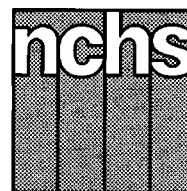


Advance Data



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

National Hospital Ambulatory Medical Care Survey: 1995 Emergency Department Summary

by Barbara J. Stussman, Division of Health Care Statistics

Abstract

Objective—This report describes ambulatory care visits to hospital emergency departments in the United States. Statistics are presented on selected patient and visit characteristics.

Methods—The data presented in this report were collected from the 1995 National Hospital Ambulatory Medical Care Survey (NHAMCS). NHAMCS is part of the ambulatory care component of the National Health Care Survey, which measures health care utilization across various types of providers. NHAMCS is a national probability survey of visits to hospital emergency and outpatient departments of non-Federal, short-stay, and general hospitals in the United States. Sample data were weighted to produce annual estimates.

Results—During 1995, an estimated 96.5 million visits were made to hospital emergency departments (ED's) in the United States, about 36.9 visits per 100 persons. Persons 75 years and over had the highest rate of emergency department visits. There were an estimated 37.2 million injury-related emergency department visits during 1995, or 14.2 visits per 100 persons. There were 225 thousand visits related to injuries caused by firearms, including 144 thousand visits for gunshot wounds. One-fifth of the injury visits were work-related for persons 18–64 years of age. Four-fifths of the ED visits involved medication therapy with pain relief drugs accounting for 30 percent of the medications mentioned. Acute upper respiratory infection was the leading illness-related diagnosis for ED visits.

Keywords: emergency department visits • diagnoses • injury • ICD-9-CM

Introduction

Ambulatory medical care is the predominant method of providing health care services in the United States and is available in a wide range of settings. The largest proportion of ambulatory care occurs in physicians' offices (1).

Since 1973, NCHS has collected data on patient visits to physicians' offices through the National Ambulatory Medical Care Survey (NAMCS). However, visits to hospital emergency and outpatient departments, which represent a significant segment of

ambulatory medical care, are not included in the NAMCS.

The National Hospital Ambulatory Medical Care Survey (NHAMCS) was inaugurated in 1992 to gather and disseminate information about the health care provided by hospital emergency and outpatient departments to the population of the United States. Together, NAMCS and NHAMCS data provide an important tool for tracking ambulatory care utilization. A third survey, the National Survey of Ambulatory Surgery, was launched in 1994 to focus on the rapidly increasing use of ambulatory surgery centers that are not covered in NAMCS and NHAMCS. These surveys are the ambulatory care component of the National Health Care Survey, which measures health care utilization across various types of providers.

This report presents national annual estimates of visits to hospital emergency departments (ED's) for 1995. Patient and visit characteristics are both presented. Another *Advance Data* report highlights visits to outpatient departments (2).

Methods

The data presented in this report are from the 1995 NHAMCS, a national



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



<p>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.</p>		<p>Department of Health and Human Services Public Health Service Centers for Disease Control and Prevention National Center for Health Statistics</p>		<p>OMB No. 0920-0278 Expires: 07-31-97 CDC 64.112</p>		
<p>NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY 1995-96 EMERGENCY DEPARTMENT PATIENT RECORD</p>						
<p>1. DATE OF VISIT</p> <p>Month / Day / Year</p>	<p>4. ZIP CODE</p> <p>_____ Patient's _____</p>	<p>6. SEX</p> <p>1 <input type="checkbox"/> Female 2 <input type="checkbox"/> Male</p>	<p>9. EXPECTED SOURCE(S) OF PAYMENT FOR THIS VISIT</p> <p>a. Type of payment Check one.</p> <p>1 <input type="checkbox"/> Preferred provider option 2 <input type="checkbox"/> Insured, fee-for-service 3 <input type="checkbox"/> HMO / other prepaid 4 <input type="checkbox"/> Self-pay 5 <input type="checkbox"/> No charge 6 <input type="checkbox"/> Other</p> <p>b. Expected sources of insurance Check all that apply.</p> <p>1 <input type="checkbox"/> Blue Cross / Blue Shield 2 <input type="checkbox"/> Other private insurance 3 <input type="checkbox"/> Medicare 4 <input type="checkbox"/> Medicaid 5 <input type="checkbox"/> Worker's Compensation 6 <input type="checkbox"/> Other 7 <input type="checkbox"/> Unknown</p>			<p>10. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT Use patient's own words.</p> <p>Most a. Important: _____ b. Other: _____ c. Other: _____</p>
<p>2. TIME OF VISIT:</p> <p><input type="checkbox"/> Military <input type="checkbox"/> AM <input type="checkbox"/> PM</p>	<p>5. RACE</p> <p>1 <input type="checkbox"/> White 2 <input type="checkbox"/> Black 3 <input type="checkbox"/> Asian / Pacific Islander 4 <input type="checkbox"/> American Indian / Eskimo / Aleut</p>	<p>7. ETHNICITY</p> <p>1 <input type="checkbox"/> Hispanic origin 2 <input type="checkbox"/> Not Hispanic</p>	<p>8. DOES PATIENT SMOKE CIGARETTES ?</p> <p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Unknown</p>	<p>c. Is this injury work related ?</p> <p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No 3 <input type="checkbox"/> Unknown</p>	<p>e. Is this injury violence related ?</p> <p>1 <input type="checkbox"/> No 3 <input type="checkbox"/> Yes (Suicide / suicide attempt) 2 <input type="checkbox"/> Yes (Interpersonal violence / assault)</p> <p>If interpersonal violence / assault, person who caused the injury is the patient's:</p> <p>1 <input type="checkbox"/> Spouse 6 <input type="checkbox"/> Friend /acquaintance 2 <input type="checkbox"/> Other intimate partner 7 <input type="checkbox"/> Stranger 3 <input type="checkbox"/> Parent 8 <input type="checkbox"/> Unknown 4 <input type="checkbox"/> Other family 9 <input type="checkbox"/> Other: 5 <input type="checkbox"/> Caretaker</p>	
<p>11. IS THIS VISIT INJURY RELATED ?</p> <p>1 <input type="checkbox"/> Yes (Answer a through e.) 2 <input type="checkbox"/> No (Skip to Item 12.)</p> <p>a. 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 car, etc.</p> <p>_____</p>	<p>b. Place of occurrence</p> <p>1 <input type="checkbox"/> Home 2 <input type="checkbox"/> School 3 <input type="checkbox"/> Sports or athletics area 4 <input type="checkbox"/> Street or highway 5 <input type="checkbox"/> Other: _____ 6 <input type="checkbox"/> Unknown</p>	<p>d. Did a firearm produce the injury ?</p> <p>1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No</p>	<p>12. PHYSICIAN'S DIAGNOSES As specifically as possible, list up to 3 current diagnoses. Include those unrelated to this visit.</p> <p>a. Principal diagnosis or problem associated with Item 10a: _____ b. Other: _____ c. Other: _____</p>			
<p>13. IS THIS VISIT ALCOHOL OR DRUG RELATED ?</p> <p>1 <input type="checkbox"/> Neither 2 <input type="checkbox"/> Alcohol 3 <input type="checkbox"/> Drug 4 <input type="checkbox"/> Both 5 <input type="checkbox"/> Unknown</p>	<p>14. DOES PATIENT HAVE: Check all that apply regardless of entry in Item 12.</p> <p>1 <input type="checkbox"/> Depression 2 <input type="checkbox"/> HIV / AIDS 3 <input type="checkbox"/> None of the above</p> <p>15. URGENCY OF THIS VISIT Check one.</p> <p>1 <input type="checkbox"/> Urgent / emergent 2 <input type="checkbox"/> Non-urgent</p>	<p>16. DIAGNOSTIC / SCREENING SERVICES Check all ordered or provided at this visit.</p> <p>1 <input type="checkbox"/> NONE</p> <p>2 <input type="checkbox"/> Mental status exam 7 <input type="checkbox"/> Urinalysis 3 <input type="checkbox"/> Blood pressure 8 <input type="checkbox"/> Pregnancy test 4 <input type="checkbox"/> EKG 9 <input type="checkbox"/> HIV serology 5 <input type="checkbox"/> Cardiac monitor 10 <input type="checkbox"/> Blood alcohol concentration 6 <input type="checkbox"/> Pulse oximetry 11 <input type="checkbox"/> Other blood test 12 <input type="checkbox"/> Other: _____</p> <p>IMAGING:</p> <p>13 <input type="checkbox"/> Chest X-Ray 14 <input type="checkbox"/> Extremity X-Ray 15 <input type="checkbox"/> Other X-Ray 16 <input type="checkbox"/> CAT scan 17 <input type="checkbox"/> MRI 18 <input type="checkbox"/> Ultrasound 19 <input type="checkbox"/> Other diagnostic imaging</p>			<p>17. PROCEDURES Check all provided at this visit.</p> <p>1 <input type="checkbox"/> NONE</p> <p>2 <input type="checkbox"/> Endotracheal intubation 7 <input type="checkbox"/> Bladder catheter 3 <input type="checkbox"/> CPR 8 <input type="checkbox"/> Wound care 4 <input type="checkbox"/> IV fluids 9 <input type="checkbox"/> Eye/ENT care 5 <input type="checkbox"/> NG tube/gastric lavage 10 <input type="checkbox"/> Orthopedic care 6 <input type="checkbox"/> Lumbar puncture 11 <input type="checkbox"/> OB / GYN care 12 <input type="checkbox"/> Other: _____</p>	
<p>18. MEDICATIONS / INJECTIONS List names of up to 6 medications that were ordered, supplied, or administered during this visit. Include new medications, continuing medications (with or without new orders), Rx and OTC medications, immunizations, allergy shots, and anesthetics.</p> <p><input type="checkbox"/> NONE</p> <p>1. _____ 4. _____ 2. _____ 5. _____ 3. _____ 6. _____</p>			<p>19. VISIT DISPOSITION Check all that apply.</p> <p>1 <input type="checkbox"/> No followup planned 6 <input type="checkbox"/> Admit to hospital 2 <input type="checkbox"/> Return to ED, P.R.N./ appointment 7 <input type="checkbox"/> Admit to ICU / CCU 3 <input type="checkbox"/> Return to referring physician 8 <input type="checkbox"/> Transfer to other facility 4 <input type="checkbox"/> Return to other physician / clinic 9 <input type="checkbox"/> DOA / died in ED 5 <input type="checkbox"/> Left before being seen 10 <input type="checkbox"/> Other: _____</p>		<p>20. PROVIDERS SEEN THIS VISIT Check all that apply.</p> <p>1 <input type="checkbox"/> Resident / intern 5 <input type="checkbox"/> Nurse practitioner 2 <input type="checkbox"/> Staff physician 6 <input type="checkbox"/> RN 3 <input type="checkbox"/> Other physician 7 <input type="checkbox"/> LPN 4 <input type="checkbox"/> Physician assistant 8 <input type="checkbox"/> Medical assistant 9 <input type="checkbox"/> Other: _____</p>	

Figure 1. Patient Record form

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 25, 1994, through December 22, 1995.

The target universe of the NHAMCS includes in-person visits made in the United States to emergency departments and outpatient departments (OPD's) of non-Federal, short-stay and general hospitals. These are hospitals with an average 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 that were listed in the April 1991 SMG Hospital Database.

A four-stage probability sample design is used in NHAMCS (3). The design involves samples of primary sampling units (PSU's), hospitals within PSU's, ED's within hospitals and/or clinics within outpatient departments, and patient visits within ED'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 1995 consisted of 487 hospitals. Of this group, 437 hospitals had either an ED or OPD in 1995 and were in scope or eligible for the survey. During this period, 94 percent of the in-scope hospitals participated. There were 391 ED's that provided data for the survey. Hospital staff were asked to complete Patient Record forms (figure 1) 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 ED's was 21,911.

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

Several medical classification systems were used to code data from the NHAMCS. The Patient Record form contained an item on the patient's expressed reason for the visit. In this

item, the respondent was asked to record the patient's "complaint(s), symptom(s), or other reason(s) for this visit in the patient's (or patient surrogate's) own words." Up to three reasons for visit were classified and coded for each survey according to *A Reason for Visit Classification for Ambulatory Care (RVC)* (4).

The Patient Record form also includes an item on the cause of injury for injury-related visits. Up to three external causes of injury were coded and classified according to the Supplementary Classification of External Causes of Injury and Poisoning in the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (5). In addition, the form contained an item on diagnosis. The respondent was asked to record the principal 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 and classified according to the ICD-9-CM (5).

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

The U.S. Bureau of the Census, Housing Surveys Branch, was responsible for the survey's 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 processed. Coding

error rates ranged between 0.1 and 1.9 percent for various survey items.

Several tables in this report present data on rates of emergency department visits. The population figures used in calculating these rates are U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States as of July 1, 1995. The figures have been adjusted for net underenumeration. The population figures have been published (1).

Results

There were an estimated 96.5 million emergency department visits in 1995, about 36.9 visits per 100 persons. The overall rate is not significantly different than previous years (8–10). Patient and visit characteristics for these ED visits are described below.

Patient characteristics

ED visits by patient's age, sex, and race are displayed in [table 1](#). Persons 75 years of age and over had a higher ED visit rate (60.9 visits per 100 persons) than persons in the other five age categories. This was true for both males and females. White persons 75 years and over had a higher ED visit rate (59.8 visits per 100 persons) than white persons in the other five age groups. ED utilization for black persons was 70 percent higher than for white persons overall. There was no difference in ED utilization between black persons and white persons 75 years of age and over. For persons 45–64 years of age, the ED utilization rate for black persons was twice the rate for white persons.

Visit characteristics

Expected sources of payment—The expected source(s) of payment item underwent substantial revision for the 1995 NHAMCS. The first part of the new item concerns type of payment (for example, Was the visit covered under an insured fee-for-service arrangement, Preferred Provider Option, or health maintenance organization (HMO)/other prepaid plan?). Other options that could be checked were self-pay, no charge, and "other" type of payment. Respondents were asked to check only

Table 1. Number, percent distribution, and annual rate of emergency department visits by selected patient and visit characteristics: United States, 1995

Selected patient and visit characteristics	Number of visits in thousands	Percent distribution	Number of visits per 100 persons per year ¹
All visits	96,545	100.0	36.9
Age			
Under 15 years	22,709	23.5	38.2
15–24 years	15,681	16.2	43.4
25–44 years	30,086	31.2	36.2
45–64 years	13,978	14.5	27.0
65–74 years	6,057	6.3	33.1
75 years and over	8,033	8.3	60.9
Sex and age			
Female	50,044	51.8	37.3
Under 15 years	10,317	10.7	35.5
15–24 years	8,399	8.7	46.6
25–44 years	15,568	16.1	36.9
45–64 years	7,509	7.8	28.1
65–74 years	3,248	3.4	32.0
75 years and over	5,004	5.2	61.0
Male	46,501	48.2	36.5
Under 15 years	12,392	12.8	40.7
15–24 years	7,282	7.5	40.2
25–44 years	14,519	15.0	35.5
45–64 years	6,469	6.7	25.9
65–74 years	2,810	2.9	34.4
75 years and over	3,030	3.1	60.7
Race and age			
White	74,593	77.3	34.4
Under 15 years	16,523	17.1	35.3
15–24 years	11,984	12.4	41.6
25–44 years	22,722	23.5	33.1
45–64 years	11,005	11.4	24.8
65–74 years	5,218	5.4	32.1
75 years and over	7,141	7.4	59.8
Black	19,284	19.9	57.6
Under 15 years	5,354	5.5	55.6
15–24 years	3,242	3.4	59.4
25–44 years	6,586	6.8	62.8
45–64 years	2,619	2.7	49.2
65–74 years	745	0.8	47.5
75 years and over	738	0.8	73.4
Asian/Pacific Islander	1,963	2.0	---
American Indian/Eskimo/Aleut	705	1.0	---
Geographic region			
Northeast	21,442	22.2	41.7
Midwest	25,952	26.9	41.7
South	31,969	33.1	34.6
West	17,182	17.8	30.8

--- Data not available.

¹Based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1995. Figures are consistent with Census reports PE-10/PPL-41, Addendum 1, and have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

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

one type of payment. If any of the first three options were checked, the respondent was then asked to complete part b of the item, expected sources of insurance for the visit. Respondents were asked to check all expected

sources of insurance that were applicable.

More than 40 percent of emergency department visits were covered under insured fee-for-service arrangements (43.1 percent), and 12 percent were part

of an HMO/other prepaid plan. Preferred Provider Option accounted for an additional 7 percent (table 2).

Expected sources of payment, regardless of the kind of insurance plan, are displayed in figure 2. Public insurance, that is Medicare and Medicaid, was cited at about one-third of ED visits (35.7 percent). About 4 percent of ED visits were listed under worker's compensation. One in six ED visits had self pay, which excludes deductibles and copayments, as the expected source of payment (16.7 percent). For visits with Medicare or Medicaid as an expected source of insurance, 73.4 percent were for illness as opposed to injury conditions.

Note that for items related to expected source(s) of payment (part b), diagnostic and screening services, procedures, providers seen, and disposition, hospital staff were asked to check all of the applicable categories for each item. Therefore, multiple responses could be coded for each visit.

Urgency of this visit—The NHAMCS included an item on urgency to better understand the continuum of care provided by hospital ED's. For the survey, urgent visits were defined in the instructions given to sample hospitals as those meeting the following conditions: "Patient requires immediate attention for acute illness or injury that threatens life or function. Delay would be harmful to the patient." Nonurgent visits were defined as those in which "patient does not require attention immediately or within a few hours."

The definition of urgency used in the NHAMCS does not directly address visits for symptoms that would cause a "prudent layperson" to seek emergency care, but for which it was later determined that emergency care was not necessary. Such visits would be considered urgent based on the definition used by the American College of Emergency Physicians (ACEP), but would not be so categorized using a literal interpretation of the NHAMCS definition. An informal followup of 1994 NHAMCS respondents indicated that many ED's were basing their determination of urgency on the patient's symptoms, while other ED's based it on the physician's diagnosis or

Table 2. Number and percent distribution of emergency department visits by type of payment and expected sources of insurance for this visit: United States, 1995

Type of payment and expected sources of insurance ¹	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
Insured, fee-for-service	41,591	43.1
Private insurance	20,291	21.0
Medicare	9,900	10.3
Medicaid	12,990	13.5
Worker's compensation	2,216	2.3
Other	1,795	1.9
Unknown	410	0.4
HMO/other prepaid ²	11,891	12.3
Private insurance	6,496	6.7
Medicare	1,185	1.2
Medicaid	2,026	2.1
Worker's compensation	285	0.3
Other	1,502	1.6
Unknown	1,049	1.1
Preferred Provider Option	6,851	7.1
Private insurance	4,844	5.0
Medicare	804	0.8
Medicaid	782	0.8
Worker's compensation	187	0.2
Other	498	0.5
Unknown	227	0.2
Unspecified type of payment	15,558	16.1
Private insurance	4,200	4.3
Medicare	3,060	3.2
Medicaid	6,242	6.5
Worker's compensation	1,088	1.1
Other	749	0.8
Unknown	1,788	1.9
Self-pay	16,113	16.7
No charge	519	0.5
Other	2,471	2.6
No answer ³	1,552	1.6

¹Only one type of payment (preferred provider option, insured fee-for-service, HMO/other prepaid, self-pay, no charge, or other) was coded for each visit. For payment types of preferred provider option, insured fee-for-service, and HMO/other prepaid, respondents were also asked to check all of the applicable expected sources of insurance. As a result, expected sources of insurance will not add to totals because more than one source could be reported per visit.

²HMO is health maintenance organization.

³Neither type of payment nor source of insurance was reported.

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

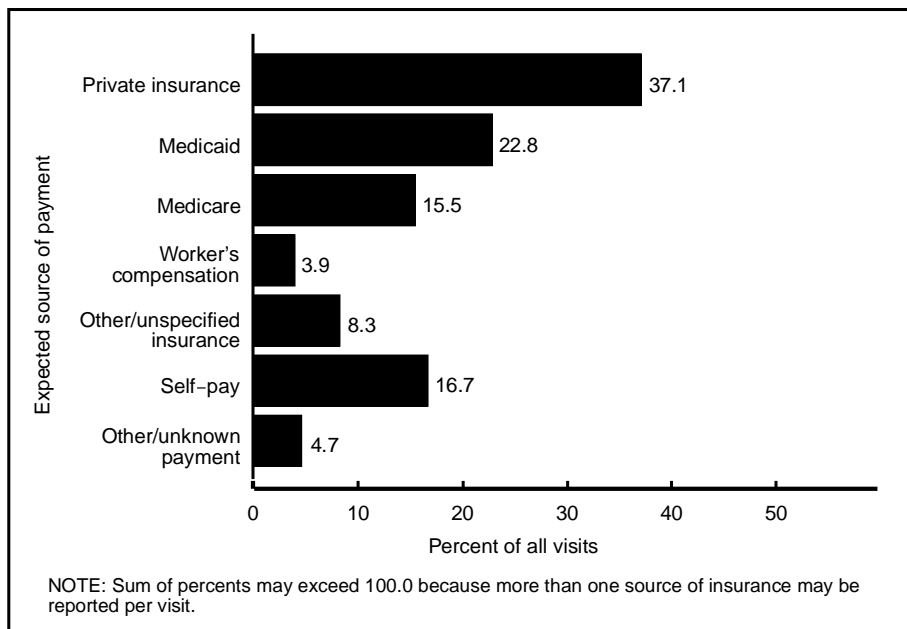


Figure 2. Percent of emergency department visits by expected source of payment: United States, 1995

the treatment provided. Despite the uncertainties related to the manner in which these data were collected, they are useful for examining the complex issues surrounding urgency of care.

It is also important to acknowledge the continuing debate concerning the relationship between urgency of visit and appropriateness of ED utilization, and to avoid equating urgent visits as defined in the NHAMCS with appropriate visits to hospital ED's (11). A comprehensive picture of urgency must include other factors such as the patient's subjective reasons for visiting the ED, the nature and severity of the patient's symptoms, and the issues of access to and availability of alternate sources of outpatient care. Analyses have shown that the number of urgent visits in the NHAMCS is a fairly good estimate (12), but that the estimate of nonurgent visits includes visits that might better be termed semiurgent and nonurgent. Therefore, only estimates of urgent visits are presented in this section.

According to hospital staff, 45.8 percent of ED visits were classified as urgent/emergent (table 3). Persons 75 years of age and over had the highest urgent visit rate (40.9 visits per 100 persons). Utilization of ED's by black persons for urgent care was 40 percent higher than utilization by white persons. The urgent visit rate for black persons 25-44 years and 45-64 years of age was 80 percent higher than the urgent visit rate for white persons in the same age categories.

Time of visit—Time of visit, which is the time the patient arrived at the ED, is displayed in figure 3. The distribution of visits is fairly constant between 8:00 a.m. and midnight, with a peak occurring during the late afternoon and early evening hours (4:00 p.m.-7:59 p.m.). Less than 10 percent of the visits took place in the early morning hours (4:00 a.m.-7:59 a.m.). There was no significant variation in the number of visits per time period according to the urgency of the visit or whether the visit was for injury or illness.

Reason for visit—In item 10 of the Patient Record form, the patient's complaint(s), symptom(s), or other reason(s) for this visit (in the patient's

Table 3. Number, percent distribution, percent that are urgent, and annual rate of urgent/emergent emergency department visits by patient's age, sex, and race: United States: 1995

Patient's age, sex, and race	Number of urgent visits in thousands	Percent distribution	Percent urgent ¹	Number of urgent visits per 100 persons per year ²
All visits	44,194	100.0	45.8	16.9
Age				
Under 15 years	8,499	19.2	37.4	14.3
15–24 years	6,582	14.9	42.0	18.2
25–44 years	13,076	29.6	43.5	15.7
45–64 years	7,020	15.9	50.2	13.6
65–74 years	3,626	8.2	59.9	19.8
75 years and over	5,390	12.2	67.1	40.9
Sex and age				
Female	22,300	50.5	44.6	16.6
Under 15 years	3,638	8.2	35.3	12.5
15–24 years	3,440	7.8	41.0	19.1
25–44 years	6,371	14.4	40.9	15.1
45–64 years	3,752	8.5	50.0	14.0
65–74 years	1,855	4.2	57.1	18.3
75 years and over	3,244	7.3	64.8	39.6
Male	21,894	49.5	47.1	17.2
Under 15 years	4,861	11.0	39.2	16.0
15–24 years	3,142	7.1	43.1	17.3
25–44 years	6,705	15.2	46.2	16.4
45–64 years	3,268	7.4	50.5	13.1
65–74 years	1,772	4.0	63.1	21.7
75 years and over	2,147	4.9	70.9	43.0
Race and age				
White	35,330	79.9	47.4	16.3
Under 15 years	6,547	14.8	39.6	14.0
15–24 years	5,071	11.5	42.3	17.6
25–44 years	9,985	22.6	43.9	14.6
45–64 years	5,642	12.8	51.3	12.7
65–74 years	3,190	7.2	61.1	19.6
75 years and over	4,897	11.1	68.6	41.0
Black	7,681	17.4	39.8	22.9
Under 15 years	1,644	3.7	30.7	17.1
15–24 years	1,307	3.0	40.3	23.9
25–44 years	2,740	6.2	41.6	26.1
45–64 years	1,230	2.8	47.0	23.1
65–74 years	383	0.9	51.4	24.4
75 years and over	377	0.9	51.1	37.5

¹Percent of all emergency department visits in each category that are urgent.

²Based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1995. Figures are consistent with Census reports PE-10/PPL-41, Addendum 1, and have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

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

or patient surrogate's own words) was recorded. As described earlier, up to three reasons for visit are classified and coded according to the RVC (4). The principal reason is the problem, complaint, or reason listed in item 10a of the ED Patient Record form.

The RVC is divided into eight modules or groups of reasons displayed in table 4. About two-thirds (68.0 percent) of all visits were made for reasons classified in the symptom module, with general symptoms

accounting for 15.3 percent of the total. Symptoms referable to the musculoskeletal system accounted for 12.3 percent of visits, and another 12.0 percent were classified as symptoms referable to the respiratory system. About one quarter of all ED visits (23.5 percent) had reasons in the injuries and adverse effects module.

The 20 most frequently mentioned principal reasons for visit, representing almost one-half of all visits, are shown in table 5. Stomach and abdominal pain,

cramps, and spasms were reported most frequently, accounting for 6.2 percent of all ED visits. Chest pain and fever each accounted for 5 percent of visits. Injury of the upper extremity was the most frequently mentioned reason for visit in the injury module (2.8 percent). It should be noted that estimates differing in ranked order may not be significantly different from each other.

Injury-related visits—Injury-related visits represented 38.6 percent of all ED visits in 1995. An ED visit was considered to be injury related if “yes” was checked in response to question 11, “Is visit injury related?” or if a cause of injury, a nature of injury diagnosis, or an injury-related reason for visit was reported. Using results from any one of these items alone would underestimate the number of injury-related visits. Each of these items measures a unique aspect of injury. Using this definition, the number of injury visits increased 14 percent compared with using the injury checkbox alone.

In 1995, approximately 37.2 million ED visits were made for injury, a rate of 14.2 visits per 100 persons (table 6). Persons 15–24 years of age had a higher injury-related visit rate (20.9 visits per 100 persons) than persons in each of the other five age categories. Males had a higher injury-related visit rate (16.5 visits per 100 persons) than females (12.1 per 100 persons) overall and in the youngest three age categories (under 15 years, 15–24 years, and 25–44 years). The injury-related visit rate for black persons was higher than for white persons in two age categories, 25–44 years and 45–64 years of age.

Table 7 displays injury-related ED visits for various characteristics of the injury according to age, including place of injury and whether the injury was related to work, firearms, or violence. Work-related visits include visits for injuries that occurred while the patient was engaged in work-related activity on or off the employer's premises. It should be noted that estimates for place of injury and work relationship should be considered minimal because the place of injury and work relationship was unknown for one-third of all injury-related ED visits and the work relationship was unknown for a quarter of injury-related ED visits. The data

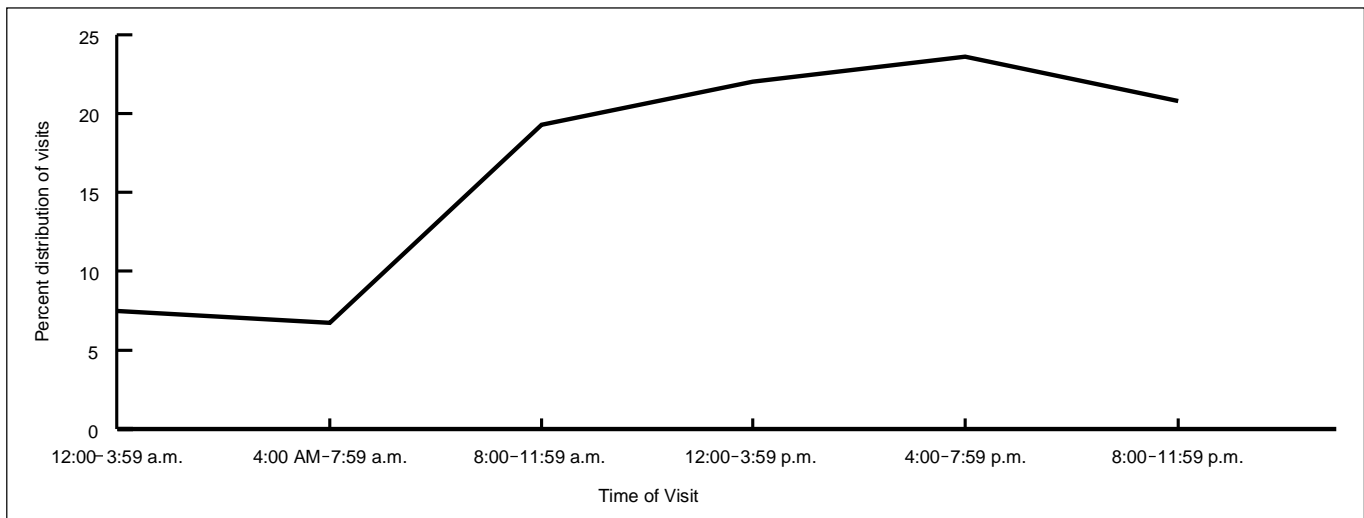


Figure 3. Percent distribution of emergency department visits by time of visit: United States, 1995

Table 4. Number and percent distribution of emergency department visits by patient's principal reason for visit: United States, 1995

Principal reason for visit modules and RVC code ¹	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
Symptom module S001-S999	65,659	68.0
General symptoms S001-S099	14,778	15.3
Symptoms referable to psychological/mental disorders S100-S199	1,580	1.6
Symptoms referable to the nervous system (excluding sense organs) S200-S259	5,013	5.2
Symptoms referable to the cardiovascular/lymphatic system S260-S299	625	0.6
Symptoms referable to the eyes and ears S300-S399	3,654	3.8
Symptoms referable to the respiratory system S400-S499	11,550	12.0
Symptoms referable to the digestive system S500-S639	11,146	11.5
Symptoms referable to the genitourinary system S640-S829	2,995	3.1
Symptoms referable to the skin, hair, and nails S830-S899	2,458	2.5
Symptoms referable to the musculoskeletal system S900-S999	11,861	12.3
Disease module D001-D999	3,630	3.8
Diagnostic, screening, and preventive module X100-X599	1,093	1.1
Treatment module T100-T899	2,335	2.4
Injuries and adverse effects module J001-J999	22,731	23.5
Test results module R100-R700	146	0.2
Administrative module A100-A140	243	0.3
Other ² U990-U999	708	0.7

¹Based on *A Reason for Visit Classification for Ambulatory Care (RVC) (4)*.
²Includes problems and complaints not elsewhere classified, entries of "none," blanks, and illegible entries.
 NOTE: Numbers may not add to totals because of rounding.

collected indicated that one quarter of injury-related ED visits were caused by injuries occurring in the home (27.2 percent), and 13.5 percent were caused by injuries occurring on the street or highway. The home accounted for nearly one-half of all injury visits for persons 65 years and over (44.2 percent). For persons under 18 years, 7 percent of ED visits were related to injuries that occurred at school. One-fifth of injury-related ED visits for persons 18-64 years were related to work.

Table 7 also displays injury-related visits caused by a firearm and those that were violence related. Visits for injuries caused by a firearm made up less than 1 percent of all injury-related visits. In addition to gunshot wounds, firearm visits include nongunshot wounds such as pistol whippings. Gunshot wound injuries produced by firearms are estimated at 144,000 visits (64 percent of firearm visits). Violence-related visits accounted for 6.5 percent of all injury-related ED visits. Further investigation of these data found differences by race (data not displayed

in table). The percent of injury-related visits related to interpersonal violence/assault was higher for black persons than for white persons (11.2 percent of all injury-related visits for black persons versus 5.5 percent of all injury-related visits for white persons). Also of note, the percent of injury-related visits resulting from firearms was 4 times higher for black persons than for white persons (1.7 percent versus 0.4 percent).

The second half of item 11e was designed to ascertain statistics on the relationship of the perpetrator of the

Table 5. Number and percent distribution of emergency department visits by the 20 principal reasons for visit most frequently mentioned by patients: United States, 1995

Principal reason for visit and RVC code ¹	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
Stomach and abdominal pain, cramps and spasms S545	5,940	6.2
Chest pain and related symptoms S050	4,892	5.1
Fever S010	4,609	4.8
Injury—upper extremity J225	2,679	2.8
Cough S440	2,422	2.5
Symptoms referable to throat S455	2,210	2.3
Shortness of breath S415	2,179	2.3
Headache, pain in head S210	2,161	2.2
Earache, or ear infection S355	1,905	2.0
Back symptoms S905	1,889	2.0
Pain, site not referable to a specific body system S055	1,789	1.9
Vomiting S530	1,781	1.8
Labored or difficult breathing (dyspnea) S420	1,729	1.8
Injury, other and unspecified type—head, neck, and face J505	1,640	1.7
Lacerations and cuts—facial area J210	1,614	1.7
Accident, not otherwise specified J810	1,527	1.6
Hand and finger(s) injury J570	1,381	1.4
Skin rash S860	1,321	1.4
Motor vehicle accident, type of injury unspecified J805	1,303	1.3
Neck symptoms S900	1,193	1.2
All other reasons	50,381	52.2

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

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

assault to the patient. Unfortunately, data did not exist on the medical record for one-half the assault-related visits. Accordingly, no further statistics are presented for item 11e.

Table 8 shows ED visits by the intent and mechanism of the first-listed external cause of injury as categorized by the ICD-9-CM groupings detailed in the [Technical notes](#). Unintentional falls (20.5 percent of all injury visits) and unintentional motor vehicle traffic-related injuries (11.3 percent) accounted for the largest percent of injury-related ED visits. Assaults accounted for about 6 percent of injury-related ED visits with unarmed fight or brawl as the leading mechanism for assault-related injuries (2.8 percent). Adverse effects of medical treatment made up about 3 percent of injury-related ED visits. Self-inflicted injuries resulted in 287,000 ED visits (0.8 percent) with poisoning being the most frequent cause (0.4 percent). External cause was not provided for 12.6 percent of the injury visits.

Alcohol- and/or drug-related problem—Four percent of ED visits were either alcohol related, drug related, or both based on data recorded in item

13 on the Patient Record form. Alcohol-related visits accounted for 2.3 percent of ED visits and drug-related visits accounted for 1.4 percent ([table 9](#)). Visits related to both alcohol and drugs accounted for 0.4 percent of all ED visits. Visits related to alcohol and/or drug use were more likely to be for injuries compared with visits that were not related to alcohol and/or drug use (51.7 percent versus 36.0 percent). Alcohol and/or drug use was not recorded for one-fifth of visits because this information is often missing from ED medical records. Because most NHAMCS ED data are abstracted, these figures likely underestimate the numbers of alcohol- and drug-related ED visits. However, the relationship between alcohol and/or drug use and injuries is apparent from these data and other reports (13).

Principal diagnosis—The principal diagnoses were analyzed for ED visits. Displayed in [table 10](#) are ED visits by principal diagnosis using the major disease categories specified by the ICD-9-CM (5). Injury and poisoning diagnoses accounted for one-third (31.6 percent) of all visits, and diseases of the respiratory system accounted for

13.2 percent. Some of the most frequently reported principal diagnoses for 1995 are shown in [table 11](#). These categories are based on the ICD-9-CM, but the diagnoses groupings in [table 11](#) have been defined to describe the ambulatory care visit data. Open wounds and contusions lead the list (5.5 percent and 4.9 percent, respectively), followed by acute upper respiratory infections (4.0 percent), and otitis media (3.1 percent).

Diagnostic and screening services—Statistics on various diagnostic and screening services ordered or provided by hospital staff during ED visits are displayed in [table 12](#). About 85 percent of all ED visits included one or more diagnostic or screening services. For visits with diagnostic and screening services, an average of 2.5 services were ordered or provided per visit. As in previous years, the most frequently mentioned diagnostic service was blood pressure check, recorded at 72.7 percent of visits. Other frequently mentioned services include other blood test (27.0 percent) and chest x ray (16.0 percent).

Procedures—Procedures were provided at 42.0 percent of ED visits

Table 6. Number, percent distribution, and annual rate of injury-related emergency department visits by patient's age, sex, and race: United States, 1995

Patient's age, sex, and race	Number of visits in thousands	Percent distribution	Number of visits per 100 persons per year ¹
All injury-related visits	37,222	100.0	14.2
Under 15 years	8,699	23.4	14.6
15–24 years	7,542	20.3	20.9
25–44 years	12,781	34.3	15.4
45–64 years	4,719	12.7	9.1
65–74 years	1,438	3.9	7.9
75 years and over	2,044	5.5	15.5
Female	16,197	43.5	12.1
Under 15 years	3,578	9.6	12.3
15–24 years	2,822	7.6	15.7
25–44 years	5,147	13.8	12.2
45–64 years	2,441	6.6	9.1
65–74 years	866	2.3	8.5
75 years and over	1,343	3.6	16.4
Male	21,025	56.5	16.5
Under 15 years	5,121	13.8	16.8
15–24 years	4,719	12.7	26.2
25–44 years	7,634	20.5	18.7
45–64 years	2,277	6.1	9.1
65–74 years	572	1.5	7.0
75 years and over	701	1.9	14.0
White	30,395	81.7	14.0
Under 15 years	7,018	18.9	15.0
15–24 years	6,261	16.8	21.7
25–44 years	10,137	27.2	14.8
45–64 years	3,846	10.3	8.7
65–74 years	1,285	3.5	7.9
75 years and over	1,849	5.0	15.5
Black	5,754	15.5	17.2
Under 15 years	1,344	3.6	14.0
15–24 years	1,096	2.9	20.1
25–44 years	2,302	6.2	21.9
45–64 years	743	2.0	14.0
65–74 years	126	0.3	8.0
75 years and over	142	0.4	14.1

¹Based on U.S. Bureau of the Census monthly postcensal estimates of the civilian noninstitutionalized population of the United States as of July 1, 1995. Figures are consistent with Census reports PE-10/PPL-41, Addendum 1, and have been adjusted for net underenumeration using the 1990 National Population Adjustment Matrix.

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

(table 13). For visits with procedures, about one procedure was performed per visit. The most frequently mentioned procedure was the administration of intravenous fluids, recorded at 15.6 percent of visits. Other frequently mentioned procedures were wound care (12.6 percent) and orthopedic care (8.0 percent). Patient's age was positively related to the percent of visits at which one or more procedures were provided. Older patients were more likely to have at least one procedure ordered or performed (ranging from 31.6 percent of visits by patients under 15 years to 55.4 percent by patients 75 years and over).

Medication therapy—Hospital staff were instructed to record all new or continued medications ordered,

administered, or provided at the visit, including prescription and nonprescription preparations and immunizations and desensitizing agents. Up to six medications, called drug mentions, could be coded per visit. As used in the NHAMCS, the term “drug” is interchangeable with the term “medication,” and the term “prescribing” is used broadly to mean ordering, administering, or providing. Visits with one or more drug mentions are termed “drug visits” in the NHAMCS.

The NHAMCS drug data base permits classification by a wide range of variables. These include specific product name, generic class, entry form chosen by the hospital staff (that is, brand name, generic name, or the desired

therapeutic effect), prescription status (that is, whether the product is prescription or nonprescription), Federally controlled substance status, composition status (that is, single or multiple ingredient product), and therapeutic category.

Table 14 shows the distribution of ED visits by the number of medications prescribed. Medications were used at 7 of every 10 ED visits. There was an average of 1.5 drug mentions per ED visit and 2.1 mentions per drug visit.

Drug mentions are shown by therapeutic class in figure 4. This classification is based on the therapeutic categories used in the *National Drug Code Directory*, 1995 edition (NDC) (7). It should be noted that some drugs have more than one therapeutic

Table 7. Number and percent distribution of injury-related emergency department visits by selected characteristics of the injury, according to patient's age: United States, 1995

Selected characteristics of the injury	All ages		Under 18 years		18–64 years		65 years and over	
	Number of visits in thousands	Percent distribution	Number of visits in thousands	Percent distribution	Number of visits in thousands	Percent distribution	Number of visits in thousands	Percent distribution
All injury-related visits	37,222	100.0	10,942	100.0	22,798	100.0	3,482	100.0
Place of occurrence								
Home	10,107	27.2	3,754	34.3	4,814	21.1	1,539	44.2
Street or highway	5,029	13.5	1,162	10.6	3,592	15.8	275	7.9
Sports or athletics area	1,482	4.0	663	6.1	806	3.5	*	*
School	931	2.5	767	7.0	156	0.7	*	*
Other	5,983	16.1	856	7.8	4,693	20.6	434	12.5
Unknown	13,690	36.8	3,741	34.2	8,736	38.3	1,213	34.8
Work related								
Yes	4,770	12.8	275	2.5	4,446	19.5	*	*
No	22,485	60.4	8,271	75.6	11,778	51.7	2,436	70.0
Unknown	9,968	26.8	2,396	21.9	6,574	28.8	998	28.7
Produced by firearm								
Yes	225	0.6	*	0.0	193	0.8	*	*
No	36,986	99.4	10,919	99.8	22,594	99.1	3,473	99.7
Violence related								
Yes, interpersonal violence/assault	2,422	6.5	517	4.7	1,830	8.0	76	2.2
Yes, suicide/suicide attempt	462	1.2	98	0.9	361	1.6	*	*
No	34,337	92.2	10,327	94.4	20,608	90.4	3,403	97.7

* Figure does not meet standard of reliability or precision.

0.0 Quantity more than zero but less than 0.05.

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

application. In these cases, the drug was classified under its primary therapeutic use.

Drugs used for pain relief were listed most frequently, accounting for 30 percent of drug mentions. Antimicrobial agents were recorded at 16.9 percent of drug mentions, followed by respiratory tract drugs (7.6 percent).

The 20 most frequently used generic substances for 1995 are displayed in [table 15](#). Drug products containing more than one ingredient (combination products) are included in the data for each ingredient. For example, acetaminophen with codeine is included in both the count for acetaminophen and the count for codeine. The most frequently occurring generic substance in drug mentions at ED visits for 1995 was acetaminophen, showing up in 14.0 percent of the drug mentions. Ibuprofen occurred in 6.2 percent of the drug mentions.

The 20 most frequently mentioned medications are shown in [table 16](#) according to the name written on the ED Patient Record form by hospital

staff. This could be a brand name, generic name, or therapeutic effect. Tylenol, which is classified as a general analgesic, was the drug most frequently prescribed, accounting for 6.7 percent of all ED drug mentions. Motrin, which is classified as an antiarthritic, was ordered or prescribed at 3.0 percent of ED visits.

Providers seen—A registered nurse and staff physician were seen at 84.7 percent and 82.3 percent of ED visits, respectively ([table 17](#)). A resident or intern was seen at 13.2 percent of ED visits. For 12.5 percent of ED visits, a physician other than staff or resident/intern was seen. The patient did not see a physician at 3.6 million ED visits (3.8 percent).

Visit disposition—Forty percent of ED visits resulted in a referral to another physician or clinic ([table 18](#)). At another 27.8 percent of visits, patients were told to return to ED as needed or by appointment. For about 20 percent of visits, patients were told to return to the referring physician. Eleven percent of ED visits resulted in hospital admission. As related to their age and higher

proportion of urgent conditions, Medicare patients were nearly 4 times more likely to be admitted to the hospital than patients with other expected sources of payment (29.8 percent versus 7.9 percent, respectively). Visits for illness compared with injury were 2.8 times more likely to result in a hospital admission (14.6 percent versus 5.3 percent, respectively).

Additional reports detailing 1995 NHAMCS data will be published in the *Advance Data from Vital and Health Statistics* series. Previous years of ambulatory care visit and drug data from the NHAMCS are available in a variety of formats including public use data tape, CD-ROM, and as downloadable data files accessed through the NCHS homepage on the Internet. Micro-data files for 1995 should be available by mid-1997. For additional information concerning NHAMCS data, contact the Ambulatory Care Statistics Branch at (301) 436–7132.

Table 8: Number and percent distribution of injury-related emergency department visits by intent and mechanism of external cause: United States, 1995

Intent and mechanism ¹	Number of visits in thousands	Percent distribution
All injury visits	37,222	100.0
Unintentional injuries	28,700	77.1
Falls	7,637	20.5
Motor vehicle traffic accidents	4,200	11.3
Struck against or struck accidentally by objects or persons	3,416	9.2
Cutting or piercing instruments or objects	3,002	8.1
Overexertion and strenuous movements	1,594	4.3
Natural and environmental factors	1,547	4.2
Poisoning by drugs, medicinal substances, biologicals, other solid and liquid substances, gases, and vapors	689	1.9
Fire and flames, hot substances or object, caustic or corrosive material, and steam	612	1.6
Pedal cycle, nontraffic and other	418	1.1
Machinery	389	1.0
Motor vehicle, nontraffic	216	0.6
Other transportation	129	0.3
Other mechanism ²	2,675	7.2
Mechanism unspecified	2,174	5.8
Intentional injuries	2,567	6.9
Self-inflicted	287	0.8
Poisoning by solid or liquid substances, gases, and vapors	159	0.4
Other and unspecified mechanism ³	127	0.3
Assault	2,262	6.1
Unarmed fight or brawl and striking by blunt or thrown object	1,055	2.8
Cutting and piercing instrument	255	0.7
Other mechanism ⁴	441	1.2
Mechanism unspecified	510	1.4
Other violence	*	*
Injuries of unknown intent	*	*
Adverse effects of medical treatment	1,237	3.3
Blank cause ⁵	4,698	12.6

* Figure does not meet standard of reliability or precision.

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

²Includes suffocation, firearm, and other mechanism.

³Includes injury by cutting and piercing instrument, and other and unspecified mechanism.

⁴Includes assault by firearms and explosives, and other mechanism.

⁵Includes illegible and blank E-codes.

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

Table 9. Number and percent distribution of alcohol and/or drug-related emergency department visits: United States, 1995

Visit characteristic	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
Alcohol- and/or drug-related visit:		
Neither	71,903	74.5
Alcohol related	2,239	2.3
Drug related	1,334	1.4
Both	382	0.4
Unknown	20,687	21.4

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

References

- Schappert SM. Ambulatory care visits to physician offices, hospital outpatient departments, and emergency departments: United States, 1995. *Vital Health Stat* 13(129). 1997.
- 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.
- 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.
- 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.
- Public Health Service and Health Care Financing Administration. *International Classification of Diseases, 9th Revision, Clinical Modification*. Washington, D.C.: Public Health Service. 4th ed. 1991.
- Koch H., Campbell W. The collection and processing of drug information. National Ambulatory Medical Care Survey, 1980. National Center for Health Statistics. *Vital Health Stat* 2(90). 1982.

Table 10. Number and percent distribution of emergency department visits by principal diagnosis: United States, 1995

Major disease category and ICD-9-CM code range ¹	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
Infectious and parasitic diseases 001-139	3,346	3.5
Neoplasms 140-239	309	0.3
Endocrine, nutritional and metabolic diseases, and immunity disorders 240-279	1,212	1.3
Mental disorders 290-319	2,756	2.9
Diseases of the nervous system and sense organs 320-389	5,719	5.9
Diseases of the circulatory system 390-459	4,233	4.4
Diseases of the respiratory system 460-519	12,733	13.2
Diseases of the digestive system 520-579	5,628	5.8
Diseases of the genitourinary system 580-629	4,113	4.3
Diseases of the skin and subcutaneous tissue 680-709	2,631	2.7
Diseases of the musculoskeletal system and connective tissue 710-739	3,817	4.0
Symptoms, signs, and ill-defined conditions 780-799	12,514	13.0
Injury and poisoning 800-999	30,529	31.6
Fractures 800-829	3,732	3.9
Sprains 840-848	5,807	6.0
Intracranial 850-854	971	1.0
Open wounds 870-897	8,351	8.6
Superficial 910-919	1,678	1.7
Contusions 920-924	4,758	4.9
Foreign bodies 930-939	621	0.6
Burns 940-949	702	0.7
Complications 958-959	884	0.9
Poisoning and toxic effects 960-989	1,053	1.1
Other injury	1,973	2.0
Supplementary classification V01-V82	3,404	3.5
All other diagnoses ²	1,336	1.4
Unknown ³	2,266	2.3

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

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

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

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

7. Food and Drug Administration. National Drug Code directory, 1995 ed. Washington: Public Health Service. 1995.
8. Stussman BJ. National Hospital Ambulatory Medical Care Survey: 1994 emergency department summary. Advance data from vital and health statistics; no. 275. Hyattsville, Maryland: National Center for Health Statistics. 1996.
9. Stussman BJ. National Hospital Ambulatory Medical Care Survey: 1993 emergency department summary. Advance data from vital and health statistics; no. 271. Hyattsville, Maryland: National Center for Health Statistics. 1996.
10. McCaig LF. National Hospital Ambulatory Medical Care Survey: 1992 emergency department summary. Advance data from vital and health statistics; no. 245. Hyattsville, Maryland: National Center for Health Statistics. 1994.
11. Schappert SM. The urgency of visits to hospital emergency departments: Data from the National Hospital Ambulatory Care Survey (NHAMCS), 1992. *Stat Bull* 76(4). 1995.
12. Williams RM. The costs of visits to emergency departments. *N Engl J Med* 1996; 334:642-646. .
13. Nelson CR, Stussman BJ. Alcohol- and drug-related visits to hospital emergency departments: 1992 National Hospital Ambulatory Medical Care Survey. Advance data from vital and health statistics; no. 251. Hyattsville, Maryland: National Center for Health Statistics. 1994.
14. Shah BV, Barnwell BG, Hunt PN, LaVange LM. SUDAAN user's manual, release 5.50. Research Triangle Park, North Carolina: Research Triangle Institute. 1991.

Table 11. Number and percent distribution of emergency department visits by selected principal diagnosis groups: United States, 1995

Principal diagnosis group and ICD-9-CM code(s) ¹	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
Open wound, excluding head 874-897	5,350	5.5
Contusion with intact skin surface 920-924	4,758	4.9
Acute upper respiratory infections, excluding pharyngitis 460-461,463-466	3,829	4.0
Otitis media and eustachian tube disorders 381-382	3,010	3.1
Open wound of head 870-873	3,001	3.1
Abdominal pain 789.0	2,770	2.9
Chest pain 786.5	2,722	2.8
Sprains and strains, excluding ankle and back 840-844,845.1,848	2,409	2.5
Fractures, excluding lower limb 800-819	2,402	2.5
Sprains and strains of back 846-847	2,236	2.3
Asthma 493	1,865	1.9
Acute pharyngitis 462	1,835	1.9
Chronic and unspecified bronchitis 490-491	1,728	1.8
Superficial injury 910-919	1,678	1.7
Noninfectious enteritis and colitis 555-558	1,664	1.7
Heart disease, excluding ischemic 391-392.0,393-398,402,404,415-416, 420-429	1,620	1.7
Urinary tract infection, site not specified 599.0	1,549	1.6
Dorsopathies 720-724	1,450	1.5
Rheumatism, excluding back 725-729	1,361	1.4
Fracture of lower limb 820-829	1,330	1.4
Pneumonia 480-486	1,260	1.3
Unspecified viral and chlamydial infections 079.9	1,227	1.3
Sprains and strains of ankle 845.0	1,160	1.2
Poisonings 960-989	1,053	1.1
Complications of pregnancy, childbirth, and the puerperium 630-677	1,028	1.1
All other	43,869	45.4

¹These groups are based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD-9-CM). However, certain codes have been combined in this table to form larger categories that better describe the utilization of ambulatory care services.

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

Table 12. Number and percent of emergency department visits by selected diagnostic and screening services: United States, 1995

Diagnostic and screening services ordered or provided by hospital staff ¹	Number of visits in thousands	Percent of visits
All visits	96,545	...
Blood pressure	70,193	72.7
Other blood test	26,046	27.0
Chest x ray	15,437	16.0
Urinalysis	14,129	14.6
Pulse oximetry	14,091	14.6
EKG ²	12,533	13.0
Mental status exam	11,904	12.3
Extremity x ray	11,179	11.6
Other x ray	10,861	11.2
Cardiac monitor	7,576	7.8
CAT scan ³	2,728	2.8
Pregnancy test	2,341	2.4
Blood alcohol concentration	1,550	1.6
Ultrasound	1,148	1.2
Other diagnostic imaging	1,114	1.2
HIV serology ⁴	145	0.2
MRI imaging ⁵	134	0.1
Other	4,696	4.9
None	13,628	14.1

... Category not applicable.

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

²EKG is electrocardiogram.

³CAT is computerized axial tomography.

⁴HIV is human immunodeficiency virus.

⁵MRI is magnetic resonance imaging.

Table 13. Number and percent of emergency department visits by selected procedures: United States, 1995

Procedures provided by hospital staff ¹	Number of visits in thousands	Percent of visits
All visits	96,545	. . .
Intravenous fluids	15,105	15.6
Wound care	12,167	12.6
Orthopedic care	7,702	8.0
Eye/ENT care ²	3,200	3.3
Bladder catheter	2,078	2.2
OB/GYN care ³	1,921	2.0
Nasogastric tube/gastric lavage	687	0.7
Endotracheal intubation	473	0.5
CPR ⁴	326	0.3
Lumbar puncture	240	0.2
Other	2,383	2.5
None	55,938	58.0

. . . Category not applicable.

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

²ENT is ears, nose, throat.

³OB/GYN is obstetrics/gynecology.

⁴CPR is cardiopulmonary resuscitation.

Table 14. Number and percent distribution of emergency department visits by number of medications provided or prescribed: United States, 1995

Number of medications provided or prescribed	Number of visits in thousands	Percent distribution
All visits	96,545	100.0
0	27,358	28.3
1	30,028	31.1
2	20,173	20.9
3	9,653	10.0
4	4,528	4.7
5	2,216	2.3
6	2,589	2.7

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

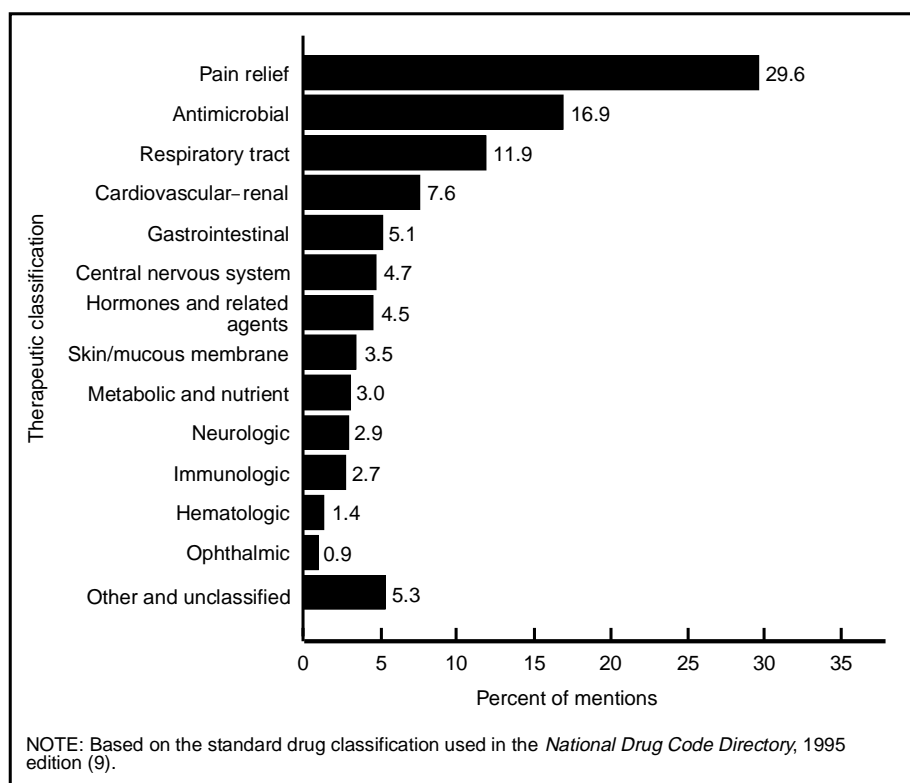


Figure 4. Percent distribution of drug mentions at emergency department visits by therapeutic classification: United States, 1995

Table 15. Number and percent of the 20 most frequently occurring generic substances in drug mentions at emergency department visits by type of generic substance: United States, 1995

Generic substance	Number of occurrences in thousands ¹	Percent of all drug mentions ²
All generic substances	171,166	. . .
Acetaminophen	20,155	14.0
Ibuprofen	8,917	6.2
Amoxicillin	5,359	3.7
Hydrocodone	4,425	3.1
Albuterol	4,339	3.0
Promethazine	4,155	2.9
Ketorolac tromethamine	3,855	2.7
Codeine	3,449	2.4
Meperidine	3,341	2.3
Cephalexin	2,511	1.7
Tetanus toxoid	2,380	1.7
Lidocaine	2,304	1.6
Nitroglycerin	2,240	1.6
Diphenhydramine	2,236	1.6
Ceftriaxone	2,227	1.5
Trimethoprim	2,091	1.5
Sulfamethoxazole	2,048	1.4
Erythromycin	1,989	1.4
Furosemide	1,805	1.3
Propoxyphene	1,636	1.1

. . . Category not applicable.

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

²Based on an estimated 144,060,000 drug mentions in 1995.

Table 16. Number and percent distribution of the 20 drugs most frequently prescribed at emergency department visits, by entry name of drug: United States, 1995

Entry name of drug ¹	Number of mentions in thousands	Percent distribution	Therapeutic classification ²
All drug mentions	144,060	100.0	...
Tylenol	9,642	6.7	Analgesics, nonnarcotic
Motrin	4,313	3.0	Antiarthritics
Toradol	3,783	2.6	Analgesics, nonnarcotic
Phenergan	3,663	2.5	Antihistamines
Amoxicillin	3,423	2.4	Penicillins
Demerol syrup	3,138	2.2	General analgesics
Vicodin	2,767	1.9	Analgesics, nonnarcotic
Benadryl	2,161	1.5	Antihistamines
Keflex	2,135	1.5	Cephalosporins
Tylenol with codeine	2,040	1.4	General analgesics
Rocephin	2,014	1.4	Cephalosporins
Advil	1,876	1.3	Antiarthritics
Ibuprofen	1,811	1.3	Antiarthritics
Lasix	1,715	1.2	Diuretics
Proventil	1,645	1.1	Bronchodilators, antiasthmatics
Darvocet-N	1,559	1.1	Analgesics, nonnarcotic
Bactrim	1,529	1.1	Sulfanomides and trimethoprim
Albuterol sulfate	1,508	1.0	Bronchodilators, antiasthmatics
Tetanus toxoids	1,335	0.9	Vaccines and antiserums
Compazine	1,255	0.9	Antiemetics
All other mentions	90,748	63.0	...

... Category not applicable.

¹The 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.

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

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

Table 17. Number and percent of emergency department visits by providers seen: United States, 1995

Type of provider ¹	Number of visits in thousands	Percent of visits
All visits	96,545	...
Registered nurse	81,793	84.7
Staff physician	79,477	82.3
Resident/intern	12,748	13.2
Other physician	12,109	12.5
Licensed practical nurse	4,856	5.0
Medical assistant	3,621	3.8
Physician assistant	2,839	2.9
Nurse practitioner	1,102	1.1
Other	6,588	6.8

... Category not applicable.

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

Table 18. Number and percent of emergency department visits by disposition of visit: United States, 1995

Disposition ¹	Number of visits in thousands	Percent of visits
All visits	96,545	. . .
Refer to other physician/clinic	38,765	40.2
Return to ED PRN/appointment ²	26,826	27.8
Return to referring physician	18,874	19.5
Admit to hospital	10,628	11.0
No followup planned	8,573	8.9
Admit to ICU/CCU ³	1,822	1.9
Transfer to other facility	1,751	1.8
Left before being seen	1,110	1.1
DOA/died in ED ⁴	301	0.3
Other	2,547	2.6

. . . Category not applicable.

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

²PRN is as needed.

³ICU/CCU is intensive care unit/critical care unit or coronary care unit.

⁴DOA is dead on arrival.

Technical notes

Sampling errors

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

The standard errors used in tests of significance for this report were calculated using generalized linear models for predicting the relative standard error for estimates based on the linear relationship between the actual standard error, as approximated using SUDAAN software, and the size of the estimate. 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 (14). The relative standard error (RSE) of an estimate is obtained by dividing the standard error by the estimate itself. The result is then expressed as a percent of the estimate.

Approximate relative standard errors for aggregate estimates may be calculated using 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, relative standard errors 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 coefficients from [table I](#).

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

The standard error for a rate may be obtained by multiplying the relative

Table I. Coefficients appropriate for determining approximate relative standard errors: National Hospital Ambulatory Medical Care Survey, 1995: Emergency Departments

Type of estimate	Coefficient for use with estimates in thousands		Lowest reliable estimate in thousands
	A	B	
Visits	0.002103	6.6453	75
Drug mentions	0.003006	15.419	177

standard error of the total estimate by the rate.

Published and flagged estimates

Estimates are not presented unless a reasonable assumption regarding their probability distributions is possible on the basis of the Central Limit Theorem. The Central Limit Theorem states that, given a sufficiently large sample size, the sample estimate approximates the population estimate and, upon 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. In such cases, only an asterisk (*) appears in the tables. Estimates based on 30 or more cases include an asterisk if the relative standard error of the estimate exceeds 30 percent. Approximate relative standard errors were computed using a generalized variance curve and the computed curve coefficients as described above.

Adjustments for hospital nonresponse

Estimates from NHAMCS data were adjusted to account for sample hospitals that were in scope but did not participate in the study. This adjustment was calculated to minimize the impact of response on final estimates by imputing to nonresponding hospitals the data from visits to similar hospitals. For this purpose, hospitals were judged similar if they were in the same region, ownership control group, and metropolitan statistical area control group.

Adjustments for ED/clinic nonresponse

Estimates from NHAMCS data were adjusted to account for ED's and

sample clinics that were in scope but did not participate in the study. This adjustment was calculated to minimize the impact of nonresponse on final estimates by imputing to nonresponding ED's or clinics the data from visits to similar ED's or clinics. For this purpose, ED's or clinics were judged similar if they were in the same ED or clinic group.

Tests of significance and rounding

The determination of statistical inference is based on the t -test. The Bonferroni inequality was used to establish the critical value for statistically significant differences (0.05 level of significance over all analyses performed on estimates contained in a table). Terms relating to differences such as "higher 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 ED visits have been rounded to the nearest thousand. Consequently, estimates will not always add to totals. Rates and percents were calculated from original unrounded figures and do not necessarily agree with percents calculated from rounded data.

Injury groupings

[Table 8](#) presents data on the intent and mechanism producing the injuries that resulted in visits to hospital emergency departments. Cause of injury is collected for each sampled visit in the NHAMCS and is coded according to the ICD-9-CM's Supplementary

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

Intent and mechanism of injury	Cause of injury code ¹
Unintentional injuries	E800–E869, E880–E929
Falls	E880.0–E886.9, E888
Motor vehicle traffic accidents	E810–E819
Striking against or struck accidentally by objects or persons	E916–E917
Overexertion and strenuous movements	E927
Cutting or piercing instruments or objects	E920
Natural and environmental factors	E900–E909, E928.0–E928.2
Poisoning by drugs, medicinal substances, biologicals, other solid and liquid substances, gases, and vapors	E850–E869
Fire and flames, hot substance or object, caustic or corrosive material, and steam	E890–E899, E924
Machinery	E919
Pedal cycle, nontraffic and other	E800–E807(.3), E820–E825(.6), E826.1, E826.9
Motor vehicle, nontraffic	E820–E825 (.0, .5, .7, .9)
Other transportation	E800–E807(.0–.2, .8–.9), E826 (.0, .2–.8), E827–E829, E831, E833–E845
Suffocation	E911–E913
Firearm missile	E922
Other and not elsewhere classified	E846–E848, E914–E915, E918, E921, E923, E925–E926, E929.0–E929.5, E928.8
Mechanism unspecified	E887, E928.9, E929.8, E929.9
Intentional injuries	E950–E959, E960–E969, E970–E978, E990–E999
Assault	E960–E969
Unarmed fight or brawl, striking by blunt or thrown object	E960.0, E968.2
Cutting and piercing instrument	E966
Firearms	E965.0–E965.4
Other mechanism	E960.1, E962–E964, E965.5–E965.9, E967–E968.1, E968.3–E969
Self-inflicted	E950–E959
Poisoning by solid or liquid substances, gases and vapors	E950–E952
Cutting and piercing instrument	E956
Suffocation	E953
Other mechanism	E954–E955, E957–E959
Other causes of violence	E970–E978, E990–E999
Injuries of undetermined intent	E980–E989
Adverse effects of medical treatment	E870–E879, E930–E949

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

Classification of External Causes of Injury and Poisoning. For [table 8](#), however, cause of injury data were regrouped to highlight the interaction between intentionality of the injury and the mechanism that produced the injury. [Table II](#) displays the groupings used in [table 8](#).

Definition of terms

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

Hospital—Hospitals with an average length of stay for all patients of less than 30 days (short-stay) or hospitals whose specialty is general (medical or surgical) or children's general, except Federal hospitals, hospital units of institutions, and hospitals with less than six beds staffed for patient use.

Emergency department—Hospital facility for the provision of unscheduled

outpatient services to patients whose conditions require immediate care and that is staffed 24 hours a day. If an ED provided emergency services in different areas of the hospital, then all of these areas were selected with certainty into the sample. Off-site emergency departments that are open less than 24 hours are included if staffed by the hospital's emergency department.

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

Visit—A direct, personal exchange between a patient and a physician or other health care provider working under the physician's supervision for the purpose of seeking care and receiving personal health services.

Urgent/emergent—A visit is urgent/emergent if the patient requires immediate attention for an acute illness or injury that threatens life or function and where delay would be harmful to the patient.

Nonurgent—Patient does not require attention immediately or within a few hours.

Injury-related visit—A visit is considered related to an injury if “yes” was checked in response to question 11, “Is visit injury-related?” if a cause of injury or a nature of injury diagnosis was provided, or if an injury-related reason for visit was reported.

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

Trade name disclaimer

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

Suggested citation

Stussman BJ. National Hospital Ambulatory Medical Care Survey: 1995 emergency department summary. Advance data from vital and health statistics; no. 285. Hyattsville, Maryland: National Center for Health Statistics. 1997.

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

National Center for Health Statistics

Director
Edward J. Sondik, Ph.D.

Deputy Director
Jack R. Anderson

DEPARTMENT OF
HEALTH & HUMAN SERVICES

Centers for Disease Control and Prevention
National Center for Health Statistics
6525 Belcrest Road
Hyattsville, Maryland 20782

FIRST CLASS MAIL
POSTAGE & FEES PAID
PHS/NCHS
PERMIT NO. G-281

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

To receive this publication regularly, contact the National Center for Health Statistics by calling 301-436-8500
E-mail: nchsquery@nch10a.em.cdc.gov
Internet: <http://www.cdc.gov/nchswww/nchshome.htm>

DHHS Publication No. (PHS) 97-1250
7-0322 (4/97)