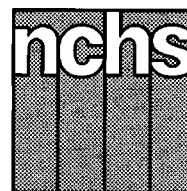


# Advance Data



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

## National Hospital Ambulatory Medical Care Survey: 1994 Emergency Department Summary

by Barbara J. Stussman, Division of Health Care Statistics

During the 12-month period from January through December 1994, an estimated 93.4 million visits were made to hospital emergency departments (EDs) of non-Federal, short-stay, or general hospitals in the United States—about 36 visits per 100 persons. This report presents data on ED visits from the 1994 National Hospital Ambulatory Medical Care Survey (NHAMCS), a national probability survey conducted by the Division of Health Care Statistics, National Center for Health Statistics, Centers for Disease Control and Prevention. Another *Advance Data* report highlights visits to outpatient departments (1).

Because the estimates presented in this report are based on a sample rather than on the entire universe of hospital ED visits, they are subject to sampling variability. The Technical notes at the end of this report include a brief overview of the sample design used in the 1994 NHAMCS and an explanation of sampling errors.

The ED Patient Record form is used by hospitals participating in the NHAMCS to record information about patient visits. This form is reproduced in [figure 1](#) and is intended to serve as a reference for readers as they review the survey findings presented in this *Advance Data*.

### Data highlights

- In 1994, 93.4 million visits were made to hospital emergency departments—about 36 visits per 100 persons.
- Persons 75 years of age and over had a higher ED visit rate than persons in the other five age categories.
- One-fourth of all ED visits were made by children under 15 years of age.
- Black persons had a higher ED visit rate than white persons.
- There were 39.6 million ED visits caused by injuries—about 15.3 visits per 100 persons. Injury-related visits represented two-fifths of all ED utilization.
- Compared with white persons, black persons were more likely to make an ED visit for illness rather than for injury.
- The injury occurred in the home for more than one-third of injury-related ED visits. The injury occurred at work for one-fifth of injury-related ED visits for persons 25–44 years.
- “Stomach and abdominal pain, cramps and spasms” was the most frequently mentioned principal reason for visit to the ED.
- Suppurative and unspecified otitis media was the most frequent

principal diagnosis at ED visits.

Eighty-three percent of the visits for otitis media were made by children under 15 years of age.

- “Symptoms involving the respiratory system and other chest symptoms” was the most frequent diagnosis for persons 45–64 years, 65–74 years, and 75 years and over.
- Intravenous fluids were administered at 14 percent of ED visits.
- Medication was administered or prescribed at three-quarters of ED visits.
- Twelve percent of ED visits resulted in hospital admission.

### Patient characteristics

ED visits by patient’s age, sex, and race are displayed in [table 1](#). The overall visit rate of 36 visits per 100 persons is not significantly different from visit rates observed since 1992 (2,3). Persons 75 years of age and over had a higher ED visit rate (56.5 visits per 100 persons) than persons in the other five age categories. This was true for both males and females with one exception—the visit rate for males 75 years and over (50.5 visits per 100 persons) was not significantly different than the rate for males under 15 years of age (42.4 visits per 100 persons).



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



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**NOTICE** — Information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that it will be held in strict confidence, will be used only for purposes stated for this study, and will not be disclosed or released to others without the consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m). Public reporting burden for this phase of the survey is estimated to average 3 minutes per response. If you have any comments regarding the burden estimate or any other aspect of this survey, including suggestions for reducing this burden, send them to the PHS Reports Clearance Officer; Attn: PRA: HHH Building, Rm. 721-B; 200 Independence Ave., S.W., Washington, DC 20201, and to the Office of Management and Budget; Paperwork Reduction Project (0920-0278); Washington, DC 20503.

**NATIONAL HOSPITAL AMBULATORY  
MEDICAL CARE SURVEY  
EMERGENCY DEPARTMENT  
PATIENT RECORD  
1993-94**

<b>3. DATE OF VISIT</b> _____ / _____ / _____ Month Day Year	<b>5. SEX</b> 1 <input type="checkbox"/> Female 2 <input type="checkbox"/> Male	<b>6. RACE</b> 1 <input type="checkbox"/> White 2 <input type="checkbox"/> Black 3 <input type="checkbox"/> Asian / Pacific Islander 4 <input type="checkbox"/> American Indian / Eskimo / Aleut	<b>7. ETHNICITY</b> 1 <input type="checkbox"/> Hispanic origin 2 <input type="checkbox"/> Not Hispanic	<b>8. EXPECTED SOURCE(S) OF PAYMENT</b> <i>(Check all that apply)</i> 1 <input type="checkbox"/> Private / commercial    5 <input type="checkbox"/> HMO/ other prepaid 2 <input type="checkbox"/> Medicare                    6 <input type="checkbox"/> Patient paid 3 <input type="checkbox"/> Medicaid                        7 <input type="checkbox"/> No charge 4 <input type="checkbox"/> Other government            8 <input type="checkbox"/> Other	<b>9. PLACE OF INJURY</b> <i>(Check one, if visit is injury-related)</i> 1 <input type="checkbox"/> Home 2 <input type="checkbox"/> Work 3 <input type="checkbox"/> School/Day care 4 <input type="checkbox"/> Street/Highway 5 <input type="checkbox"/> Other <i>(Specify)</i> _____		
<b>4. DATE OF BIRTH</b> _____ / _____ / _____ Month Day Year	<b>10. CAUSE OF INJURY</b> <i>(Describe events that preceded injury, e.g., driver of motor vehicle, O.D. of cocaine, fell off swing.)</i> _____ _____ _____			<b>11. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT</b> <i>(In patient's own words)</i> a. Most important: _____ b. Other: _____ c. Other: _____			
<b>12. PHYSICIAN'S DIAGNOSES</b> a. Principal diagnosis / problem associated with item 11.a: _____ b. Other: _____ c. Other: _____		<b>13. URGENCY OF THIS VISIT</b> <i>(Check only one)</i> 1 <input type="checkbox"/> Urgent/Emergent 2 <input type="checkbox"/> Non-urgent		<b>14. IS VISIT ALCOHOL-OR DRUG-RELATED?</b> 1 <input type="checkbox"/> Neither 2 <input type="checkbox"/> Alcohol-related 3 <input type="checkbox"/> Drug-related 4 <input type="checkbox"/> Both 5 <input type="checkbox"/> Unknown			
<b>15. DIAGNOSTIC/SCREENING SERVICES</b> <i>(Check all ordered or provided)</i> 1 <input type="checkbox"/> None                                5 <input type="checkbox"/> EKG 2 <input type="checkbox"/> Blood pressure                    6 <input type="checkbox"/> Chest x-ray 3 <input type="checkbox"/> Urinalysis                            7 <input type="checkbox"/> Extremity x-ray 4 <input type="checkbox"/> HIV serology                        8 <input type="checkbox"/> Other diagnostic imaging 9 <input type="checkbox"/> Other <i>(Specify)</i> _____ _____ _____		<b>16. PROCEDURES</b> <i>(Check all ordered or provided on this visit)</i> 1 <input type="checkbox"/> None                                    6 <input type="checkbox"/> Wound care 2 <input type="checkbox"/> Endotracheal intubation        7 <input type="checkbox"/> Eye/ENT care 3 <input type="checkbox"/> CPR                                    8 <input type="checkbox"/> Orthopedic care 4 <input type="checkbox"/> IV fluids                              9 <input type="checkbox"/> Bladder catheter 5 <input type="checkbox"/> NG tube/gastric lavage        10 <input type="checkbox"/> Lumbar puncture 11 <input type="checkbox"/> Other <i>(Specify)</i> _____ _____ _____					
<b>17. MEDICATIONS / INJECTIONS</b> None <input type="checkbox"/> Include: • Rx and OTC                                • Meds ordered, supplied, or administered                    • New meds • Immunizations                                • Continuing meds (with or without new orders) • Allergy shots • Anesthetics 1 _____ 2 _____ 3 _____ 4 _____ 5 _____			<b>18. DISPOSITION THIS VISIT</b> <i>(Check all that apply)</i> 1 <input type="checkbox"/> No follow-up planned 2 <input type="checkbox"/> Return to ED PRN 3 <input type="checkbox"/> Return to ED - appointment 4 <input type="checkbox"/> Return to referring physician 5 <input type="checkbox"/> Refer to other physician/clinic 6 <input type="checkbox"/> Admit to hospital 7 <input type="checkbox"/> Transfer to other facility 8 <input type="checkbox"/> DOA/died in ED 9 <input type="checkbox"/> Other <i>(Specify)</i> _____		<b>19. PROVIDERS SEEN THIS VISIT</b> <i>(Check all that apply)</i> 1 <input type="checkbox"/> Resident/Intern 2 <input type="checkbox"/> Staff physician 3 <input type="checkbox"/> Other physician 4 <input type="checkbox"/> Physician assistant/ Nurse practitioner 5 <input type="checkbox"/> Registered nurse 6 <input type="checkbox"/> Licensed practical nurse 7 <input type="checkbox"/> Nurse's aide 8 <input type="checkbox"/> Other <i>(Specify)</i> _____		

Figure 1. Patient Record form

**Table 1. Number, percent distribution, and annual rate of emergency department visits with corresponding standard errors by selected patient and emergency department characteristics: United States, 1994**

<i>Selected patient and visit characteristics</i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>	<i>Number of visits per 100 persons per year<sup>1</sup></i>	<i>Standard error of rate</i>
All visits . . . . .	93,402	3,721	100.0	...	36.0	1.4
<b>Age</b>						
Under 15 years . . . . .	23,751	1,281	25.4	0.8	40.2	2.2
15–24 years . . . . .	15,411	657	16.5	0.3	42.6	1.8
25–44 years . . . . .	28,219	1,217	30.2	0.5	34.0	1.5
45–64 years . . . . .	13,011	559	13.9	0.3	25.8	1.1
65–74 years . . . . .	5,797	313	6.2	0.2	31.8	1.7
75 years and over . . . . .	7,214	363	7.7	0.3	56.5	2.8
<b>Sex and age</b>						
Female . . . . .	48,736	1,995	52.2	0.5	36.6	1.5
Under 15 years . . . . .	10,911	617	11.7	0.4	37.8	2.1
15–24 years . . . . .	8,309	394	8.9	0.3	46.1	2.2
25–44 years . . . . .	14,594	662	15.6	0.4	34.7	1.6
45–64 years . . . . .	6,947	336	7.4	0.2	26.7	1.3
65–74 years . . . . .	3,193	212	3.4	0.2	31.5	2.1
75 years and over . . . . .	4,782	245	5.1	0.2	60.1	3.1
Male . . . . .	44,666	1,817	47.8	0.5	35.3	1.4
Under 15 years . . . . .	12,840	729	13.7	0.5	42.4	2.4
15–24 years . . . . .	7,102	323	7.6	0.2	39.1	1.8
25–44 years . . . . .	13,625	636	14.6	0.4	33.4	1.6
45–64 years . . . . .	6,064	275	6.5	0.2	24.9	1.1
65–74 years . . . . .	2,603	164	2.8	0.2	32.1	2.0
75 years and over . . . . .	2,432	171	2.6	0.2	50.5	3.5
<b>Race and age</b>						
White . . . . .	72,337	3,253	77.4	1.3	33.7	1.5
Under 15 years . . . . .	17,670	971	18.9	0.6	37.9	2.1
15–24 years . . . . .	11,686	582	12.5	0.4	40.8	2.0
25–44 years . . . . .	21,309	1,015	22.8	0.5	31.2	1.5
45–64 years . . . . .	10,363	510	11.1	0.3	24.0	1.2
65–74 years . . . . .	4,901	294	5.2	0.2	30.3	1.8
75 years and over . . . . .	6,409	353	6.9	0.3	55.4	3.0
Black . . . . .	18,603	1,170	19.9	1.2	56.3	3.5
Under 15 years . . . . .	5,316	486	5.7	0.5	55.6	5.1
15–24 years . . . . .	3,378	229	3.6	0.2	62.5	4.2
25–44 years . . . . .	6,097	437	6.5	0.5	58.5	4.2
45–64 years . . . . .	2,315	182	2.5	0.2	45.1	3.5
65–74 years . . . . .	766	89	0.8	0.1	49.3	5.7
75 years and over . . . . .	732	83	0.8	0.1	75.4	8.6
<b>All other races</b>						
Asian/Pacific Islander . . . . .	1,489	270	1.6	0.3	---	---
American Indian/Eskimo/Aleut . . . . .	*972	487	1.0	0.5	---	---
<b>Geographic region</b>						
Northeast . . . . .	19,772	1,729	21.2	1.7	39.1	3.4
Midwest . . . . .	25,395	2,290	27.2	2.1	40.2	3.6
South . . . . .	30,534	2,008	32.7	1.9	34.7	2.3
West . . . . .	17,701	1,257	19.0	1.4	30.7	2.2

... Category not applicable.

--- Data not available.

\*Figure does not meet standard of reliability or precision.

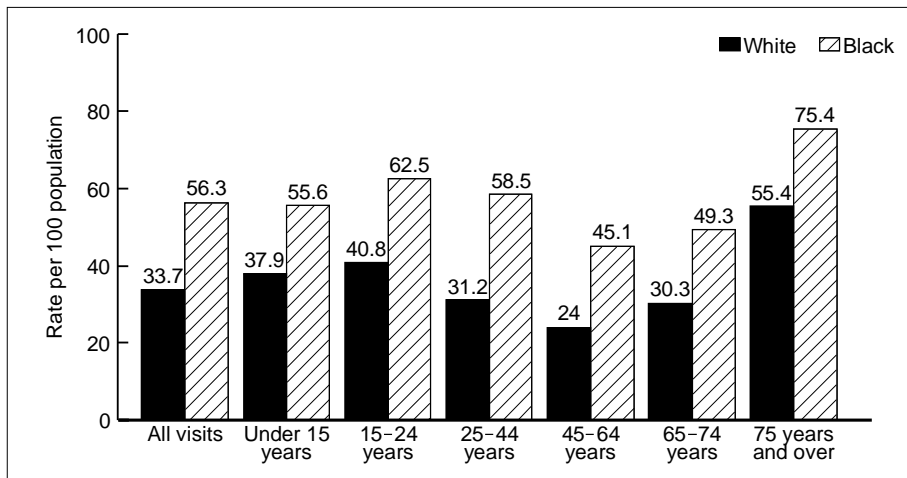
<sup>1</sup>Based on U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1994.

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

White persons 75 years and over had a higher ED visit rate (55.4 visits per 100 persons) than white persons in the other five age groups. The visit rate for black persons was higher than for white

persons overall and for each age category except for persons 75 years and over (figure 2). Age-adjusted rates did not differ from the unadjusted overall rates by race. Black persons

were 1.7 times more likely to make an ED visit than were white persons. For persons 25–44 and 45–64 years of age and over, black persons were 1.9 times more likely to make an ED visit.



**Figure 2. Annual rate of emergency department visits by patient's age and race: United States, 1994**

Visits according to geographic region are also displayed in [table 1](#). There were no significant differences in visit rates across regions.

## Visit characteristics

### Urgency of this visit

The NHAMCS included an item on urgency to better understand the continuum of care provided by hospital EDs. For the purposes of the survey, urgent visits were defined in the instructions given to sample hospitals as those that met 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 EDs were basing their determination of urgency on the patient's symptoms, while other EDs

based it on the physician's diagnosis or 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 EDs (4). A comprehensive picture of urgency must take into account other factors, such as the patient's subjective reasons for visiting the ED, nature and severity of the patient's symptoms, and issues of access to and availability of alternate source of outpatient care. Analyses are currently being conducted to better understand the urgency data collected in the NHAMCS and to modify how the data are collected in future surveys.

According to hospital staff, slightly more than one-half (52.8 percent) of ED visits were classified as nonurgent; 47.2 percent were classified as urgent/emergent ([table 2](#)). Persons 75 years of age and over had the highest urgent visit rate (37.6 visits per 100 persons). Persons 15-24 years of age had a higher rate of nonurgent visits (24.5 visits per 100 persons) than any other age group, except children under 15 years of age. There was no significant difference between urgent or nonurgent visit rates by sex. The nonurgent visit rate for black persons (31.6 visits per 100

persons) was higher than the nonurgent rate for white persons (17.5 visits per 100 persons). As in previous years, black persons were 1.8 times more likely than white persons to make a nonurgent visit.

## Injury-related visits

Injury-related visits represented 42.4 percent of all ED visits in 1994. An ED visit was considered to be injury related if a place of injury was indicated in item 9, a cause of injury was reported in item 10, a nature of injury diagnosis was provided, or an injury-related reason for visit was given. 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.

In 1994 approximately 39.6 million ED visits were made for injury ([table 3](#)). Persons 15-24 years of age had a higher injury-related visit rate (21.1 visits per 100 persons) than persons in each of the other age categories except those 75 years of age and over. Males had a higher injury-related visit rate (17.2 visits per 100 persons) than females (13.4 per 100 persons) overall and in the youngest three age categories (under 15 years, 15-24 years, and 25-44 years). Females 75 years and over, however, had a higher injury-related visit rate (20.5 visits per 100 persons) than males 75 years and over (12.4 visits per 100 persons). The injury-related visit rate for black persons (20.7 per 100 persons) was higher than for white persons (14.9 per 100 persons) overall and for persons 25-44 years and 45-64 years of age.

[Figure 3](#) shows the visit rate for injury versus illness-related ED visits by patient's race. While black persons had a higher visit rate than white persons overall, this difference is larger for illness than for injury-related ED visits.

More than one-third of injury-related ED visits were caused by injuries that occurred in the home (39 percent) ([table 4](#)). The injury occurred on the street/highway for 13.6 percent of injury-related ED visits and at work for an additional 13 percent. [Table 5](#) displays place of injury by patient's age. For all ages, the largest proportion of injury visits were caused

**Table 2. Number and annual rate of urgent/emergent and nonurgent emergency department visits with corresponding standard errors by patient's age, sex, and race: United States, 1994**

Patient characteristic	Number of urgent visits in thousands	Standard error in thousands	Number of urgent visits per 100 persons per year <sup>1</sup>	Number of nonurgent visits in thousands	Standard error in thousands	Number of nonurgent visits per 100 persons per year <sup>1</sup>
All visits . . . . .	44,091	2,402	17.0	49,311	2,523	19.0
Age						
Under 15 years . . . . .	9,985	804	16.9	13,766	890	23.3
15–24 years . . . . .	6,532	410	18.1	8,879	503	24.5
25–44 years . . . . .	12,241	686	14.8	15,978	857	19.3
45–64 years . . . . .	6,949	376	13.8	6,062	363	12.0
65–74 years . . . . .	3,576	228	19.6	2,221	166	12.2
75 years and over . . . . .	4,808	286	37.6	2,406	185	18.8
Sex and age						
Female . . . . .	22,469	1,234	16.9	26,267	1,404	19.7
Under 15 years . . . . .	4,276	352	14.8	6,635	472	23.0
15–24 years . . . . .	3,381	253	18.8	4,928	296	27.3
25–44 years . . . . .	6,091	374	14.5	8,503	479	20.2
45–64 years . . . . .	3,581	230	13.7	3,366	232	12.9
65–74 years . . . . .	2,025	160	20.0	1,168	102	11.5
75 years and over . . . . .	3,114	186	39.2	1,667	128	21.0
Male . . . . .	21,622	1,216	17.1	23,044	1,189	18.2
Under 15 years . . . . .	5,709	480	18.9	7,131	479	23.6
15–24 years . . . . .	3,151	211	17.4	3,951	247	21.8
25–44 years . . . . .	6,150	373	15.1	7,475	442	18.3
45–64 years . . . . .	3,368	188	13.8	2,696	184	11.1
65–74 years . . . . .	1,551	110	19.1	1,053	116	13.0
75 years and over . . . . .	1,694	153	35.1	738	78	15.3
Race and age						
White . . . . .	34,839	2,066	16.2	37,498	2,096	17.5
Under 15 years . . . . .	7,499	602	16.1	10,171	690	21.8
15–24 years . . . . .	5,077	357	17.7	6,608	419	23.1
25–44 years . . . . .	9,254	555	13.6	12,054	715	17.7
45–64 years . . . . .	5,733	342	13.3	4,630	310	10.7
65–74 years . . . . .	2,988	208	18.5	1,912	159	11.8
75 years and over . . . . .	4,287	282	37.1	2,123	172	18.4
Black . . . . .	8,158	628	24.7	10,445	801	31.6
Under 15 years . . . . .	2,102	254	22.0	3,214	333	33.6
15–24 years . . . . .	1,305	108	24.1	2,073	183	38.3
25–44 years . . . . .	2,694	248	25.9	3,403	280	32.7
45–64 years . . . . .	1,068	108	20.8	1,246	121	24.3
65–74 years . . . . .	516	63	33.2	251	43	16.2
75 years and over . . . . .	473	59	48.7	259	46	26.7

<sup>1</sup>Based on U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1994.

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

by injuries occurring in the home. The home accounted for more than half of all injury visits for persons 65–74 years and 75 years of age and over (58.3 percent and 55.8 percent, respectively). One-fifth of all injury-related visits for persons 25–44 years were made for work-related injuries. For children under 15 years, 1 in 10 injury-related ED visits were related to injuries that occurred at school/day care. These estimates should be considered minimal since the place of injury was

unspecified for one-fifth of all injury-related ED visits.

Up to three external causes of injury were coded and classified according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD–9–CM) (5)*. [Table 6](#) shows ED visits by the first-listed cause of injury using the major cause of injury categories specified by the ICD–9–CM (E–codes) along with any three-digit subclassification codes that had reliable estimates. Accidental

falls (E880–E888) (21.3 percent of all injury visits) and motor vehicle accidents (E810–E825) (10 percent) accounted for the largest proportion of injury-related ED visits. The four most frequently occurring three-digit E–codes were unspecified fall (E888) (11.9 percent), striking against or struck by objects or persons (E917) (8.5 percent), cutting or piercing instruments (E918) (7.8 percent), and unspecified motor vehicle accident (E819) (7.4 percent).

**Table 3. Number, percent distribution, and annual rate of injury-related emergency department visits with corresponding standard errors by patient's age, sex, and race: United States, 1994**

<i>Patient characteristic</i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>	<i>Number of visits per 100 persons per year<sup>1</sup></i>
All injury-related visits . . . . .	39,640	1,597	100.0	...	15.3
<i>Age</i>					
Under 15 years . . . . .	9,839	536	24.8	0.8	16.6
15–24 years . . . . .	7,632	337	19.3	0.5	21.1
25–44 years . . . . .	13,250	592	33.4	0.7	16.0
45–64 years . . . . .	5,105	242	12.9	0.4	10.1
65–74 years . . . . .	1,586	110	4.0	0.3	8.7
75 years and over . . . . .	2,229	169	5.6	0.4	17.5
<i>Sex and age</i>					
Female . . . . .	17,863	746	45.1	0.6	13.4
Under 15 years . . . . .	4,132	246	10.4	0.5	14.3
15–24 years . . . . .	3,104	164	7.8	0.3	17.2
25–44 years . . . . .	5,542	285	14.0	0.5	13.2
45–64 years . . . . .	2,550	149	6.4	0.3	9.8
65–74 years . . . . .	903	77	2.3	0.2	8.9
75 years and over . . . . .	1,632	137	4.1	0.3	20.5
Male . . . . .	21,776	925	54.9	0.6	17.2
Under 15 years . . . . .	5,706	344	14.4	0.6	18.9
15–24 years . . . . .	4,527	219	11.4	0.4	25.0
25–44 years . . . . .	7,708	384	19.4	0.6	18.9
45–64 years . . . . .	2,555	132	6.4	0.3	10.5
65–74 years . . . . .	684	62	1.7	0.2	8.4
75 years and over . . . . .	597	70	1.5	0.2	12.4
<i>Race and age</i>					
White . . . . .	31,857	1,439	80.4	1.3	14.9
Under 15 years . . . . .	7,788	434	19.6	0.7	16.7
15–24 years . . . . .	6,035	312	15.2	0.5	21.1
25–44 years . . . . .	10,396	518	26.2	0.7	15.2
45–64 years . . . . .	4,243	220	10.7	0.4	9.8
65–74 years . . . . .	1,353	101	3.4	0.2	8.4
75 years and over . . . . .	2,041	166	5.1	0.4	17.6
Black . . . . .	6,842	521	17.3	1.2	20.7
Under 15 years . . . . .	1,818	212	4.6	0.5	19.0
15–24 years . . . . .	1,434	114	3.6	0.3	26.5
25–44 years . . . . .	2,509	217	6.3	0.5	24.1
45–64 years . . . . .	713	72	1.8	0.2	13.9
65–74 years . . . . .	189	34	0.5	0.1	12.2
75 years and over . . . . .	178	32	0.4	0.1	18.3

... Category not applicable.

<sup>1</sup>Based on U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1994.

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

### Alcohol- and/or drug-related problem

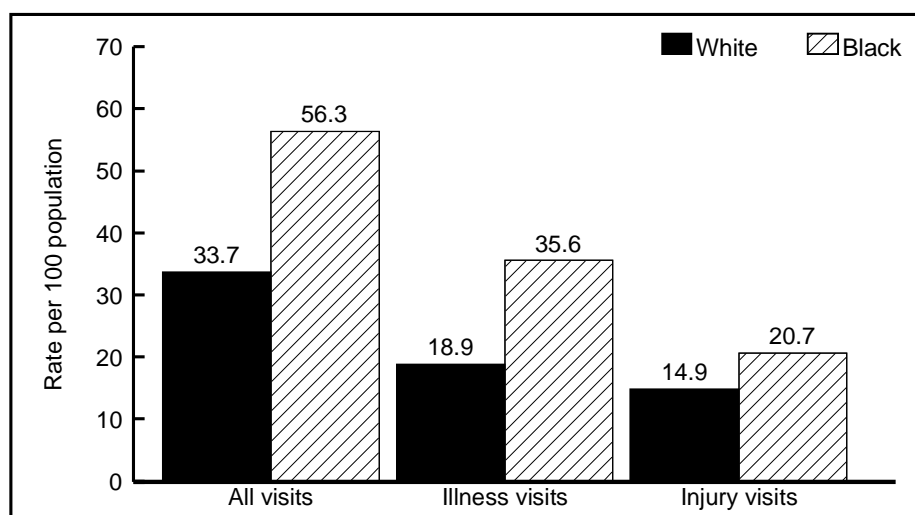
Nearly four percent of ED visits were either alcohol-related, drug-related, or both. Alcohol-related visits accounted for 2.2 percent of ED visits and drug-related visits accounted for 1.3 percent (table 7). Visits related to both alcohol and drugs accounted for 0.3 percent of all ED visits. Visits related to alcohol and/or drug use were 1.6 times more likely to be injury as

opposed to illness, compared with visits that were not related to drug or alcohol use. Alcohol and/or drug use was unknown for 12 percent of visits. Of visits related to alcohol and/or drug use, 52.4 percent were for injuries, compared with only 40.5 percent of visits that were not related to alcohol and/or drug use. Information on whether the visit is alcohol or drug related is often missing from ED medical records. Since 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 evident from these data and other reports (6).

### Reason for visit

In item 11 of the Patient Record form, the patient's (or patient surrogate's) complaint(s), symptom(s), or other reason(s) for this visit (in the patient's own words) is recorded. Up to



**Figure 3. Annual rate of illness- versus injury-related visits to emergency departments by patient's race: United States, 1994**

three reasons for visit are classified and coded according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (7). The principal reason is the problem, complaint, or reason listed in item 11a of the ED Patient Record form.

The RVC is divided into eight modules or groups of reasons displayed in table 8. Seventy percent of all visits were made for reasons classified in the symptom module, with general symptoms accounting for 15.3 percent of all visits, and symptoms referable to the musculoskeletal system accounting for 14.7 percent. An additional 21.6 percent had reasons in the injuries and adverse effects module.

The 20 most frequently mentioned principal reasons for visit, representing almost half of all visits, are shown in table 9. Stomach and abdominal pain, cramps and spasms; chest pain and related symptoms; and fever each

accounted for about 5 percent of all reasons for visit mentioned. It is interesting to note that if shortness of breath and labored or difficult breathing are combined, then difficulty breathing becomes the fourth leading reason for visit (3.6 percent). Injury of the upper extremity was the most frequently mentioned reason for visit in the injury module (2.5 percent).

### Principal diagnosis

The principal diagnosis or problem associated with the patient's most important reason for visit and any other significant current diagnoses are recorded in item 12. Up to three diagnoses are coded and classified according to the ICD-9-CM (5). Displayed in table 10 are ED visits by principal diagnosis using the major disease categories specified by the

ICD-9-CM. Injury and poisoning accounted for 33.2 percent of all visits, and diseases of the respiratory system accounted for 12.7 percent.

The 20 most frequently reported principal diagnoses are shown in table 11. These are categorized at the three-digit coding level of the ICD-9-CM and accounted for more than one-third of all ED visits. Suppurative and unspecified otitis media was the diagnosis with the highest frequency, accounting for 3.2 percent of all ED visits.

Table 12 shows the 10 principal diagnoses most frequently rendered by physicians according to patient's age. Ninety percent of all principal diagnoses of suppurative and unspecified otitis media occurred in persons 24 years of age or younger. Most (83.3 percent) occurred in children under 15 years of age. Thirty percent of visits with a principal diagnosis of symptoms involving the respiratory system and other chest symptoms occurred in persons 25-44 years, and one-fourth occurred in persons 45-64 years.

### Diagnostic and screening services

Statistics on various diagnostic and screening services ordered or provided by hospital staff during an ED visit are displayed in table 13. About 85 percent of all ED visits included one or more diagnostic or screening services. On average, about two services were ordered or provided per ED visit. The most frequently mentioned diagnostic service was blood pressure check, recorded at 73.6 percent of visits. Other frequently mentioned services included urinalysis (16.1 percent) and chest x-ray (15.9 percent).

Note that for items related to diagnostic and screening services, procedures, expected source of payment, 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.

### Procedures

Procedures were ordered or provided at 42.9 percent of ED visits (table 14). For visits with procedures, an

**Table 4. Number and percent distribution of emergency department visits with corresponding standard errors by place of injury: United States, 1994**

Visit characteristic	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All injury-related visits . . . . .	39,640	1,597	100.0	...
Home . . . . .	15,469	813	39.0	0.6
Street/highway . . . . .	5,408	265	13.6	0.2
Work . . . . .	5,146	312	13.0	0.3
School/day care . . . . .	1,577	130	4.0	0.1
Other . . . . .	3,197	203	8.1	0.2
Unspecified <sup>1</sup> . . . . .	8,843	486	22.3	0.4

... Category not applicable.

<sup>1</sup>Option was created during the edit process to indicate injury visits where place was not specified but for which one of the following was indicated: cause of injury, any reason for visit as an injury, any diagnosis as an N-code.

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 patient's age and place of injury: United States, 1994**

Age and place of injury	Number of visits in thousands	Standard error in thousands	Percent distribution of injury visits per age group	Standard error of percent
All injury-related visits . . . . .	39,640	1,597	100.0	...
Under 15 years . . . . .	9,839	536	100.0	...
Home . . . . .	5,080	312	51.6	1.2
Street/highway . . . . .	866	77	8.8	1.2
Work . . . . .	47	13	0.5	0.3
School/day care . . . . .	1,028	111	10.4	4.2
Other . . . . .	923	98	9.4	2.3
Unspecified <sup>1</sup> . . . . .	1,895	155	19.3	1.2
15–24 years . . . . .	7,632	337	100.0	...
Home . . . . .	2,192	160	28.7	0.7
Street/highway . . . . .	1,500	103	19.7	1.5
Work . . . . .	1,160	107	15.2	1.6
School/day care . . . . .	496	69	6.5	3.8
Other . . . . .	637	66	8.3	1.7
Unspecified <sup>1</sup> . . . . .	1,647	115	21.6	0.8
25–44 years . . . . .	13,250	592	100.0	...
Home . . . . .	4,208	283	31.8	1.1
Street/highway . . . . .	1,956	119	14.8	1.4
Work . . . . .	3,004	209	22.7	1.6
School/day care . . . . .	*	*	*	*
Other . . . . .	883	73	6.7	1.9
Unspecified <sup>1</sup> . . . . .	3,157	197	23.8	1.3
45–64 years . . . . .	5,105	242	100.0	...
Home . . . . .	1,823	133	35.7	0.6
Street/highway . . . . .	765	66	15.0	1.1
Work . . . . .	857	73	16.8	1.2
School/day care . . . . .	*	*	*	*
Other . . . . .	398	54	7.8	1.5
Unspecified <sup>1</sup> . . . . .	1,250	93	24.5	0.8
65–74 years . . . . .	1,586	110	100.0	...
Home . . . . .	924	91	58.3	0.5
Street/highway . . . . .	133	27	8.4	0.5
Work . . . . .	*	*	*	*
School/day care . . . . .	*	*	*	*
Other . . . . .	100	21	6.3	0.7
Unspecified <sup>1</sup> . . . . .	377	44	23.8	0.5
75 years and over . . . . .	2,229	169	100.0	...
Home . . . . .	1,243	105	55.8	0.6
Street/highway . . . . .	189	34	8.5	0.6
Work . . . . .	*	*	*	*
School/day care . . . . .	*	*	*	*
Other . . . . .	257	44	11.5	1.3
Unspecified <sup>1</sup> . . . . .	517	77	23.2	0.8

... Category not applicable.

\* Figure does not meet standard of reliability or precision.

<sup>1</sup>Option was created during the edit process to indicate injury visits where place was not specified but for which one of the following was indicated: cause of injury, any reason for visit as an injury, any nature of injury diagnosis.

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

average of 1.2 procedures were performed per visit. The most frequently mentioned procedure was the administration of intravenous fluids, recorded at 13.9 percent of visits. Other frequently mentioned procedures were wound care (13 percent) and orthopedic care (9.3 percent). Patient's age was positively related to the percent of visits at which one or more procedures were

ordered or provided. Older patients were more likely to have had at least one procedure ordered or performed (ranging from 35.8 percent of visits by patients under 15 years to 54.7 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 five medications, or 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.

Table 15 shows the distribution of ED visits by the number of medications prescribed. Medications were used at three-quarters of all ED visits. There was an average of 1.5 drug mentions per ED visit and 2.0 mentions per drug visit.

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 7.3 percent of all ED drug mentions. Motrin, which is classified as an antiarthritic, was ordered or prescribed at 2.7 percent of ED visits. Classifications are based on the therapeutic categories used in the *National Drug Code Directory*, 1985 edition (NDC) (8).

### Expected source of payment

Private/commercial insurance (34.7 percent) was the most frequently expected source of payment at ED visits (table 17). Also prominent on the list were Medicaid (24.7 percent), Medicare (14.9 percent), and patient-paid (13.4 percent). The patient-paid category includes the patient's contribution toward co-payments and deductibles. Seventy percent of visits with an expected source of payment of Medicare or Medicaid were for illness as opposed to injury conditions.

### Providers seen this visit

A staff physician and registered nurse were seen at 84.2 percent and 84.1 percent of ED visits, respectively



**Table 6. Number and percent distribution of emergency department visits with corresponding standard errors by cause of injury: United States, 1994**

Cause of injury and E-code <sup>1</sup>	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All injury-related visits . . . . .	39,640	1,597	100.0	. . .
Accidental falls . . . . . E880–E888	8,436	399	21.3	0.3
Fall from stairs . . . . . E880	626	66	1.6	0.2
Fall from ladders . . . . . E881	226	41	0.6	0.1
Fall from building . . . . . E882	72	21	0.2	0.1
Fall into hole . . . . . E883	124	31	0.3	0.1
Other fall from one level to another . . . . . E884	1,364	112	3.4	0.3
Fall on same level . . . . . E885	1,246	102	3.1	0.4
Other and unspecified fall . . . . . E888	4,735	267	11.9	0.7
Motor vehicle accidents, traffic and nontraffic . . . . . E810–E825	3,973	205	10.0	0.2
Other motor vehicle accident involving collision with another motor vehicle . . . . . E812	417	45	1.1	0.2
Motor vehicle accident involving collision with other vehicle . . . . . E813	38	16	0.1	0.1
Motor vehicle collision with pedestrian . . . . . E814	163	31	0.4	0.1
Motor vehicle accident due to loss of control without collision on highway . . . . . E816	150	31	0.4	0.1
Other noncollision motor vehicle accident . . . . . E818	35	11	0.1	0.0
Unspecified motor vehicle accident . . . . . E819	2,917	178	7.4	0.6
Striking against or struck accidentally by objects or persons . . . . . E917	3,355	206	8.5	0.5
Accidents caused by cutting or piercing instruments . . . . . E920	3,095	211	7.8	0.5
Accidents due to natural and environmental factors . . . . . E900–E909	1,843	188	4.6	0.2
Venomous animals and plants . . . . . E905	611	93	1.5	0.3
Other injury caused by animals . . . . . E906	1,031	85	2.6	0.3
Overexertion . . . . . E927	1,600	132	4.0	0.4
Homicide and injury purposely inflicted by other persons . . . . . E960–E969	1,456	107	3.7	0.1
Fight, brawl, rape . . . . . E960	528	50	1.3	0.2
Assault by cutting/piercing instrument . . . . . E966	133	24	0.3	0.1
Unspecified assault . . . . . E968	741	68	1.9	0.2
Accidents caused by submersion, suffocation, and foreign bodies . . . . . E910–E915	1,357	94	3.4	0.1
Foreign body in eye . . . . . E914	798	71	2.0	0.2
Foreign body in other orifice . . . . . E915	428	57	1.1	0.2
Other and unspecified environmental and accidental causes . . . . . E928	1,145	89	2.9	0.3
Caught in or between objects . . . . . E918	817	74	2.1	0.2
Other road vehicle accidents . . . . . E826–E829	694	84	1.8	0.1
Pedal accident . . . . . E826	619	76	1.6	0.2
Accident involving animal being ridden . . . . . E828	75	29	0.2	0.1
Drugs, medicinal and biological substances causing adverse effects in therapeutic use . . . . . E930–E949	489	64	1.2	0.1
Due to unspecified drugs . . . . . E947	278	45	0.7	0.2
Accidental poisoning by drugs, medicinal substances, and biologicals . . . . . E850–E858	456	55	1.2	0.1
Poisoning by analgesics, antipyretics, and antirheumatics . . . . . E850	84	18	0.2	0.1
Poisoning by other drugs . . . . . E858	280	40	0.7	0.1
Accidents caused by hot substance, caustic, or corrosive material . . . . . E924	438	49	1.1	0.2
Accidental poisoning by other solid and liquid substances, gases, and vapors . . . . . E860–E869	356	41	0.9	0.0
Struck by falling object . . . . . E916	349	54	0.9	0.2
Suicide and self-inflicted injury . . . . . E950–E959	270	48	0.7	0.1
Attempted suicide by solid or liquid substances . . . . . E950	158	28	0.4	0.1
Accidents caused by fire and flames . . . . . E890–E899	190	34	0.5	0.0
Unspecified fires . . . . . E899	95	23	0.2	0.1
Accidents caused by firearm missile . . . . . E922	154	28	0.4	0.1
Accidents caused by machinery . . . . . E919	148	27	0.4	0.1
Surgical and medical procedures as the cause of abnormal reaction of patient or later complication without mention of misadventure at the time of procedure . . . . . E878–E879	73	19	0.2	0.0
Other <sup>2</sup> . . . . .	327	13	0.8	0.2
Unknown <sup>3</sup> . . . . .	8,523	687	21.5	0.7

. . . . . Category not applicable.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (5).<sup>2</sup>Includes all other major E-code categories where the estimate was too low to be reliable.<sup>3</sup>Includes uncodable, illegible, and blank E-codes.

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

**Table 7. Number and percent distribution of alcohol and/or drug-related emergency department visits with corresponding standard errors: United States, 1994**

<i>Visit characteristic</i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	100.0	...
Alcohol- and/or drug-related visit:				
Neither . . . . .	79,015	3,458	84.6	1.1
Alcohol-related . . . . .	2,053	132	2.2	0.2
Drug-related . . . . .	1,234	113	1.3	0.1
Both . . . . .	289	45	0.3	0.1
Unknown . . . . .	10,812	1,020	11.6	1.1

... Category not applicable.

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

(table 18). A resident/intern was seen at 12.6 percent of ED visits, and for 10.1 percent of ED visits another physician was seen. The patient did not see a physician at 3.6 million ED visits (3.9 percent).

**Disposition of this visit**

Over one-third of ED visits resulted in a referral to another physician or clinic (table 19). Return to ED as needed was the visit disposition for 27.7 percent of ED visits, and at one-quarter of the visits, patients were

told to return to the referring physician. About 12 percent of ED visits resulted in hospital admission (table 18). As related to their age and higher proportion of urgent conditions, Medicare patients were four times more likely to be admitted to the hospital as not admitted than patients with other expected sources of payment (34.4 percent versus 8.2 percent, respectively). Visits for illness compared with injury were 2.5 times more likely to result in a hospital admission (16.4 percent versus 6.4 percent, respectively).

**Table 8. Number and percent distribution of emergency department visits with corresponding standard errors by patient's principal reason for visit: United States, 1994**

<i>Principal reason for visit and RVC code<sup>1</sup></i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	100.0	...
Symptom module . . . . . S001-S999	65,394	2,736	70.0	0.7
General symptoms . . . . . S001-S099	14,329	600	15.3	0.3
Symptoms referable to psychological/mental disorders . . . . . S100-S199	1,103	82	1.2	0.1
Symptoms referable to the nervous system (excluding sense organs) . . . . . S200-S259	5,160	275	5.5	0.2
Symptoms referable to the cardiovascular/lymphatic system . . . . . S260-S299	356	58	0.4	0.1
Symptoms referable to the eyes and ears . . . . . S300-S399	3,758	280	4.0	0.2
Symptoms referable to the respiratory system . . . . . S400-S499	10,978	577	11.8	0.4
Symptoms referable to the digestive system . . . . . S500-S639	10,394	440	11.1	0.2
Symptoms referable to the genitourinary system . . . . . S640-S829	2,888	172	3.1	0.1
Symptoms referable to the skin, hair, and nails . . . . . S830-S899	2,561	182	2.7	0.1
Symptoms referable to the musculoskeletal system . . . . . S900-S999	13,721	694	14.7	0.4
Disease module . . . . . D001-D999	3,221	187	3.4	0.2
Diagnostic, screening, and preventive module . . . . . X100-X599	841	107	0.9	0.1
Treatment module . . . . . T100-T899	2,034	153	2.2	0.2
Injuries and adverse effects module . . . . . J001-J999	20,196	912	21.6	0.6
Test results module . . . . . R100-R700	108	30	0.1	0.0
Administrative module . . . . . A100-A140	183	45	0.2	0.1
Other <sup>2</sup> . . . . . U990-U999	1,425	141	1.5	0.2

... Category not applicable.

0.0 Quantity more than zero but less than 0.05.

<sup>1</sup>Based on *A Reason for Visit Classification for Ambulatory Care (RVC) (7)*.

<sup>2</sup>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 9. Number and percent distribution of emergency department visits with corresponding standard errors by the 20 principal reasons for visit most frequently mentioned by patients: United States, 1994**

<i>Reason for visit and RVC code<sup>1</sup></i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	100.0	...
Stomach and abdominal pain, cramps and spasms . . . . . S545	5,256	253	5.6	0.2
Chest pain and related symptoms . . . . . S050	4,435	217	4.7	0.2
Fever . . . . . S010	4,281	283	4.6	0.3
Headache, pain in head . . . . . S210	2,530	172	2.7	0.2
Cough . . . . . S440	2,384	168	2.6	0.1
Injury—upper extremity . . . . . J225	2,380	150	2.5	0.1
Back symptoms . . . . . S905	2,205	152	2.4	0.1
Symptoms referable to throat . . . . . S455	2,038	157	2.2	0.1
Vomiting . . . . . S530	1,903	147	2.0	0.1
Earache, or ear infection . . . . . S355	1,845	152	2.0	0.1
Pain, site not referable to a specific body system . . . . . S055	1,827	113	2.0	0.1
Shortness of breath . . . . . S415	1,750	116	1.9	0.1
Injury, other and unspecified type — head, neck, and face . . . . . J505	1,693	132	1.8	0.1
Labored or difficult breathing (dyspnea) . . . . . S420	1,646	139	1.8	0.1
Laceration and cuts — facial area . . . . . J210	1,579	104	1.7	0.1
Skin rash . . . . . S860	1,351	121	1.4	0.1
Hand and finger symptoms . . . . . S960	1,332	112	1.4	0.1
Neck symptoms . . . . . S900	1,307	98	1.4	0.1
Hand and finger injury . . . . . J570	1,184	96	1.3	0.1
Leg symptoms . . . . . S920	1,178	101	1.3	0.1
All other reasons . . . . .	49,298	1,667	52.8	0.4

... Category not applicable.

<sup>1</sup>Based on A Reason for Visit Classification for Ambulatory Care (RVC) (7).

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 principal diagnosis: United States, 1994**

<i>Principal diagnosis and ICD-9-CM code<sup>1</sup></i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	100.0	...
Infectious and parasitic diseases . . . . . 001-139	3,200	207	3.4	0.2
Neoplasms . . . . . 140-239	296	50	0.3	0.1
Endocrine, nutritional, and metabolic diseases and immunity disorders . . . . . 240-279	1,081	75	1.2	0.1
Mental disorders . . . . . 290-319	2,535	147	2.7	0.1
Diseases of the nervous system and sense organs . . . . . 320-389	5,787	341	6.2	0.2
Diseases of the circulatory system . . . . . 390-459	3,440	207	3.7	0.2
Diseases of the respiratory system . . . . . 460-519	11,894	681	12.7	0.5
Diseases of the digestive system . . . . . 520-579	5,589	293	6.0	0.2
Diseases of the genitourinary system . . . . . 580-629	3,903	217	4.2	0.2
Diseases of the skin and subcutaneous tissue . . . . . 680-709	2,614	181	2.8	0.1
Diseases of the musculoskeletal system and connective tissue . . . . . 710-739	3,860	233	4.1	0.2
Symptoms, signs, and ill-defined conditions . . . . . 780-799	11,299	567	12.1	0.4
Injury and poisoning . . . . . 800-999	31,026	1,299	33.2	0.6
Fractures . . . . . 800-829	4,014	221	4.3	0.2
Sprains . . . . . 840-848	6,004	288	6.4	0.2
Intracranial . . . . . 850-854	944	85	1.0	0.1
Open wounds . . . . . 870-897	8,175	408	8.8	0.3
Superficial . . . . . 910-919	1,642	145	1.8	0.1
Contusions . . . . . 920-924	4,976	242	5.3	0.2
Foreign bodies . . . . . 930-939	821	75	0.9	0.1
Burns . . . . . 940-949	657	64	0.7	0.1
Complications . . . . . 958-959	858	83	0.9	0.1
Poisoning and toxic effects . . . . . 960-989	1,011	91	1.1	0.1
Other injury . . . . .	1,925	111	2.1	0.1
Supplementary classification . . . . . V01-V82	3,083	209	3.3	0.2
All other diagnoses <sup>2</sup> . . . . .	1,222	93	1.3	0.1
Unknown <sup>3</sup> . . . . .	2,571	223	2.8	0.2

... Category not applicable.

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

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

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

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

**Table 11. Number and percent distribution of emergency department visits with corresponding standard errors by the 20 principal diagnoses most frequently rendered: United States, 1994**

Principal diagnosis and ICD-9-CM code <sup>1</sup>	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits . . . . .	93,402	3,721	100.0	...
Suppurative and unspecified otitis media . . . . . 382	2,956	220	3.2	0.2
Other open wound of head . . . . . 873	2,740	166	2.9	0.1
Symptoms involving respiratory system and other chest symptoms . . . . . 786	2,716	164	2.9	0.1
General symptoms . . . . . 780	2,430	191	2.6	0.2
Other symptoms involving abdomen and pelvis . . . . . 789	2,291	145	2.5	0.1
Sprains and strains of other and unspecified parts of back . . . . . 847	2,074	142	2.2	0.1
Acute upper respiratory infections of multiple or unspecified sites . . . . . 465	2,042	181	2.2	0.2
Contusion of lower limb and of other and unspecified sites . . . . . 924	2,012	123	2.2	0.1
Other noninfectious gastroenteritis and colitis . . . . . 558	1,832	152	2.0	0.1
Acute pharyngitis . . . . . 462	1,616	135	1.7	0.1
Asthma . . . . . 493	1,607	138	1.7	0.1
Other disorders of urethra and urinary tract . . . . . 599	1,555	111	1.7	0.1
Open wound of finger(s) . . . . . 883	1,495	113	1.6	0.1
Bronchitis, not specified as acute or chronic . . . . . 490	1,347	127	1.4	0.1
Sprains and strains of ankle and foot . . . . . 845	1,309	97	1.4	0.1
Symptoms involving head and neck . . . . . 784	1,283	106	1.4	0.1
Open wound of other and unspecified sites, except limbs . . . . . 879	1,265	104	1.4	0.1
Contusion of upper limb . . . . . 923	1,216	102	1.3	0.1
Pneumonia, organism unspecified . . . . . 486	1,152	109	1.2	0.1
Other and unspecified disorders of back . . . . . 724	1,093	90	1.2	0.1
All other diagnoses . . . . .	57,371	1,801	61.4	0.2

... Category not applicable.  
<sup>1</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) (5)*.  
 NOTE: Numbers may not add to totals because of rounding.

**Table 12. Number and percent distribution of emergency department visits by the 10 principal diagnoses most frequently rendered, according to patient's age: United States, 1994**

Principal diagnosis and ICD-9-CM code <sup>1</sup>	Number of visits in thousands	Total	Percent distribution					
			Under 15 years	15-24 years	25-44 years	45-64 years	65-74 years	75 years and over
All visits . . . . .	93,402	100.0	25.4	16.5	30.2	13.9	6.2	7.7
Suppurative and unspecified otitis media . . . . . 382	2,956	100.0	83.3	6.2	8.3	*1.3	*0.3	*0.6
Other open wound of head . . . . . 873	2,740	100.0	53.5	13.1	19.2	8.0	*1.6	4.5
Symptoms involving respiratory system and other chest symptoms . . . . . 786	2,716	100.0	8.3	12.0	29.4	24.2	11.2	14.8
General symptoms . . . . . 780	2,430	100.0	36.8	7.9	17.8	14.2	7.4	15.9
Other symptoms involving abdomen and pelvis . . . . . 789	2,291	100.0	14.6	23.1	35.9	12.6	6.8	7.0
Sprains and strains of other and unspecified parts of back . . . . . 847	2,074	100.0	5.3	27.2	46.6	16.2	3.1	*1.6
Acute upper respiratory infections of multiple or unspecified sites . . . . . 465	2,042	100.0	67.1	12.4	12.4	4.2	*2.2	*1.7
Contusion of lower limb and of other and unspecified sites . . . . . 924	2,012	100.0	22.5	24.9	30.1	12.7	4.4	5.5
Other noninfectious gastroenteritis and colitis . . . . . 558	1,832	100.0	43.4	12.3	27.3	10.7	*2.9	*3.4
Acute pharyngitis . . . . . 462	1,616	100.0	45.5	22.2	23.5	6.6	*1.7	*0.5
All other diagnoses . . . . .	70,694	100.0	21.1	16.9	32.1	14.8	6.8	8.3
All visits . . . . .	93,402	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Suppurative and unspecified otitis media . . . . . 382	2,956	3.2	10.4	1.2	0.9	*0.3	*0.2	*0.2
Other open wound of head . . . . . 873	2,740	2.9	6.2	2.3	1.9	1.7	*0.8	1.7
Symptoms involving respiratory system and other chest symptoms . . . . . 786	2,716	2.9	1.0	2.1	2.8	5.1	5.3	5.6
General symptoms . . . . . 780	2,430	2.6	3.8	1.2	1.5	2.7	3.1	5.4
Other symptoms involving abdomen and pelvis . . . . . 789	2,291	2.5	1.4	3.4	2.9	2.2	2.7	2.2
Sprains and strains of other and unspecified parts of back . . . . . 847	2,074	2.2	0.5	3.7	3.4	2.6	1.1	*0.5
Acute upper respiratory infections of multiple or unspecified sites . . . . . 465	2,042	2.2	5.8	1.6	0.9	0.7	*0.8	*0.5
Contusion of lower limb and of other and unspecified sites . . . . . 924	2,012	2.2	1.9	3.2	2.1	2.0	1.5	1.5
Other noninfectious gastroenteritis and colitis . . . . . 558	1,832	2.0	3.4	1.5	1.8	1.5	*0.9	*0.9
Acute pharyngitis . . . . . 462	1,616	1.7	3.1	2.3	1.3	0.8	*0.5	*0.1
All other diagnoses . . . . .	70,694	75.6	62.5	77.5	80.5	80.4	83.1	81.4

\*Figure does not meet standard of reliability or precision.  
<sup>1</sup>Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) (5)*.  
 NOTES: Instructions for determining standard errors are contained in the technical notes of this report.  
 Numbers may not add to totals because of rounding.

**Table 13. Number and percent of emergency department visits with corresponding standard errors by selected diagnostic and screening services: United States, 1994**

<i>Diagnostic and screening services ordered or provided by hospital staff<sup>1</sup></i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	...	...
Blood pressure . . . . .	68,786	3,103	73.6	1.5
Urinalysis . . . . .	15,055	733	16.1	0.4
Chest x-ray . . . . .	14,884	635	15.9	0.4
Extremity x-ray . . . . .	13,302	580	14.2	0.4
Other diagnostic imaging . . . . .	12,072	633	12.9	0.5
EKG <sup>2</sup> . . . . .	10,911	515	11.7	0.4
HIV serology <sup>3</sup> . . . . .	*379	119	0.4	0.1
Other . . . . .	28,257	1,299	30.3	0.7
None . . . . .	12,606	880	13.5	0.8

... Category not applicable.

\*Figure does not meet standard of reliability or precision.

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

<sup>2</sup>EKG is electrocardiogram.

<sup>3</sup>HIV is human immunodeficiency virus.

**Table 14. Number and percent of emergency department visits with corresponding standard errors by selected procedures: United States, 1994**

<i>Procedures provided by hospital staff<sup>1</sup></i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	...	...
Intravenous fluids . . . . .	12,949	685	13.9	0.6
Wound care . . . . .	12,104	559	13.0	0.4
Orthopedic care . . . . .	8,698	434	9.3	0.3
Eye/ENT care <sup>2</sup> . . . . .	3,044	244	3.3	0.2
Bladder catheter . . . . .	2,134	144	2.3	0.2
Nasogastric tube/gastric lavage . . . . .	702	74	0.8	0.1
Endotracheal intubation . . . . .	377	48	0.4	0.1
CPR <sup>3</sup> . . . . .	248	42	0.3	0.1
Lumbar puncture . . . . .	193	38	0.2	0.0
Other . . . . .	6,322	896	6.8	0.9
None . . . . .	53,321	2,400	57.1	1.1

... Category not applicable.

0.0 Quantity more than zero but less than 0.05.

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

<sup>2</sup>ENT is ears, nose, throat.

<sup>3</sup>CPR is cardiopulmonary resuscitation.

**Table 15. Number and percent distribution of emergency department visits with corresponding standard errors by number of medications provided or prescribed: United States, 1994**

<i>Number of medications</i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	100.0	...
None . . . . .	23,882	1,026	25.6	0.8
One . . . . .	31,374	1,416	33.6	0.5
Two . . . . .	20,404	973	21.8	0.5
Three . . . . .	9,642	497	10.3	0.3
Four . . . . .	3,969	231	4.2	0.2
Five . . . . .	4,132	293	4.4	0.3

... Category not applicable.

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

**References**

1. Lipkind KL. National Hospital Ambulatory Medical Care Survey: 1994 outpatient department summary. Advance data from vital and health statistics; no. 276. Hyattsville, Maryland: National Center for Health Statistics. 1996.
2. 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.
3. 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.
4. 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.
5. Public Health Service and Health Care Financing Administration. International Classification of Diseases, 9th revision, clinical modification. Washington: Public Health Service. 1991.
6. 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.
7. 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.
8. Food and Drug Administration. National Drug Code Directory, 1985 ed. Washington: Public Health Service. 1985.
9. 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 16. Number and percent distribution of the 20 drugs most frequently prescribed at emergency department visits with corresponding standard errors, by entry name of drug: United States, 1994**

<i>Entry name of drug<sup>1</sup></i>	<i>Number of mentions in thousands</i>	<i>Standard error in thousands</i>	<i>Percent distribution</i>	<i>Standard error of percent</i>	<i>Therapeutic classification<sup>2</sup></i>
All drug mentions. . . . .	137,644	5,789	100.0	...	...
Tylenol . . . . .	10,011	611	7.3	0.5	General analgesics
Motrin . . . . .	3,760	248	2.7	0.2	Antiarthritics
Toradol . . . . .	3,667	247	2.7	0.2	Antiarthritics
Amoxicillin . . . . .	3,606	298	2.6	0.3	Penicillins
Phenergan . . . . .	3,245	258	2.4	0.2	Antitussives
Tylenol with codeine . . . . .	2,419	181	1.8	0.2	General anesthetics
Vicodin . . . . .	2,315	250	1.7	0.3	General anesthetics
Benadryl . . . . .	2,074	164	1.5	0.1	Antihistamines
Keflex . . . . .	2,035	146	1.5	0.1	Cephalosporins
Advil . . . . .	1,850	157	1.3	0.1	Antiarthritics
Ibuprofen . . . . .	1,815	194	1.3	0.2	Antiarthritics
Oxygen . . . . .	1,713	194	1.2	0.2	Medical gases
Darvocet-N . . . . .	1,699	161	1.2	0.2	General analgesics
Diphtheria tetanus toxoids . . . . .	1,631	178	1.2	0.2	Vaccines and antisera
Vistaril . . . . .	1,545	154	1.1	0.2	Sedatives and hypnotics
Rocephin . . . . .	1,539	130	1.1	0.1	Cephalosporins
Proventil . . . . .	1,397	137	1.0	0.1	Bronchodilators, antiasthmatics
Amoxil . . . . .	1,328	171	1.0	0.2	Penicillins
Albuterol sulfate . . . . .	1,308	149	1.0	0.2	Bronchodilators, antiasthmatics
Lasix . . . . .	1,276	106	0.9	0.1	Diuretics
All other mentions . . . . .	87,411	2,236	63.5	0.2	...

... Category not applicable.

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

<sup>2</sup>Therapeutic classification is based on the *National Drug Code Directory*, 1985 edition (8). In cases where a drug had more than one therapeutic classification, it was listed in the category which occurred with the greatest frequency.

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

**Table 17. Number and percent of emergency department visits with corresponding standard errors by patient's expected source(s) of payment: United States, 1994**

<i>Expected source(s) of payment<sup>1</sup></i>	<i>Number of visits in thousands</i>	<i>Standard error in thousands</i>	<i>Percent</i>	<i>Standard error of percent</i>
All visits . . . . .	93,402	3,721	...	...
Private/commercial insurance . . . . .	32,375	1,639	34.7	1.0
Medicaid . . . . .	23,054	1,245	24.7	0.9
Medicare . . . . .	13,933	656	14.9	0.4
Patient-paid . . . . .	12,523	737	13.4	0.7
HMO/other prepaid <sup>2</sup> . . . . .	8,467	714	9.1	0.7
Other government . . . . .	3,098	246	3.3	0.2
No charge . . . . .	227	41	0.2	0.2
Other . . . . .	6,093	594	6.5	0.6
Unknown . . . . .	2,315	445	2.5	0.5

... Category not applicable.

<sup>1</sup>Total exceeds total number of visits because more than one expected pay source may be coded for each visit.

<sup>2</sup>HMO is health maintenance organization.

**Table 18. Number and percent of emergency department visits with corresponding standard errors by type of provider(s) seen: United States, 1994**

Type of provider <sup>1</sup>	Number of visits in thousands	Standard error in thousands	Percent	Standard error of percent
All visits . . . . .	93,402	3,721	...	...
Staff physician . . . . .	78,664	3,598	84.2	1.5
Registered nurse . . . . .	78,595	3,497	84.1	1.8
Resident/intern . . . . .	11,767	1,524	12.6	1.5
Other physician . . . . .	9,450	1,084	10.1	1.2
Nurse's aide . . . . .	4,986	881	5.3	0.9
Licensed practical nurse . . . . .	4,845	653	5.2	0.7
Physician assistant/nurse practitioner . . . . .	3,842	616	4.1	0.7
Other . . . . .	7,178	1,026	7.7	1.1

... Category not applicable.

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

**Table 19. Number and percent of emergency department visits with corresponding standard errors by disposition of visit: United States, 1994**

Disposition <sup>1</sup>	Number of visits in thousands	Standard error in thousands	Percent	Standard error of percent
All visits . . . . .	93,402	3,721	...	...
Refer to other physician/clinic . . . . .	34,760	1,928	37.2	1.4
Return to ED PRN <sup>2</sup> . . . . .	25,843	1,964	27.7	1.7
Return to referring physician . . . . .	23,528	1,619	25.2	1.6
Admit to hospital . . . . .	11,315	569	12.1	0.5
No followup planned . . . . .	6,652	639	7.1	0.6
Return to ED appointment . . . . .	4,123	371	4.4	0.4
Transfer to other facility . . . . .	1,730	141	1.9	0.2
DOA/died in ED <sup>3</sup> . . . . .	277	43	0.3	0.1
Other . . . . .	2,252	226	2.4	0.3

... Category not applicable.

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

<sup>2</sup>PRN is as needed.

<sup>3</sup>DOA is dead on arrival.

## Technical notes

### Source of data and sample design

The information presented in this report is based on data collected in the 1994 National Hospital Ambulatory Medical Care Survey (NHAMCS) from December 27, 1993, through December 25, 1994. The data were adjusted to produce annual estimates. The target universe of NHAMCS includes in-person visits made in the United States by patients to emergency departments (EDs) and outpatient departments (OPDs) of non-Federal, short-stay hospitals (hospitals with an average length of stay for all patients of fewer than 30 days) or those whose specialty is general (medical or surgical) or children's general. From 1992 through the present, the NHAMCS sampling frame consists of hospitals that were listed in the April 1991 SMG Hospital Database.

A four-stage probability sample design is used in NHAMCS; the design involves samples of primary sampling units (PSUs), hospitals within PSUs, EDs within hospitals and/or clinics within outpatient departments (OPDs), and patient visits within EDs and/or clinics. The PSU sample consists of 112 PSUs that comprise a probability subsample of the PSUs used in the 1985-94 National Health Interview Survey. The hospital sample for 1994 consisted of 489 hospitals. Of this group, 443 hospitals had either an ED or OPD in 1994 to make them in-scope or eligible for the survey. During this period, 95 percent of the in-scope hospitals participated. There were 418 EDs that provided data for the survey. Hospital staff were asked to complete Patient Record forms (see 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 EDs was 26,547.

Characteristics of the hospital, such as ownership and expected number of ED visits, were obtained from the hospital administrator during an induction interview. 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.

### 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 this report (including tests of significance) were approximated using SUDAAN software. SUDAAN computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and the approach it uses has been published (9). Standard errors for NHAMCS estimates are included in all tables, unless otherwise noted. 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, 1994: Emergency department**

Type of estimate	Coefficient for use with estimates in thousands	
	A	B
Visits . . . . .	0.002192	5.525659
Drug mentions . . . . .	0.003289	8.641916

standard error of the total estimate by the rate.

### 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 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 EDs 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 EDs or clinics data from visits to similar EDs or clinics. For this purpose, EDs or clinics were judged similar if they were in the same ED or clinic group.

### Test 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.

### Definition of terms

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

*Hospital*—All hospitals with an average length of stay for all patients of less than 30 days (short-stay) or hospital whose specialty is general (medical or surgical) or children's general except Federal hospitals and hospital units of institutions and hospitals with fewer 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 a place of injury was reported in item 10, a cause of injury or a nature of injury diagnosis was provided, or an injury-related reason for visit was given.

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

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