

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: 1993 Emergency Department Summary

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During the 12-month period from January 1993 through December 1993, an estimated 90.3 million visits were made to hospital emergency departments (EDs) of non-Federal, short-stay, or general hospitals in the United States—about 35.5 visits per 100 persons. This report presents data on ED visits from the 1993 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 1993 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 1993, 90.3 million visits were made to hospital emergency departments—about 35.5 visits per 100 persons.
- Persons 75 years of age and over had a higher ED visit rate than persons in the five other age categories.
- Black persons had a higher ED visit rate than white persons.
- There were 36.5 million ED visits because of injuries—about 14.4 visits per 100 persons. Injury-related visits represented two-fifths of all ED utilization.
- 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.
- Four percent of ED visits were alcohol and/or drug-related.
- Stomach and abdominal pain, cramps and spasms was the most frequently mentioned reason for visit to the ED.
- Suppurative and unspecified otitis media was the most frequent principal diagnosis for ED visits.
- Intravenous fluids were administered at 14 percent of ED visits.
- Medication was administered or prescribed at three-quarters of ED visits.

- Thirteen percent of ED visits resulted in hospital admission.

Patient characteristics

ED visits by patient's age, sex, and race are shown in table 1. Females made 52.2 percent of all ED visits. There was no significant difference in total visit rates by sex. White persons made 77.7 percent of all ED visits, with black persons and Asian/Pacific Islanders accounting for 20.2 percent and 1.5 percent, respectively.

Persons 75 years of age and over had a higher ED visit rate (57.8 visits per 100 persons,) than persons in the five other age categories. Likewise, white persons 75 years of age and over had a higher ED visit rate (57.2 visits per 100 persons) than white persons in the other five age groups. The ED visit rate for males 75 years of age and over (60.4 visits per 100 persons) was higher than for males in the other age categories. Females 75 years of age and over had a higher ED visit rate than females in all age groups except 15–24 years. The visit rate for black persons was higher than for white persons overall and for all age categories except 75 years and over. Using age-adjusted



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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**

3. DATE OF VISIT _____/_____/_____ Month Day Year	5. SEX 1 <input type="checkbox"/> Female 2 <input type="checkbox"/> Male	6. RACE 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	7. ETHNICITY 1 <input type="checkbox"/> Hispanic origin 2 <input type="checkbox"/> Not Hispanic	8. EXPECTED SOURCE(S) OF PAYMENT <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	9. PLACE OF INJURY <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> _____
4. DATE OF BIRTH _____/_____/_____ Month Day Year	10. CAUSE OF INJURY <i>(Describe events that preceded injury, e.g., driver of motor vehicle, O.D. of cocaine, fell off swing.)</i> _____ _____ _____		11. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT <i>(In patient's own words)</i> a. Most important: _____ b. Other: _____ c. Other: _____		12. PHYSICIAN'S DIAGNOSES a. Principal diagnosis / problem associated with item 11.a: _____ b. Other: _____ c. Other: _____
13. URGENCY OF THIS VISIT <i>(Check only one)</i> 1 <input type="checkbox"/> Urgent/Emergent 2 <input type="checkbox"/> Non-urgent	14. IS VISIT ALCOHOL-OR DRUG-RELATED? 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		15. DIAGNOSTIC/SCREENING SERVICES <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> _____ _____ _____		16. PROCEDURES <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> _____ _____ _____
17. MEDICATIONS / INJECTIONS None <input type="checkbox"/> Include: • Rx and OTC • Meds ordered, supplied, or administered • New meds • Continuing meds (with or without new orders) • Immunizations • Allergy shots • Anesthetics 1 _____ 2 _____ 3 _____ 4 _____ 5 _____			18. DISPOSITION THIS VISIT <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> _____		19. PROVIDERS SEEN THIS VISIT <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

rates, black persons were 1.7 times more likely to make an ED visit than were white persons. For ages 25–44 years, black persons were twice as likely as white persons to make an ED visit.

Visits according to geographic region are 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

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, 1993

<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 year¹</i>	<i>Standard error of rate</i>
All visits	90,266	4,273	100.0	. . .	35.5	1.7
Age						
Under 15 years	22,705	1,441	25.2	0.9	39.7	2.5
15–24 years	15,178	821	16.8	0.3	44.2	2.4
25–44 years	27,226	1,339	30.2	0.6	33.4	1.6
45–64 years	12,450	594	13.8	0.2	25.0	1.2
65–74 years	5,394	313	6.0	0.2	29.0	1.7
75 years and over	7,312	442	8.1	0.3	57.8	3.5
Sex and age						
Female	47,099	2,274	52.2	0.4	36.1	1.7
Under 15 years	10,258	660	11.4	0.6	36.7	2.7
15–24 years	8,511	487	9.4	0.3	49.4	2.8
25–44 years	14,097	713	15.6	0.4	34.0	1.7
45–64 years	6,732	357	7.5	0.3	26.1	1.4
65–74 years	3,070	189	3.4	0.2	29.9	1.8
75 years and over	4,431	286	4.9	0.2	56.2	3.6
Male	43,167	2,083	47.8	0.4	34.9	1.8
Under 15 years	12,447	809	13.8	0.8	42.5	2.8
15–24 years	6,667	388	7.4	0.2	38.9	2.5
25–44 years	13,130	700	14.5	0.4	32.7	1.7
45–64 years	5,717	298	6.3	0.2	23.9	1.5
65–74 years	2,324	157	2.6	0.1	27.8	3.3
75 years and over	2,882	207	3.2	0.1	60.4	6.4
Race and age						
White	70,101	3,800	77.7	1.3	33.2	1.8
Under 15 years	16,863	1,142	18.7	0.8	37.1	2.5
15–24 years	11,642	724	12.9	0.4	42.5	2.6
25–44 years	20,493	1,145	22.7	0.6	30.3	1.7
45–64 years	9,894	528	11.0	0.4	23.1	1.2
65–74 years	4,666	296	5.2	0.2	28.2	1.8
75 years and over	6,542	434	7.2	0.3	57.2	3.8
Black	18,276	1,093	20.2	1.2	57.1	3.4
Under 15 years	5,279	504	5.8	0.9	57.7	5.5
15–24 years	3,253	231	3.6	0.2	63.3	4.5
25–44 years	6,130	418	6.8	0.5	61.7	4.2
45–64 years	2,274	167	2.4	0.2	44.3	3.3
65–74 years	655	64	0.8	0.1	39.1	3.8
75 years and over	685	80	0.6	0.1	68.6	8.0
All other races						
Asian/Pacific Islander	1,388	298	1.5	0.3	---	---
American Indian/Eskimo/Aleut	*501	201	0.6	0.4	---	---
Geographic region						
Northeast	17,441	1,563	19.3	1.2	34.9	3.1
Midwest	25,000	2,451	27.7	1.9	40.3	3.7
South	30,876	2,377	34.2	1.8	36.2	2.8
West	16,948	2,038	18.8	1.6	29.8	3.4

¹Based on U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1993.

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

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, 1993

Patient characteristic	Number of urgent visits in thousands	Standard error in thousands	Number of urgent visits per 100 persons per year ¹	Number of nonurgent visits in thousands	Standard error in thousands	Number of nonurgent visits per 100 persons per year ¹
All visits	40,576	2,037	16.0	49,690	3,025	19.5
Age						
Under 15 years	8,835	734	15.4	13,870	1,014	24.2
15–24 years	6,090	349	17.7	9,088	633	26.5
25–44 years	11,088	575	13.6	16,139	1,028	19.8
45–64 years	6,284	331	12.6	6,166	371	12.4
65–74 years	3,436	233	18.5	1,959	147	10.5
75 years and over	4,843	305	38.3	2,469	213	19.5
Sex and age						
Female	20,460	1,050	15.7	26,639	1,654	20.4
Under 15 years	3,771	320	13.5	6,487	483	23.2
15–24 years	3,281	196	19.0	5,229	385	30.3
25–44 years	5,357	306	12.9	8,739	576	21.1
45–64 years	3,314	197	12.8	3,418	235	13.2
65–74 years	1,847	141	18.0	1,223	99	11.9
75 years and over	2,889	198	36.6	1,542	141	19.6
Male	20,116	1,054	16.3	23,051	1,423	18.6
Under 15 years	5,064	437	17.3	7,383	559	25.2
15–24 years	2,809	187	16.4	3,859	286	22.5
25–44 years	5,730	334	14.3	7,399	503	18.4
45–64 years	2,970	187	12.4	2,748	172	11.5
65–74 years	1,589	128	19.0	735	74	8.8
75 years and over	1,954	136	41.0	927	115	19.4
Race and age						
White	32,190	1,816	15.2	37,912	2,592	17.9
Under 15 years	6,825	517	15.0	10,557	848	23.2
15–24 years	4,939	305	18.0	7,077	550	25.8
25–44 years	8,937	506	13.2	12,259	851	18.1
45–64 years	5,220	301	12.2	5,002	315	11.7
65–74 years	3,068	222	18.6	1,696	139	10.3
75 years and over	4,543	300	39.7	2,232	199	19.5
Black	7,745	567	24.2	10,530	783	32.9
Under 15 years	2,201	340	24.1	3,105	283	34.0
15–24 years	1,260	113	24.5	2,013	178	39.2
25–44 years	2,391	189	24.1	3,844	305	38.7
45–64 years	1,143	94	22.3	1,155	113	22.5
65–74 years	418	49	25.0	236	37	14.1
75 years and over	436	57	43.6	263	51	26.3

¹Based on U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1993.

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

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 (2). A comprehensive picture of urgency must consider 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.

The majority (55.0 percent) of ED visits were nonurgent; 45.0 percent were urgent/emergent (table 2). Persons 75 years of age and over had the highest urgent visit rate (38.3 visits per 100 persons). Persons 15–24 years of age had a higher rate of nonurgent visits (26.5 visits per 100 persons) than any other age group, except children under 15 years of age. There was no significant difference between urgent and nonurgent visit rates by sex. The nonurgent visit rate for black persons (32.9 visits per 100 persons) was higher than the nonurgent rate for white persons (17.9 visits per 100 persons). Black persons were 1.8 times more likely to make a nonurgent visit than were white persons.

Injury-related visits

Injury-related visits represented 40.4 percent of all ED visits in 1993. An ED visit was considered injury-related if a place of injury was shown 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-

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, 1993

Patient characteristic	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent	Number of visits per 100 persons per year ¹
All injury-related visits	36,492	1,787	100.0	...	14.4
Age					
Under 15 years	8,850	556	24.3	0.9	15.5
15–24 years	7,400	417	20.3	0.5	21.5
25–44 years	12,135	614	33.3	0.7	14.9
45–64 years	4,467	241	12.2	0.3	9.0
65–74 years	1,485	121	4.1	0.3	8.0
75 years and over	2,156	160	5.9	0.3	17.0
Sex and age					
Female	16,378	847	44.9	0.7	12.5
Under 15 years	3,665	240	10.0	0.4	13.1
15–24 years	3,047	186	8.3	0.3	17.7
25–44 years	5,136	309	14.1	0.5	12.4
45–64 years	2,248	148	6.2	0.3	8.7
65–74 years	857	79	2.3	0.2	8.4
75 years and over	1,425	121	3.9	0.3	18.1
Male	20,114	1,021	55.1	0.7	16.3
Under 15 years	5,184	346	14.2	0.6	17.7
15–24 years	4,354	277	11.9	0.4	25.4
25–44 years	6,999	363	19.2	0.5	17.4
45–64 years	2,219	144	6.1	0.3	9.3
65–74 years	627	73	1.7	0.2	7.5
75 years and over	730	77	2.0	0.2	15.3
Race and age					
White	29,708	1,609	81.4	1.1	14.1
Under 15 years	7,062	474	19.4	0.7	15.5
15–24 years	5,880	371	16.1	0.5	21.5
25–44 years	9,744	548	26.7	0.7	14.4
45–64 years	3,704	219	10.2	0.3	8.6
65–74 years	1,353	116	3.7	0.3	8.2
75 years and over	1,965	151	5.4	0.3	17.2
Black	6,060	412	16.6	1.0	18.9
Under 15 years	1,618	160	4.4	0.4	17.7
15–24 years	1,372	121	3.8	0.3	26.7
25–44 years	2,118	162	5.8	0.4	21.3
45–64 years	655	64	1.8	0.2	12.8
65–74 years	123	24	0.3	0.1	7.3
75 years and over	174	28	0.5	0.1	17.4

¹Based on U.S. Bureau of the Census estimates of the civilian, noninstitutionalized population of the United States as of July 1, 1993.

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

related visits. Each of these items measures a unique aspect of injury. This differs from the way that injury-related visits were determined in the 1992 report, which included only cause of injury and an item indicating whether the visit was for injury or illness. In 1993 approximately 36.5 million ED visits were made for injury (table 3). Persons 15–24 years of age had a higher injury-related visit rate (21.5 visits per 100 persons) than persons in each of the other age categories except persons 75 years of age and over. Males had a

higher injury-related visit rate (16.3 visits per 100 persons) than females (12.5 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 (18.9 per 100 persons) was higher than for white persons (14.1 per 100 persons) overall and for persons 25–44 years and 45–64 years of age. However, white persons had a higher likelihood of making an injury- versus illness-related ED visit (14:19 visits per

100 persons) compared with black persons (19:38 visits per 100 persons).

The place of injury item was added to the Patient Record form in 1993 to collect better data on injury-related visits to EDs. The largest percent of injuries resulting in an ED visit occurred in the home (36.5 percent) (table 4). Fourteen percent took place on the street/highway and 11.8 percent of injuries happened at work. Table 5 displays the place of injury by the patient's age. The largest proportion of injuries occurred in the home for all age groups and accounted for half of all injuries for persons under 15 years, 65–74 years, and 75 years of age and over (49.5 percent, 49.4 percent, and 49.8 percent, respectively). One-fifth of all injuries for persons 25–44 years happened at work. One in ten injury-related ED visits occurred at school/day care for those under 15 years of age. 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) (3). 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. Thirty percent of the visits had a cause of injury classified under the broad heading of Other accidents (E916–E928). Accidental falls (E880–E888) (20.9 percent of all injury visits) and motor vehicle accidents (E810–E825) (10.9 percent) were the second and third largest categories. The four most frequently occurring three-digit E–codes were unspecified fall (E888) (10.6 percent), striking against or struck by objects or persons (E917) (9.7 percent), cutting or piercing instruments (E920) (7.4 percent), and unspecified motor vehicle accident (E819) (7.7 percent).

Alcohol- and/or drug-related problem

Of all ED visits, 4 percent were alcohol-related, drug-related, or both.

Table 4. Number and percent distribution of emergency department visits with corresponding standard errors by place of injury: United States, 1993

Place of injury	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All injury-related visits	36,492	1,787	100.0	...
Home	13,328	783	36.5	0.9
Street/highway	5,166	292	14.2	0.5
Work	4,291	259	11.8	0.5
School/day care	1,337	129	3.7	0.3
Other	4,526	325	12.4	0.6
Unspecified	7,843	450	21.5	0.8

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, 1993

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	36,492	1,787	100.0	...
Under 15 years	8,850	556	100.0	...
Home	4,382	319	49.5	2.4
Street/highway	801	74	9.1	0.7
Work	*	*	*	*
School/day care	832	94	9.4	0.9
Other	1,064	101	12.0	1.1
Unspecified	1,724	138	19.5	1.0
15–24 years	7,400	417	100.0	...
Home	2,005	158	27.1	1.4
Street/highway	1,542	123	20.8	1.4
Work	1,004	87	13.6	1.1
School/day care	415	52	5.6	0.6
Other	1,087	116	14.7	1.3
Unspecified	1,348	111	18.2	1.1
25–44 years	12,135	614	100.0	...
Home	3,617	240	29.8	1.4
Street/highway	1,881	130	15.5	0.8
Work	2,501	169	20.6	1.1
School/day care	64	15	0.5	0.1
Other	1,411	125	11.6	0.9
Unspecified	2,661	179	21.9	1.0
45–64 years	4,467	241	100.0	...
Home	1,517	117	34.0	1.9
Street/highway	632	60	14.1	1.3
Work	672	57	15.0	1.1
School/day care	*	*	*	*
Other	484	60	10.8	1.2
Unspecified	1,156	92	25.9	1.7
65–74 years	1,485	121	100.0	...
Home	734	82	49.4	4.9
Street/highway	170	31	11.4	2.1
Work	*	*	*	*
School/day care	*	*	*	*
Other	160	37	10.8	2.4
Unspecified	384	50	25.9	3.0
75 years and over	2,156	160	100.0	...
Home	1,073	93	49.8	3.7
Street/highway	140	28	6.5	1.3
Work	*	*	*	*
School/day care	*	*	*	*
Other	320	46	14.8	2.0
Unspecified	571	81	26.5	3.0

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

Alcohol-related visits accounted for 2.3 percent of ED visits, and drug-related visits accounted for 1.3 percent (table 7). Visits related to both alcohol and drugs accounted for 0.4 percent of all ED visits. Visits related to alcohol and/or drug use were 1.6 times more likely to be for 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, 60 percent were for injuries compared with only 37.8 percent of visits that were not related to alcohol and/or drug use.

Information on whether the visit is alcohol and/or drug related is often missing from ED medical records. Since most NHAMCS ED data are abstracted, these figures likely underestimate the number 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 (4).

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 three reasons for visit are classified and coded according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (5). 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. Of all visits, 71.3 percent were made for reasons classified in the symptom module, with general symptoms accounting for 16.2 percent of all visits, and symptoms referable to the musculoskeletal system accounting for 14.2 percent. An additional 20.0 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 5 percent of all reasons

Table 6. Number and percent distribution of emergency department visits with corresponding standard errors by cause of injury: United States, 1993

<i>Cause of injury and E-code¹</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 injury-related visits	36,492	1,787	100.0	...
Other accidents. E916–E928	11,350	667	31.1	0.9
Struck by falling object E916	336	37	0.9	0.0
Striking against or struck by objects or persons. E917	3,536	234	9.7	0.2
Caught in or between objects. E918	694	67	1.9	0.1
Machinery. E919	237	36	0.6	0.0
Cutting or piercing instruments E920	2,698	208	7.4	0.2
Firearm missile. E922	184	31	0.5	0.0
Hot substance, caustic or corrosive material. E924	364	46	1.0	0.0
Overexertion E927	1,612	137	4.4	0.1
Other and unspecified causes E928	1,589	130	4.4	0.1
Accidental falls E880–E888	7,616	419	20.9	0.7
Fall from stairs. E880	720	76	2.0	0.1
Fall from ladders. E881	217	38	0.6	0.0
Fall from building E882	69	17	0.2	0.0
Fall into hole E883	54	16	0.1	0.1
Other fall from one level to another E884	1,256	100	3.4	0.1
Fall on same level. E885	1,374	115	3.8	0.1
Other and unspecified falls E888	3,857	222	10.6	0.2
Motor vehicle accidents, traffic and nontraffic. E810–E825	3,987	242	10.9	0.6
Other motor vehicle accident involving collision with another motor vehicle. E812	466	66	1.3	0.1
Motor vehicle accident involving collision with other vehicle E813	107	25	0.3	0.0
Motor vehicle collision with pedestrian E814	152	21	0.4	0.0
Motor vehicle accident due to loss of control without collision on highway E816	133	26	0.4	0.0
Other noncollision motor vehicle accident E818	79	21	0.2	0.0
Unspecified motor vehicle accident E819	2,805	201	7.7	0.2
Homicide and injury purposely inflicted by other persons E960–969	1,406	101	3.9	0.3
Fight, brawl, rape E960	563	62	1.5	0.1
Assault by cutting/piercing instrument. E966	96	17	0.3	0.0
Unspecified assault E968	720	60	2.0	0.1
Accidents due to natural and environmental factors. E900–909	1,228	96	3.4	0.2
Venomous animals and plants E905	402	52	1.1	0.1
Other injury caused by animals. E906	762	72	2.1	0.1
Accidents caused by submersion, suffocation, and foreign bodies. E910–E915	936	82	2.6	0.3
Foreign body in eye. E914	518	55	1.4	0.1
Foreign body in other orifice E915	322	46	0.9	0.0
Other road vehicle accidents. E826–E829	522	64	1.4	0.2
Other road accident. E826	438	59	1.2	0.1
Accident involving animal being ridden E828	83	23	0.2	0.0
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	*35	11	0.0	0.0
Drugs, medicinal and biological substances causing adverse effects in therapeutic use E930–E949	495	57	1.4	0.1
Due to unspecified drugs E947	171	28	0.5	0.0
Accidental poisoning by drugs, medicinal substances, and biologicals E850–858	551	68	1.5	0.2
Poisoning by analgesics, antipyretics, and antirheumatics E850	136	24	0.4	0.0
Poisoning by other drugs E858	268	47	0.7	0.0
Accidental poisoning by other solid and liquid substances, gases, and vapors E860–E869	348	44	1.0	0.1
Suicide and self-inflicted injury E950–E959	167	26	0.5	0.0
Attempted suicide by solid or liquid substances. E950	103	19	0.3	0.0
Accidents caused by fire and flames. E890–E899	171	31	0.5	0.1
Unspecified fires. E899	85	17	0.2	0.0
Other ²	317	43	0.9	0.0
Unknown ³	7,363	445	20.0	0.5

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (3).

²Includes all other major E-code categories where the estimate was too low to be reliable.

³Includes uncodable, illegible, and blank E-codes.

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

for visit mentioned. Injury of the upper extremity was the most frequently mentioned reason for visit in the injury module (2.6 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.

Table 7. Number and percent distribution of alcohol- and/or drug-related emergency department visits with corresponding standard errors: United States, 1993

Visit characteristic	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	90,266	4,273	100.0	...
Alcohol- and/or drug-related visit:				
Neither	76,190	3,553	84.4	1.2
Alcohol-related	2,039	147	2.3	0.1
Drug-related	1,178	87	1.3	0.1
Both	326	44	0.4	0.0
Unknown	10,532	1,269	11.7	1.2

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

Table 8. Number and percent distribution of emergency department visits with corresponding standard errors by patient's principal reason for visit: United States, 1993

Principal reason for visit and RVC code ¹	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All visits	90,266	4,273	100.0	...
Symptom moduleS001-S999				
General symptomsS001-S099	14,616	783	16.2	0.3
Symptoms referable to psychological/mental disordersS100-S199	1,272	107	1.4	0.1
Symptoms referable to the nervous system (excluding sense organs)S200-S259	5,254	289	5.8	0.2
Symptoms referable to the cardiovascular/lymphatic systemS260-S299	646	69	0.7	0.1
Symptoms referable to the eyes and earsS300-S399	3,763	282	4.2	0.2
Symptoms referable to the respiratory systemS400-S499	10,855	692	12.0	0.4
Symptoms referable to the digestive systemS500-S639	10,060	514	11.1	0.3
Symptoms referable to the genitourinary systemS640-S829	2,862	181	3.2	0.1
Symptoms referable to the skin, hair, and nailsS830-S899	2,188	170	2.4	0.1
Symptoms referable to the musculoskeletal systemS900-S999	12,818	742	14.2	0.4
Disease moduleD001-D999				
Diagnostic, screening, and preventive moduleX100-X599	878	106	1.0	0.1
Treatment moduleT100-T899	2,059	129	2.3	0.1
Injuries and adverse effects moduleJ001-J999	18,074	875	20.0	0.5
Test results moduleR100-R700	186	35	0.2	0.0
Administrative moduleA100-A140	207	53	0.2	0.1
Other ²U990-U999	1,414	286	1.6	0.3

¹Based on *A Reason for Visit Classification for Ambulatory Care (RVC)* (5).

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

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

Up to three diagnoses are coded and classified according to the ICD-9-CM. 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 31.6 percent of all visits, and diseases of the respiratory system accounted for 13.3 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 account for more than one-third of all ED visits. Suppurative and unspecified otitis media was the

diagnosis most frequently rendered, accounting for 3.7 percent of all ED visits.

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 12. Of all ED visits, 85.8 percent included one or more diagnostic or screening service. The average number of diagnostic or screening services per ED visit was 1.9. The most frequently mentioned

diagnostic service was blood pressure check, recorded at 73.6 percent of visits. Other frequently mentioned services included chest x ray (16.5 percent) and urinalysis (15.8 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 that item; therefore, multiple responses could be coded for each visit.

Procedures

Procedures were performed at 42.0 percent of ED visits (table 13). For visits with procedures, an average of 1.2 procedures were performed per visit. The most frequently mentioned procedure was the administration of intravenous fluids, recorded at 14.2 percent of visits. Other frequently mentioned procedures were wound care (12.3 percent) and orthopedic care (8.6 percent).

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.

Table 14 shows the distribution of ED visits by the number of medications administered or prescribed. Medications were used at three-quarters of all ED visits. There was an average of 1.5 drug mentions per ED visit and 2.1 mentions per drug visit. Only one drug mention was recorded at 31.4 percent of ED visits.

The 15 most frequently mentioned medications are shown in table 15 according to the name written on the ED Patient Record form by the health care provider. This could be a brand name, generic name, or therapeutic effect. Tylenol, which is classified as a

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, 1993

<i>Reason for visit and RVC code¹</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	90,266	4,273	100.0	...
Stomach and abdominal pain, cramps and spasms S545	5,106	270	5.7	0.2
Chest pain and related symptoms S050	4,503	273	5.0	0.2
Fever S010	4,426	329	4.9	0.3
Headache, pain in head S210	2,544	190	2.8	0.1
Injury—upper extremity J225	2,312	144	2.6	0.1
Cough S440	2,144	203	2.4	0.2
Back symptoms S905	2,044	139	2.3	0.1
Symptoms referable to throat S455	2,013	226	2.2	0.2
Pain, site not referable to a specific body system S055	1,955	140	2.2	0.1
Shortness of breath S415	1,877	130	2.1	0.1
Earache or ear infection S355	1,804	149	2.0	0.1
Vomiting S530	1,757	149	1.9	0.1
Laceration and cuts—facial area J210	1,631	120	1.8	0.1
Injury, other and unspecified type—head, neck, and face J505	1,385	99	1.5	0.1
Hand and finger symptoms S960	1,383	113	1.5	0.1
Labored or difficult breathing (dyspnea) S420	1,314	111	1.5	0.1
Neck symptoms S900	1,305	113	1.4	0.1
Skin rash S860	1,122	104	1.2	0.1
Head and finger injury J570	1,035	82	1.1	0.1
Vertigo—dizziness S225	1,029	89	1.1	0.1
All other reasons	47,577	2,167	52.7	0.5

¹Based on *A Reason for Visit Classification for Ambulatory Care (RVC)* (5).

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, 1993

<i>Principal diagnosis and ICD-9-CM code¹</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	90,266	4,273	100.0	...
Infectious and parasitic diseases 001-139	3,389	239	3.8	0.2
Neoplasms 140-239	282	44	0.3	0.0
Endocrine, nutritional and metabolic diseases and immunity disorders 240-279	958	97	1.1	0.1
Mental disorders 290-319	2,398	194	2.7	0.2
Diseases of the nervous system and sense organs 320-389	6,164	414	6.8	0.3
Diseases of the circulatory system 390-459	3,795	233	4.2	0.2
Diseases of the respiratory system 460-519	11,990	814	13.3	0.5
Diseases of the digestive system 520-579	5,014	282	5.6	0.2
Diseases of the genitourinary system 580-629	3,998	217	4.4	0.2
Diseases of the skin and subcutaneous tissue 680-709	2,451	174	2.7	0.1
Diseases of the musculoskeletal system and connective tissue 710-739	3,520	212	3.9	0.2
Symptoms, signs, and ill-defined conditions 780-799	10,851	620	12.0	0.4
Injury and poisoning 800-999	28,530	1,392	31.6	0.6
Fracture 800-829	3,644	239	4.0	0.2
Sprains 840-848	5,512	371	6.1	0.3
Intracranial 850-854	695	60	0.8	0.1
Open wound 870-897	7,522	411	8.3	0.3
Superficial 910-919	1,576	129	1.7	0.1
Contusion 920-924	4,978	285	5.5	0.2
Foreign bodies 930-939	571	56	0.6	0.1
Burns 940-949	580	57	0.6	0.1
Complications 958-959	699	93	0.8	0.1
Poisoning and toxic effects 960-989	1,109	102	1.2	0.1
Other injury	1,643	105	1.8	0.1
Supplementary classification V01-V82	3,526	219	3.9	0.2
All other diagnoses ²	925	87	1.0	0.1
Unknown ³	2,475	208	2.7	0.2

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* (3).

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.

general analgesic, was the drug most frequently ordered or prescribed, accounting for 7.7 percent of all ED drug mentions. Toradol, which is classified as an antiarthritic, was ordered or prescribed at 2.9 percent of ED visits. Classifications are based on the therapeutic categories used in the *National Drug Code Directory*, 1985 edition (NDC) (6).

Expected source of payment

Private/commercial insurance (36.8 percent) was the most frequently expected source of payment at ED visits (table 16). Also prominent on the list were Medicaid (23.2 percent), Medicare (15.6 percent), and patient-paid (14.1 percent). The patient-paid category includes the patient's contribution toward co-payments and deductibles. Visits with an expected source of payment of Medicare, Medicaid, or no

Table 11. Number and percent distribution of emergency department visits with corresponding standard errors by the 20 principal diagnoses most frequently rendered: United States, 1993

<i>Principal diagnosis and ICD-9-CM code¹</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	90,266	4,273	100.0	...
Suppurative and unspecified otitis media	382	3,362	276	3.7
Symptoms involving respiratory system and other chest symptoms	786	2,857	181	3.2
Other open wound of head	873	2,593	167	2.9
Other symptoms involving abdomen and pelvis	789	2,268	155	2.5
General symptoms	780	2,251	201	2.5
Acute upper respiratory infections of multiple or unspecified sites	465	2,111	202	2.3
Contusion of lower limb and of other and unspecified sites	924	1,841	116	2.0
Sprains and strains of other and unspecified parts of back	847	1,803	145	2.0
Asthma	493	1,686	123	1.9
Acute pharyngitis	462	1,614	162	1.8
Other noninfectious gastroenteritis and colitis	558	1,534	125	1.7
Other disorders of urethra and urinary tract	599	1,516	111	1.7
Sprains and strains of ankle and foot	845	1,430	115	1.6
Symptoms involving head and neck	784	1,386	143	1.5
Open wound of finger(s)	883	1,318	89	1.5
Bronchitis, not specified as acute or chronic	490	1,308	121	1.4
Contusion of upper limb	923	1,280	114	1.4
Viral and chlamydial infection in conditions classified elsewhere and of unspecified site	079	1,199	107	1.3
Pneumonia, organism unspecified	486	1,138	116	1.3
Other and unspecified disorders of back	724	1,058	97	1.2
All other diagnoses	54,713	2,551	60.6	0.5

¹Based on the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) (3)*.

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

Table 12. Number and percent of emergency department visits with corresponding standard errors by selected diagnostic and screening services: United States, 1993

<i>Diagnostic and screening services ordered or provided by hospital staff¹</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	90,266	4,273	...	...
Blood pressure	66,452	3,526	73.6	1.4
Chest x ray	14,894	851	16.5	0.5
Urinalysis	14,229	770	15.8	0.4
Extremity x ray	12,412	655	13.8	0.4
Other diagnostic imaging	11,707	650	13.0	0.4
EKG ²	11,143	626	12.3	0.4
HIV serology ³	320	67	0.4	0.1
Other	28,076	1,663	31.1	0.9
None	12,819	941	14.2	0.9

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

²EKG is electrocardiogram.

³HIV is human immunodeficiency virus.

charge were more likely to be for illness as opposed to injury conditions.

Providers seen this visit

A staff physician and registered nurse were seen at 84.5 percent and 82.9 percent of ED visits, respectively (table 17). A resident/intern was seen at 12.5 percent of ED visits, and for 9.5 percent of ED visits a nurse's aide was seen.

Disposition of this visit

One-third of ED visits resulted in a referral to another physician or clinic (table 18). Return to referring physician and return to ED as needed each accounted for one-quarter of the visit dispositions (24.9 percent and 24.3 percent, respectively). About 13 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 than patients with other expected sources of payment (38.7 percent versus 9.5 percent, respectively). Visits for illness compared with injury were more than twice as likely to result in a hospital admission (17.5 percent versus 7.1 percent, respectively).

References

1. Lipkind KL. National hospital ambulatory medical care survey: 1993 outpatient department summary. Advance data from vital and health statistics; no 268. Hyattsville, Maryland: National Center for Health Statistics. 1995.
2. Schappert SM. The urgency of visits to hospital emergency departments: Data from the National Hospital Ambulatory Medical Care Survey (NHAMCS), 1992. *Stat Bull* 76(4). 1995.
3. Public Health Service and Health Care Financing Administration. *International Classification of Diseases, 9th revision, clinical modification*. Washington: Public Health Service. 1991.

Table 13. Number and percent of emergency department visits with corresponding standard errors by selected procedures: United States, 1993

Procedures provided by hospital staff ¹	Number of Standard		Standard	
	visits in	error in	Percent	error of
	thousands	thousands	percent	percent
All visits	90,266	4,273	...	...
Intravenous fluids	12,812	698	14.2	0.5
Wound care	11,102	579	12.3	0.4
Orthopedic care	7,787	474	8.6	0.4
Eye/ENT care ²	2,562	239	2.8	0.2
Bladder catheter	2,249	159	2.5	0.1
Nasogastric tube/gastric lavage	710	66	0.8	0.1
Endotracheal intubation	379	50	0.4	0.1
Lumbar puncture	320	52	0.4	0.1
CPR ³	252	39	0.3	0.0
Other	6,311	454	7.0	0.4
None	52,685	2,836	58.4	1.0

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

²ENT is ears, nose, throat.

³CPR is cardiopulmonary resuscitation.

4. 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.
5. 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.
6. Food and Drug Administration. National Drug Code Directory, 1985 ed. Washington: Public Health Service. 1985.
7. 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 14. Number and percent distribution of emergency department visits with corresponding standard errors by number of medications provided or prescribed: United States, 1993

Number of medications	Number of Standard		Standard	
	visits in	error in	Percent	error of
	thousands	thousands	distribution	percent
All visits	90,266	4,273	100.0	...
None	23,186	1,118	25.7	0.8
1	28,320	1,425	31.4	0.6
2	20,254	1,139	22.4	0.4
3	9,540	607	10.6	0.3
4	4,423	323	4.9	0.3
5	4,543	402	5.0	0.4

Table 15. Number, percent distribution, and therapeutic classification for the 20 drugs most frequently prescribed at emergency department visits with corresponding standard errors, by entry name of drug: United States, 1993

Entry name of drug ¹	Number of Standard		Standard		Therapeutic classification ²
	visits in	error in	Percent	error of	
	thousands	thousands	distribution	percent	
All drug mentions.	137,856	7,596	100.0	...	...
Tylenol	10,624	750	7.7	0.5	General analgesics
Toradol	3,949	251	2.9	0.2	Antiarthritics
Motrin	3,599	252	2.6	0.2	Antiarthritics
Amoxicillin	3,532	312	2.6	0.2	Penicillins
Phenergan	3,274	271	2.4	0.2	Antitussives
Demerol	2,727	192	2.0	0.2	General analgesics
Oxygen	2,714	195	2.0	0.2	Medicinal gases
Tylenol with codeine	2,353	215	1.7	0.2	General anesthetics
Vicodin	2,089	240	1.5	0.2	General anesthetics
Benadryl	1,955	167	1.4	0.1	Antihistamines
Keflex	1,905	152	1.4	0.1	Cephalosporins
Advil	1,852	194	1.3	0.2	Antiarthritics
Rocephin	1,559	147	1.1	0.1	Cephalosporins
Proventil	1,529	147	1.1	0.1	Bronchodilators, antiasthmatics
Ibuprofen	1,462	141	1.1	0.1	Antiarthritics
All other mentions	92,733	6,749	67.2	0.4	...

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*, 1985 edition (6). In cases where a drug had more than one therapeutic classification, it was listed in the category which occurred with the greatest frequency.

Table 16. Number and percent of emergency department visits with corresponding standard errors by patient's expected source(s) of payment: United States, 1993

<i>Expected source(s) of payment¹</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	90,266	4,273	...	...
Private/commercial insurance	33,185	1,955	36.8	1.0
Medicaid	20,980	1,399	23.2	0.9
Medicare	14,060	752	15.6	0.5
Patient-paid	12,693	913	14.1	0.8
HMO/other prepaid ²	6,951	598	7.7	0.6
Other government	3,260	325	3.6	0.3
No charge	*794	361	0.9	0.4
Other	5,428	436	6.0	0.5
Unknown	1,886	294	2.1	0.3

¹Total may exceed total number of visits because more than one expected pay source may be reported per visit.

²HMO is health maintenance organization.

Table 17. Number and percent of emergency department visits with corresponding standard errors by type of providers seen: United States, 1993

<i>Type of provider¹</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	90,266	4,273	...	...
Staff physician	76,319	3,886	84.5	1.5
Registered nurse	74,842	4,015	82.9	1.7
Resident/intern	11,325	1,185	12.5	1.3
Other physician	8,558	1,071	9.5	1.1
Nurse's aide	7,379	1,307	8.2	1.4
Licensed practical nurse	6,383	1,007	7.1	1.1
Physician assistant/nurse practitioner	2,612	600	2.9	0.6
Other	10,436	1,817	11.6	1.8

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

Table 18. Number and percent of emergency department visits with corresponding standard errors by disposition of visit: United States, 1993

<i>Disposition¹</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	90,266	4,273	...	...
Refer to other physician/clinic	31,440	1,831	34.8	1.2
Return to referring physician	22,505	1,874	24.9	1.4
Return to emergency department PRN ²	21,903	1,859	24.3	1.5
Admit to hospital	12,017	659	13.3	0.5
No followup planned	7,658	1,002	8.5	1.0
Return to emergency department appointment	4,269	430	4.7	0.4
Transfer to other facility	1,438	124	1.6	0.1
DOA/died in emergency department ³	243	37	0.3	0.0
Other	3,220	316	3.6	0.3

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

²PRN is as needed.

³DOA is dead on arrival.

Symbols

- - - Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
 - * Figure does not meet standard of reliability or precision
-

Technical notes

Source of data and sample design

The information presented in this report is based on data collected in the 1993 National Hospital Ambulatory Medical Care Survey (NHAMCS) from December 28, 1992, through December 26, 1993. 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 stays 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 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 1993 consisted of 489 hospitals. Of this group, 445 hospitals had either an ED or OPD in 1993 to make them in-scope or eligible for the survey. During this period, 94 percent of the in-scope hospitals participated. There were 395 ED's 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 29,117.

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 have been published (7). Standard errors for all estimates are presented in each table. 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 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

Table I. Coefficients appropriate for determining approximate relative standard errors: National Hospital Ambulatory Medical Care Survey, 1993: Emergency departments

Type of estimate	Coefficient for use with estimates in thousands	
	A	B
Visits	0.00282	4.91342
Drug mentions	0.00481	11.304927

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 not to be 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 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 a place of injury was shown 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.

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.

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