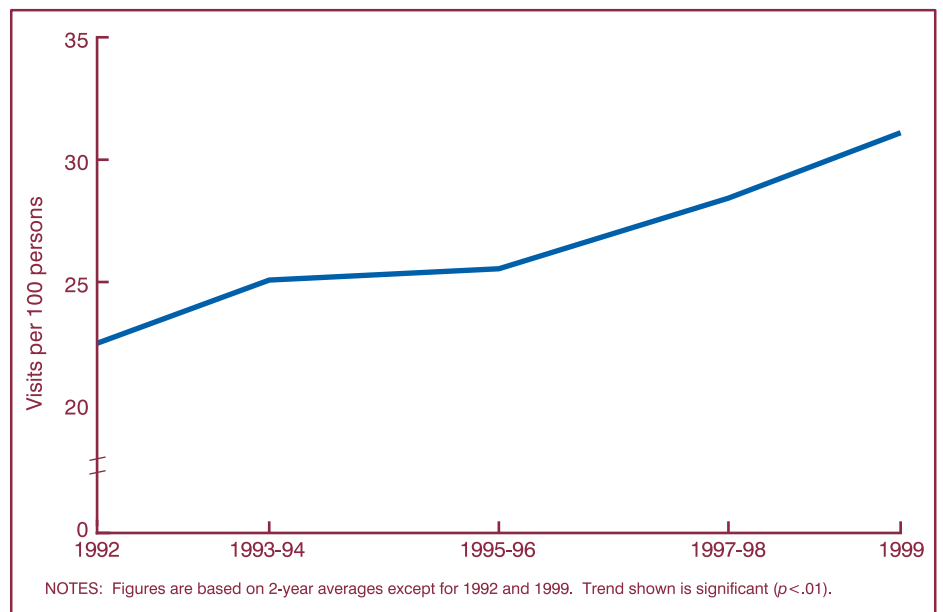

NOTES: Figures are based on 2-year averages except for 1992 and 1999. Trend shown is significant (*p* <.01).

Figure 1. Trend in outpatient department visit rates: United States, 1992–99
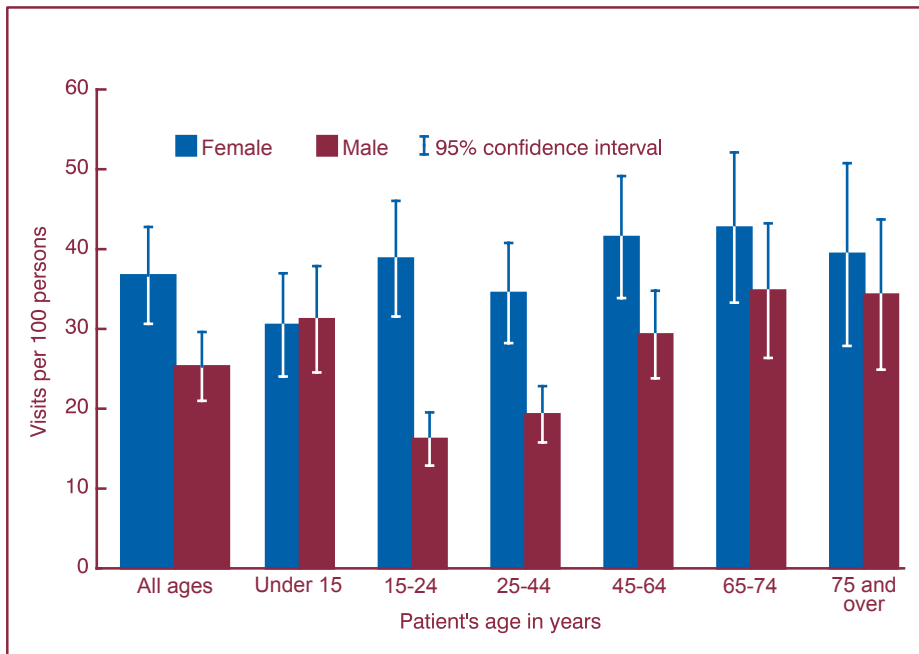
Figure 2. Annual rate of outpatient department visits by patient's age and sex: United States, 1999
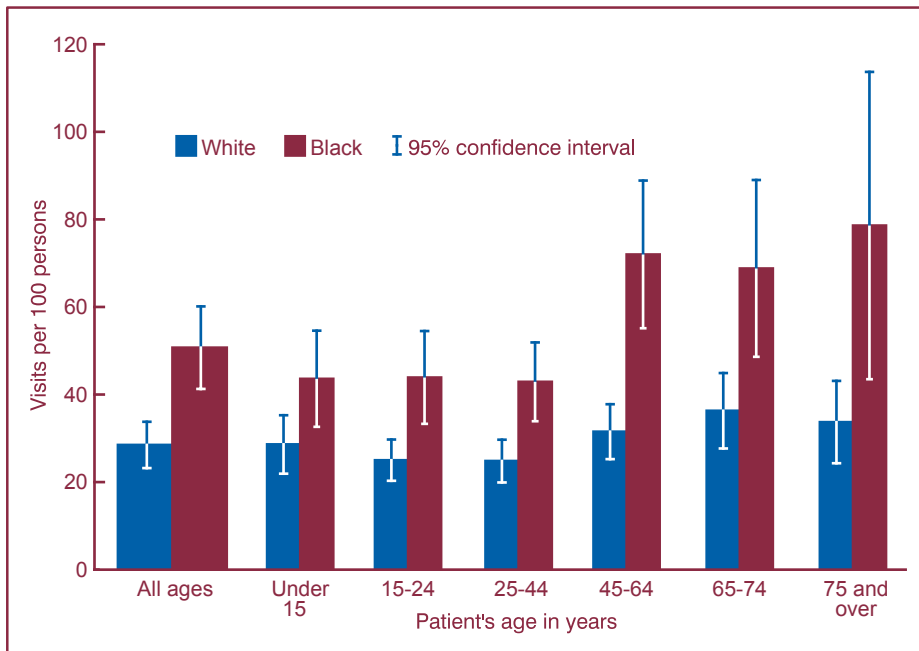
Figure 3. Annual rate of outpatient department visits by patient's age and race: United States, 1999

Northeast (25.5 percent), Midwest (27.1 percent), and South (30.2 percent) were higher than the proportion in the West (17.2 percent).

Metropolitan status—About 60 percent of in-scope OPD's are in MSA's, but they accounted for 83 percent of the OPD visits (table 1). There were no significant differences in visit rates for MSA's and non-MSA's.

Clinic characteristics

Clinic type—Visits to hospital OPD's were classified into five types of clinics (table 2). General medicine clinics included internal medicine and primary care clinics and represented 61.5 percent of all OPD visits. Surgery, pediatrics, and obstetrics and gynecology accounted for 11.9 percent,

11.4 percent, and 8.2 percent of visits, respectively. The "other" clinic category, which included such clinics as psychiatry and neurology, accounted for 6.9 percent of visits.

Visit characteristics

Referral status and prior-visit status—Table 3 shows data on OPD visits categorized by patient's referral status and by prior-visit status. About 18 percent of OPD visits were referred by another physician. Eight in ten OPD visits (80.9 percent) were made by patients who had been seen in the clinic on a previous occasion. Overall, 16.4 percent of visits were made by new patients. A significantly higher proportion of new patients were referred by another physician or health plan (35.3 percent) compared with old patients (14.6 percent).

Primary expected source of payment and health maintenance organization status—Private insurance was listed as the dominant expected source of payment, occurring for 38.9 percent of OPD visits in 1999 (table 4). Payment mechanism varied by patient's age as shown in figure 5.

Over 20 percent of OPD visits were made by members of HMO's (table 4). The distribution of visits by HMO members varied by expected source of payment. Approximately one-third of visits with private insurance recorded also had HMO checked (35.4 percent), compared with 20.6 percent and 6.0 percent of Medicaid and Medicare visits, respectively. HMO status was unknown for 22.8 percent of visits.

Patient's principal reason for visit—The principal reason for visit is the complaint, symptom, or reason, which is the main reason why the patient came to the OPD. Up to three reasons for visit were coded according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (13). The RVC is a classification scheme developed by NCHS that has been used for over 20 years to code patient's complaints or reasons for seeking care. It is divided into eight modules or groups of reasons as shown in table 5 and includes all the reasons for which patients see their health care provider, including

symptoms; follow-up for 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. The symptoms module is further divided into symptoms that refer to specific body systems, such as digestive or respiratory. Each reason is assigned a three- or four-digit classification code (for example, S845– ''Symptoms of skin mole'' is further detailed to S845.1– ''Change in size and color'' and S845.2– ''Bleeding mole''). Reasons classified in the symptom module represented 46.9 percent of all OPD visits with symptoms referable to the respiratory system accounting for 10.2 percent. The diagnostic/screening and preventive module (17.0 percent) and the treatment module (15.1 percent) were also prominent.

The 20 most frequently mentioned principal reasons for visit, representing 41.9 percent of all visits, are shown in table 6. Approximately 1 in 10 OPD visits were for general medical, well-baby, or routine prenatal examinations. Progress visit, classified in the treatment module and generally denoting routine follow-up of an unspecified problem, was the most frequently mentioned principal reason for visit (6.9 percent). This was followed by general medical examination (4.9 percent) and routine prenatal examination (3.4 percent). The most frequently mentioned reasons related to a symptomatic problem were cough (3.0 percent), throat symptoms (2.7 percent), stomach and abdominal pain (1.8 percent), and fever (1.8 percent). All of the top 20 reasons for OPD visits in 1999 were also listed among the most frequently mentioned reasons in 1998, albeit in a 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 was to provide a better picture of the general nature of the OPD visit—whether for an acute problem; routine chronic problem; flare-up of a chronic problem; pre- or
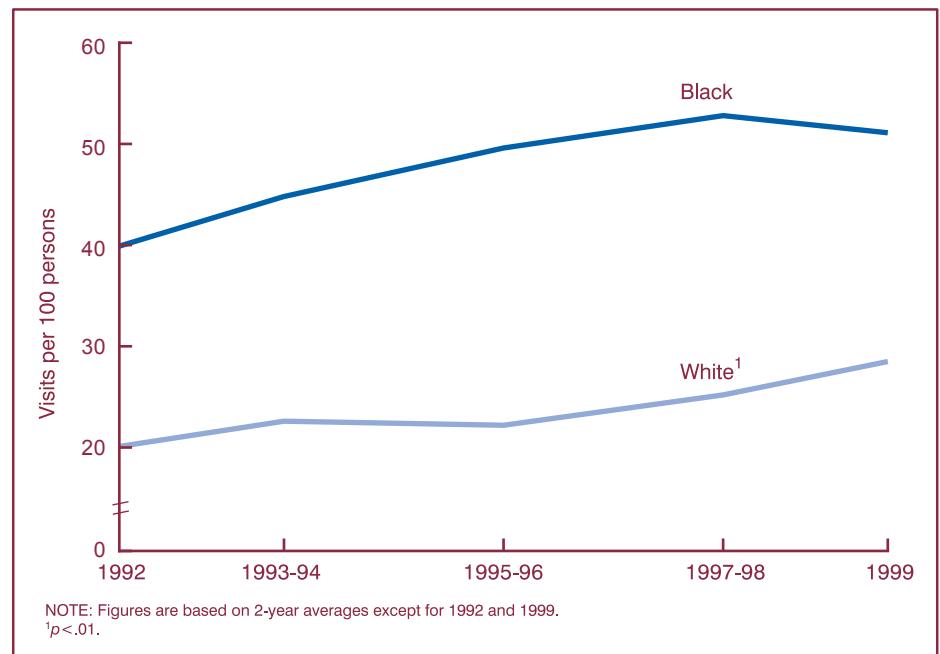
Figure 4. Trends in outpatient department visit rates by race: United States, 1992–99
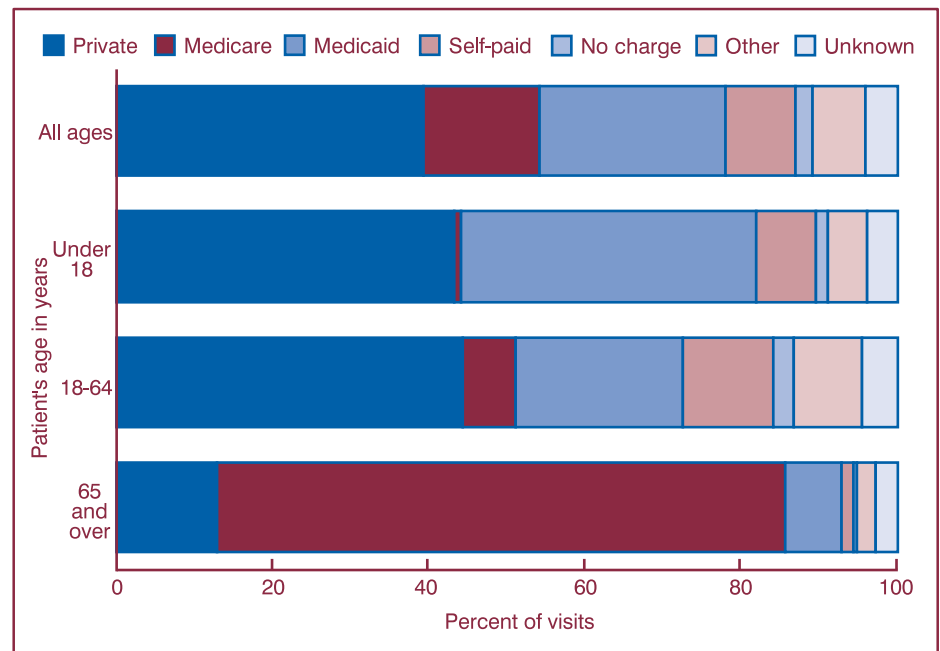
Figure 5. Percent distribution of outpatient department visits by primary expected source of payment according to patient's age: United States, 1999

post-surgery visit or injury follow-up; or for preventive care, including routine medical examinations. The major reason for visit item differs from the principal reason for visit item in that the former presents the physician's rather than the patient's perspective of the major reason that the patient sought care. As seen in table 7, acute problems comprised

38.4 percent of visits overall, but 51.0 percent among visits by children under 15 years of age. About 28 percent of all visits were for a routine chronic problem, but for persons 65 years of age and over it represented 41.4 percent. Approximately 18 percent of visits were for preventive care. Females and black persons had a significantly higher

proportion of visits for preventive care compared with that of males and white persons, respectively.

Injury-related visits—Although there is a separate item on the Patient Record form to indicate whether the visit was for an injury or poisoning, sometimes an injury reason for visit is specified or an injury diagnosis is rendered without the injury item being checked. Therefore, the injury checkbox is coded to ''yes'' if any of the three reasons for visit were in the injury module or any of the three diagnoses were in the injury or poisoning chapter of the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM) (14). This provides a better indicator that the visit involves an injury than using the reason for visit module, ICD–9–CM injury diagnosis, or the unedited injury item alone. A more detailed discussion of this is documented elsewhere (15).

There were an estimated 9.3 million injury- or poisoning-related OPD visits in 1999, representing 11.0 percent of all OPD visits and yielding a rate of 3.4 visits per 100 persons (table 8). About 55 percent of all injury visits occurred among persons 25–64 years of age. There were no sex, age, or racial differences in injury-related visit rates. Further information on injury visits at outpatient departments may be found on the public-use file including E-codes and a narrative of the cause of injury.

Primary diagnosis—The Patient Record form contains an item on diagnosis where hospital staff were 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 (14). Displayed in table 9 are OPD visits by primary diagnosis using the major disease categories specified by the ICD–9–CM. The supplementary classification, used for diagnoses not classifiable to injury or illness (for example, general medical examination, routine prenatal examination, and health supervision of an infant or child) accounted for 16.9 percent of all OPD visits. Diseases of the respiratory system

(12.6 percent) were prominent on the list.

Some of the most frequently reported primary diagnoses, accounting for 40.6 percent of all the OPD visits in 1999, are shown in table 10. These categories are based on the ICD–9–CM. The four most frequent diagnoses recorded were acute upper respiratory infections (4.2 percent), essential hypertension (3.6 percent), normal pregnancy (3.2 percent), and diabetes mellitus (3.0 percent). From 1992 through 1999, visit rates for essential hypertension, health supervision of infant and child, and diabetes mellitus significantly increased by 67 percent, 39 percent, and 88 percent, respectively (data not shown).

Diagnostic and screening services—Statistics on various diagnostic and screening services ordered or provided by hospital staff during an OPD visit are displayed in table 11. As in previous years, the most frequently cited examinations were skin (8.7 percent), pelvic (5.7 percent), and breast examinations (4.8 percent). Blood pressure check (54.9 percent) was the leading diagnostic screening test. Imaging was ordered or provided at 13.7 percent of all visits and was most often in the form of an x ray (7.6 percent of the visits). Imaging was done at 30.3 percent of all injury-related visits. Again, x ray (27.4 percent) was found to be the most frequently ordered service in all injury-related visits (data not shown). About 23 percent of the visits had no diagnostic or screening services ordered or provided.

Therapeutic and preventive services—As shown in table 12, one or more therapeutic or preventive services were ordered or provided at 35.7 percent of OPD visits during 1999. Counseling or education related to diet (13.6 percent) and exercise (6.9 percent) were mentioned most frequently. Psychotherapy, physiotherapy, and psycho-pharmacotherapy accounted for 3.4 percent, 2.7 percent, and 0.7 percent of visits, respectively. Medication therapy is reported separately below.

Medication therapy—Hospital staff were instructed to record all new or continued medications ordered, supplied, or administered at the visit, including

prescription and nonprescription preparations, immunizations, 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 (16). As used in the NHAMCS, the term ''drug'' is interchangeable with the term ''medication.'' Visits with one or more drug mentions are termed ''drug visits'' in the NHAMCS.

Medications were used at 66.1 percent of OPD visits in 1999, for a total of 131.6 million drug mentions or an average of 1.6 per visit (table 13). For those visits where medications were mentioned, there was an average of 2.4 drugs provided per visit. For the trend analysis, the number of drug mentions was limited to five, because the maximum number of medications recorded on the Patient Record form changed from five to six in 1995. The number of drug mentions increased by 100.6 percent from 63.3 million in 1992 to 126.9 million in 1999. Correspondingly, the drug mention rate rose by 34 percent from 111.8 to 150.0 medications per 100 OPD visits (figure 6).

There was a linear trend by age in the percent of visits where four drugs or more were prescribed. Approximately 27 percent of visits made by persons 65 years of age and over cited four medications or more, compared with 6.0 percent of visits by those under 15 years of age (table 14).

Drug mentions are displayed by therapeutic class in table 15. This classification is based on the therapeutic categories used in the *National Drug Code Directory,* 1995 edition (17). It should be noted that some drugs have more than one therapeutic application. In these cases, the drug was classified under its primary therapeutic use. Drugs used for relief of pain (12.9 percent), cardiovascular-renal drugs (12.4 percent), antimicrobial agents (11.6 percent), and respiratory tract drugs (10.6 percent) were listed most frequently. From 1992 through 1999, visits with cardiovascular-renal drugs

increased by 35 percent; whereas, visits with pain-relief drugs and hormones increased by 40 percent and 37 percent, respectively.

The 20 most frequently used generic substances for 1999 are shown in table 16. 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. The most frequently occurring generic substances in drugs mentioned at OPD visits were acetaminophen and amoxicillin, which were recorded at 4.4 percent and 3.1 percent of drug mentions, respectively.

The 20 most frequently mentioned medications are shown in table 17, according to the name written on the OPD Patient Record form by hospital staff. This could be a brand name, generic name, or therapeutic effect. Tylenol, which is classified as a nonnarcotic analgesic, was the drug most frequently mentioned, accounting for 2.3 percent of all OPD drug mentions. Motrin, which is classified as a nonsteroidal anti-inflammatory drug, and amoxicillin, which is classified as a penicillin, both accounted for 1.6 percent of mentions. Other most frequent drug mentions were albuterol sulfate (1.4 percent) and Lasix (1.1 percent).

Providers seen—In this item, staff were asked to check all of the providers seen during the visit. A staff physician and resident/intern were seen at 70.8 percent and 16.4 percent of OPD visits, respectively (table 18). A registered nurse, medical/nursing assistant, and licensed practical nurse were seen at 39.2 percent, 19.5 percent, and 13.4 percent of visits, respectively. A physician was not seen at 17.5 million OPD visits (20.7 percent). For the purpose of trend analysis, visits where any physician was seen (i.e., visits with staff physicians, residents/interns, or other physicians) were examined. The number of visits where any physician was seen decreased by 12 percent from 1992 through 1999, driven largely by a 50-percent decline in visits to residents/interns (figure 7).
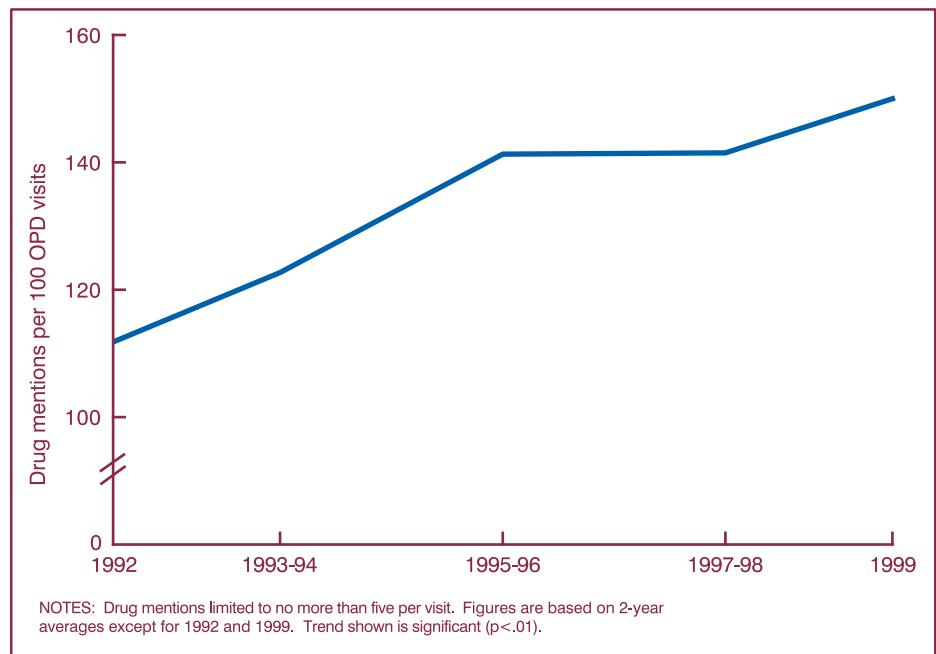
Figure 6. Trend in drug mention rates at outpatient department visits: United States, 1992–99
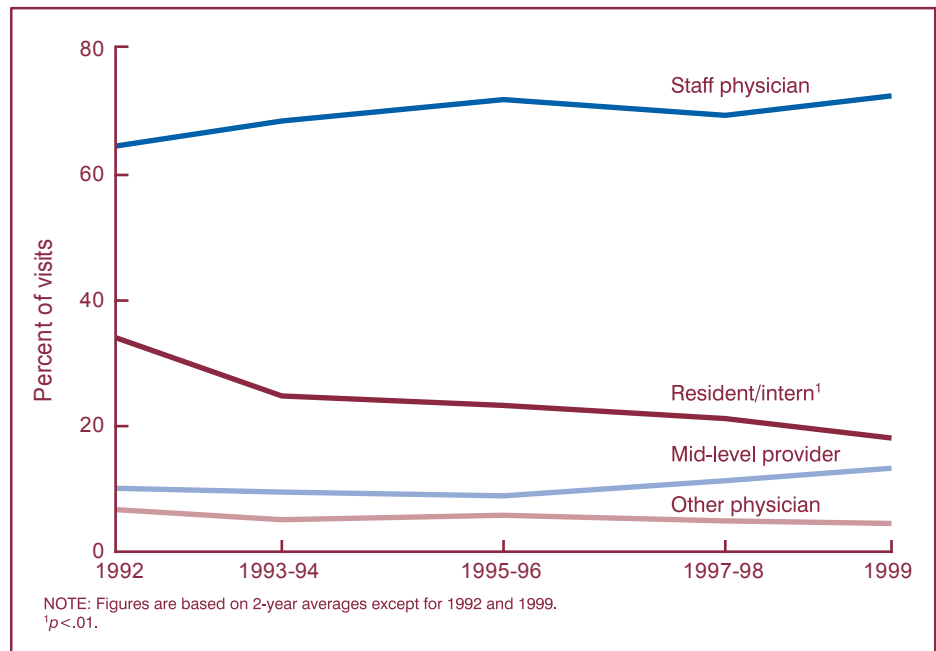
Figure 7. Trends in the percent of outpatient department visits by providers seen: United States, 1992–99

Visit disposition—Staff were asked to record all applicable dispositions and instructed that multiple responses could be coded for this item. For more than one-half of OPD visits (57.2 percent), patients were told to return to clinic by appointment (table 19). Return to clinic, P.R.N. (as needed) and referred to other physician/clinic accounted for the disposition at 24.7 percent and 9.0 percent of visits, respectively.

Time spent with physician—Time spent in face-to-face contact between the physician and patient is estimated and recorded by the hospital staff. It excludes time spent waiting to see the physician, time spent receiving care from someone other than the physician without the presence of the physician, and time spent by the physician in reviewing patient records and/or test results. In cases where the patient

received care from a nonphysician member of the hospital staff but did not actually see the physician during the visit, duration was to be recorded as "0" minutes. There was no face-to-face contact between the patient and physician at 20.7 percent of visits. The average time spent with the physician was 21.7 minutes. The majority of OPD visits (84.7 percent) included 6 to 30 minutes of physician and patient contact and 42.5 percent were between 16 to 30 minutes in duration (table 20).

Hospital variation—NHAMCS data can be used to make estimates of variation in hospitals on patient and visit characteristics. Table 21 indicates the mean of selected visit characteristics based on aggregation of visit data by hospital. The 25th, 50th, and 75th percentiles are shown as indicators of the variability of estimates by hospital. Such data may be used by hospitals as benchmarks for how their utilization differs from others in the Nation. Of the characteristics studied, those showing the greatest variability include percent with private insurance and percent with Medicaid. The distribution of hospitals is seldom normally distributed. For most of the variables studied, the distributions were positively skewed with the estimates in most hospitals toward the lower range and a tail extending toward the upper range for a few hospitals.

Nationally, hospitals with OPD's had an average of 39.3 percent of their visits covered by private insurance; however, for about 30 percent of hospitals with OPD's, private insurance was cited as the expected source of payment for less than 20 percent of visits (figure 8). Similarly, although a national average of 20.0 percent of OPD visits were paid by Medicaid, about 30 percent of hospitals with OPD's reported that less than 10 percent of OPD visits were by those who had Medicaid as the expected source of payment (figure 9).

Comparison with physician office visits—The observed distribution of visit characteristics in OPD visits are very similar to those found in physician office visits (3). Notable differences were observed in type of providers seen during the encounter. OPD visits were more likely to involve mid-level
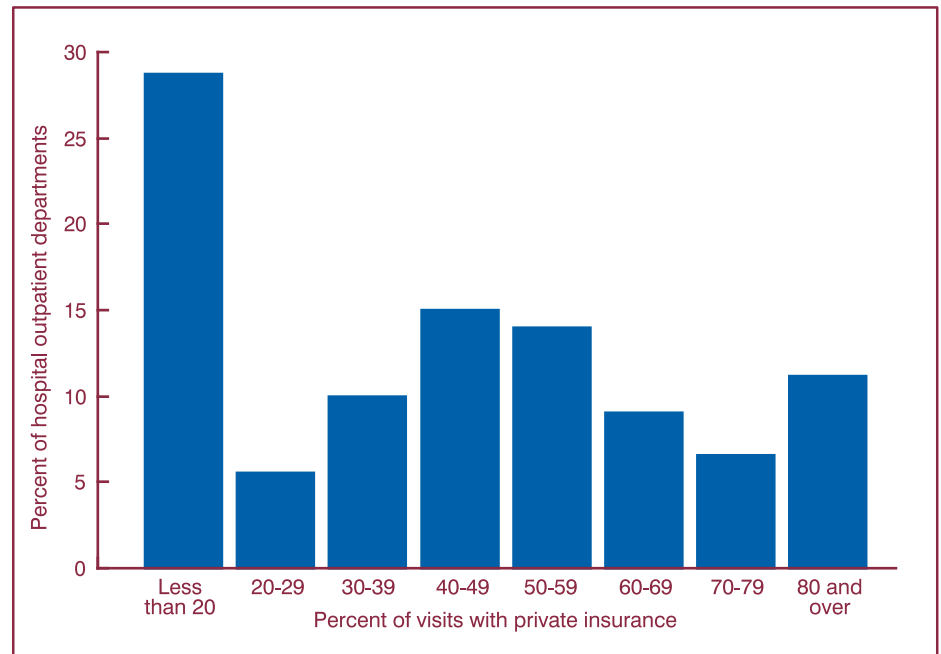
Figure 8. Distribution of hospital outpatient departments by percent of visits with private insurance: United States, 1999
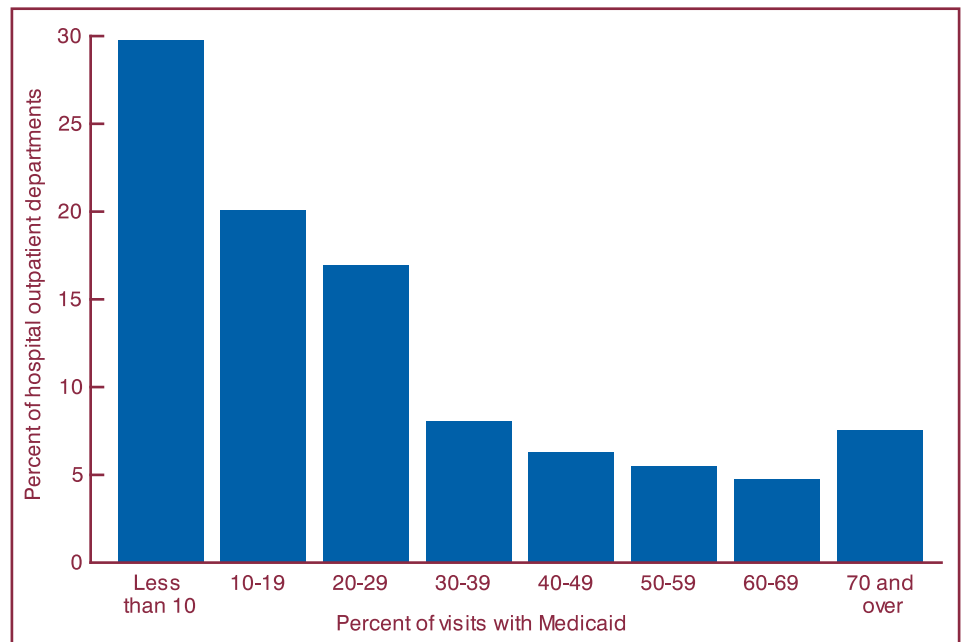
Figure 9. Distribution of hospital outpatient departments by percent of visits with Medicaid: United States, 1999

providers and registered nurses, but less likely to involve medical assistants.

The main differences in OPD and physician office visits are in the characteristics of the patients. In 1999, 1 in 5 OPD visits was made by black patients compared with 1 in 10 office visits. The OPD visit rate for black persons was 79 percent higher than that for white persons, but the office visit

rate was 28 percent lower for black persons compared to that for white persons. Medicaid patients comprised 23.5 percent of OPD visits but only 7.5 percent of physician office visits. Availability of medical care for Medicaid patients is more likely to be found in OPD's than in physician offices, as in 1999, 22 percent of office-based physicians did not accept

new Medicaid patients (3). Trend data since 1992 indicated that the relative share of ambulatory care visits occurring in the OPD increased from 6 percent to 9 percent, while the relative share of visits to physician offices declined from 84 percent to 80 percent (1).

Additional information about OPD utilization is available from the NCHS Ambulatory Health Care Web site: http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm. Individual-year reports and public-use data files are available for download from the Web site. Data from the 1999 NHAMCS will also be available on a public-use data tape and CD-ROM. These and other products can be obtained by contacting the NCHS Ambulatory Care Statistics Branch at (301) 458-4600. Queries regarding NHAMCS data may be sent to NCHS via nchsquery@cdc.gov.

References

1. Schappert SM. Ambulatory care visits to physician offices, hospital outpatient departments and emergency departments: United States, 1999. National Center for Health Statistics. Vital Health Stat 13. To be published.
2. McCaig LF, Burt CW. National Hospital Ambulatory Medical Care Survey: 1999 emergency department summary. Advance data from vital and health statistics; no. 320. Hyattsville, Maryland: National Center for Health Statistics. 2001. http://www.cdc.gov/nchs/data/ad/ad320.pdf
3. Cherry D, Woodwell DA, Burt CW. National Ambulatory Medical Care Survey: 1999 summary. Advance data from vital and health statistics; no. 322. Hyattsville, Maryland: National Center for Health Statistics. 2001. http://www.cdc.gov/nchs/data/ad/ad322.pdf
4. McCaig LF, McLemore T. Plan and operation of the National Hospital Ambulatory Medical Care Survey. National Center for Health Statistics. Vital Health Stat 1(34). 1994.
5. Shah BV, Barnwell BG, Hunt PN, La Vange LM. SUDAAN user's manual release 7.0. Research Triangle Institute. Research Triangle Park, North Carolina. 1996.
6. McCaig LF. National Hospital Ambulatory Medical Care Survey: 1992 outpatient department summary. Advance data from vital and health statistics; no. 248. Hyattsville, Maryland: National Center for Health Statistics. 1994.
7. Lipkind KL. National Hospital Ambulatory Medical Care Survey: 1993 outpatient department summary. Advance data from vital and health statistics; no. 268. Hyattsville, Maryland: National Center for Health Statistics. 1995. http://www.cdc.gov/nchs/data/ad/ad268.pdf
8. Lipkind KL. National Hospital Ambulatory Medical Care Survey: 1994 outpatient department summary. Advance data from vital and health statistics; no. 276. Hyattsville, Maryland: National Center for Health Statistics. 1996. http://www.cdc.gov/nchs/data/ad/ad276.pdf
9. McCaig LF. National Hospital Ambulatory Medical Care Survey: 1995 outpatient department summary. Advance data from vital and health statistics; no. 284. Hyattsville, Maryland: National Center for Health Statistics. 1997. http://www.cdc.gov/nchs/data/ad/ad284.pdf
10. McCaig LF. National Hospital Ambulatory Medical Care Survey: 1996 outpatient department summary. Advance data from vital and health statistics; no. 294. Hyattsville, Maryland: National Center for Health Statistics. 1997. http://www.cdc.gov/nchs/data/ad/ad294.pdf
11. McCaig LF. National Hospital Ambulatory Medical Care Survey: 1997 outpatient department summary. Advance data from vital and health statistics; no. 307. Hyattsville, Maryland: National Center for Health Statistics. 1999. http://www.cdc.gov/nchs/data/ad/ad307.pdf
12. Slusarcick AL, McCaig LF. National Hospital Ambulatory Medical Care Survey: 1998 outpatient department summary. Advance data from vital and health statistics; no. 317. Hyattsville, Maryland: National Center for Health Statistics. 2000. http://www.cdc.gov/nchs/data/ad/ad317.pdf
13. Schneider D, Appleton L, McLemore T. A reason for visit classification for ambulatory care. National Center for Health Statistics. Vital and Health Stat 2(78). 1979.
14. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th Revision, Clinical Modification, 6th ed. Washington: Public Health Service. 1998.
15. Burt CW, Fingerhut LA. Injury visits to hospital emergency departments: United States, 1992–1995. National Center for Health Statistics. Vital Health Stat 13(131). 1998. http://www.cdc.gov/nchs/data/series/sr_13/sr13_131.pdf
16. Koch H, Campbell W. The collection and processing of drug information. National Ambulatory Medical Care Survey: United States, 1980. National Center for Health Statistics. Vital Health Stat 2(90). 1982.
17. Food and Drug Administration. National Drug Code Directory, 1995 edition. Washington: Public Health Service. 1995.

Table 1. Number, percent distribution, and annual rate of outpatient department visits with corresponding standard errors, by selected patient and hospital characteristics: United States, 1999

Selected patient and hospital characteristics	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent	Number of visits per 100 persons per year[1,2]	Standard error of rate
All visits	84,623	7,064	100.0	. . .	31.1	2.6
Patient characteristics						
Age:						
Under 15 years	18,551	1,974	21.9	1.6	30.8	3.3
15–24 years	10,407	905	12.3	0.5	27.4	2.4
25–44 years	22,314	2,002	26.4	0.9	27.0	2.4
45–64 years	20,891	1,909	24.7	0.8	35.6	3.3
65–74 years	6,969	777	8.2	0.5	39.2	4.4
75 years and over	5,493	753	6.5	0.6	37.4	5.1
Sex and age:						
Female	51,050	4,342	60.3	0.9	36.7	3.1
Under 15 years	8,957	972	10.6	0.8	30.5	3.3
15–24 years	7,305	705	8.6	0.5	38.8	3.7
25–44 years	14,507	1,354	17.1	0.8	34.5	3.2
45–64 years	12,584	1,180	14.9	0.6	41.5	3.9
65–74 years	4,170	473	4.9	0.3	42.7	4.8
75 years and over	3,528	517	4.2	0.4	39.4	5.8
Male	33,573	2,895	39.7	0.9	25.3	2.2
Under 15 years	9,594	1,039	11.3	0.8	31.2	3.4
15–24 years	3,101	323	3.7	0.3	16.2	1.7
25–44 years	7,807	744	9.2	0.4	19.3	1.8
45–64 years	8,307	805	9.8	0.5	29.3	2.8
65–74 years	2,799	347	3.3	0.3	34.8	4.3
75 years and over	1,965	274	2.3	0.2	34.3	4.8
Race and age:						
White	63,542	6,019	75.1	1.7	28.5	2.7
Under 15 years	13,487	1,597	15.9	1.2	28.6	3.4
15–24 years	7,547	736	8.9	0.4	25.0	2.4
25–44 years	16,689	1,671	19.7	0.9	24.8	2.5
45–64 years	15,704	1,594	18.6	0.8	31.5	3.2
65–74 years	5,658	686	6.7	0.5	36.3	4.4
75 years and over	4,457	639	5.3	0.5	33.7	4.8
Black	17,809	1,680	21.0	1.6	50.7	4.8
Under 15 years	4,204	540	5.0	0.6	43.6	5.6
15–24 years	2,509	306	3.0	0.3	43.9	5.4
25–44 years	4,635	493	5.5	0.5	42.9	4.6
45–64 years	4,474	534	5.3	0.6	72.0	8.6
65–74 years	1,123	168	1.3	0.2	68.8	10.3
75 years and over	865	197	1.0	0.2	78.6	17.9
Asian/Pacific Islander	2,727	406	3.2	0.5	25.0	3.7
American Indian/Alaska Native	*362	110	*0.4	0.1	*14.8	4.5
Multiple race	*183	83	*0.2	0.1	*7.5	3.4
Hospital characteristics						
Ownership:						
Voluntary	57,229	5,963	67.6	4.3	21.1	2.2
Government	25,610	4,029	30.3	4.1	9.4	1.5
Proprietary	*1,784	822	*2.1	0.9	*0.7	0.3
Geographic region:						
Northeast	21,607	3,478	25.5	3.6	41.1	6.6
Midwest	22,922	3,476	27.1	3.6	34.3	5.2
South	25,543	4,609	30.2	4.3	26.5	4.8
West	14,551	2,136	17.2	2.5	26.1	3.8
Metropolitan status:						
MSA[3]	70,477	6,535	83.3	3.0	32.7	3.0
Non-MSA[3]	14,146	2,755	16.7	3.0	25.2	4.9

. . . Cateogory not applicable.

* Figure does not meet standard of reliability or precision.

[1]Based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1999. Figures are consistent with the downloadable series, "U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–99 (with short-term projection to dates in 2000)," 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.

[2]Regional and metropolitan area estimates have been provided by the Division of Health Interview Statistics (DHIS), NCHS, and are based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population as of July 1, 1999. DHIS estimates may differ slightly from monthly postcensal estimates because of differences in the adjustment process.

[3]MSA is metropolitan statistical area.

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

Table 2. Number and percent distribution of outpatient department visits with corresponding standard errors, by clinic type: United States, 1999

Clinic type[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
General medicine	52,083	5,406	61.5	2.8
Surgery.	10,076	1,593	11.9	1.7
Pediatrics	9,662	1,448	11.4	1.5
Obstetrics and gynecology	6,925	1,010	8.2	1.1
Other	5,878	1,054	6.9	1.2

. . . Category not applicable.

[1]Only clinics under the supervision of a physician were included. Clinics specializing in radiology, laboratory services, physical rehabilitation, or other ancillary services were excluded.

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

Table 3. Number and percent distribution of outpatient department visits with corresponding standard errors, by patient's referral status and prior-visit status: United States, 1999

Visit characteristics	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Referral status				
Not referred by another physician or health plan for this visit	57,474	5,446	67.9	2.4
Referred by another physician or health plan for this visit	15,162	2,048	17.9	1.7
Unknown/blank	11,988	1,684	14.2	1.9
Prior-visit status				
New patient	13,884	1,422	16.4	0.9
Old patient.	68,497	5,744	80.9	0.9
Unknown/blank	2,242	516	2.6	0.6

. . . Category not applicable.

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

Table 4. Number and percent distribution of outpatient department visits with corresponding standard errors, by primary expected source of payment and health maintenance organization status: United States, 1999

Primary expected source of payment	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Private insurance.	32,899	3,922	38.9	2.4
Medicaid	19,913	1,878	23.5	1.9
Medicare.	12,535	1,465	14.8	1.0
Self-pay	7,558	811	8.9	0.8
No charge	*1,690	771	*2.0	0.9
Worker's compensation	899	233	1.1	0.3
Other	4,835	962	5.7	1.0
Unknown/blank	4,294	568	5.1	0.6

	HMO[1] status					
	Percent distribution			Standard error of percent		
Primary expected source of payment	Total	HMO[1]	Non-HMO[1]	Unknown/ blank	HMO[1]	Non-HMO[1]	Unknown/ blank
All visits	100.0	21.2	56.0	22.8	1.9	2.5	2.5
Private insurance.	100.0	35.4	46.6	17.9	3.1	3.5	3.3
Medicaid	100.0	20.6	58.2	21.2	2.7	3.9	3.4
Medicare.	100.0	6.0	72.7	21.4	1.0	3.2	3.3
Self-pay	100.0	*1.9	81.5	16.6	*1.4	3.2	3.0
No charge	100.0	*	82.8	14.5	*	3.4	3.5
Worker's compensation	100.0	*	49.6	43.2	*	9.7	7.5
Other	100.0	22.8	58.3	18.9	7.1	6.0	4.3
Unknown/blank	100.0	*2.4	11.8	85.9	*0.8	2.2	2.3

. . . Category not applicable.
* Figure does not meet standard of reliability or precision.
[1]HMO is health maintenance organization.

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

Table 5. Number and percent distribution of outpatient department visits with corresponding standard errors, by patient's principal reason for visit: United States, 1999

Principal reason for visit and RVC code[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Symptom module. S001–S999	39,670	3,808	46.9	1.6
General symptoms S001–S099	4,944	531	5.8	0.3
Symptoms referable to psychological/mental disorders S100–S199	2,674	530	3.2	0.6
Symptoms referable to the nervous system (excluding sense organs) . . . S200–S259	2,355	275	2.8	0.2
Symptoms referable to the cardiovascular/lymphatic system S260–S299	376	88	0.4	0.1
Symptoms referable to the eyes and ears S300–S399	3,261	442	3.9	0.4
Symptoms referable to the respiratory system S400–S499	8,601	977	10.2	0.8
Symptoms referable to the digestive system. S500–S639	3,823	421	4.5	0.3
Symptoms referable to the genitourinary system S640–S829	3,097	321	3.7	0.3
Symptoms referable to the skin, hair, and nails S830–S899	3,596	687	4.2	0.6
Symptoms referable to the musculoskeletal system S900–S999	6,943	805	8.2	0.6
Disease module D001–D999	9,739	1,157	11.5	0.8
Diagnostic/screening and preventive module. X100–X599	14,407	1,420	17.0	1.0
Treatment module T100–T899	12,819	1,278	15.1	1.1
Injuries and adverse effects module J001–J999	3,461	530	4.1	0.5
Test results module R100–R700	1,832	252	2.2	0.2
Administrative module. A100–A140	802	175	0.9	0.2
Other[2] U990–U999	1,894	541	2.2	0.6

. . . Category not applicable.
[1]Based on *A Reason for Classification for Ambulatory Care* (RVC) (13).
[2]Includes problems and complaints not elsewhere classified, entries of "none," blanks, and illegible entries.

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

Table 6. Number and percent distribution of outpatient department visits with corresponding standard errors, by the 20 principal reasons for visit most frequently mentioned by patients: United States, 1999

Principal reason for visit and RVC code[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Progress visit T800	5,815	809	6.9	0.9
General medical examination X100	4,176	630	4.9	0.6
Routine prenatal examination X205	2,887	530	3.4	0.6
Cough S440	2,534	313	3.0	0.3
Throat symptoms. S455	2,249	334	2.7	0.3
Postoperative visit T205	1,618	272	1.9	0.3
Fever S010	1,540	225	1.8	0.2
Stomach and abdominal pain, cramps, and spasms S545	1,500	191	1.8	0.2
Well-baby examinations. X105	1,404	211	1.7	0.2
Earache or ear infection S355	1,393	194	1.6	0.2
Skin rash. S860	1,314	193	1.6	0.2
Back symptoms. S905	1,214	168	1.4	0.2
Medication, other and unspecified T115	1,136	140	1.3	0.1
Hypertension D510	1,112	210	1.3	0.2
Headache D210	1,039	129	1.2	0.1
Diabetes mellitus. D205	977	149	1.2	0.2
Depression S110	*976	293	*1.2	0.3
Counseling, not otherwise stated T605	947	178	1.1	0.2
Nasal congestion. S400	877	138	1.0	0.1
Chest pain and related symptoms S050	708	99	0.8	0.1
All other reasons	49,207	4,370	58.1	1.3

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

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

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

Table 7. Number and percent distribution of outpatient department visits with corresponding standard errors, by major reason for visit according to patient's age, sex, and race: United States, 1999

Patient's age, sex, and race	Total	Major reason for this visit					
		Acute problem	Chronic problem, routine	Chronic problem, flare-up	Pre- or post-surgery/injury follow-up	Nonillness care	Unknown/ blank
		Number of visits in thousands					
All visits	84,623	32,489	23,483	5,588	5,508	14,769	2,787
Age							
Under 15 years	18,551	9,463	3,241	630	972	3,692	553
15–24 years	10,407	4,076	1,750	411	604	3,235	331
25–44 years	22,314	8,681	5,895	1,634	1,486	3,950	668
45–64 years	20,891	6,487	7,437	1,962	1,701	2,532	771
65–74 years	6,969	1,959	2,883	560	480	850	*237
75 years and over	5,493	1,823	2,277	391	264	511	*227
Sex							
Female	51,050	18,757	13,421	3,430	3,016	10,749	1,678
Male	33,573	13,732	10,061	2,158	2,492	4,021	1,109
Race							
White	63,542	26,280	17,634	4,236	3,986	9,452	1,953
Black	17,809	5,232	4,971	1,228	1,230	4,445	704
Other	3,272	977	878	124	*291	872	*130
		Standard error in thousands					
All visits	7,064	3,343	2,318	644	731	1,354	604
Age							
Under 15 years	1,974	1,213	629	106	285	469	149
15–24 years	905	466	265	67	99	445	77
25–44 years	2,002	937	615	216	231	499	135
45–64 years	1,909	722	799	269	300	354	193
65–74 years	777	272	323	106	88	157	115
75 years and over	753	284	356	69	55	125	121
Sex							
Female	4,342	1,907	1,384	453	413	1,073	355
Male	2,895	1,489	1,006	237	379	411	266
Race							
White	6,019	2,993	1,898	527	586	1,098	499
Black	1,680	615	566	191	184	488	128
Other	455	170	138	25	103	253	39
		Percent distribution					
All visits	100.0	38.4	27.7	6.6	6.5	17.5	3.3
Age							
Under 15 years	100.0	51.0	17.5	3.4	5.2	19.9	3.0
15–24 years	100.0	39.2	16.8	3.9	5.8	31.1	3.2
25–44 years	100.0	38.9	26.4	7.3	6.7	17.7	3.0
45–64 years	100.0	31.1	35.6	9.4	8.1	12.1	3.7
65–74 years	100.0	28.1	41.4	8.0	6.9	12.2	*3.4
75 years and over	100.0	33.2	41.4	7.1	4.8	9.3	*4.1
Sex							
Female	100.0	36.7	26.3	6.7	5.9	21.1	3.3
Male	100.0	40.9	30.0	6.4	7.4	12.0	3.3
Race							
White	100.0	41.4	27.8	6.7	6.3	14.9	3.1
Black	100.0	29.4	27.9	6.9	6.9	25.0	4.0
Other	100.0	29.9	26.8	3.8	*8.9	26.7	*4.0

See footnotes at end of table.

Table 7. Number and percent distribution of outpatient department visits with corresponding standard errors, by major reason for visit according to patient's age, sex, and race: United States, 1999—Con.

Patient's age, sex, and race	Total	Major reason for this visit					
		Acute problem	Chronic problem, routine	Chronic problem, flare-up	Pre- or post-surgery/injury follow-up	Nonillness care	Unknown/ blank
		Standard error of percent					
All visits	. . .	1.9	1.5	0.5	0.7	1.0	0.7
Age							
Under 15 years.	. . .	3.5	2.5	0.4	1.3	2.4	0.7
15–24 years.	. . .	3.0	2.2	0.6	0.8	3.0	0.7
25–44 years.	. . .	2.0	1.6	0.7	0.9	1.5	0.6
45–64 years.	. . .	2.0	2.1	0.9	1.3	1.1	0.9
65–74 years.	. . .	2.3	2.1	1.1	0.9	1.7	1.6
75 years and over	. . .	2.9	2.8	1.0	0.9	1.8	2.0
Sex							
Female.	. . .	1.8	1.6	0.6	0.6	1.3	0.7
Male	. . .	2.3	1.7	0.5	0.9	0.9	0.8
Race							
White	. . .	2.2	1.7	0.5	0.7	1.0	0.7
Black	. . .	1.6	1.9	0.7	0.9	1.8	0.6
Other	. . .	3.9	3.7	0.8	2.7	5.5	1.2

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

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

Table 8. Number, percent distribution, and annual rate of injury-related outpatient department visits with corresponding standard errors, by patient's age, sex, and race: United States, 1999

Patient's age, sex, and race	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent	Number of visits per 100 persons per year[1]	Standard error of rate
All injury-related visits	9,318	1,093	100.0	. . .	3.4	0.4
Age						
Under 15 years	1,874	292	20.1	2.1	3.1	0.5
15–24 years	1,299	175	13.9	0.9	3.4	0.5
25–44 years	3,045	394	32.7	1.7	3.7	0.5
45–64 years	2,133	290	22.9	1.4	3.6	0.5
65–74 years	521	88	5.6	0.7	2.9	0.5
75 years and over	446	79	4.8	0.7	3.0	0.5
Sex and age						
Female	4,549	541	48.8	1.7	3.3	0.4
Under 15 years	787	151	17.3	2.4	2.7	0.5
15–24 years	562	83	12.4	1.1	3.0	0.4
25–44 years	1,496	214	32.9	2.3	3.6	0.5
45–64 years	1,121	145	24.6	1.6	3.7	0.5
65–74 years	283	49	6.2	1.0	2.9	0.5
75 years and over	300	58	6.6	1.1	3.3	0.7
Male	4,769	597	51.2	1.7	3.6	0.5
Under 15 years	1,087	162	22.8	2.4	3.5	0.5
15–24 years	736	114	15.4	1.4	3.9	0.6
25–44 years	1,549	211	32.5	1.9	3.8	0.5
45–64 years	1,012	165	21.2	1.8	3.6	0.6
65–74 years	238	58	5.0	0.9	3.0	0.7
75 years and over	146	38	3.1	0.7	2.6	0.7
Race						
White	7,486	946	80.3	2.1	3.4	0.4
Black	1,487	221	16.0	1.9	4.2	0.6
Other	*344	104	*3.7	1.1	*2.6	0.8

. . . Category not applicable.

* Figure does not meet standard of reliability or precision

[1]Based on U. S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1999. Figures are consistent with the downloadable series, "U. S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–99 (with short-term projection to dates in 2000)," available at the U.S. Bureau of the Census Internet site: http://ftp.census.gov/population/www.estimates/nat_90x_4html. Figures have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

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

Table 9. Number and percent distribution of outpatient department visits with corresponding standard errors, by primary diagnosis: United States, 1999

Major disease category and ICD–9–CM codes[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Infectious and parasitic diseases 001–139	3,262	407	3.9	0.3
Neoplasms. 140–239	3,310	660	3.9	0.7
Endocrine, nutritional, metabolic diseases, immunity disorders 240–279	4,294	510	5.1	0.4
Mental disorders 290–319	5,476	918	6.5	1.0
Diseases of the nervous system and sense organs. 320–389	5,862	704	6.9	0.5
Diseases of the circulatory system .390–459	5,496	667	6.5	0.5
Diseases of the respiratory system. 460–519	10,664	1,167	12.6	0.9
Diseases of the digestive system 520–579	3,213	424	3.8	0.4
Diseases of the genitourinary system 580–629	4,010	390	4.7	0.3
Diseases of the skin and subcutaneous tissue. 680–709	4,013	502	4.7	0.4
Diseases of the musculoskeletal and connective tissue 710–739	5,177	670	6.1	0.5
Symptoms, signs, and ill-defined conditions 780–799	5,174	556	6.1	0.3
Injury and poisoning. 800–999	5,304	671	6.3	0.6
Supplementary classification. V01–V829	14,324	1,308	16.9	0.9
All other diagnoses[2]	3,667	470	4.3	0.4
Unknown[3]	1,376	324	1.6	0.4

. . . Category not applicable.

[1]Based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM) (14).

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

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

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

Table 10. Number and percent distribution of outpatient department visits with corresponding standard errors, by selected primary diagnosis groups: United States,1999

Primary diagnosis group and ICD–9–CM code(s)[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Acute upper respiratory infections, excluding pharyngitis 460–461, 463–466	3,565	447	4.2	0.4
Essential hypertension 401	3,053	373	3.6	0.3
Normal pregnancy V22	2,748	431	3.2	0.5
Diabetes mellitus. 250	2,552	343	3.0	0.3
Routine infant or child health check V20.2	2,519	320	3.0	0.3
Malignant neoplasms 140–208, 230–234	2,488	550	2.9	0.6
Otitis media and eustachian tube disorders. 381–382	2,130	285	2.5	0.2
Dorsopathies 720–724	1,671	293	2.0	0.3
Arthropathies and related disorders 710–719	1,647	245	1.9	0.2
General medical examination V70	1,408	223	1.7	0.2
Psychoses, excluding major depressive disorder 290–296.1, 296.4–29	1,391	339	1.6	0.4
Acute pharyngitis. 462	1,340	207	1.6	0.2
Chronic sinusitis 473	1,330	222	1.6	0.2
Rheumatism, excluding back 725–729	1,325	181	1.6	0.1
Asthma. 493	1,310	213	1.5	0.2
Potential health hazards related to personal and family history. V10–V19	1,124	158	1.3	0.2
Heart disease, excluding ischemic 427, 428.0, 391–392.0, 393–398, 402, 404, 415–416, 420–426, 428.1–429.9	911	197	1.1	0.2
Chronic and unspecified bronchitis 490–491	880	137	1.0	0.1
Gynecological examination. V72.3	512	116	0.6	0.1
Drug dependence and nondependent abuse of drugs 304–305	*432	139	*0.5	0.2
All other diagnosis	50,289	4,307	59.4	1.0

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Based on the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM) (14). However, certain codes have been combined in this table to describe the utilization of ambulatory care services.

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

Table 11. Number and percent of outpatient department visits with corresponding standard errors, by diagnostic and screening services ordered or provided: United States, 1999

Diagnoses and screening services ordered or provided	Number of visits in thousands[1]	Standard error in thousands	Percent of visits	Standard error of percent
All visits	84,623	7,064	. . .	. . .
None	19,209	1,832	22.7	1.4
Examinations				
Skin	7,388	1,049	8.7	0.9
Pelvic	4,863	575	5.7	0.6
Breast	4,044	509	4.8	0.5
Visual	3,500	660	4.1	0.7
Rectal	2,145	393	2.5	0.4
Hearing	1,539	282	1.8	0.3
Glaucoma	*647	333	*0.8	0.4
Tests				
Blood pressure	46,467	4,240	54.9	2.1
Urinalysis	7,749	863	9.2	0.8
Hematocrit/hemoglobin	5,217	698	6.2	0.7
Pap test	2,907	336	3.4	0.3
Cholesterol	2,246	317	2.7	0.3
EKG[2]	2,078	377	2.5	0.4
Strep test	1,442	262	1.7	0.3
Pregnancy test	891	119	1.1	0.1
HIV serology[3]	731	130	0.9	0.1
PSA[4]	582	155	0.7	0.2
Blood lead level	414	112	0.5	0.1
Other STD test[5]	1,128	167	1.3	0.2
Other blood test	13,692	1,484	16.2	0.9
Imaging				
x ray	6,451	758	7.6	0.6
Ultrasound	2,550	434	3.0	0.4
Mammography	1,650	312	1.9	0.3
CAT scan/MRI[6,7]	1,518	260	1.8	0.3
Other diagnostic screening services	12,222	1,699	14.4	1.6

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Total exceeds total number of visits because more than one service may be reported per visit.

[2]EKG is electrocardiogram.

[3]HIV is human immunodeficiency virus.

[4]PSA is prostate-specific antigen.

[5]STD is sexually transmitted diseases.

[6]CAT is computerized axial tomography.

[7]MRI is magnetic resonance imaging.

Table 12. Number and percent of outpatient department visits with corresponding standard errors, by therapeutic and preventive services ordered or provided: United States, 1999

Therapeutic and preventive services ordered or provided	Number of visits in thousands[1]	Standard error in thousands	Percent of visits	Standard error of percent
All visits	84,623	7,064	. . .	. . .
None	54,408	4,878	64.3	1.7
Counseling/education				
Diet/nutrition.	11,472	1,122	13.6	1.1
Exercise	5,835	785	6.9	0.8
Mental health	2,987	566	3.5	0.7
Tobacco use/exposure	2,831	392	3.3	0.4
Prenatal instructions.	2,461	442	2.9	0.5
Growth/development.	2,429	420	2.9	0.5
Injury prevention	2,413	434	2.9	0.5
Family planning/contraception	1,999	320	2.4	0.3
Stress management	1,502	344	1.8	0.4
HIV/STD transmission[2,3]	1,231	217	1.5	0.3
Breast self-examination	1,217	292	1.4	0.3
Skin cancer prevention	*732	225	*0.9	0.2
Other therapy				
Psychotherapy	2,900	603	3.4	0.7
Physiotherapy.	2,302	414	2.7	0.4
Psycho-pharmacotherapy.	587	157	0.7	0.2
Complementary alternative medicine.	*101	33	*0.1	0.0
Other	4,056	671	4.8	0.6

. . . Category not applicable.
* Figure does not meet standard of reliability or precision.
0.0 Quantity more than zero, but less than 0.05.
[1]Total exceeds total number of visits because more than one service may be reported per visit.
[2]HIV is human immunodeficiency virus.
[3]STD is sexually transmitted diseases.

Table 13. Number and percent distribution of outpatient department visits with corresponding standard errors, by medication therapy and number of medications provided or prescribed: United States, 1999

Medication therapy[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Drug visits[2]	55,928	4,888	66.1	1.4
Visits without mention of medication	28,696	2,608	33.9	1.4
Number of medications provided or prescribed				
All visits	84,623	7,064	100.0	0.0
0.	28,696	2,608	33.9	1.4
1.	22,573	2,024	26.7	0.9
2.	14,242	1,245	16.8	0.6
3.	7,840	738	9.3	0.4
4.	3,968	431	4.7	0.3
5.	2,725	336	3.2	0.2
6.	4,580	670	5.4	0.6

. . . Category not applicable.
0.0 Quantity more than zero, but less than 0.05.
[1]Includes prescription drugs, over-the-counter preparations, immunizations, and desensitizing agents.
[2]Visits at which one or more drugs were provided or prescribed.
NOTE: Numbers may not add to totals because of rounding.

Table 14. Annual rate of drug mentions and percent of visits with at least four medications provided or prescribed at outpatient department visits with corresponding standard errors, by patient's age, sex, and race: United States, 1999

Patient's age, sex, and race	Number of drugs per 100 visits per year[1]	Standard error of rate	Percent of visits with at least four drug mentions[2]	Standard error of percent
All visits	155.5	5.5	13.3	1.0
Age				
Under 15 years	119.7	6.0	6.0	0.7
15–24 years	106.2	4.5	3.1	0.5
25–44 years	139.9	5.0	9.7	0.9
45–64 years	191.8	8.3	20.7	1.6
65 years and over.	218.0	15.5	26.8	2.9
Sex and age				
Female	155.8	6.3	13.6	1.1
Under 15 years	117.6	6.7	5.5	0.8
15–24 years	103.7	5.6	3.2	0.7
25–44 years	135.4	6.3	9.1	1.1
45–64 years	197.4	9.3	22.0	1.8
65 years and over.	219.7	16.4	27.6	3.1
Male	155.0	5.5	12.9	0.9
Under 15 years	131.5	6.3	6.4	0.8
15–24 years	112.2	6.4	3.0	0.7
25–44 years	146.4	6.5	10.9	1.1
45–64 years	183.2	9.1	18.8	1.6
65 years and over.	215.3	16.5	25.5	3.2
Race and age				
White	158.3	6.2	13.6	1.1
Under 15 years	117.5	6.3	5.3	0.6
15–24 years	111.6	5.2	3.6	0.6
25–44 years	144.1	5.6	10.3	1.0
45–64 years	193.8	9.6	21.0	1.9
65 years and over.	216.3	16.1	26.0	3.1
Black	149.4	6.7	13.0	1.1
Under 15 years	124.8	8.0	7.6	1.3
15–24 years	91.4	6.3	2.0	0.5
25–44 years	132.2	8.0	8.8	1.6
45–64 years	188.4	10.0	20.7	1.8
65 years and over.	228.1	24.7	30.4	4.7
Other	130.9	11.7	10.8	2.2

[1]Average number of drugs that were mentioned per every 100 visits for each patient category (number of drug mentions divided by total number of visits multiplied by 100).
[2]Percent of visits for a particular patient characteristic that included four mentions or more (number of visits divided by number of office visits multipled by 100).

Table 15. Number, percent distribution, and annual rate of drug mentions at outpatient department visits with corresponding standard errors by therapeutic classification: United States, 1999

Therapeutic classification[1]	Number of drug mentions in thousands	Standard error in thousands	Percent distribution	Standard error of percent	Number of drug mentions per 100 visits[2]	Standard error of rate
All drug mentions.	131,552	12,377	100.0	. . .	155.5	14.6
Drugs used for relief of pain	16,971	1,750	12.9	0.6	20.1	2.1
Cardiovascular-renal drugs.	16,377	1,999	12.4	0.7	19.4	2.4
Antimicrobial agents	15,240	1,651	11.6	0.9	18.0	2.0
Respiratory tract drugs	13,880	1,918	10.6	1.0	16.4	2.3
Hormones and agents affecting hormonal mechanisms	13,138	1,511	10.0	0.5	15.5	1.8
Central nervous system.	11,877	1,386	9.0	0.7	14.0	1.6
Metabolic and nutrient agents	8,560	1,069	6.5	0.4	10.1	1.3
Gastrointestinal agents	7,361	976	5.6	0.4	8.7	1.2
Skin/mucous	6,106	810	4.6	0.4	7.2	1.0
Immunologic agents	5,639	614	4.3	0.4	6.7	0.7
Neurologic drugs	3,799	531	2.9	0.3	4.5	0.6
Hematologic agents	2,479	291	1.9	0.2	2.9	0.3
Ophthalmic drugs	1,655	363	1.3	0.3	2.0	0.4
Oncolytic agents	1,239	287	0.9	0.2	1.5	0.3
Other and unclassified[3]	7,231	705	5.5	0.4	8.5	0.8

. . . Category not applicable.

[1]Based on the standard drug classification used in the *National Drug Code Directory*, 1995 edition (17).

[2]Number of drug mentions divided by total number of visits multiplied by 100.

[3]Includes anesthetics, antidotes, contrast media/radiopharmaceuticals, otologics, antiparasitics, unclassified/miscellaneous drugs, and homeopathic products.

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

Table 16. Number of generic substances and percent of drug mentions with corresponding standard errors for the 20 most frequently occurring generic substances in drug mentions at outpatient department visits: United States, 1999

Generic substance	Number of occurrences in thousands[1]	Standard error in thousands	Percent of drug mentions[2]	Standard error of percent
All generic substances	154,169	14,209	. . .	. . .
Acetaminophen.	5,831	639	4.4	0.3
Amoxicilin	4,039	505	3.1	0.2
Ibuprofen.	3,823	487	2.9	0.2
Albuterol sulfate	2,879	362	2.2	0.2
Guafenesin	2,045	294	1.6	0.1
Estrogen	1,919	298	1.5	0.1
Hydrochlorothiazide	1,857	277	1.4	0.1
Insulin	1,700	265	1.3	0.2
Multivitamins, general	1,670	233	1.3	0.1
Aspirin	1,638	250	1.2	0.1
Furosemide	1,586	218	1.2	0.1
Levothyroxine	1,550	255	1.2	0.1
Trimethoprim	1,410	193	1.1	0.1
Omeprazole	1,396	230	1.1	0.1
Loratadine	1,367	220	1.0	0.1
Sulfamethoxazole	1,363	191	1.0	0.1
Hydrocodone	1,345	189	1.0	0.1
Medroxyprogesterone	1,339	182	1.0	0.1
Pseudoephedrine.	1,332	234	1.0	0.1
Lisinopril	1,183	201	0.9	0.1

. . . Category not applicable.

[1]Frequency of mention combines single-ingredient agents with mentions of the agent as an ingredient in a combination drug.

[2]Based on an estimated 131,552,000 drug mentions at outpatient department visits in 1999.

Table 17. Number, percent distribution, and therapeutic classification for the 20 drugs most frequently prescribed at outpatient department visits with corresponding standard errors, by entry name of drug: United States, 1999

Entry name of drug[1]	Number of drugs in thousands	Standard error in thousands	Percent distribution	Standard error of percent	Therapeutic classification[2]
All drug mentions.	131,552	12,377	100.0	. . .	. . .
Tylenol	3,072	427	2.3	0.2	Nonnarcotic analgesics
Motrin.	2,050	333	1.6	0.2	NSAID's[3]
Amoxicillin	2,043	276	1.6	0.2	Penicillins
Albuterol sulfate	1,797	257	1.4	0.2	Antiasthmatics and bronchodilators
Lasix	1,421	202	1.1	0.1	Diuretics
Claritin	1,367	220	1.0	0.1	Antihistimines
Prilosec.	1,341	227	1.0	0.1	Gastric antisecretory agents
Synthroid.	1,274	208	1.0	0.1	Thyroid agents
Premarin	1,242	217	0.9	0.1	Estrogens and progestins
Ibuprofen.	1,186	191	0.9	0.1	NSAID's[3]
Bactrim	1,081	169	0.8	0.1	Sulfonamides and trimethoprim
Prednisone	1,053	150	0.8	0.1	Adrenal corticosteroids
Augmentin	1,019	146	0.8	0.1	Penicillins
Keflex.	978	168	0.7	0.1	Cephalosporins
Prozac	956	151	0.7	0.1	Antidepressants
Insulin	950	148	0.7	0.1	Blood glucose regulators
Paxil	946	146	0.7	0.1	Antidepressants
Amoxil	915	191	0.7	0.1	Penicillins
Norvasc	880	145	0.7	0.1	Calcium channel blockers
Zoloft	875	138	0.7	0.1	Antidepressants
All other mentions	105,104	9,789	79.9	0.6	

. . . Category not applicable.

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

[2]Therapeutic classification is based on the *National Drug Code Directory*, 1995 edition (17). In cases where a drug had more than one therapeutic use, it was classified under its primary therapeutic use.

[3]NSAID's are nonsteroidal anti-inflammatory drugs.

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

Table 18. Number and percent of outpatient department visits with corresponding standard errors, by providers seen: United States, 1999

Type of provider	Number of visits in thousands[1]	Standard error in thousands	Percent of visits	Standard error of percent
All visits	84,623	7,064	. . .	. . .
Staff physician	59,955	5,407	70.8	2.1
R.N.[2]	33,143	3,980	39.2	3.2
Medical/nursing assistant.	16,479	2,843	19.5	2.7
Resident/intern	13,883	2,062	16.4	1.8
L.P.N.[3]	11,302	1,529	13.4	1.7
Nurse practitioner	4,991	882	5.9	0.9
Physician assistant.	4,351	873	5.1	1.0
Other physician.	2,347	673	2.8	0.7
Nurse midwife.	*447	145	*0.5	0.2
Other	9,974	1,573	11.8	1.8

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Total exceeds total number of visits because more than one provider may be reported per visit.

[2]R.N. is registered nurse.

[3]L.P.N. is licensed practical nurse.

Table 19. Number and percent distribution of outpatient department visits with corrresponding standard errors, by visit disposition: United States, 1999

Disposition	Number of visits in thousands[1]	Standard error in thousands	Percent of visits	Standard error of percent
All visits	84,623	7,064	. . .	. . .
Return to clinic, appointment.	48,387	4,181	57.2	2.1
Returned to clinic, P.R.N.[2]	20,901	2,261	24.7	1.6
Referred to other physician/clinic	7,606	888	9.0	0.8
No follow-up planned	6,472	1,028	7.6	0.9
Returned to referring physician	2,881	962	3.4	1.1
Other disposition	2,600	486	3.1	0.5
Telephone follow-up planned.	1,913	591	2.3	0.7
Admitted to hospital	565	100	0.7	0.1
Other[3]	1,721	244	2.0	0.2

. . . Category not applicable.
[1]Total exceeds total number of visits because more than one disposition may be reported per visit.
[2]P.R.N. is as needed.
[3]Includes unknown.

Table 20. Number and percent distribution of outpatient department visits with corrresponding standard errors, by time spent with physician: United States, 1999

Time spent with physician	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	84,623	7,064	100.0	. . .
Visits at which no physician was seen	17,494	1,988	20.7	1.9
Visits at which a physician was seen.	67,130	6,082	79.3	1.9
Total	67,130	6,082	100.0	. . .
1–5 minutes	1,628	321	2.4	0.4
6–10 minutes.	9,494	1,034	14.1	0.9
11–15 minutes	18,859	1,961	28.1	1.4
16–30 minutes	28,538	2,768	42.5	1.5
31–60 minutes	7,547	938	11.2	0.9
61 minutes and over	1,063	147	1.6	0.2

. . . Category not applicable.

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

Table 21. Variation in visit characteristics of hospital outpatient departments: United States, 1999

Selected visit characteristics	Number of hospitals responding	Mean of hospital statistic	Standard error	25th percentile	Median of hospital statistic	75th percentile
Case mix						
Mean patient age.	241	38.8	1.5	30.5	37.0	44.3
Percent with private insurance.	241	39.3	2.0	10.2	35.3	50.0
Percent with Medicare.	241	20.9	2.3	5.4	11.9	21.6
Percent with Medicaid.	241	20.0	1.6	6.7	21.7	42.2
Percent of injury visits.	241	11.6	1.1	3.2	7.2	13.9
Disposition						
Percent with return to clinic—appointment	241	51.7	3.4	40.7	63.4	79.2
Percent with return to clinic, P.R.N.[1]	241	22.9	2.7	4.9	15.4	29.5
Percent with referred to other physician/clinic	241	9.5	1.8	1.7	5.0	9.9
Percent with no follow-up planned	241	9.2	1.6	1.1	4.3	10.3

[1]P.R.N. is as needed.

Technical notes

Data collection methods

The outpatient encounter data for the 1999 NHAMCS were collected from 241 participating OPD hospitals (OPD participation rate of 86 percent) with 895 sampled clinics. Of the 895 clinics, 858 provided survey data (clinic participation rate of 82 percent) for a total of 29,487 completed Patient Record forms. The U.S. Bureau of the Census, acting as the data collection agent for the survey, provided training to Field Representatives (FR's) throughout the Nation. FR's contacted the hospitals for induction into the survey after an advance letter was mailed from NCHS notifying the hospitals of selection for the survey. In most cases, hospital staff completed the information requested on the Patient Record forms (figure I). However, in 43.4 percent of the hospital OPD's, FR's abstracted the data from medical records or computer printouts. No personally identifying information such as patient's name or address is collected. Confidentiality of the data collected in the survey is protected under the Privacy Act, Public Health Service Act, and Title 42 of the United States Code, Section 242 m(d).

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 presented in the tables and used in tests of significance for 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 (5). Generalized linear models for predicting the relative standard error (RSE) were not used for OPD data because of lack of fit of the linear models. The 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 RSE's for aggregate estimates. The approximate RSE can be computed by the following general formula, where x is the aggregate of interest in thousands, and A and B are the appropriate coefficients from table I.

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

Similarly, RSE's for an estimate of a percent 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 RSE of the total estimate by the rate.

Published and flagged estimates

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

sampling, its distribution would be approximately normal.

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

Estimation

Statistics from the NHAMCS are derived by a multistage estimation procedure that produces essentially unbiased estimates. The estimation procedure has three basic components:

- Inflation by reciprocals of the sampling selection probabilities
- Adjustment for nonresponse
- A population weighting ratio adjustment

NHAMCS data were adjusted to account for two types of nonresponse. The first type of nonresponse occurred when a sample hospital refused to provide information about its OPD that was publically known to exist. In this case, the weights of visits to hospitals similar to the nonrespondent hospitals were inflated to account for visits represented by the nonrespondent hospitals. Hospitals were judged to be similar if they were in the same region and ownership control group, and had the same MSA status (in an MSA versus not in an MSA). This adjustment was made separately by department type. Beginning with 1997, the population weighting ratio adjustment for OPD estimates was replaced by an adjustment that controls for effects of rotating hospital sample panels into and out of the sample each year. (The full NHAMCS hospital sample is partitioned into 16 panels, which are rotated into the sample over 16 periods of 4 weeks each so that only 13 panels are used in

Table I. Coefficients appropriate for determining approximate relative standard errors, by type of estimate: National Hospital Ambulatory Medical Care Survey, 1999: Outpatient departments

Type of estimate	Coefficient for use with estimates in thousands		Lowest reliable estimate in thousands
	A	B	
Visits	0.012131	8.856	114
Drug mentions	0.015766	18.191	248

NOTE: Estimates based on fewer than 30 cases are unreliable regardless of the relative standard error.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

OMB No. 0920-0278
Expires: 05/31/2001
CDC 64.135

NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY
1999–2000 OUTPATIENT DEPARTMENT RECORD

1. PATIENT'S ZIP CODE

2. DATE OF VISIT
Month | Day | Year

3. DATE OF BIRTH
Month | Day | Year

4. SEX
1 ☐ Female ☑

Is patient pregnant?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

2 ☐ Male

5. ETHNICITY
1 ☐ Hispanic or Latino
2 ☐ Not Hispanic or Latino

6. RACE – Mark (X) one or more.
1 ☐ White
2 ☐ Black/African American
3 ☐ Asian
4 ☐ Native Hawaiian/Other Pacific Islander
5 ☐ American Indian/ Alaska Native

7. WAS PATIENT REFERRED BY ANOTHER PHYSICIAN OR BY A HEALTH PLAN FOR THIS VISIT?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

8. WAS AUTHORI- ZATION REQUIRED FOR CARE?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

9. ARE YOU THE PATIENT'S PRIMARY CARE PHYSICIAN?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

10. PRIMARY EXPECTED SOURCE OF PAYMENT FOR THIS VISIT – Mark (X) one.
1 ☐ Private insurance
2 ☐ Medicare
3 ☐ Medicaid
4 ☐ Worker's Compensation
5 ☐ Self-pay
6 ☐ No charge
7 ☐ Other
8 ☐ Unknown

11. DOES PATIENT BELONG TO AN HMO?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

12. IS THIS A CAPITATED VISIT?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

13. HAS PATIENT BEEN SEEN IN THIS CLINIC BEFORE?
1 ☐ Yes, established patient
2 ☐ No, new patient

14. 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: _____

15. MAJOR REASON FOR THIS VISIT
Mark (X) one.
1 ☐ Acute problem
2 ☐ Chronic problem, routine
3 ☐ Chronic problem, flareup
4 ☐ Pre- or post-surgery/ injury followup
5 ☐ Non-illness care (e.g., routine prenatal, general exam., well baby)

16. IS THIS VISIT RELATED TO INJURY OR POISONING? Refers to all types of injury or poisoning, including adverse drug experiences, medical misadventures, etc.
1 ☐ Yes (Answer a, b, c, and d.)   2 ☐ No (Skip to item 17.)

a. Place of occurrence – Mark (X) one.
1 ☐ Residence
2 ☐ Recreation/sports area
3 ☐ Street or highway
4 ☐ School
5 ☐ Other public building
6 ☐ Industrial places
7 ☐ Other
8 ☐ Unknown

b. Is this injury intentional?
1 ☐ Yes (self-inflicted)
2 ☐ Yes (assault)
3 ☐ No, unintentional
4 ☐ Unknown

c. Is this injury work related?
1 ☐ Yes   2 ☐ No   3 ☐ 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, heroin overdose, etc.)
_____

17. 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: _____

18. DIAGNOSTIC/SCREENING SERVICES – Mark (X) all ordered or provided at this visit.
1 ☐ None

EXAMINATIONS
2 ☐ Breast
3 ☐ Pelvic
4 ☐ Rectal
5 ☐ Skin
6 ☐ Visual acuity
7 ☐ Glaucoma
8 ☐ Hearing

TESTS AND MEASUREMENTS
9 ☐ Blood pressure
10 ☐ Strep test
11 ☐ Pap test
12 ☐ Urinalysis
13 ☐ Pregnancy test
14 ☐ PSA
15 ☐ Blood lead level
16 ☐ Cholesterol measure
17 ☐ HIV serology
18 ☐ Other STD test
19 ☐ Hematocrit/ hemoglobin
20 ☐ Other blood test
21 ☐ EKG

IMAGING
22 ☐ X-Ray
23 ☐ CAT scan/MRI
24 ☐ Mammography
25 ☐ Ultrasound

ALL OTHER – Specify ↙
26 ☐ _____

19. THERAPEUTIC AND PREVENTIVE SERVICES
Mark (X) all ordered or provided at this visit. Exclude medications.
1 ☐ None

COUNSELING/EDUCATION:
2 ☐ Diet/nutrition
3 ☐ Exercise
4 ☐ HIV/STD transmission
5 ☐ Family planning/ contraception
6 ☐ Prenatal instructions
7 ☐ Breast self-exam
8 ☐ Tobacco use/ exposure
9 ☐ Growth/ development
10 ☐ Mental health
11 ☐ Stress management
12 ☐ Skin cancer prevention
13 ☐ Injury prevention

OTHER THERAPY
14 ☐ Psychotherapy
15 ☐ Psycho-pharmacotherapy
16 ☐ Physiotherapy
17 ☐ Complementary or alternative medicine (CAM)
ALL OTHER – Specify ↙
18 ☐ _____

20. AMBULATORY SURGICAL PROCEDURES
☐ None

List up to 2 surgical procedures actually performed at this visit. Include biopsy.

1. _____

2. _____

21. MEDICATIONS/INJECTIONS List names of up to 6 medications that were ordered, supplied, administered or continued during this visit. Include R̲ and OTC medications, immunizations, allergy shots, and anesthetics.
☐ None

1. _____   4. _____
2. _____   5. _____
3. _____   6. _____

22. PROVIDERS SEEN THIS VISIT
Mark (X) all that apply.
1 ☐ Staff physician
2 ☐ Resident/intern
3 ☐ Other physician
4 ☐ Physician assistant
5 ☐ Nurse practitioner
6 ☐ Nurse midwife
7 ☐ R.N.
8 ☐ L.P.N.
9 ☐ Medical/nursing assistant
10 ☐ Other

23. VISIT DISPOSITION – Mark (X) all that apply.
1 ☐ No follow-up planned
2 ☐ Return to clinic PRN
3 ☐ Return to clinic - appointment
4 ☐ Telephone follow-up planned
5 ☐ Referred to other physician/clinic
6 ☐ Returned to referring physician
7 ☐ Admitted to hospital
8 ☐ Other – Specify ↙ _____

24. TIME SPENT WITH PHYSICIAN
If not seen by physician, enter zero

_____ Minutes

FORM NHAMCS-100(OPD) (8-19-98)

Figure I. Patient Record form

any 1 year.) Also, beginning with 1997 data, the sampling weights of some OPD's were permanently trimmed to prevent single OPD's from contributing more than 15 percent of their region's total to OPD visit estimates. The second type of nonresponse occurred when a sample OPD clinic within a responding hospital failed to provide completed Patient Record forms for a sample of patient visits. The weights of visits from responding OPD clinics were inflated to account for visits to similar nonresponding OPD clinics where OPD clinics were judged to be similar if they were in the same region and OPD clinic group. For this purpose, there were six OPD clinic groups:

- General medicine
- Pediatrics
- Surgery
- Obstetrics and gynecology
- Alcohol and/or substance abuse
- Other OPD clinic

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 questions, 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 errors ranged from 0.1 to 1.6 percent for various data items.

Adjustments for item nonresponse— Item nonresponse rates in the NHAMCS are generally low (5 percent or less). However, levels of nonresponse can vary considerably in the survey. One item (place of occurrence of injury) had a nonresponse rate above 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. In 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, percent distributions are not discussed in the text. However, the information is shown in the tables. These data should be interpreted with caution. If nonresponse is random, the observed distribution for the reported items (i.e., excluding cases for which information is unknown) 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. For items with nonresponse greater than 50 percent, data are not presented.

Weighted item nonresponse rates were 5.0 percent or less for all data items with the following exceptions: Pregnancy status (women 15–44 years of age) of patient (32.5 percent), ethnicity (16.4 percent), referral status (14.1 percent), authorization required for care (22.3 percent), primary care physician (11.8 percent), primary expected source of payment (21.7 percent), HMO status of patient (22.8 percent), capitated visit (33.8 percent), place of occurrence of injury (54.8 percent), intentionality of injury (19.4 percent), and work-related status of injury (48.5 percent).

For some items, missing values were imputed by randomly assigning a value from Patient Record forms with similar characteristics. Imputations were based on OPD volume by clinic type, geographic region, and three-digit ICD–9–CM codes for primary diagnosis. Imputations were performed for the following variables—birth year (1.8 percent), sex (0.5 percent), race (13.9 percent), and time spent with physician (35.2 percent). This represents a change from previous survey years when imputations were also performed for the following variables—ethnicity, patient seen before for current principal diagnosis, referral status, providers seen,

and disposition. Beginning in 1997, these latter items were no longer imputed. Blank or otherwise missing responses are so noted in the data.

Tests of significance and rounding

Some figures in this report present 95-percent confidence intervals to indicate the stability of the point estimates relative to their individual stabilities. This permits the reader to assess substantive patterns in the data. However, it should be noted that examination of the amount of overlap between intervals is not equivalent to standard significance testing for differences.

In this report, the determination of statistical inference is based on the two-tailed *t*-test. The Bonferroni inequality was used to establish the critical value for statistically significant differences (.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 OPD visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals. Rates and percents were calculated from original unrounded figures and do not necessarily agree with figures calculated from rounded data.

Race

In 1999 the instruction for the race item on the Patient Record form was changed so that more than one race could be recorded. In previous years, only one racial category could be checked. The estimates for the racial groups presented in this report are for visits where only one race was recorded. Only a small proportion of records had multiple races indicated. Note that the race denominators for the population

rate are based on single race response categories from the U.S. Bureau of the Census.

Population figures and rate calculation

The figures represent U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States as of July 1, 1999. Figures are based on monthly postcensal estimates of this population. Figures are consistent with the downloadable series, "U.S. Population Estimates by Age, Sex, Race, and Hispanic Origin: 1980–99 (with short-term projection to dates in 2000)." 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. Regional estimates were provided by the Division of Health Interview Statistics (DHIS), NCHS, and are based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population as of July 1, 1999. DHIS estimates may differ slightly from monthly postcensal estimates because of differences in the adjustment process.

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.

Clinic—A clinic is an administrative unit of the outpatient department where ambulatory medical care is provided under the supervision of a physician. The following are examples of the types of clinics excluded from the NHAMCS: Ambulatory surgery centers, chemotherapy, employee health service, renal dialysis, methadone maintenance, and radiology.

Drug mention—A drug mention is the health care provider'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. Health care providers 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.

Emergency department—An emergency department (ED) is a hospital facility for the provision of unscheduled outpatient services to patients whose conditions require immediate care and is staffed 24 hours a day.

Hospital—To be in-scope for the NHAMCS, a hospital must have an average length of stay for all patients of less than 30 days (short-stay) or hospital whose specialty is general (medical or surgical) or children's general, except Federal hospitals, hospital units of institutions, and hospitals with fewer than six beds staffed for patient use.

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

Injury-related visit—A visit is injury-related if "yes" was checked in response to item 16, "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.

Outpatient department—An outpatient department is a hospital facility where nonurgent ambulatory medical care is provided under the supervision of a physician.

Ownership—Hospitals are designated according to the primary owner of the hospital based on the SMG Hospital Database.

> *Voluntary nonprofit*—Hospitals that are church-related or are a nonprofit corporation or have other nonprofit ownership.

> *Government, non-Federal*—Hospitals that are operated by State, county, city, city-county or hospital district or authority.

> *Proprietary*—Hospitals that are individually owned or are partnerships or are corporations.

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

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.

Suggested citation

Ly N, McCaig LF, and Burt CW. National Hospital Ambulatory Medical Care Survey: 1999 Outpatient Department Summary. Advance data from vital and health statistics; no. 321. Hyattsville, Maryland: National Center for Health Statistics. 2001.

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