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National Hospital Ambulatory Medical Care Survey: 2004 Emergency Department Summary

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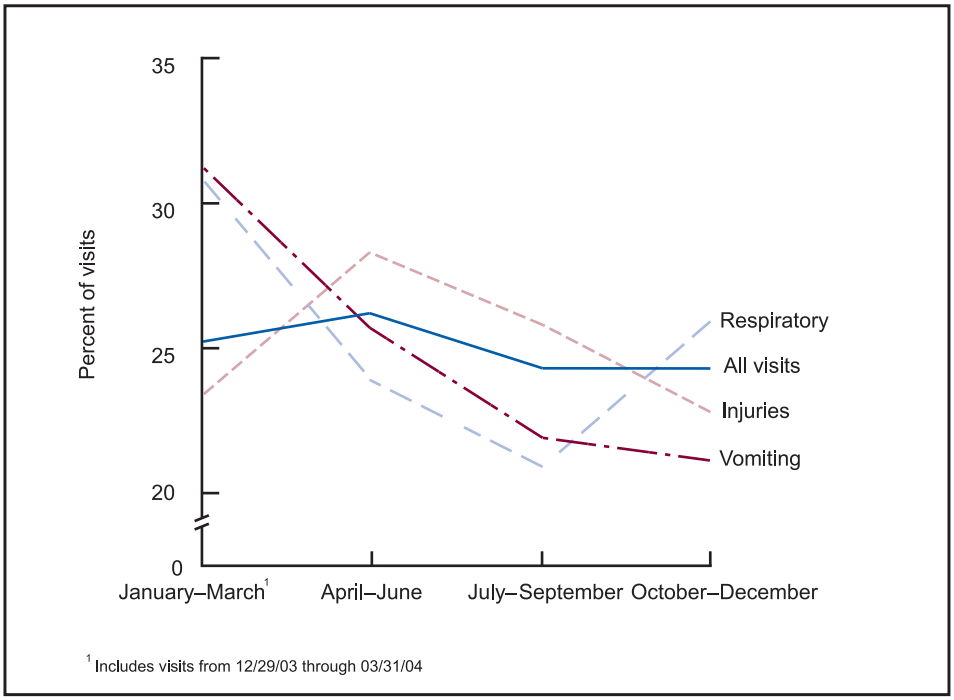
This report presents the most current nationally representative data on emergency department (ED) care in the United States. Data are from the 2004 National Hospital Ambulatory Medical Care Survey (NHAMCS), the longest survey of hospital ED and outpatient department (OPD) utilization.

For the first time, quarterly results are presented in this report. Although the volume of patient visits to the ED overall did not vary by calendar quarter, the volume of visits due to certain patient complaints did (see figure insert). Specifically, more visits for symptoms related to the respiratory system were made to the ED in the first quarter than in the second or third quarters. Visits due to vomiting were higher in the first quarter than in any of the other quarters. In contrast, visits due to injury, poisoning, or adverse effects of medical treatment, were highest in the second quarter.

Additional information about ED utilization is available from the National Center for Health Statistics (NCHS) Ambulatory Health Care website: http://www.cdc.gov/nchs/nhamcs.htm.

Individual-year reports and public-use data files are available for download from the website. Data from the 2004 NHAMCS will also be available on CD-ROM. These and other products can be obtained from the NCHS Office of Information Services, Information Dissemination Staff at 301-458-INFO or 1-866-441-NCHS (6247), the Ambulatory Care Statistics Branch at 301-458-4600, or by e-mail at NCHSquery@cdc.gov.



Seasonal variation in selected reasons for visits to the emergency department, by calendar quarter: United States, 2004

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

Abstract

Objectives—This report describes ambulatory care visits to hospital emergency departments (EDs) in the United States in 2004. Statistics are presented on selected hospital, patient, and visit characteristics. Selected trends in ED utilization from 1994 through 2004 are also presented.

Methods—The data presented in this report were collected in the 2004 National Hospital Ambulatory Medical Care Survey (NHAMCS), a national probability sample survey of visits to emergency and outpatient departments of non-Federal, short-stay, and general hospitals in the United States. Sample data are weighted to produce annual national estimates.

Results—During 2004, an estimated 110.2 million visits were made to hospital EDs, about 38.2 visits per 100 persons. Visit rates have shown an increasing trend since 1994 for persons aged 22–49 years, 50–64 years, and 65 years and over. In 2004, more than 16 million patients arrived by ambulance (15.1 percent). At approximately 3 percent of visits, the patient had been seen in the ED within the last 72 hours. Abdominal pain, chest pain, fever, and back symptoms were the leading patient complaints, accounting for nearly one-fifth of all visits. Abdominal pain was the leading illness-related diagnosis at ED visits. There were an estimated 41.4 million injury-related visits or 14.4 visits per 100 persons. Diagnostic and screening services were provided at 89.9 percent of ED visits. Procedures were performed at 47.7 percent, and medications were prescribed at 78.4 percent of ED visits. Approximately 13 percent of ED visits resulted in hospital admission. On average, patients spent 3.3 hours in the ED, of which 47.4 minutes were spent waiting to see a physician.

Keywords: emergency department visits • diagnoses • injury • 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 emergency departments (EDs) and outpatient departments (OPDs). 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, and approximately 10 percent of all ambulatory medical care visits in the United States occur in the ED (1). 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. More information about the National Health Care Survey can be found at the National Center for Health Statistics (NCHS) website: www.cdc.gov/nchs.

EDs provide unscheduled care for a wide variety of persons and for reasons that range from life-threatening conditions to problems that could be treated in a primary care setting. Although in any given year most people do not use an ED, some subgroups, such as the elderly and the poor, have higher utilization rates than others (1). In 2004, one-fifth of the U.S. adult population made one or more ED visits within the past 12 months, and 7.5 percent made two or more visits (2). Frequent ED use has been associated with socioeconomic distress, poor mental and physical health, and recent use of other health care resources, including hospitalization (3). Data from the Community Tracking Study Household Survey showed that there was a greater likelihood of ED use by persons who identified the ED as their regular source of care, although they constituted only 5 percent of users (4). ED visit data have shown that Medicaid patients have higher ED visit rates than patients with other types of insurance (1).

EDs are under increasing pressure to provide care for more patients, resulting in crowding and ambulance diversions. ED crowding has multiple effects, including long patient waits, decreased physician productivity, and placing patients at risk for poor outcomes (5). Information on ambulance transports and diversions using NHAMCS data has been published (6). Details on ED staffing and capacity can be found in a forthcoming NHAMCS publication (7).

This report presents data on ED visits in terms of hospital, patient, and visit characteristics, including selected trend data. The format for the 2004 report was streamlined from that used in prior years by condensing the information previously found in the ‘‘Results’’ and ‘‘Technical Notes’’ sections into the ‘‘Highlights’’ and ‘‘Methods’’ sections. More detailed information on data collection, sampling and nonsampling errors, estimation, and definition of terms may be found in the 2003 ED *Advance Data From Vital and Health Statistics* report (8). Other reports highlight visits to OPDs (9) and physician offices (10). Detailed reports on medication use at ED visits and facility estimates for U.S. EDs are forthcoming. NHAMCS data have been used in articles examining important topics of interest in public health and health services research (11–20) and for a variety of activities by governmental, scientific, academic, and commercial institutions.

Highlights

ED utilization

- From 1994 through 2004, the number of ED visits increased from 93.4 million to 110.2 million visits annually (up by 18 percent). This represents an average increase of more than 1.5 million visits per year. The number of hospital EDs in the United States decreased by about 12.4 percent during the same period (21).

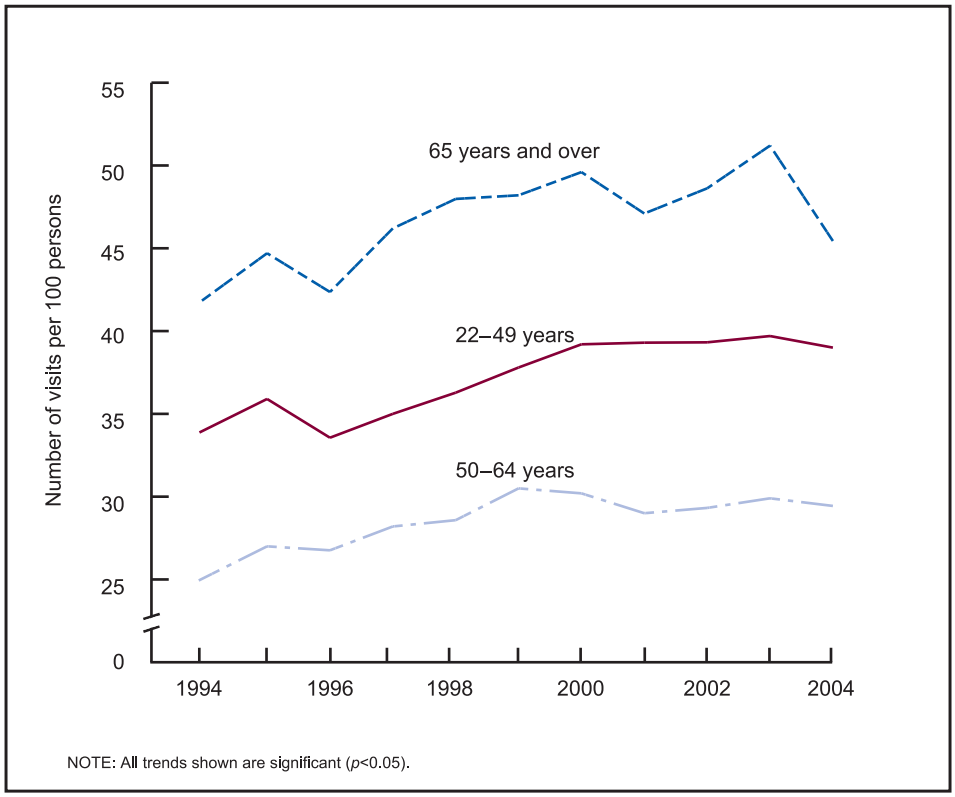


Figure 1. Trends in emergency department visit rates by patient age: United States, 1994–2004

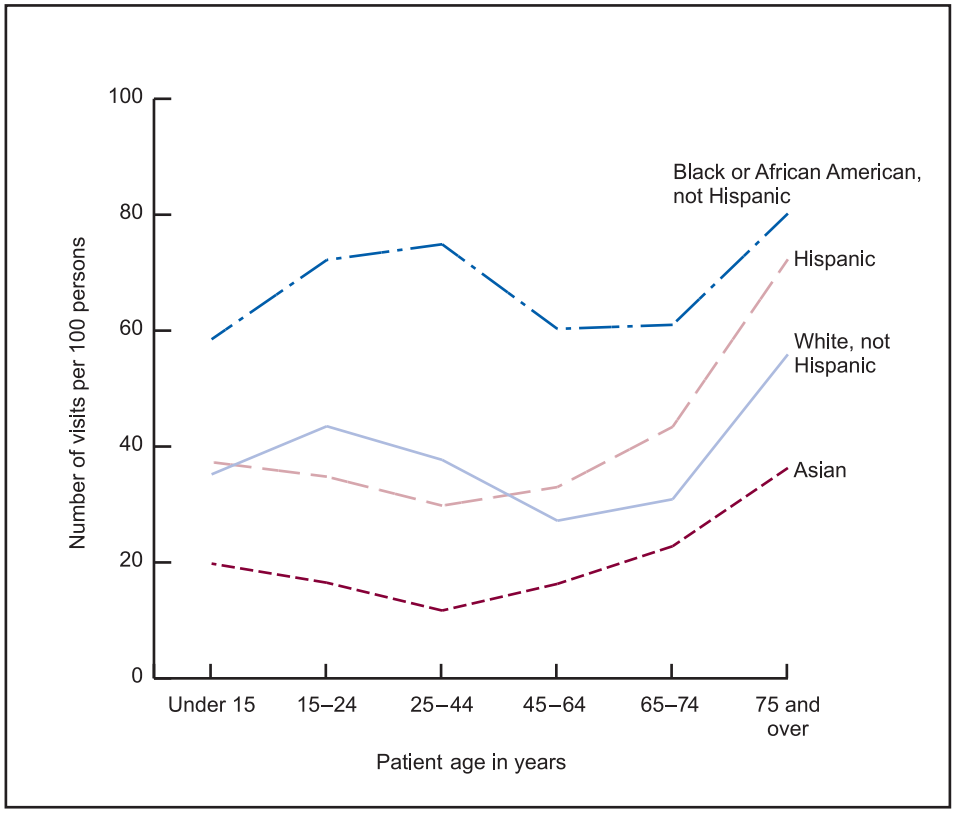


Figure 2. Annual rate of emergency department visits by patient age, race, and ethnicity: United States, 2004

- There were, on average, about 209 visits to U.S. EDs every minute during 2004.
- From 1994 through 2004, the overall ED utilization rate increased by 6 percent, from 36.0 to 38.2 visits per 100 persons.
- About three-quarters (74.5 percent) of ED visits were made to voluntary nonprofit hospitals (Table 1).
- Approximately two-thirds (65.9 percent) of all hospital EDs were located in metropolitan statistical areas (MSAs), but they were responsible for 86.0 percent of the annual ED encounters (Table 1).

Patient characteristics

- There were 3.9 million visits made by infants under 12 months of age, and the visit rate was 95.8 visits per 100 infants (Table 2).
- Increasing trends in ED visit rates over the past 11 years were found for persons 22–49 years of age (up by 15 percent), 50–64 years of age (up by 17 percent), and 65 years of age and over (up by 8 percent) (Figure 1).
- About 13 percent of visits were made by patients whose ethnicity was identified as Hispanic or Latino (Table 2).
- The ED utilization rate for non-Hispanic black people was higher than for non-Hispanic white people, regardless of age (Figure 2).
- About 2.7 million ED visits (2.5 percent) were made by persons living in institutional settings such as nursing homes or prisons (Table 2).
- Private insurance was the most frequent expected source of payment, cited at 35.7 percent of ED visits (Table 3). Other sources included Medicaid or State Children's Health Insurance Program (SCHIP) (22.2 percent), self-payment (self-pay does not include patient copayments and deductibles) (16.0 percent), and Medicare (15.3 percent).
- The visit rate for Medicaid or SCHIP patients (80.3 per 100 persons with Medicaid or SCHIP) was higher than the rate for those with Medicare (47.1 per 100 persons with Medicare), no insurance (44.6 per 100 persons with no insurance), and private insurance

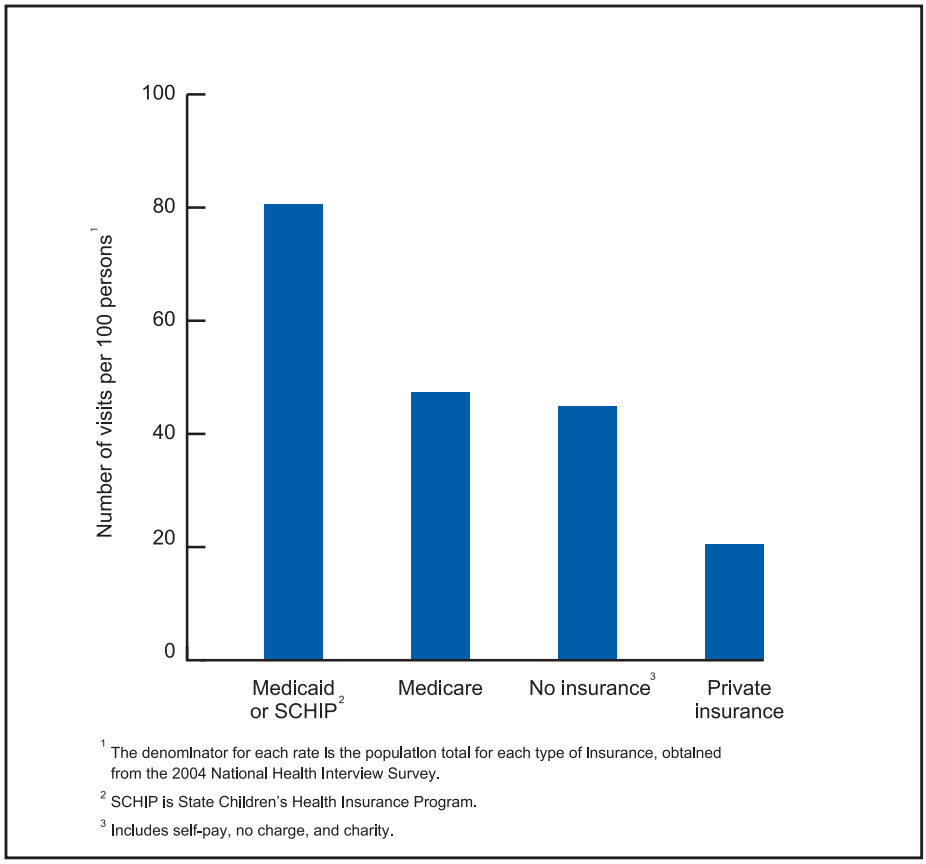


Figure 3. Annual rate of emergency department visits by primary expected source of payment: United States, 2004

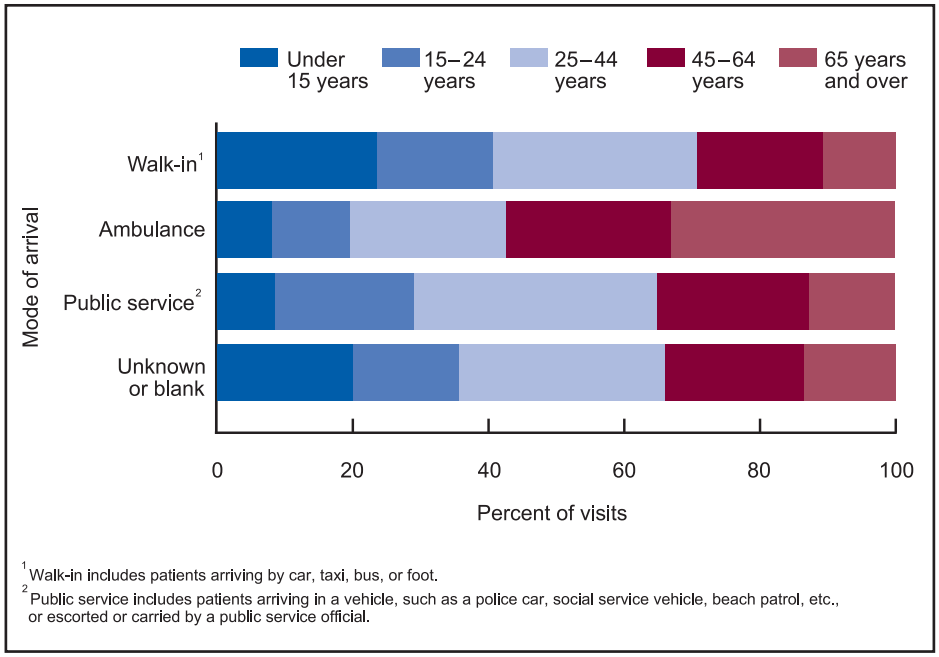


Figure 4. Percent distribution of emergency department visits by patient age, according to mode of arrival: United States, 2004

(20.3 per 100 persons with private insurance) (Figure 3).

Patient acuity level

- At 15.1 percent of visits, the patient arrived at the ED by ambulance, representing 16.6 million ambulance transports (Table 4).
- One-third of ambulance arrivals were made by persons 65 years of age and over (Figure 4).
- At 12.9 percent of ED visits, patients' conditions were classified as emergent. An additional 37.8 percent of visits were urgent, 21.8 percent were semiurgent, and 12.5 percent were nonurgent. For the remaining 15.1 percent of visits, the triage status was not known or no triage system was used (Figure 5).
- A higher proportion of visits by patients 65 years of age and over were triaged as emergent compared with all other age groups (Table 5).
- Patients were not oriented to time, place, or person at 2.6 percent of all visits (Table 6).
- About 15.1 percent of patients presented with severe pain, and 23.7 percent presented with moderate pain (Table 6).
- About 6 percent of ED visits were for followup of a previously treated problem, and 2.9 percent of visits were made by patients who had been seen in the ED within the last 72 hours (Table 6).

Conditions seen

- General symptoms (such as fever, fatigue, and pain) accounted for 15.6 percent of ED visits, followed by musculoskeletal symptoms (13.8 percent), digestive symptoms (13.7 percent), and respiratory symptoms (10.7 percent) (Table 7).
- The most frequently reported principal reasons given by patients for visiting the ED were abdominal pain, chest pain, and fever, accounting for 16.0 percent of all ED visits (Table 8).
- Work-related visits accounted for 2.9 percent of all visits, and 4.5 percent of visits among persons 18–64 years of age (Table 6).

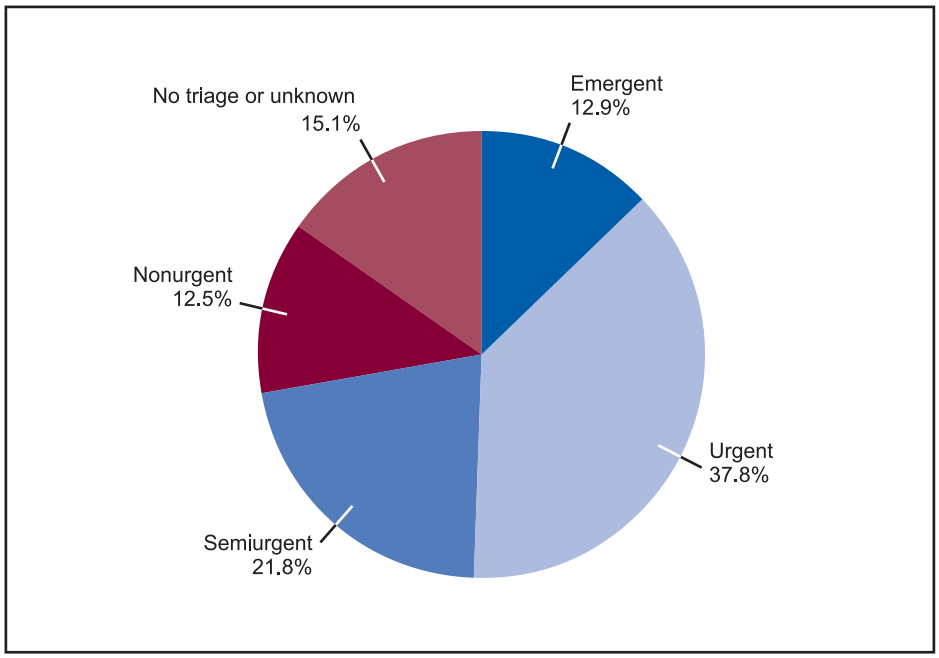


Figure 5. Percent distribution of emergency department visits, by immediacy with which the patient should be seen: United States, 2004

- Respiratory disease diagnoses occurred less frequently in 2004 (10.3 percent) (Table 9) than in 2003 (12.3 percent).
- The most frequently reported primary diagnoses rendered by physicians were contusion with intact skin surface, abdominal pain, and open wound, excluding head (Table 10). The leading diagnoses by age group were: infants (under 1 year —acute upper respiratory infection, excluding pharyngitis; children (1–12 years)—otitis media and eustachian tube disorders; adolescents and young adults (13–21 years)—contusions; adults (22–49 years)—abdominal pain; middle-aged persons and seniors (50 years and over)—chest pain (Table 11).
- Injury, poisoning, and adverse effects of medical treatment accounted for 41.3 million visits (37.3 percent), and the rate was 14.4 visits per 100 persons (Table 12).
- Unintentional falls, motor vehicle traffic incidents, and striking against or being struck by objects or persons accounted for nearly 40 percent of injuries based on first-listed cause of injury (Table 13).
- At 1.8 million visits, the patient presented with adverse effects of medical treatment, including complications of medical and surgical procedures (2.6 percent of injury visits) and adverse effects of medication (1.8 percent of injury visits) (Table 13).
- The most commonly mentioned body sites for injuries were wrist, hand, and fingers (11.3 percent), lower leg and ankle (4.3 percent), and face (4.1 percent) (Table 14).

Services provided

- Diagnostic and screening services were ordered or provided at 89.9 percent of visits. These included imaging (43.7 percent of visits), complete blood count (33.2 percent of visits), and urinalysis (19.1 percent of visits) (Table 15).
- Procedures were performed at 47.7 percent of ED visits (Table 16). For visits with procedures, 82.7 percent had only one procedure recorded. The most frequently mentioned procedures were the administration of intravenous fluids, wound care, and orthopedic care.
- A physician was seen at 91.7 percent of ED visits, and a registered nurse attended the patient at 90.1 percent of visits (Table 17).

Medications

- Medications were provided, prescribed, or continued at 78.4 percent of ED visits, resulting in 215.7 million drug mentions (Table 18).
- There was an average of 2.0 drug mentions per ED visit. For visits with at least one drug mention, the average was 2.5 drugs per visit (Table 18).
- Three or more drugs were provided, prescribed, or continued at 29.3 percent of visits (Table 18).
- The leading therapeutic drug subclasses were narcotic analgesics and nonsteroidal anti-inflammatory drugs (Table 19).
- Children and adolescents under 15 years of age and seniors 75 years of age and over who were reported to be in pain were less likely to receive pain medication than other age groups, with the exception of persons 65–74 years of age. Narcotic drugs represented about one-half of all pain relievers prescribed, but that varied by patient age (Figure 6).

Outcomes

- About 13 percent of ED visits resulted in hospital admission (Table 20). This included direct admission to the intensive care unit, critical care unit, or coronary care unit, which occurred in about 1 out of 13 admissions.
- The proportion of visits resulting in hospital admission or transfer to another facility was higher for white persons who were not Hispanic or Latino (17.0 percent) and Asians (15.7 percent) than for black or African American persons who were not Hispanic or Latino (11.5 percent). The percentage for white persons who were not Hispanic or Latino was greater than for Hispanics (12.5 percent) (Figure 7).
- For 7.4 percent of ED visits, no followup was planned. More than 2 million patients were transferred to other facilities (2.0 percent of visits), and 176,000 patients either were dead on arrival or died in the ED (0.2 percent of visits). (Table 20).

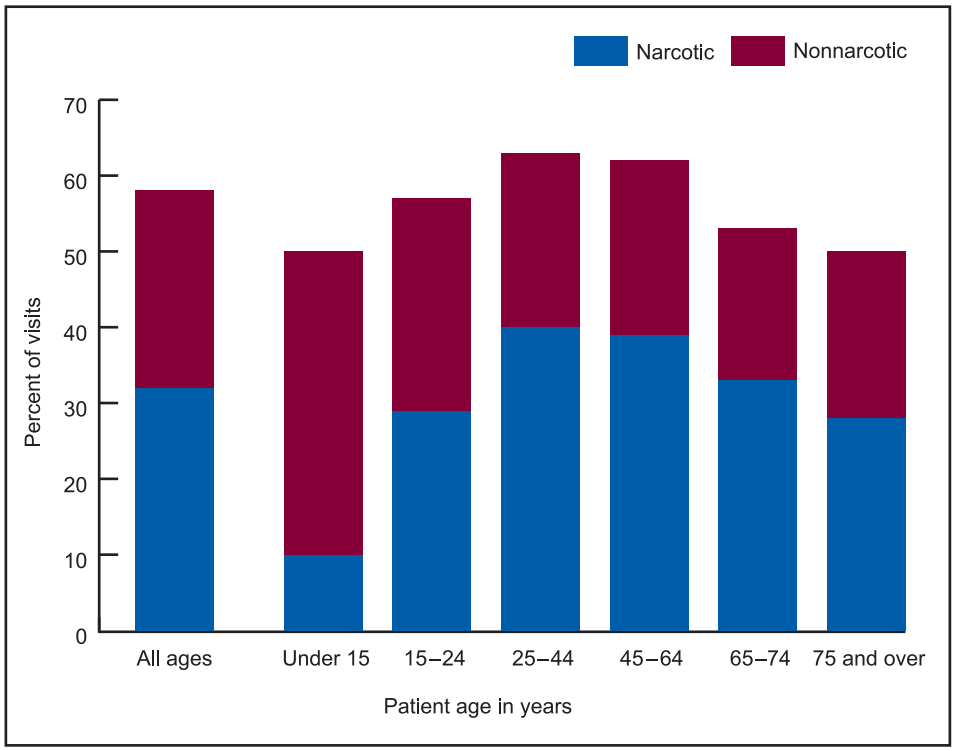


Figure 6. Percentage of pain-related emergency department visits where pain medication was prescribed, by patient age: United States, 2004

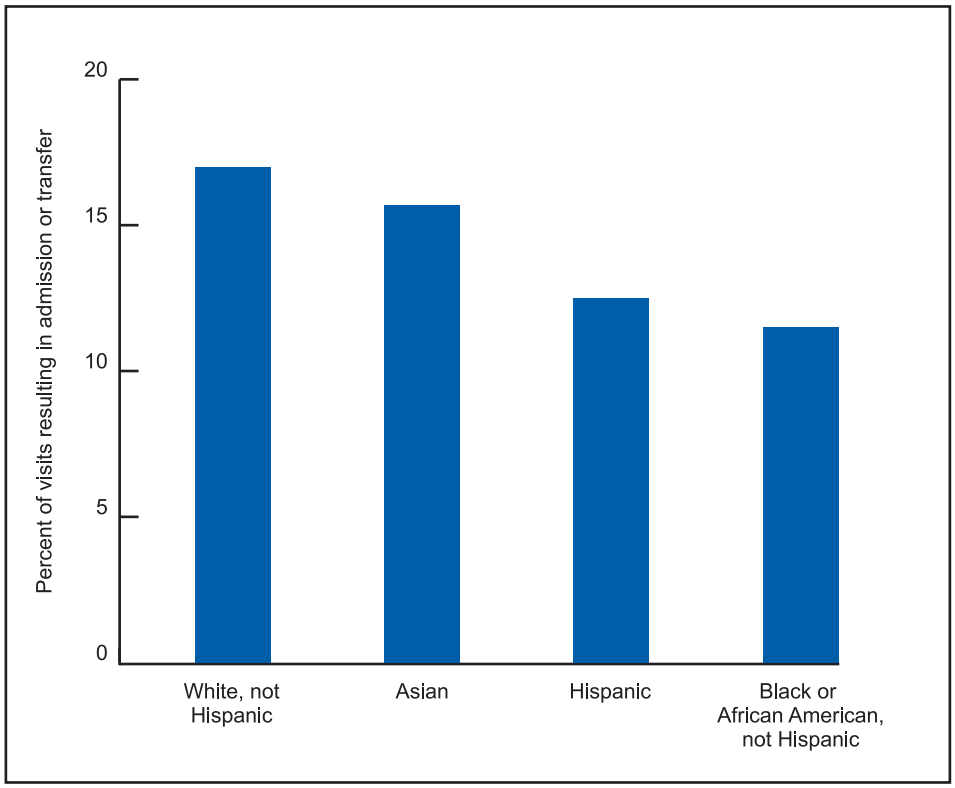


Figure 7. Percentage of emergency department visits resulting in hospital admission or transfer to another facility, by patient race and ethnicity: United States, 2004

ED throughput indicators

- Nearly 75 percent of patients waited less than 1 hour to see a physician, and the mean waiting time to see a physician was 47.4 minutes (Table 21).
- About 7 out of 10 patients spent less than 4 hours in the ED, and the mean patient care time was 2.5 hours (Table 21).
- The ratio of waiting time to treatment time varied by patient acuity level, with those in need of more urgent care spending less time waiting to see a physician and more time in treatment (Figure 8).
- At 1.9 percent of visits, patients left before being seen by a healthcare provider (Table 20).

Methods

Data collection

The data presented in this report are from the 2004 NHAMCS, a national probability sample survey conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics, Division of Health Care Statistics. The survey was conducted from December 29, 2003, through December 26, 2004. The NHAMCS data collection is authorized under Section 306 of the Public Health Service Act (Title 42 U.S. Code, 242k). Participation is voluntary.

In April 2003, the Privacy Rule of the Health Insurance Portability and Accountability Act (HIPAA) was implemented to establish minimum federal standards for safeguarding the privacy of individually identifiable health information. No personally identifying information, such as patient's name, address, or Social Security number, is collected in NHAMCS. All information collected is held in the strictest confidence according to law [Section 308(d) of the Public Health Service Act (42, U.S. Code, 242m(d))] and the Confidential Information Protection and Statistical Efficiency Act (Title 5 of PL 107–347). The NHAMCS protocol was approved by the NCHS Research Ethics Review Board in February 2004. Waivers of the

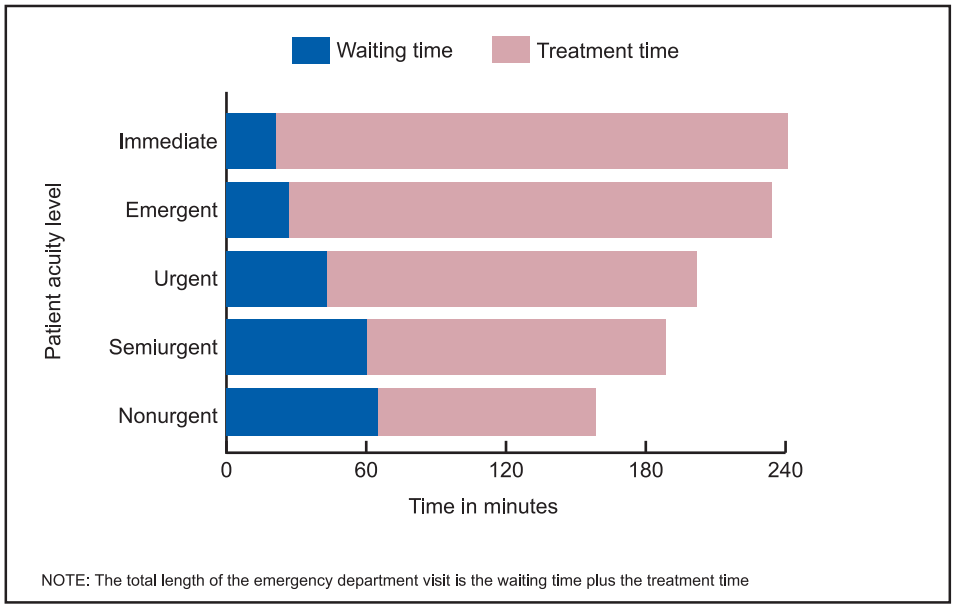


Figure 8. Mean waiting time and treatment time in emergency departments, by patient acuity level: United States, 2004

requirements to obtain informed consent of patients and patient authorization for release of patient medical record data by health care providers were granted.

The target universe of NHAMCS is in-person visits made in the United States to EDs and OPDs of nonfederal, short-stay hospitals (hospitals with an average stay of less than 30 days) and those whose specialty is general (medical or surgical) or children's general. EDs that operate 24 hours a day are considered within the scope of the ED component; EDs that operate less than 24 hours are included in the OPD component of NHAMCS (9). The hospital sampling frame consisted of hospitals listed in the 1991 Verispan Hospital Database (VHD) updated using hospital data from Verispan, L.L.C., specifically their "Healthcare Market Index, Updated May 15, 2003" and their "Hospital Market Profiling Solution, Second Quarter, 2003." These products were formerly known as the SMG Hospital Database. Using the 2003 data to update the sample allowed for the inclusion of hospitals that had opened or changed their eligibility status since the previous sample was updated for 2001.

In 2004, a multistage probability sample was used to collect information on visits to emergency departments. NHAMCS has a four-stage design that involves: 1) geographic primary sampling units (PSUs), 2) hospitals that have EDs or OPDs within PSUs, 3) emergency service areas (ESAs) within EDs and clinics within OPDs, and 4) patient visits within ESAs and clinics (22). The PSU sample consists of 112 PSUs that comprise a probability subsample of the PSUs used in the 1985–94 National Health Interview Survey (NHIS). A sample of 464 hospitals was selected for the 2004 NHAMCS, 397 of which were in scope and had eligible EDs. A total of 457 ESAs from 365 EDs participated in the study, providing 36,589 Patient Record forms (PRFs) (see "Technical Notes"). In all, 355 EDs responded fully or adequately (by submitting at least one-half of the PRFs expected based on the total number of visits seen during their reporting period) for an unweighted ED response rate of 91.9 percent. Of the 457 participating ESAs, 452 of them responded fully or adequately, yielding an ESA sampling response rate of 97.0 percent. The overall unweighted two-stage sampling response rate was 89.2 percent.

The U.S. Census Bureau was responsible for data collection. Data processing and medical coding were performed by Constella Group 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 0.7 percent for various survey items.

Medical data collected in the survey were coded as follows:

- Patient's reason for visit—The patient's main complaint, symptom, or reason for visiting the ED was coded according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (23). Up to three reasons could be coded per visit.
- Physician's diagnosis—Hospital staff were asked to record the primary diagnosis or problem associated with the patient's most important reason for the current visit and any other significant current diagnoses. Up to three diagnoses were coded according to the *International Classification of Diseases, 9th Revision Clinical Modification* (ICD–9–CM) (24).
- Cause of injury—For injury-related visits, up to three external causes of injury were coded according to the *Supplementary Classification of External Causes of Injury and Poisoning* in the ICD–9–CM (24). The *Barell Injury Diagnosis Matrix: Classification of Region of Body and Nature of the Injury* was used to determine the distribution of injury-related visits by body site of primary diagnosis (25).
- Injury, poisoning, or adverse effect of medical treatment—Although there is a separate item on the PRF to indicate whether the visit was for an injury, poisoning, or adverse effect of medical treatment, sometimes an injury reason for visit or an injury diagnosis is recorded without the injury item being checked. Therefore, the visit is counted as an injury visit and the 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 ICD–9–CM or any external cause of injury was recorded (24).
- Medications—Hospital staff were instructed to record all new or continued medications ordered, supplied, or administered at the visit. This included prescription and

nonprescription preparations, immunizations, desensitizing agents, and anesthetics. In this survey, recorded medications are referred to as drug mentions and are coded according to a classification system developed at NCHS (26). As used in NHAMCS, the term ‘‘drug’’ is interchangeable with the term ‘‘medication.’’ The term ‘‘prescribing’’ is used broadly to mean ordering or providing any medication, whether prescription or over-the-counter. Visits with one or more drug mentions are termed ‘‘drug visits’’ in NHAMCS. Therapeutic classification of drugs is based on the four-digit therapeutic categories used in the *National Drug Code Directory*, 1995 edition (27). Drugs may have more than one therapeutic application and, in NHAMCS, up to three therapeutic drug classes are included for each drug.

Estimation

Using the complex multistage design of NHAMCS, an inflation factor or weight is computed for each visit that takes all sampling stages into account. This weight is used to inflate the data to produce unbiased national annual estimates and includes four basic components: inflation by reciprocals of selection probabilities, adjustment for nonresponse, population ratio adjustments, and weight smoothing. For the first time, in 2004, changes were made to the nonresponse adjustment factor to account for the seasonality of the reporting period. Extra weights for nonresponding hospitals were shifted to responding hospitals in reporting periods within the same quarter of the year. The shift in nonresponse adjustment did not significantly affect any of the overall annual estimates. Detailed information on estimation procedures used in NHAMCS can be found elsewhere (28).

The standard error (SE) is primarily a measure of the sampling variability that occurs by chance because only a sample rather than an entire universe is surveyed. Estimates of the sampling variability for this report were calculated using Taylor approximations in SUDAAN, which take into account the complex sample design of NHAMCS. A description of the software and its approach has been published (29). SEs of statistics presented in this report are included in each of the tables.

Tests of significance

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 (0.05 level of significance) based on the number of possible comparisons within a particular variable (or combination of variables) of interest. A weighted least-squares regression analysis was used to determine the significance of trends at the 0.05 level.

Nonsampling errors

Item nonresponse rates in NHAMCS are generally low (5 percent or less). However, levels of nonresponse can vary considerably in the survey. Most nonresponse occurs when the needed information is not available in the medical record 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 or blank’’ to display missing data. For items where combined item nonresponse is 30–50 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 item (i.e., excluding cases for which the 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 (i.e., if the item was left blank or the unknown box was marked) were 5.0 percent or less for data items with the following exceptions: primary expected source of payment (5.3 percent), waiting time (14.4 percent), duration of visit (8.5 percent), temperature (5.9 percent), systolic blood pressure (12.7 percent), diastolic blood pressure (12.8 percent), alcohol-related visits (11.0 percent), work-related visits (5.3 percent), seen in this ED within the last 72 hours (6.1 percent), intentionality of injury (13.1 percent of injury visits), cause of injury (17.5 percent of injury visits), and procedures (5.2 percent).

For some items, missing values were imputed by randomly assigning a value from PRF with similar characteristics. For the variable ‘‘immediacy with which patient should be seen’’ (2.9 percent with missing values (i.e., none of the categories were checked)), the grouping was based on ED volume, geographic region, and three-digit ICD–9–CM code for primary diagnosis. The other imputed items were birth year (1.6 percent), sex (0.5 percent), race (11.1 percent), and ethnicity (14.8 percent). Imputation for these items was based on ED volume, geographic region, immediacy with which patient should be seen, and three-digit ICD–9–CM code for primary diagnosis. Ethnicity values were imputed using state in place of geographic region because states that mandate its collection represent four-fifths of the U.S. Hispanic population. Blank or otherwise missing responses are noted in the data.

Use of tables

First-listed reason for visit, diagnosis, and cause of injury are presented in the tables. It should be noted that estimates differing in ranked order may not be significantly different from each other. For diagnostic and screening services, procedures, providers seen, and disposition, hospital staff was asked to check all of the applicable categories for each item. Therefore, multiple responses could be coded for each visit.

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 or more cases

include an asterisk (*) if the relative standard error (RSE) of the estimate exceeds 30 percent. The RSE of an estimate is obtained by dividing the standard error by the estimate itself.

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

Several of the tables in this report present rates of ED visits per population. The population figures used in calculating these rates are special tabulations produced by the Population Division, U.S. Census Bureau, from the July 1, 2004 set of state population estimates by age, sex, race, and Hispanic origin.

Estimates presented in the tables and figures for specific race categories reflect visits where only a single race was reported. Denominators used in computing estimates of visit rates by expected source of payment were obtained from the 2004 NHIS. Individuals reporting multiple insurance categories in NHIS were counted in each category they reported, with the exception of Medicaid and SCHIP, which were combined into a single category.

References

1. Schappert SM, Burt CW. Ambulatory care visits to physician offices, hospital outpatient departments, and emergency departments: United States: 2001–02. National Center for Health Statistics. Vital Health Stat 13 (159). 2005.
2. National Center for Health Statistics. Health, United States, 2006 with chartbook on trends in the health of americans. Hyattsville, MD. 2006. Forthcoming.
3. Sun BC, Burstin HR, Brennan TA. Predictors and outcomes of frequent emergency department users. Acad Emerg Med 10:320–8. 2003.
4. Weber EJ, Showstack JA, Hunt KA, Colby DC, Callaham ML. Does the lack of a usual source of care or health insurance increase the likelihood of an emergency department visit? Results of a national population-based study. Ann Emerg Med 45:4–10. 2005.
5. Derlet RW, Richards JR. Overcrowding in the nation's emergency departments: complex causes and disturbing effects. Ann Emerg Med 35:63–8. 2000.
6. Burt CW, McCaig LF. Analysis of ambulance transports and diversions among U.S. emergency departments. Ann Emerg Med 47:317–26. 2006.
7. Burt CW, McCaig LF. Staffing, capacity, and ambulance diversion in emergency departments: United States, 2003–04. Advance data from vital and health statistics; Hyattsville, MD. National Center for Health Statistics. 2006. In preparation.
8. McCaig LF, Burt CW. National Hospital Ambulatory Medical Care Survey: 2003 emergency department summary. Advance data from vital and health statistics; no 358. Hyattsville, MD: National Center for Health Statistics. 2005.
9. Middleton KR, Hing E. National Hospital Ambulatory Medical Care Survey: 2004 outpatient department summary. Advance data from vital and health statistics; no 373. Hyattsville, MD: National Center for Health Statistics. 2006.
10. Hing E, Cherry DK, Woodwell DA. National Ambulatory Medical Care Survey: 2004 summary. Advance data from vital and health statistics; no 374. Hyattsville, MD: National Center for Health Statistics. 2006.
11. James CA, Bourgeois FT, Shannon MW. Association of race/ethnicity with emergency department wait times. Pediatrics 115(3):310–5. 2005.
12. Doshi A, Boudreaux ED, Wang N, Pelletier AJ, Camargo CA Jr. National study of U.S. emergency department visits for attempted suicide and self-inflicted injury, 1997–2001. Ann Emerg Med 46(4):369–75. 2005.
13. Bazarian JJ, McClung J, Shah MN, Cheng YT, Flesher W, Kraus J. Mild traumatic brain injury in the United States, 1998–2000. Brain Inj 9(2):85–91. 2005.
14. Simon TD, Bublitz C, Hambidge SJ. External causes of pediatric injury-related emergency department visits in the United States. Acad Emerg Med 11(10):1042–8. 2004.
15. Sun BC, Emond JA, Camargo CA Jr. Characteristics and admission patterns of patients presenting with syncope to U.S. emergency departments, 1992–2000. Acad Emerg Med 11(10):1029–34. 2004.
16. Caterino JM, Emond JA, Camargo CA Jr. Inappropriate medication administration to the acutely ill elderly: a nationwide emergency department study, 1992–2000. J Am Geriatr Soc 52(11):1847–55. 2004.
17. Thorpe JM, Smith SR, Trygstad TK. Trends in emergency department antibiotic prescribing for acute respiratory tract infections. Ann Pharmacother 38(6):928–35. 2004.
18. Burt CW, Arispe IE. Characteristics of emergency departments serving high volumes of safety-net patients: United States, 2000. National Center for Health Statistics. Vital Health Stat 13(155). 2004.
19. Weinick RM, Billings J, Thorpe JM. Ambulatory care sensitive emergency department visits: a national perspective. Acad Emerg Med 10(5):525–6. 2003.
20. Burt CW, McCaig LF. Trends in hospital emergency department utilization: United States, 1992–99. National Center for Health Statistics. Vital Health Stat 13(150). 2001.
21. American Hospital Association (personal communication-Scott Bates). 2004.
22. 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.
23. Schneider D, Appleton L, McLemore T. A reason for visit classification for ambulatory care. National Center for Health Statistics. Vital Health Stat 2(78). 1979.
24. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th Revision, Clinical Modification, 6th ed. Washington: Public Health Service. 1998.
25. http://www.cdc.gov/nchs/about/otheract/ice/barellmatrix.htm.
26. 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.
27. Food and Drug Administration. National Drug Code Directory, 1995 edition. Washington: Public Health Service. 1995.
28. National Center for Health Statistics. Public-Use Data File Documentation. 2004 National Hospital Ambulatory

Medical Care Survey. Hyattsville, MD. 2006. http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm.

29. Research Triangle Institute (2005). SUDAAN (Release 9.0.1) [Computer Software]. Research Triangle Park, NC: Research Triangle Institute.

Table 1. Number, percent distribution, and annual rate of emergency department visits with corresponding standard errors, by selected hospital characteristics: United States, 2004

Selected 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	110,216	5,207	100.0	. . .	38.2	1.8
Ownership:						
Voluntary	82,117	4,744	74.5	3.0	28.5	1.6
Government	18,832	3,071	17.1	2.6	6.5	1.1
Proprietary	9,267	2,144	8.4	1.9	3.2	0.7
Geographic region:						
Northeast	22,274	2,175	20.2	1.8	41.4	4.0
Midwest	26,806	2,390	24.3	2.0	41.4	3.7
South	41,150	3,813	37.3	2.6	39.7	3.7
West	19,986	1,830	18.1	1.6	30.1	2.8
Metropolitan status:[3]						
MSA	94,826	5,354	86.0	2.0	39.0	2.2
Non-MSA	15,391	2,217	14.0	2.0	34.1	4.9
Medical school affiliation:						
Yes	47,441	3,729	43.0	2.9	16.5	1.3
No	60,334	4,529	54.7	3.0	20.9	1.6
Unknown or blank	2,441	1,426	2.2	1.3	0.8	0.5
Trauma center:						
Yes	43,323	4,200	39.3	3.2	15.0	1.5
No	29,356	3,513	26.6	2.9	10.2	1.2
Unknown or blank	37,538	3,792	34.1	3.2	13.0	1.3

. . . Category not applicable.

[1]Visit rates for region are based on the July 1, 2004, set of estimates of the civilian noninstitutional population of the United States as developed by the Population Division, U.S. Census Bureau. See "Methods" for more details.

[2]Population estimates of metropolitan statistical area status are based on data from the 2004 National Health Interview Survey, National Center for Health Statistics, adjusted to the U.S. Census Bureau definition of core-based statistical areas as of December 2003. See http://www.census.gov/population/www/estimates/metrodef.html for more about metropolitan statistical area definitions.

[3]MSA is metropolitan statistical area.

Table 2. Number, percent distribution, and annual rate of emergency department visits with corresponding standard errors, by selected patient characteristics: United States, 2004

Selected patient 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	110,216	5,207	100.0	. . .	38.2	1.8
Age:						
Under 15 years	22,942	1,660	20.8	0.9	37.8	2.7
Under 1 year	3,902	391	3.5	0.3	95.8	9.6
1–4 years	8,318	637	7.5	0.4	52.0	4.0
5–14 years	10,722	720	9.7	0.4	26.3	1.8
15–24 years	17,931	967	16.3	0.3	44.1	2.4
25–44 years	32,105	1,612	29.1	0.5	39.1	2.0
45–64 years	21,506	1,021	19.5	0.4	30.6	1.5
65 years and over	15,732	771	14.3	0.5	45.4	2.2
65–74 years	6,219	331	5.6	0.2	34.1	1.8
75 years and over	9,513	484	8.6	0.4	57.9	2.9
Sex and age:						
Female	59,896	2,944	54.3	0.4	40.6	2.0
Under 15 years	10,681	774	9.7	0.4	36.0	2.6
15–24 years	10,507	623	9.5	0.2	52.2	3.1
25–44 years	17,977	948	16.3	0.3	43.3	2.3
45–64 years	11,372	575	10.3	0.3	31.5	1.6
65–74 years	3,403	209	3.1	0.1	34.4	2.1
75 years and over	5,957	324	5.4	0.2	59.3	3.2
Male	50,320	2,355	45.7	0.4	35.7	1.7
Under 15 years	12,262	917	11.1	0.6	39.4	3.0
15–24 years	7,425	398	6.7	0.2	36.2	1.9
25–44 years	14,128	721	12.8	0.3	34.8	1.8
45–64 years	10,134	490	9.2	0.2	29.7	1.4
65–74 years	2,816	166	2.6	0.1	33.9	2.0
75 years and over	3,556	209	3.2	0.2	55.6	3.3
Race and age:[3]						
White	81,762	4,229	74.2	1.2	35.2	1.8
Under 15 years	16,176	1,235	14.7	0.7	34.9	2.7
15–24 years	13,074	757	11.9	0.3	41.3	2.4
25–44 years	23,258	1,275	21.1	0.5	35.6	2.0
45–64 years	16,059	853	14.6	0.4	27.4	1.5
65–74 years	4,958	287	4.5	0.2	31.6	1.8
75 years and over	8,237	453	7.5	0.3	56.3	3.1
Black or African American	24,898	1,711	22.6	1.2	68.9	4.7
Under 15 years	5,848	565	5.3	0.4	62.2	6.0
15–24 years	4,330	366	3.9	0.3	73.3	6.2
25–44 years	7,929	616	7.2	0.4	76.6	6.0
45–64 years	4,701	324	4.3	0.3	62.1	4.3
65–74 years	1,036	104	0.9	0.1	61.9	6.2
75 years and over	1,054	121	1.0	0.1	86.2	9.9
Asian	2,157	234	2.0	0.2	17.6	1.9
Native Hawaiian or other Pacific Islander	396	118	0.4	0.1	79.7	23.8
American Indian or Alaska Native	*688	224	*0.6	0.2	*24.8	8.1
Multiple races	*316	100	*0.3	0.1	*7.2	2.3
Ethnicity:						
Hispanic or Latino	14,149	1,077	12.8	0.9	34.7	2.6
Not Hispanic or Latino	96,067	4,842	87.2	0.9	38.8	2.0
Patient residence:						
Not nursing home or other institution	102,766	4,952	93.2	0.5	35.6	1.7
Nursing home or other institution	2,699	1,631	2.5	0.1	66.8	4.0
Unknown or blank	4,751	604	4.3	0.5	. . .	. . .

. . . Category not applicable.

* Figure does not meet standards of reliability or precision.

[1]Visit rates for age, sex, race, ethnicity, and patient residence that is not a nursing home or other institution are based on the July 1, 2004, set of estimates of the civilian noninstitutional population of the United States as developed by the Population Division, U.S. Census Bureau. See ''Methods'' for more details.

[2]The visit rate for patient residence that is a nursing home or other institution is based on the July 1, 2004, set of estimates of the civilian population of the United States as developed by the Population Division, U.S. Census Bureau.

[3]The race groups, white, black or African American, Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, and multiple races, include persons of Hispanic and not Hispanic origin. Persons of Hispanic origin may be of any race. Starting with data year 1999, race-specific estimates have been tabulated according to 1997 Standards for Federal Data on Race and Ethnicity and are not strictly comparable with estimates for earlier years. However, the percent of visit records with multiple races indicated is small and lower than what is typically found for self-reported race in household surveys.

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

Table 3. Number and percent distribution of emergency department visits with corresponding standard errors, by primary expected source of payment: United States, 2004

Primary expected source of payment	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	110,216	5,207	100.0	. . .
Private insurance	39,344	2,105	35.7	1.1
Medicaid/SCHIP[1]	24,489	1,578	22.2	0.8
Self-pay	17,669	1,219	16.0	0.7
Medicare	16,909	847	15.3	0.5
Worker's compensation	1,964	151	1.8	0.1
No charge	885	241	0.8	0.2
Other	3,081	436	2.8	0.4
Unknown or blank	5,876	853	5.3	0.7

. . . Category not applicable.
[1]SCHIP is State Children's Health Insurance Program.

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

Table 4. Percent distribution of emergency department visits with corresponding standard errors by patient's mode of arrival according to patient age: United States, 2004

Patient age	Number of visits in thousands	Patient's mode of arrival				Unknown or blank
		Total	Walk-in[1]	Ambulance[2]	Public service	
		Percent distribution				
All visits	110,216	100.0	79.8	15.1	1.5	3.7
Under 15 years	22,942	100.0	90.0	5.9	0.6	3.5
Under 1 year	3,902	100.0	90.3	5.7	*	3.6
1–4 years	8,318	100.0	91.3	4.6	*	3.6
5–14 years	10,722	100.0	88.8	7.0	0.8	3.5
15–24 years	17,931	100.0	84.0	10.6	1.8	3.5
25–44 years	32,105	100.0	82.5	11.9	1.8	3.8
45–64 years	21,506	100.0	75.6	18.9	1.7	3.9
65 years and over	15,732	100.0	60.3	34.9	1.3	3.5
65–74 years	6,219	100.0	68.9	26.2	1.4	3.5
75 years and over	9,513	100.0	54.6	40.6	1.3	3.5
		Standard error of percent				
All visits	. . .	. . .	0.7	0.5	0.1	0.4
Under 15 years	. . .	. . .	0.8	0.6	0.1	0.6
Under 1 year	. . .	. . .	1.3	0.9	. . .	0.8
1–4 years	. . .	. . .	0.9	0.7	. . .	0.7
5–14 years	. . .	. . .	1.0	0.8	0.2	0.7
15–24 years	. . .	. . .	0.9	0.7	0.3	0.5
25–44 years	. . .	. . .	0.8	0.5	0.2	0.5
45–64 years	. . .	. . .	0.9	0.7	0.2	0.5
65 years and over	. . .	. . .	1.1	1.1	0.2	0.4
65–74 years	. . .	. . .	1.3	1.2	0.3	0.6
75 years and over	. . .	. . .	1.4	1.4	0.3	0.4

. . . Category not applicable.
* Figure does not meet standards of reliability or precision.
[1]Includes patients arriving by car, taxi, bus, or foot.
[2]Includes patients arriving in a vehicle, such as a police car, social service vehicle, beach patrol, etc., or escorted or carried by a public service official.

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

Table 5. Number and percent distribution of emergency department visits with corresponding standard errors by immediacy with which patient should be seen, according to selected patient and visit characteristics: United States, 2004

Patient and visit characteristics	Number of visits in thousands	Total	Emergent[1]	Urgent[2]	Semiurgent[3]	Nonurgent[4]	Unknown or no triage[5]	Emergent[1]	Urgent[2]	Semiurgent[3]	Nonurgent[4]	Unknown or no triage[5]
		Percent distribution						Standard error of percent				
All visits	110,216	100.0	12.9	37.8	21.8	12.5	15.1	0.9	1.6	1.3	1.4	1.9
Age												
Under 15 years	22,942	100.0	9.1	36.1	24.2	14.5	16.0	0.9	2.3	2.1	1.8	2.7
Under 1 year	3,902	100.0	9.3	35.5	23.1	14.4	17.7	1.2	3.1	3.1	2.3	4.1
1–4 years	8,318	100.0	9.0	36.9	25.1	14.2	14.9	1.1	2.6	2.5	2.1	2.8
5–14 years	10,722	100.0	9.2	35.7	24.0	14.9	16.3	1.1	2.3	2.0	1.9	2.6
15–24 years	17,931	100.0	10.4	36.4	23.2	15.5	14.5	1.0	1.9	1.6	1.8	1.9
25–44 years	32,105	100.0	11.1	36.8	22.9	14.1	15.1	0.9	1.8	1.4	1.5	1.9
45–64 years	21,506	100.0	15.6	38.8	20.9	9.8	14.8	1.0	1.6	1.3	1.1	1.7
65 years and over	15,732	100.0	21.1	42.3	15.5	6.4	14.6	1.5	1.6	1.2	1.0	2.0
65–74 years	6,219	100.0	19.2	41.6	16.7	7.6	14.9	1.6	1.8	1.4	1.2	2.0
75 years and over	9,513	100.0	22.4	42.8	14.7	5.7	14.4	1.7	2.0	1.2	0.9	2.1
Sex												
Female	59,896	100.0	12.5	38.5	21.6	12.4	15.0	0.9	1.7	1.4	1.4	1.8
Male	50,320	100.0	13.4	36.9	22.0	12.6	15.2	1.0	1.6	1.4	1.4	1.9
Race[6]												
White	81,762	100.0	13.6	37.8	21.1	12.2	15.3	1.0	1.7	1.4	1.4	2.0
Black or African American	24,898	100.0	10.3	37.9	24.3	13.9	13.6	0.9	2.4	1.9	2.1	2.0
Other	3,557	100.0	14.5	35.8	20.4	9.7	19.6	2.7	3.0	3.1	1.7	4.4
Ethnicity												
Hispanic or Latino	14,149	100.0	11.3	38.0	18.7	11.8	20.2	1.5	3.2	1.9	1.4	4.1
Not Hispanic or Latino	96,067	100.0	13.1	37.7	22.2	12.6	14.3	0.9	1.6	1.4	1.5	1.7
Expected source of payment												
Private insurance	39,344	100.0	12.6	37.9	23.2	12.5	13.9	1.0	1.8	1.6	1.4	1.9
Medicaid/SCHIP[7]	24,489	100.0	10.2	39.5	21.6	14.0	14.7	1.0	2.2	1.8	1.7	2.6
Medicare	17,669	100.0	10.5	35.6	23.4	15.4	15.1	1.0	2.2	1.7	2.1	2.0
Self-pay	16,909	100.0	20.4	40.8	16.4	7.3	15.0	1.4	1.7	1.2	1.0	2.1
Worker's compensation	1,964	100.0	9.6	32.1	27.3	21.2	9.8	1.8	3.2	3.3	3.2	2.7
No charge	885	100.0	*	37.6	24.3	13.8	14.4	. . .	7.1	4.5	4.1	6.8
Other	3,081	100.0	17.3	37.5	23.0	14.4	7.8	2.9	4.1	3.6	2.9	1.8
Unknown or blank	5,876	100.0	11.2	29.5	20.8	8.3	30.2	1.6	3.7	3.2	1.5	7.5

. . . Category not applicable.

* Figure does not meet standards of reliability or precision.

[1]A visit in which the patient should be seen in less than 15 minutes.

[2]A visit in which the patient should be seen within 15–60 minutes.

[3]A visit in which the patient should be seen within 61–120 minutes.

[4]A visit in which the patient should be seen within 121 minutes–24 hours.

[5]A visit in which there is no mention of an immediacy rating or triage level in the medical record, the hospital did not perform triage, or the patient was dead on arrival.

[6]"Other" race includes Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, and persons of multiple races. All race categories include visits by persons of Hispanic origin and not Hispanic origin. Persons of Hispanic origin may be of any race. Starting with data year 1999, race-specific estimates have been tabulated according to 1997 Standards for Federal Data on Race and Ethnicity and are not strictly comparable with estimates for earlier years. However, the percent of visit records with multiple races indicated is small and lower than what is typically found for self-reported race.

[7]SCHIP is State Children's Health Insurance Program.

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

Table 6. Number and percent distribution of emergency department visits with corresponding standard errors, by selected visit characteristics: United States, 2004

Selected visit characteristics	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	110,216	5,207	100.0	. . .
Oriented X 3[1]				
Yes	83,492	4,577	75.8	1.7
No	2,853	273	2.6	0.2
Unknown or blank	23,872	2,137	21.7	1.7
Presenting level of pain				
None	18,555	1,223	16.8	0.7
Mild	18,162	1,022	16.5	0.7
Moderate	26,074	1,520	23.7	0.9
Severe	16,617	1,147	15.1	0.6
Unknown or blank	30,809	2,119	28.0	1.4
Work related[2]				
Yes	3,219	200	2.9	0.1
No	101,167	4,937	91.8	0.7
Unknown or blank	5,831	775	5.3	0.7
Patient seen in this ED[3] within the last 72 hours				
Yes	3,192	250	2.9	0.2
No	100,289	5,068	91.0	1.0
Unknown or blank	6,736	1,073	6.1	1.0
Episode of care				
Initial visit for problem	98,166	4,762	89.1	0.8
Followup visit for problem	6,740	593	6.1	0.4
Unknown or blank	5,310	696	4.8	0.6

. . . Category not applicable.
[1]"Oriented X 3" is oriented to time, place, and person.
[2]4.5 percent (SE=0.2) of visits made by persons 18–64 years of age were work related.
[3]ED is emergency department.

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

Table 7. Number and percent distribution of emergency department visits with corresponding standard errors, by principal reason for visit module: United States, 2004

Principal reason for visit module and RVC code[1]		Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits		110,216	5,207	100.0	. . .
Symptom module	S001–S999	79,871	3,977	72.5	0.5
General symptoms	S001–S099	17,177	868	15.6	0.3
Symptoms referable to psychological and mental disorders	S100–S199	2,414	157	2.2	0.1
Symptoms referable to the nervous system (excluding sense organs)	S200–S259	6,715	406	6.1	0.2
Symptoms referable to the cardiovascular and lymphatic system	S260–S299	797	74	0.7	0.1
Symptoms referable to the eyes and ears	S300–S399	3,624	221	3.3	0.1
Symptoms referable to the respiratory system	S400–S499	11,787	688	10.7	0.3
Symptoms referable to the digestive system	S500–S639	15,118	759	13.7	0.3
Symptoms referable to the genitourinary system	S640–S829	3,963	245	3.6	0.1
Symptoms referable to the skin, hair, and nails	S830–S899	3,090	229	2.8	0.1
Symptoms referable to the musculoskeletal system	S900–S999	15,186	874	13.8	0.4
Disease module	D001–D999	4,195	286	3.8	0.2
Diagnostic, screening, and preventive module	X100–X599	840	97	0.8	0.1
Treatment module	T100–T899	2,588	204	2.3	0.1
Injuries and adverse effects module	J001–J999	21,550	1,031	19.6	0.5
Test results module	R100–R700	383	44	0.3	0.0
Administrative module	A100–A140	173	31	0.2	0.0
Other[2]	U990–U999	615	88	0.6	0.1

. . . Category not applicable.
0.0 Quantity more than zero but less than 0.05.
[1]Based on *A Reason for Visit Classification for Ambulatory Care* (RVC) (23).
[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 8. Number and percent distribution of emergency department visits with corresponding standard errors, by the 20 leading principal reasons for visit: United States, 2004

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		110,216	5,207	100.0	. . .
Stomach and abdominal pain, cramps, and spasms	S545	7,502	398	6.8	0.2
Chest pain and related symptoms	S050	6,005	343	5.4	0.2
Fever	S010	4,167	319	3.8	0.2
Back symptoms	S905	2,895	200	2.6	0.1
Headache, pain in head	S210	2,895	201	2.6	0.1
Cough	S440	2,702	211	2.5	0.1
Shortness of breath	S415	2,553	178	2.3	0.1
Vomiting	S530	2,524	209	2.3	0.2
Pain, site not referable to a specific body system	S055	2,312	159	2.1	0.1
Lacerations and cuts - upper extremity	J225	2,069	181	1.9	0.1
Accident, not otherwise specified	J810	2,057	155	1.9	0.1
Symptoms referable to throat	S455	2,005	132	1.8	0.1
Motor vehicle accident, type of injury unspecified	J805	1,843	184	1.7	0.1
Earache or ear infection	S355	1,737	139	1.6	0.1
Vertigo-dizziness	S225	1,595	117	1.4	0.1
Nausea	S525	1,552	147	1.4	0.1
Skin rash	S860	1,535	152	1.4	0.1
Leg symptoms	S920	1,467	99	1.3	0.1
Injury, other and unspecified type—head, neck, and face	J505	1,423	107	1.3	0.1
Labored or difficult breathing (dyspnea)	S420	1,362	116	1.2	0.1
All other reasons		58,017	2,771	52.6	0.4

. . . Category not applicable.

[1]Based on *A Reason for Visit Classification for Ambulatory Care* (RVC) (23).

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

Table 9. Number and percent distribution of emergency department visits with corresponding standard errors, by major disease category: United States, 2004

Major disease category and ICD–9–CM code range[1]		Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits		110,216	5,207	100.0	. . .
Infectious and parasitic diseases	001–139	3,196	205	2.9	0.1
Neoplasms	140–239	235	35	0.2	0.0
Endocrine, nutritional and metabolic diseases, and immunity disorders	240–279	1,673	103	1.5	0.1
Mental disorders	290–319	3,748	233	3.4	0.2
Diseases of the nervous system and sense organs	320–389	5,452	313	4.9	0.1
Diseases of the circulatory system	390–459	4,164	272	3.8	0.2
Diseases of the respiratory system	460–519	11,348	733	10.3	0.4
Diseases of the digestive system	520–579	6,601	370	6.0	0.2
Diseases of the genitourinary system	580–629	5,115	267	4.6	0.2
Diseases of the skin and subcutaneous tissue	680–709	3,996	311	3.6	0.2
Diseases of the musculoskeletal system and connective tissue	710–739	6,256	405	5.7	0.2
Symptoms, signs, and ill-defined conditions	780–799	20,735	1,054	18.8	0.4
Injury and poisoning	800–999	29,071	1,412	26.4	0.5
Fractures	800–829	3,911	243	3.5	0.1
Sprains and strains	840–848	5,685	344	5.2	0.2
Intracranial injury	850–854	336	57	0.3	0.0
Open wounds	870–897	6,400	355	5.8	0.2
Superficial injury	910–919	1,667	119	1.5	0.1
Contusions with intact skin surface	920–924	4,726	274	4.3	0.2
Foreign body	930–939	626	66	0.6	0.1
Burns	940–949	432	50	0.4	0.0
Trauma complications and unspecified injuries	958–959	2,153	199	2.0	0.2
Poisoning and toxic effects	960–989	1,078	102	1.0	0.1
Surgical and medical complications	996–999	472	52	0.4	0.0
Other injuries		1,587	117	1.4	0.1
Supplementary classification	V01–V82	3,327	280	3.0	0.2
All other diagnoses[2]		2,659	276	2.4	0.2
Unknown[3]		2,641	220	2.4	0.2

. . . Category not applicable.

0.0 Quantity more than zero but less than 0.05.

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (24).

[2]Includes diseases of the blood and blood-forming organs (280–289); complications of pregnancy, childbirth, and the puerperium (630–677); congenital anomalies (740–759); certain conditions originating in perinatal period (760–779); diagnoses that were uncodable or illegible, patient left before being seen, patient was transferred to another facility, health maintenance organization did not authorize treatment, and entries of ''none,'' ''no diagnosis,'' ''no disease,'' or ''healthy.''

[3]Includes blank diagnoses.

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

Table 10. Number and percent distribution of emergency department visits with corresponding standard errors, by the 20 leading primary diagnosis groups: United States, 2004

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	110,216	5,207	100.0	. . .
Contusion with intact skin surface 920–924	4,726	274	4.3	0.2
Abdominal pain 789.0	4,417	294	4.0	0.2
Open wound, excluding head 874–897	4,276	265	3.9	0.2
Chest pain 786.5	4,177	272	3.8	0.2
Acute upper respiratory infection, excluding pharyngitis 460–461,463–466	3,365	255	3.1	0.2
Spinal disorders 720–724	2,899	183	2.6	0.1
Fractures, excluding lower limb 800–819	2,621	179	2.4	0.1
Sprains and strains, excluding ankle and back 840–844,845.1,848	2,402	175	2.2	0.1
Sprains and strains of neck and back 846,847	2,229	160	2.0	0.1
Open wound of head 870–873	2,124	148	1.9	0.1
Otitis media and eustachian tube disorders 381–382	2,094	175	1.9	0.1
Cellulitis and abscess 681–682	2,033	158	1.8	0.1
Asthma 493	1,838	138	1.7	0.1
Urinary tract infection, site not specified 599.0	1,751	157	1.6	0.1
Rheumatism, excluding back 725–729	1,717	112	1.6	0.1
Superficial injuries 910–919	1,667	119	1.5	0.1
Pyrexia of unknown origin 780.6	1,588	186	1.4	0.1
Heart disease, excluding ischemic 391–392.0,393–398,402,404,415–416,420–429	1,573	121	1.4	0.1
Acute pharyngitis 462	1,560	148	1.4	0.1
Pneumonia 480–486	1,532	137	1.4	0.1
All other diagnoses	59,628	2,788	54.1	0.4

. . . Category not applicable.

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (24). However, certain codes have been combined in this table to better describe the utilization of ambulatory care services.

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

Table 11. Number, percent distribution, and annual rate of emergency department visits with corresponding standard errors, by patient age and the five leading primary diagnosis groups: United States, 2004

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	Number of visits per 100 persons per year[2]	Standard error of rate
All visits	110,216	5,207	100.0	. . .	38.2	1.8
Under 1 year						
All visits	3,902	391	100.0	. . .	95.8	9.6
Acute upper respiratory infection, excluding pharyngitis 460–461,463–466	573	69	14.7	1.4	14.1	1.7
Otitis media and eustachian tube disorders 381–382	437	56	11.2	1.2	10.7	1.4
Pyrexia of unknown origin 780.6	353	58	9.1	1.2	8.7	1.4
Unspecified viral and chlamydial infection 079.9	212	33	5.4	0.7	5.2	0.8
Noninfectious entertis and colitis 555–558	171	41	4.4	0.9	4.2	1.0
All other diagnoses	2,155	251	55.2	1.9	52.9	6.2
1–12 years						
All visits	16,803	1,180	100.0	. . .	35.0	2.5
Otitis media and eustachian tube disorders 381–382	1,273	138	7.6	0.6	2.6	0.3
Acute upper respiratory infection, excluding pharyngitis 460–461,463–466	1,090	103	6.5	0.6	2.3	0.2
Open wound of head 870–873	941	89	5.6	0.4	2.0	0.2
Contusion with intact skin surface 920–924	872	92	5.2	0.5	1.8	0.2
Open wound, excluding head 874–897	844	105	5.0	0.5	1.8	0.2
All other diagnoses	11,783	880	70.1	1.0	24.5	1.8
13–21 years						
All visits	14,162	765	100.0	. . .	38.3	2.1
Contusion with intact skin surface 920–924	920	70	6.5	0.4	2.5	0.2
Open wound, excluding head 874–897	728	61	5.1	0.4	2.0	0.2
Abdominal pain 789.0	557	61	3.9	0.4	1.5	0.2
Fractures, excluding lower limb 800–819	522	63	3.7	0.4	1.4	0.2
Sprains and strains, excluding ankle and back 840–844,845.1,848	517	53	3.6	0.3	1.4	0.1
All other diagnoses	10,918	622	77.1	0.7	29.5	1.7
22–49 years						
All visits	45,398	2,232	100.0	. . .	39.0	1.9
Abdominal pain 789.0	2,222	164	4.9	0.3	1.9	0.1
Chest pain 786.5	1,940	136	4.3	0.2	1.7	0.1
Open wound, excluding head 874–897	1,838	133	4.0	0.2	1.6	0.1
Contusion with intact skin surface 920–924	1,801	129	4.0	0.2	1.5	0.1
Spinal disorders 720–724	1,784	130	3.9	0.2	1.5	0.1
All other diagnoses	35,814	1,790	78.9	0.5	30.8	1.5
50–64 years						
All visits	14,220	703	100.0	. . .	29.4	1.5
Chest pain 786.5	1,077	104	7.6	0.6	2.2	0.2
Abdominal pain 789.0	679	85	4.8	0.5	1.4	0.2
Spinal disorders 720–724	551	49	3.9	0.3	1.1	0.1
Open wound, excluding head 874–897	506	50	3.6	0.3	1.0	0.1
Contusion with intact skin surface 920–924	473	48	3.3	0.3	1.0	0.1
All other diagnoses	10,933	550	76.9	0.9	22.6	1.1
65 years and over						
All visits	15,732	771	100.0	. . .	45.4	2.2
Chest pain 786.5	904	91	5.7	0.5	2.6	0.3
Heart disease, excluding ischemic 391–392.0,393–398,402,404,415–416,420–429	812	67	5.2	0.4	2.3	0.2
Abdominal pain 789.0	566	83	3.6	0.5	1.6	0.2
Contusion with intact skin surface 920–924	550	60	3.5	0.4	1.6	0.2
Pneumonia 480–486	528	65	3.4	0.4	1.5	0.2
All other diagnoses	12,372	613	78.6	0.8	35.7	1.8

. . . Category not applicable.

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (24). However, certain codes have been combined in this table to better describe the utilization of ambulatory care services.

[2]Visit rates by age are based on the July 1, 2004, set of estimates of the civilian noninstitutional population of the United States as developed by the Population Division, U.S. Census Bureau. See ''Methods'' for more details.

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

Table 12. Number, percent distribution, and annual rate of injury-related emergency department visits with corresponding standard errors, by selected patient and hospital characteristics: United States, 2004

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[2,3]	Standard error of rate
All injury-related visits[1]	41,390	2,013	100.0	. . .	14.4	0.7
Patient characteristics						
Age:						
Under 15 years	9,013	626	21.8	1.0	14.8	1.0
Under 1 year	608	91	1.5	0.2	14.9	2.2
1–4 years	2,850	233	6.9	0.4	17.8	1.5
5–14 years	5,554	364	13.4	0.6	13.6	0.9
15–24 years	7,837	417	18.9	0.4	19.3	1.0
25–44 years	12,329	643	29.8	0.6	15.0	0.8
45–64 years	7,561	408	18.3	0.5	10.8	0.6
65 years and over	4,651	286	11.2	0.5	13.4	0.8
65–74 years	1,744	135	4.3	0.2	9.7	0.7
75 years and over	2,877	181	7.0	0.3	17.5	1.1
Sex and age:						
Female	19,659	1,035	47.5	0.7	13.3	0.7
Under 15 years	3,772	283	9.1	0.5	12.7	1.0
15–24 years	3,605	223	8.7	0.3	17.9	1.1
25–44 years	5,643	341	13.6	0.5	13.6	0.8
45–64 years	3,768	236	9.1	0.4	10.4	0.7
65–74 years	1,035	100	2.5	0.2	10.4	1.0
75 years and over	1,836	140	4.4	0.3	18.3	1.4
Male	21,731	1,061	52.5	0.7	15.4	0.8
Under 15 years	5,241	378	12.7	0.6	16.9	1.2
15–24 years	4,232	236	10.2	0.4	20.6	1.2
25–44 years	6,686	357	16.2	0.5	16.5	0.9
45–64 years	3,793	220	9.2	0.3	11.1	0.6
65–74 years	739	63	1.8	0.1	8.9	0.8
75 years and over	1,040	88	2.5	0.2	16.3	1.4
Race and age:[4]						
White	32,006	1,705	77.3	1.2	13.8	0.7
Under 15 years	6,686	499	16.2	0.8	14.4	1.1
15–24 years	6,076	366	14.7	0.4	19.2	1.2
25–44 years	9,436	525	22.8	0.6	14.4	0.8
45–64 years	5,834	357	14.1	0.5	10.0	0.6
65–74 years	1,451	115	3.5	0.2	9.3	0.7
75 years and over	2,522	166	6.1	0.3	17.3	1.1
Black or African American	8,052	573	19.5	1.1	22.3	1.6
Under 15 years	2,039	181	4.9	0.4	21.7	1.9
15–24 years	1,502	128	3.6	0.3	25.4	2.2
25–44 years	2,521	267	6.1	0.6	24.3	2.6
45–64 years	1,485	116	3.6	0.3	19.6	1.5
65–74 years	218	32	0.5	0.1	13.0	1.9
75 years and over	288	40	0.7	0.1	23.6	3.3
Other	1,333	183	3.2	0.4	6.7	0.9
Ethnicity:						
Hispanic or Latino	4,803	411	11.6	0.9	11.8	1.0
Not Hispanic or Latino	36,587	1,879	88.4	0.9	14.8	0.8
Hospital characteristics						
Ownership:						
Voluntary	31,178	1,887	75.3	3.0	10.8	0.7
Government	6,990	1,200	16.9	2.7	2.4	0.4
Proprietary	3,223	752	7.8	1.8	1.1	0.3
Geographic region:						
Northeast	8,949	1,003	21.6	2.1	16.6	1.9
Midwest	9,633	855	23.3	1.9	14.9	1.3
South	14,915	1,353	36.0	2.5	14.4	1.3
West	7,892	820	19.1	1.8	11.9	1.2

See footnotes at end of table.

Table 12. Number, percent distribution, and annual rate of injury-related emergency department visits with corresponding standard errors, by selected patient and hospital characteristics: United States, 2004—Con.

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[2,3]	Standard error of rate
Metropolitan status:[5]						
MSA	35,193	2,068	85.0	2.2	14.5	0.9
Not MSA	6,197	911	15.0	2.2	13.7	2.0

. . . Category not applicable.
[1]37.3 percent (SE=0.5) of all visits were injury related.
[2]Visit rates for age, sex, race, ethnicity, and region are based on the July 1, 2004, set of estimates of the civilian noninstitutional population of the United States as developed by the Population Division, U.S. Census Bureau. See "Methods" for more details.
[3]Population estimates of metropolitan statistical status are based on data from the 2003 National Heath Interview Survey, National Center for Health Statistics, adjusted to the U.S. Census Bureau definition of core-based statistical areas as of December 2003. See http://www.census.gov/population/www/estimates/metrodef.html for more about metropolitan statistical area definitions.
[4]"Other" race includes Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaska Native, and multiple races. All race categories include persons of Hispanic and not Hispanic origin. Persons of Hispanic origin may be of any race. Starting with data year 1999, race-specific estimates have been tabulated according to 1997 Standards for Federal Data on Race and Ethnicity and are not strictly comparable with estimates for earlier years. However, the percentage of visit records with multiple races indicated is small and lower than what is typically found for self-reported race.
[5]MSA is metropolitan statistical area.

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

Table 13. Number and percent distribution of injury-related emergency department visits with corresponding standard errors, by intent and mechanism of external cause: United States, 2004

Intent and mechanism[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All injury-related visits	41,390	2,013	100.0	. . .
Unintentional injuries	28,123	1,463	67.9	0.8
Falls	8,482	467	20.5	0.7
Motor vehicle traffic	4,336	294	10.5	0.5
Struck against or struck accidentally by objects or persons	3,472	263	8.4	0.4
Cutting or piercing instruments or objects	2,530	163	6.1	0.3
Natural and environmental factors	2,018	177	4.9	0.3
Overexertion and strenuous movements	1,773	147	4.3	0.3
Poisoning	1,043	94	2.5	0.2
Foreign body	899	81	2.2	0.2
Fire and flames, hot substance or object, caustic or corrosive material and steam	438	42	1.1	0.1
Pedal cycle, nontraffic	450	57	1.1	0.1
Caught accidentally in or between objects	438	53	1.1	0.1
Machinery	340	44	0.8	0.1
Motor vehicle, nontraffic and other	351	59	0.8	0.1
Other transportation	150	24	0.4	0.1
Suffocation	99	22	0.2	0.1
Other mechanism[2]	1,168	124	2.8	0.2
Mechanism unspecified	136	25	0.3	0.1
Intentional injuries	2,327	161	5.6	0.3
Assault	1,774	133	4.3	0.3
Unarmed fight or brawl, striking by blunt or thrown object	949	82	2.3	0.2
Cutting or piercing instrument	100	21	0.2	0.1
Other and unspecified mechanism[3]	725	74	1.8	0.2
Self-inflicted	535	63	1.3	0.1
Poisoning by solid or liquid substances, gases, and vapors	337	46	0.8	0.1
Other and unspecified mechanism[4]	199	35	0.5	0.1
Other causes of violence	*	. . .	*	. . .
Injuries of undetermined intent	218	42	0.5	0.1
Adverse effects of medical treatment	1,837	175	4.4	0.3
Medical and surgical complications	1,094	113	2.6	0.2
Adverse drug effects	743	89	1.8	0.2
Alcohol or drug use[5]	1,657	119	4.0	0.3
Blank cause[6]	7,228	460	17.5	0.8

. . . Category not applicable.
* Figure does not meet standards of reliability or precision.
[1]Based on the "Supplementary Classification of External Causes of Injury and Poisoning," *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (24). A detailed description of the ICD–9–CM E-codes used to create groupings in this table can be found in the 2003 Advance Data report (8).
[2]Includes drowning, firearms, and other mechanism.
[3]Includes assaults by firearms and explosives, and other mechanism.
[4]Includes injury by cutting and piercing instrument, and other and unspecified mechanism.
[5]Alcohol and drug abuse are not contained in the "Supplementary Classification of External Causes of Injury and Poisoning" but are frequently recorded as a cause of injury or poisoning.
[6]Includes illegible entries and blanks.

Table 14. Number and percent distribution of injury-related emergency department visits with corresponding standard errors, by body site of primary diagnosis: United States, 2004

Body site[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All injury visits	41,390	2,013	100.0	. . .
Head and neck	5,565	314	13.4	0.4
Traumatic brain injury	391	63	0.9	0.1
Other head	1,494	112	3.6	0.2
Face	1,686	126	4.1	0.2
Eye	581	55	1.4	0.1
Head, face, and neck unspecified	1,412	114	3.4	0.2
Spinal cord	*	. . .	*	. . .
Vertebral column	1,913	142	4.6	0.2
Cervical	1,070	85	2.6	0.2
Thoracic and dorsal	180	43	0.4	0.1
Lumbar	630	66	1.5	0.1
Other vertebral column	*	. . .	*	. . .
Torso	1,919	149	4.6	0.3
Chest	764	82	1.8	0.2
Abdomen	161	30	0.4	0.1
Pelvis and urogenital	250	34	0.6	0.1
Trunk	174	27	0.4	0.1
Back and buttocks	570	69	1.4	0.2
Upper extremity	7,869	406	19.0	0.5
Shoulder and upper arm	1,375	95	3.3	0.2
Forearm and elbow	1,358	108	3.3	0.2
Wrist, hand, and fingers	4,664	266	11.3	0.4
Other and unspecified upper extremity	472	59	1.1	0.1
Lower extremity	6,134	314	14.8	0.4
Hip	441	48	1.1	0.1
Upper leg and thigh	110	22	0.3	0.1
Knee	532	59	1.3	0.1
Lower leg and ankle	1,777	118	4.3	0.2
Foot and toes	1,480	124	3.6	0.2
Other and unspecified lower extremity	1,795	125	4.3	0.2
System-wide	1,895	142	4.6	0.2
Other and unspecified body site injuries	2,467	263	6.0	0.5
Adverse effects and medical complications	1,221	98	3.0	0.2
All other diagnoses[2]	11,554	654	27.9	0.7
Unknown[3]	826	80	2.0	0.2

. . . Category not applicable.

* Figure does not meet standards of reliability or precision.

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (24). A detailed description of the *Barell Injury Diagnosis Matrix: Classification by Region of Body and Nature of the Injury* can be found in the 2003 Advance Data report (8).Three additional categories were added that were not in the Barell Injury Diagnosis Matrix to account for all injury-related visits: illness diagnoses, supplementary classification, and other adverse effects and medical complications.

[2]All other diagnoses include musculoskeletal system (710–739), symptoms and ill-defined conditions(780–799), skin and subcutaneous tissue (680–709), mental disorders (290–319), nervous system and sense organs (320–389), other illnesses (001–289,390–677,740–779), and supplementary classification (V01–V82).

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

Table 15. Number and percentage of emergency department visits with corresponding standard errors, by diagnostic and screening services ordered or provided: United States, 2004

Diagnostic 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	110,216	5,207	. . .	. . .
One or more diagnostic or screening services listed	99,068	4,809	89.9	0.9
None	10,172	1,026	9.2	0.8
Blank	976	162	0.9	0.2
Examinations and tests				
Medical screening	73,857	4,246	67.0	2.4
Pulse oximetry	31,068	2,992	28.2	2.2
Urinalysis	21,027	1,147	19.1	0.6
EKG or ECG[2]	18,242	937	16.6	0.5
Mental status exam	10,031	1,607	9.1	1.4
Cardiac monitor	8,366	675	7.6	0.5
Pregnancy test	4,512	385	4.1	0.3
EEG[3]	612	172	0.6	0.2
Imaging				
Chest x ray	20,193	1,049	18.3	0.5
Extremity x ray	12,050	657	10.9	0.3
Other x ray	10,598	692	9.6	0.4
MRI or CAT scan[4,5]	10,295	656	9.3	0.4
Ultrasound	2,876	241	2.6	0.2
Other imaging	2,542	225	2.3	0.2
Any imaging	48,201	2,309	43.7	0.6
Blood tests				
CBC[6]	36,548	1,736	33.2	0.7
BUN[7]	19,779	1,338	17.9	0.9
Glucose	19,379	1,268	17.6	0.9
Creatinine	19,287	1,306	17.5	0.9
Electrolytes	15,892	1,141	14.4	0.9
Lipids or cholesterol	7,101	826	6.4	0.7
HgbA1C[8]	3,550	616	3.2	0.6
BAC[9]	1,702	195	1.5	0.2
HIV serology[10]	268	60	0.2	0.1
Other blood test	21,852	1,149	19.8	0.7
Any blood test listed	40,547	1,828	36.8	0.7
Cultures				
Urine	5,496	406	5.0	0.3
Blood	3,644	286	3.3	0.2
Throat/rapid strep test	2,178	187	2.0	0.1
Cervical/urethral	887	116	0.8	0.1
Stool	819	103	0.7	0.1
Any culture listed	11,135	685	10.1	0.3
Other	3,949	318	3.6	0.2

. . . Category not applicable.
[1]Total exceeds "All visits" because more than one service may be reported per visit.
[2]EKG or ECG is electrocardiogram.
[3]EEG is electroencephalogram.
[4]MRI is magnetic resonance imaging.
[5]CAT is computerized axial tomography.
[6]CBC is complete blood count.
[7]BUN is blood urea nitrogen.
[8]HgbA1C is glycohemoglobin.
[9]BAC is blood alcohol concentration.
[10]HIV is human immunodeficiency virus.

Table 16. Number and percentage of emergency department visits with corresponding standard errors, by selected procedures: United States, 2004

Procedures performed	Number of visits in thousands	Standard error in thousands	Percent of visits	Standard error of percent
All visits	110,216	5,207	. . .	. . .
1 or more procedures listed	52,621	2,723	47.7	1.4
None	51,823	3,110	47.0	1.4
Blank	5,772	714	5.2	0.6
IV fluids[1]	25,772	1,421	23.4	0.8
Wound care	11,661	684	10.6	0.4
Orthopedic care	6,279	513	5.7	0.4
Eye or ENT care[2]	4,273	1,265	3.9	1.1
Bladder catheter	2,847	256	2.6	0.2
Obstetrical or gynecological care	1,944	201	1.8	0.2
NG tube or gastic lavage[3]	380	45	0.3	0.0
Endotracheal intubation	187	26	0.2	0.0
Thrombolytic therapy	155	32	0.1	0.0
CPR[4]	120	23	0.1	0.0
Other	9,704	1,130	8.8	0.9

. . . Category not applicable.
0.0 Quantity more than zero but less than 0.05.
[1]IV is intravenous.
[2]ENT is ear, nose, and throat.
[3]NG is nasogastric.
[4]CPR is cardiopulmonary resuscitation.

Table 17. Number and percentage of emergency department visits with corresponding standard errors, by providers seen: United States, 2004

Type of provider	Number of visits in thousands[1]	Standard error in thousands	Percent of visits	Standard error of percent
All visits	110,216	5,207	. . .	. . .
Any physician	101,122	4,737	91.7	0.9
Staff physician	95,810	4,324	86.9	1.8
Resident or intern	10,361	1,360	9.4	1.2
Other physician	9,403	1,816	8.5	1.5
R.N.[2]	99,281	4,782	90.1	1.5
Other technician	33,211	2,796	30.1	2.0
E.M.T.[3]	9,821	1,255	8.9	1.1
Physician assistant	8,532	1,863	7.7	1.5
L.P.N.[4]	8,056	1,235	7.3	1.0
Nurse practitioner	1,925	323	1.7	0.3
Other	7,512	1,375	6.8	1.2
Blank	1,024	153	0.9	0.1

. . . Category not applicable.
[1]Total exceeds "All visits" because more than one provider may be reported per visit.
[2]R.N. is registered nurse.
[3]E.M.T. is emergency medical technician.
[4]L.P.N. is licensed practical nurse.

Table 18. Number and percent distribution of emergency department visits with corresponding standard errors, by medication therapy and number of medications provided or prescribed: United States, 2004

Medication therapy[1]	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	110,216	5,207	100.0	. . .
Drug visits[2]	86,388	4,468	78.4	0.7
Visits without mention of medication	23,829	1,017	21.6	0.7
Number of medications provided or prescribed[3]				
All visits	110,216	5,207	100.0	. . .
0	23,829	1,017	21.6	0.7
1	29,550	1,501	26.8	0.6
2	24,558	1,275	22.3	0.4
3	14,471	881	13.1	0.3
4	8,063	554	7.3	0.3
5	3,710	276	3.4	0.2
6	2,075	225	1.9	0.2
7	1,356	163	1.2	0.1
8	2,606	467	2.4	0.4

. . . Category not applicable.
[1]Includes prescription drugs, over-the-counter preparations, immunizations, and desensitizing agents.
[2]Visits at which one or more drugs were provided or prescribed.
[3]There were 215,664,000 drug mentions at emergency department visits in 2004. The average drug mention rate was 2.0 drug mentions per ED visit (SE=0.1). For visits with at least one drug mention, the average drug visit rate was 2.5 drugs per visit (SE=0.1).

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

Table 19. Number and percentage of drug mentions for the 20 most frequently occurring therapeutic drug classes at emergency department visits with corresponding standard errors: United States, 2004

Therapeutic class[1]	Number of occurrences in thousands	Standard error in thousands	Percent of drug mentions[2]	Standard error of percent
Narcotic analgesics	31,351	1,785	14.5	0.9
NSAIDs[3]	25,296	1,640	11.7	0.6
Nonnarcotic analgesics	15,182	1,116	7.0	0.6
Antihistamines	14,240	1,003	6.6	0.5
Antipyretics	14,013	874	6.5	0.5
Vertigo or motion sickness or vomiting	12,610	742	5.8	0.5
Sedatives or hypnotics	10,410	641	4.8	0.4
Antiasthmatics or bronchodilators	8,400	565	3.9	0.4
Cephalosporins	8,169	585	3.8	0.3
Penicillins	7,013	548	3.3	0.3
Acid or peptic disorders	6,890	540	3.2	0.4
Adrenal corticosteroids	5,806	379	2.7	0.2
Replenishers or regulators of electrolytes or water balance	5,438	465	2.5	0.4
Lincosamides or macrolides	4,677	367	2.2	0.2
Antianxiety agents	4,430	379	2.1	0.2
Skeletal muscle hyperactivity	4,395	310	2.0	0.2
Quinolones	4,297	417	2.0	0.3
Antiarthritics	4,218	257	2.0	0.2
Vaccines or antisera	3,332	215	1.5	0.2
Anticonvulsants	3,300	258	1.5	0.2

[1]Based on the standard four-digit drug classification used in the *National Drug Code Directory, 1995 edition* (27).
[2]Based on an estimated 215,664,000 drug mentions at emergency department visits in 2004. Total of all therapeutic classes will exceed total drug mentions because up to three classes may be coded for each drug.
[3]NSAIDs are nonsteroidal anti-inflammatory drugs.

Table 20. Number and percentage of emergency department visits with corresponding standard errors, by visit disposition: United States, 2004

Disposition	Number of visits in thousands[1]	Standard error in thousands	Percent of visits	Standard error of percent
All visits	110,216	5,207	. . .	. . .
Admit, transfer, or died				
Admit to hospital[2]	14,615	824	13.3	0.6
Transfer to other facility	2,218	189	2.0	0.1
Admit to ICU or CCU[3]	1,159	156	1.1	0.1
Admit to ED for observation	610	118	0.6	0.1
DOA or died in ED[4,5]	176	28	0.2	0.0
Refer or return to physician				
Refer to other physician or clinic for FU[6]	50,935	3,301	46.2	1.7
Return to referring physician	17,701	1,770	16.1	1.4
Left or refer out from triage				
Left before being seen	2,093	221	1.9	0.2
Left AMA[7]	1,122	112	1.0	0.1
Refer out from triage without treatment	*226	98	*0.2	0.1
Return or refer to other treatment				
Return to nonphysician treatment or support	690	86	0.6	0.1
Refer to alcohol or drug treatment program	669	98	0.6	0.1
Other				
Return if needed, PRN or appointment[8]	41,107	2,753	37.3	1.8
No followup planned	8,130	1,090	7.4	0.9
Other	945	201	0.9	0.2
Blank	651	113	0.6	0.1

. . . 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 "All visits" because more than one disposition may be reported per visit.
[2]Includes those admitted to hospital's intensive care unit, critical care unit, or coronary care unit.
[3]ICU or CCU is intensive care unit or critical care unit or coronary care unit and is a subset of those admitted to hospital.
[4]DOA is dead on arrival.
[5]ED is emergency department.
[6]FU is followup.
[7]AMA is against medical advice.
[8]PRN is as needed.

Table 21. Number and percent distribution of emergency department visits with corresponding standard errors, by time spent waiting to see a physician and time spent in the emergency department: United States, 2004

Visit characteristic	Number of visits in thousands[1]	Standard error in thousands	Percent distribution	Standard error of percent
All visits	102,146	4,762	100.0	. . .
Time spent waiting to see a physician[2]				
Less than 15 minutes	22,000	1,394	21.5	1.1
15–59 minutes	43,193	2,149	42.3	1.2
1 hour, but less than 2 hours	14,570	941	14.3	0.5
2 hours, but less than 3 hours	4,520	321	4.4	0.2
3 hours, but less than 4 hours	1,789	173	1.8	0.1
4 hours, but less than 6 hours	1,242	167	1.2	0.2
6 hours or more	122	34	0.1	0.0
Blank	14,711	2,040	14.4	1.7
Time spent in the emergency department[3]				
Less than 1 hour	13,640	1,136	13.4	0.7
1 hour, but less than 2 hours	25,422	1,374	24.9	0.6
2 hours, but less than 4 hours	32,292	1,606	31.6	0.7
4 hours, but less than 6 hours	12,334	754	12.1	0.5
6 hours, but less than 10 hours	6,410	414	6.3	0.3
10 hours, but less than 14 hours	1,487	118	1.5	0.1
14 hours, but less than 23 hours	1,194	117	1.2	0.1
23 hours, but less than 24 hours	95	22	0.1	0.0
24 hours or more	616	151	0.6	0.1
Blank	8,656	903	8.5	0.9

. . . Category not applicable.
0.0 Quantity more than zero but less than 0.05.
[1]Visits where a physician was not seen were excluded.
[2]The mean waiting time to see a physician was 47.4 minutes (SE=1.4).
[3]The mean duration of visit was 3.3 hours (SE=0.1). The mean patient care time (i.e., the mean duration minus the mean waiting time) was 2.5 hours (SE=0.1).

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

Technical Notes

Form Approved OMB No. 0920-0278 Exp. Date 04/30/2009 CDC 64.126

FORM **NHAMCS-100(ED)**
(8-11-2003)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
ACTING AS DATA COLLECTION AGENT FOR THE
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY
2004 EMERGENCY DEPARTMENT PATIENT RECORD

Assurance of confidentiality –All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

NHAMCS-100(ED) (8-11-2003)

1. PATIENT INFORMATION

a. Date of visit Month | Day | Year
b. ZIP code
c. Date of birth Month | Day | Year
d. Time of day
(1) Arrival ___ : ___ ☐ AM ☐ PM ☐ Military
(2) Time seen by physician ___ : ___ ☐ AM ☐ PM ☐ Military
☐ Not seen by physician
(3) Discharge ___ : ___ ☐ AM ☐ PM ☐ Military
Mark (X) if discharge is more than 24 hours from arrival →

e. Does patient reside in a nursing home or other institution?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

f. Sex
1 ☐ Female
2 ☐ Male

g. Ethnicity
1 ☐ Hispanic or Latino
2 ☐ Not Hispanic or Latino

h. Mode of arrival – Mark (X) one
1 ☐ Ambulance (sirens/sound)
2 ☐ Public service (nonambulance, e.g., police, social services)
3 ☐ Walk-in
4 ☐ Unknown

i. 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

j. Primary expected source of payment for this visit – Mark (X) one
1 ☐ Private insurance
2 ☐ Medicare
3 ☐ Medicaid/SCHIP
4 ☐ Worker's Compensation
5 ☐ Self-pay
6 ☐ No charge/Charity
7 ☐ Other
8 ☐ Unknown

2. TRIAGE

a. Initial vital signs
(1) Temperature
(2) Pulse beats per minute
(3) Blood pressure ___ / ___
(4) Oriented X 3 1 ☐ Yes 2 ☐ No 3 ☐ Unknown

b. Immediacy with which patient should be seen
1 ☐ Unknown/No triage
2 ☐ Less than 15 minutes
3 ☐ 15–60 minutes
4 ☐ >1 hour-2 hours
5 ☐ >2 hours-24 hours

c. Presenting level of pain
1 ☐ Unknown
2 ☐ None
3 ☐ Mild
4 ☐ Moderate
5 ☐ Severe

3. REASON FOR VISIT

a. Patient's complaint(s), symptom(s), or other reason(s) for this visit Use patient's own words.
(1)
(2)
(3)

b. Is this visit related to alcohol use?
1 ☐ Yes, patient's use
2 ☐ Yes, other person's use
3 ☐ No
4 ☐ Unknown

c. Is this visit work related?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

4. CONTINUITY OF CARE

a. Has patient been seen in this ED within the last 72 hours?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

b. Episode of care
1 ☐ Initial visit for problem
2 ☐ Follow-up visit for problem
3 ☐ Unknown

5. INJURY/POISONING/ADVERSE EFFECT

a. Is this visit related to an injury, or poisoning, or adverse effect of medical treatment?
1 ☐ Yes
2 ☐ No – SKIP to item 6

b. Is this injury/ poisoning intentional?
1 ☐ Yes, self inflicted
2 ☐ Yes, assault
3 ☐ No, unintentional
4 ☐ Unknown
Go to 5c.

c. Cause of injury, poisoning, or adverse effect – Describe the place and events that precipitated the injury, poisoning, or adverse event (e.g., allergy to penicillin, bee sting, pedestrian hit by car driven by drunk driver, wife beaten with fists by husband, tetanus overdose, infected shunt, etc.)

6. PHYSICIAN'S DIAGNOSIS FOR THIS VISIT

As specifically as possible, list diagnoses related to the visit including chronic conditions.
(1) Primary diagnosis:
(2) Other:
(3) Other:

7. DIAGNOSTIC/SCREENING SERVICES

Mark (X) all **ordered** or **provided** at this visit.
1 ☐ NONE

Examinations/Tests:
2 ☐ Medical screening exam
3 ☐ Mental status exam
4 ☐ EKG/ECG (electrocardiogram)
5 ☐ Cardiac monitor
6 ☐ EEG (electroencephalogram)
7 ☐ Pulse oximetry
8 ☐ Pregnancy test
9 ☐ Urinalysis (UA)

Imaging:
10 ☐ Chest X-ray
11 ☐ Extremity X-ray
12 ☐ Other X-ray
13 ☐ Ultrasound
14 ☐ MRI/CAT scan
15 ☐ Other imaging

Blood tests:
16 ☐ CBC (complete blood count)
17 ☐ BUN (blood urea nitrogen)
18 ☐ Creatinine
19 ☐ Lipids/Cholesterol
20 ☐ Glucose
21 ☐ HgbA1C (glycohemoglobin)
22 ☐ Electrolytes
23 ☐ BAC (blood alcohol)
24 ☐ HIV serology
25 ☐ Other blood test

Cultures:
26 ☐ Blood
27 ☐ Cervical/Urethral
28 ☐ Stool
29 ☐ Throat/Rapid strep test
30 ☐ Urine
31 ☐ Other test/service

8. PROCEDURES

Mark (X) all provided at this visit. Exclude medications.
1 ☐ NONE
2 ☐ Bladder catheter
3 ☐ CPR
4 ☐ Endotracheal intubation
5 ☐ Eye/ENT care
6 ☐ IV fluids
7 ☐ NG tube/ gastric lavage
8 ☐ OB/GYN care
9 ☐ Orthopedic care
10 ☐ Thrombolytic therapy
11 ☐ Wound care
12 ☐ Other

9. MEDICATIONS & INJECTIONS

a. What is the total number of drugs prescribed or provided at this visit? →
Include Rx and OTC medications, immunizations, allergy shots, anesthetics, and dietary supplements that were ordered, supplied, administered or continued during this visit.

b. List up to 8 medication/injection names below.
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)

10. VISIT DISPOSITION

Mark (X) all that apply.
1 ☐ No follow-up planned
2 ☐ Return if needed, PRN/appointment
3 ☐ Return to referring physician
4 ☐ Refer to other physician/clinic for FU
5 ☐ Refer out from triage without treatment
6 ☐ Refer to alcohol or drug treatment program
7 ☐ Return to non-physician treatment or support service
8 ☐ Left before being seen
9 ☐ Left AMA *
10 ☐ Admit to ED for observation
11 ☐ Admit to hospital
12 ☐ Admit to ICU/CCU
13 ☐ Transfer to other facility
14 ☐ DOA/died in ED
15 ☐ Other

11. PROVIDERS SEEN

Mark (X) all that apply.
1 ☐ Staff physician
2 ☐ Resident/Intern
3 ☐ Other physician
4 ☐ RN
5 ☐ LPN
6 ☐ Nurse practitioner
7 ☐ Physician assistant
8 ☐ EMT
9 ☐ Other technician
10 ☐ Other

2004 ED

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