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Advance Data

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Alcohol- and Drug-Related Visits to Hospital Emergency Departments: 1992 National Hospital Ambulatory Medical Care Survey

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Introduction

During the 12-month period from January through December 1992, an estimated 89.9 million visits were made to emergency departments of non-Federal, short-stay and general hospitals in the United States, about 357 visits per 1,000 persons. An estimated 4.1 million of these emergency department visits (4.5 percent) were alcohol related and/or drug related, about 16 visits per 1,000 persons.

The information presented in this report is based on emergency department (ED) data obtained from the 1992 National Hospital Ambulatory Medical Care Survey (NHAMCS), a national probability survey conducted by the Division of Health Care Statistics of the National Center for Health Statistics, Centers for Disease Control and Prevention. The first NHAMCS was for 1992 and will be done annually. A report on general findings from the 1992 NHAMCS emergency departments has been published (1).

The Emergency Department Patient Record form, the survey instrument utilized by participating hospitals to record information about patient visits, is shown in figure 1. For this report the 4.1 million alcohol-related and/or drug-related (ADR) ED visits (table 1) are defined by identifying and combining: (a) 3,782,000 visits that indicated alcohol and/or drug problems (item 14. 2–4 in the Patient Record form), and (b) 340,000 visits that indicated specific ADR diagnoses (item 12: Physicians' diagnoses).

Data highlights

- Half of all ADR ED visits are made by patients 25–44 years old.
- Males have higher rates of ADR ED visits and the highest rates are for black males 25–44 years old.
- An injury is three times as likely to be classified as "homicide and injury purposely inflicted" in an ADR ED visit in comparison with all other ED visits.
- Seventy-six percent of ED visits for suicide and self-inflicted injuries were alcohol and drug related.
- A quarter of the ADR ED visits were for reasons of symptoms referable to psychological/mental disorders (i.e., depression and neurotic disorders).
- The treatment and detoxification of patients exposed to alcohol or poison were accomplished with several procedures and/or agents. The most frequently used were gastric lavage, metabolic and nutrient agents to correct complications such as prolonged malnutrition (e.g., thiamine), and adsorption of the toxin on activated charcoal.

Patient characteristics

ADR ED visits by patient's age, sex, race, and ethnicity are shown in tables 2 and 3. Males accounted for 60.5 percent of these visits and their visit rate (20 visits per 1,000 persons) was higher than that for visits by females (13 visits per 1,000 persons). The percent distribution of these ED visits was also higher for young adults. Seventeen percent of all ED visits by persons 25–44 years of age were ADR visits (figure 2). More than half of the ADR ED visits were by patients 25–44 years of age, with a corresponding visit rate of 27 visits per 1,000 persons. This differs significantly from all other visits to emergency departments in which persons 75 years and older had the highest visit rate. The ADR ED visits by females 25–44 years of age (18.6 percent) and males 25–44 years of age (34.4 percent) also had higher

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NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY EMERGENCY DEPARTMENT PATIENT RECORD

1. PATIENT NAME

2. PATIENT RECORD NO.

3. DATE OF VISIT
__/__/__
Month Day Year

4. DATE OF BIRTH
__/__/__
Month Day Year

5. SEX
1 ☐ Female
2 ☐ Male

6. RACE
1 ☐ White
2 ☐ Black
3 ☐ Asian/Pacific Islander
4 ☐ American Indian/ Eskimo/ Aleut

7. ETHNICITY
1 ☐ Hispanic
2 ☐ Not Hispanic

8. EXPECTED SOURCE(S) OF PAYMENT *(Check all that apply)*
1 ☐ Medicare
2 ☐ Medicaid
3 ☐ Other government
4 ☐ Private/ Commercial
5 ☐ HMO/Other prepaid
6 ☐ Patient paid
7 ☐ No charge
8 ☐ Other

9. MAJOR REASON FOR THIS VISIT *(Check one)*
1 ☐ Injury, first visit
2 ☐ Injury, follow-up
3 ☐ Illness, first visit
4 ☐ Illness, follow-up
5 ☐ Other reason

10. CAUSE OF INJURY *(Complete if injury is marked in 9. Describe cause and place of injury.)*

11. PATIENT'S COMPLAINT(S), SYMPTOM(S), OR OTHER REASON(S) FOR THIS VISIT *(In patient's own words)*
a. Most important:
b. Other:
c. Other:

12. PHYSICIAN'S DIAGNOSES
a. Principal diagnosis/ problem associated with item 11a.
b. Other:
c. Other:

13. URGENCY OF THIS VISIT *(Check only one)*
1 ☐ Urgent/Emergent
2 ☐ Non-urgent

14. IS PROBLEM ALCOHOL- OR DRUG-RELATED?
1 ☐ Neither
2 ☐ Alcohol-related
3 ☐ Drug-related
4 ☐ Both

15. DIAGNOSTIC/SCREENING SERVICES *(Check all ordered or provided.)*
1 ☐ None
2 ☐ Blood pressure check
3 ☐ Urinalysis
4 ☐ HIV serology
5 ☐ Other blood test
6 ☐ EKG
7 ☐ Mental status exam
7 ☐ Chest x-ray
9 ☐ Extremity x-ray
10 ☐ CT scan/MRI
11 ☐ Other diagnostic imaging
12 ☐ Other *(Specify)*

16. PROCEDURES *(Check all provided on this visit)*
1 ☐ None
2 ☐ Endotracheal intubation
3 ☐ CPR
4 ☐ IV fluids
5 ☐ NG tube/ gastric lavage
6 ☐ Wound care
7 ☐ Eye/ENT care
8 ☐ Orthopedic care
9 ☐ Bladder catheter
10 ☐ Lumbar puncture
11 ☐ Other(s) *(Specify)*

17. MEDICATION
(Record all new or continued medication ordered, administered, or provided at this visit. Use the same brand name or generic name entered on any Rx or medical record. Include immunizations and desensitizing agents.)
☐ None
1.
2.
3.
4.
5.

18. DISPOSITION THIS VISIT *(Check all that apply)*
1 ☐ Return to ED PRN
2 ☐ Return to ED - appointment
3 ☐ Return to referring physician
4 ☐ Refer to other physician/clinic
5 ☐ Admit to hospital
6 ☐ Transfer to other facility
7 ☐ DOA/died in ED
8 ☐ Left AMA
9 ☐ No follow-up planned
10 ☐ Other *(Specify)*

19. PROVIDERS SEEN THIS VISIT *(Check all that apply)*
1 ☐ Resident/Intern
2 ☐ Staff physician
3 ☐ Other physician
4 ☐ Physician assistant
5 ☐ Nurse practitioner
6 ☐ Registered nurse
7 ☐ Licensed practical nurse
8 ☐ Nurse's aide

Figure 1. Patient record.

Table 1. Number, percent distribution, and corresponding standard errors of alcohol- and drug-related visits to hospital emergency departments: United States, 1992

Visit characteristic	Number of visits in thousands	Standard error in thousands	Percent distribution	Standard error of percent
All ED visits[1]	89,796	3,202	100.0	. . .
All ADR visits[2]	4,122	276	4.6	0.2
Alcohol problem visits	2,459	196	2.7	0.2
Drug problem visits	996	91	1.1	0.1
Alcohol and drug problem visits	327	44	0.4	0.0
ADR diagnoses[3]	340	38	0.4	0.0
All other visits	85,674	3,017	95.4	0.2

[1]ED is emergency department.
[2]ADR is alcohol related and/or drug related.
[3]Includes visits recorded as "neither" an alcohol- nor a drug-related problem (Patient Record form item no. 14.1), but have alcohol- and/or drug-related diagnoses as defined in the Technical Notes.

Table 2. Number, percent distribution, corresponding standard errors, and annual rate of visits to hospital emergency departments by selected patient characteristics: United States, 1992

Selected patient characteristics	Number of visits in thousands	Standard error in thousands	ADR ED visits[1,2] Percent distribution	ADR ED visits[1,2] Standard error of percent	ADR ED visits[1,2] Number of visits per 1,000 persons per year[3]	All other ED visits[2] Percent distribution	All other ED visits[2] Standard error of percent	All other ED visits[2] Number of visits per 1,000 persons per year[3]
ADR ED visits[1,2]	4,122	276	100.0	. . .	16	100.0	. . .	341
Age								
Under 15 years	306	40	7.4	1.0	5	25.9	1.4	394
15–24 years	677	74	16.4	1.4	20	16.5	0.4	412
25–44 years	2,184	158	53.0	1.6	27	29.2	0.7	308
45–64 years	722	77	17.5	1.3	15	13.8	0.4	243
65–74 years	153	23	3.7	0.6	8	6.6	0.2	306
75 years and over	81	16	2.0	0.4	7	7.9	0.3	551
Sex and age								
Female	1,627	126	39.5	1.8	13	52.5	0.5	348
Under 15 years	149	25	3.6	0.7	5	11.7	0.6	365
15–24 years	299	39	7.3	0.9	17	9.0	0.3	448
25–44 years	766	71	18.6	1.4	19	15.5	0.4	321
45–64 years	316	57	7.7	1.2	13	7.4	0.3	251
65–74 years	59	14	1.4	0.4	6	3.8	0.2	323
75 years and over	*38	12	*0.9	0.3	*5	5.0	0.2	559
Male	2,495	185	60.5	1.8	20	47.5	0.5	333
Under 15 years	157	29	3.8	0.7	5	14.2	0.8	421
15–24 years	378	60	9.2	1.3	22	7.5	0.2	375
25–44 years	1,418	115	34.4	1.6	35	13.7	0.4	294
45–64 years	406	45	9.8	0.9	17	6.4	0.2	235
65–74 years	93	19	2.3	0.5	11	2.8	0.1	286
75 years and over	43	11	1.0	0.3	9	2.9	0.1	538
Race and age								
White	3,060	219	74.2	2.3	15	78.7	1.3	322
Under 15 years	252	38	6.1	0.9	6	19.4	0.8	370
15–24 years	557	70	13.5	1.4	20	12.9	0.4	402
25–44 years	1,517	124	36.8	2.2	22	22.2	0.6	281
45–64 years	533	66	12.9	1.2	13	11.2	0.4	230
65–74 years	125	21	3.0	0.5	8	5.7	0.2	299
75 years and over	76	15	1.8	0.4	7	7.2	0.3	556
Black	933	112	22.6	2.3	30	18.9	1.2	515
Under 15 years	*39	13	*0.9	0.3	*4	5.9	0.9	569
15–24 years	97	20	2.4	0.5	19	3.2	0.2	545
25–44 years	591	75	14.3	1.6	60	6.1	0.5	536
45–64 years	173	31	4.2	0.7	35	2.3	0.2	388
65–74 years	*28	11	*0.7	0.3	*17	0.8	0.1	399
75 years and over	*5	3	*0.1	0.1	*5	0.6	0.1	511
All other races	130	37	3.1	0.9	12	2.4	0.5	194
Asian, Pacific Islander	*52	21	*1.3	0.5	. . .	1.6	0.3	. . .
American Indian, Eskimo, Aleut	*78	30	*1.9	0.7	. . .	0.8	0.3	. . .
Ethnicity								
Hispanic	521	99	12.6	2.3	. . .	10.5	1.0	. . .
Not Hispanic	3,601	245	87.4	2.3	. . .	89.5	1.0	. . .

[1]ADR is alcohol related and/or drug related.
[2]ED is emergency department.
[3]Based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States as of July 1, 1992.

Table 3. Number, percent distribution, corresponding standard errors, and annual rate of visits to hospital emergency departments by patient's race, sex, and age: United States, 1992

Selected patient characteristics	Number of visits in thousands	Standard errors in thousands	ADR ED visits[1,2] Percent distribution	ADR ED visits[1,2] Standard error of percent	ADR ED visits[1,2] Number of visits per 1,000 persons per year[2]	All other ED visits[2] Percent distribution	All other ED visits[2] Standard error of percent	All other ED visits[2] Number of visits per 1,000 persons per year[3]
ADR ED visits[1,2]	4,122	276	100.0	. . .	16	100.0	. . .	341
Race, sex, and age								
White	3,060	219	74.2	2.3	15	78.7	1.3	322
Female	1,280	116	31.1	2.0	12	41.1	0.8	329
Under 15 years	123	24	3.0	0.6	6	8.8	0.4	343
15–24 years	241	35	5.9	0.8	18	6.9	0.3	430
25–44 years	586	65	14.2	1.3	17	11.6	0.4	293
45–64 years	252	55	6.1	1.2	12	5.9	0.2	237
65–74 years	46	12	1.1	0.3	5	3.3	0.1	316
75 years and over	*33	11	*0.8	0.3	*5	4.6	0.2	563
Male	1,780	133	43.2	1.8	17	37.6	0.7	314
Under 15 years	129	27	3.1	0.7	6	10.6	0.5	395
15–24 years	316	59	7.7	1.3	23	6.0	0.2	373
25–44 years	932	82	22.6	1.6	28	10.6	0.4	270
45–64 years	281	35	6.8	0.8	14	5.3	0.2	222
65–74 years	79	17	1.9	0.4	11	2.4	0.1	277
75 years and over	43	11	1.0	0.3	10	2.7	0.1	544
Black	932	112	22.6	2.3	30	18.9	1.2	515
Female	304	45	7.4	1.1	18	10.1	0.7	519
Under 15 years	*22	8	*0.5	0.2	*5	2.7	0.4	522
15–24 years	*48	16	*1.2	0.4	*18	2.0	0.2	631
25–44 years	162	26	3.9	0.6	30	3.4	0.3	540
45–64 years	53	13	1.3	0.3	19	1.3	0.1	400
65–74 years	*14	7	*0.3	0.2	*15	0.4	0.1	411
75 years and over	*5	3	*0.1	0.1	*8	0.4	0.1	525
Male	628	82	15.2	1.7	43	8.8	0.6	512
Under 15 years	*17	8	*0.4	0.2	*4	3.3	0.5	614
15–24 years	49	11	1.2	0.3	20	1.3	0.1	452
25–44 years	429	62	10.4	1.3	97	2.7	0.2	531
45–64 years	119	24	2.9	0.6	53	1.0	0.1	375
65–74 years	*14	8	*0.3	0.2	*20	0.3	0.0	384
75 years and over	*0	0	*0.0	0.0	*1	0.2	0.0	488

[1]ADR is alcohol related and/or drug related.
[2]ED is emergency department.
[3]Based on U.S. Bureau of the Census estimates of the civilian noninstitutionalized population of the United States as of July 1, 1992.

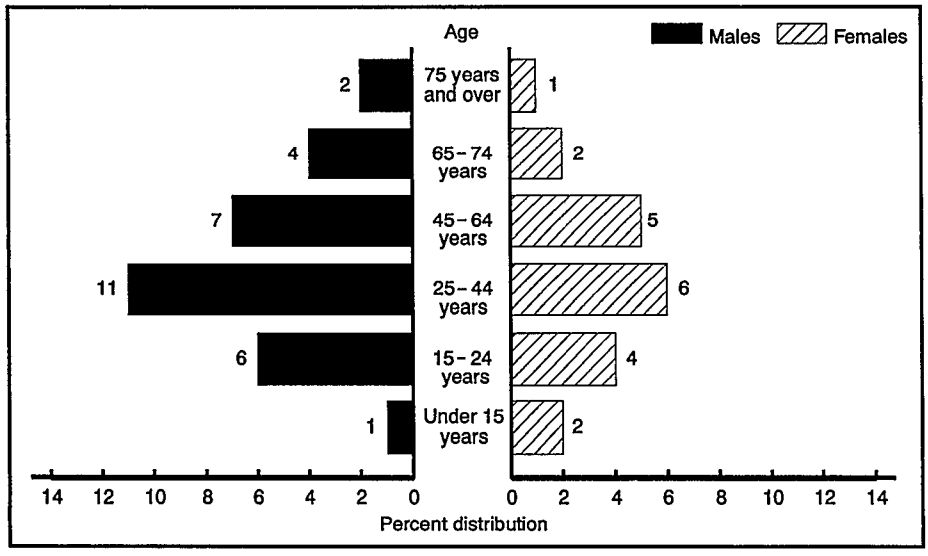

Figure 2. Percent of emergency department visits that are alcohol or drug related: United States, 1992

percent distributions than their sex-age counterparts of all other ED visits (15.5 percent and 13.7 percent respectively). For ADR ED visits there was also a significant sex difference within the 25–44 years age group; the percent distribution and the visit rate for males were 34.4 percent with 35 visits per 1,000 and for females were 18.6 percent with 19 visits per 1,000.

White patients represented approximately 75 percent of the ADR ED visits with a visit rate of 15 visits per 1,000 persons. Black patients represented approximately 23 percent of the ADR ED visits, but the visit rate (30 visits per 1,000 persons) was twice that of white patients. Other races accounted for about 3 percent of the ADR ED

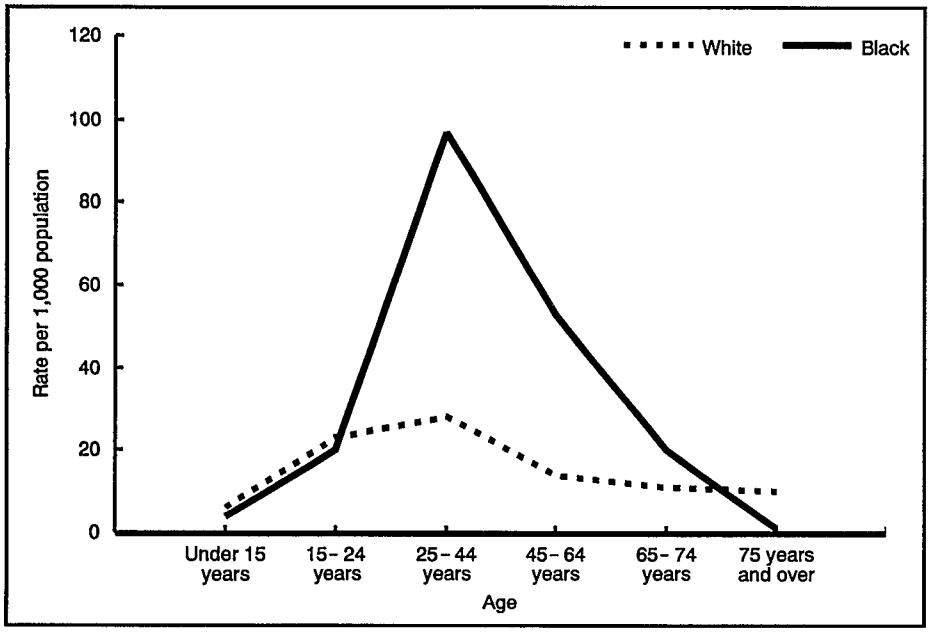

Figure 3. Rates for emergency department visits related to alcohol or drugs for males: United States, 1992

visits. When these data were analyzed in terms of race, sex, and age, the rate for black males 25–44 years of age was 97 visits per 1,000 persons (figure 3).

The ADR ED visits by white patients 25–44 years of age (36.8 percent) and black patients 25–44 years of age (14.3 percent) also had higher percent distributions than their race-age counterparts for all other ED visits (22.2 percent and 6.1 percent respectively).

Visit status

Over half of the ADR ED visits were due to illness and another third were due to injury (table 4). These proportions were consistent with all other ED visits. As expected, this table also shows that 80 percent of all ADR ED visits were a first visit, significantly more than the 5.8 percent for a followup visit.

"Illness, first visit," was the most frequently reported type of visit, accounting for nearly half of all the ADR ED visits. The second most reported type was "injury, first visit," accounting for almost a third of the visits. Nearly 14 percent of responses fell into the "other" category and was significantly greater than "other" for all other ED visits.

Significantly more ADR ED visits were reported as being urgent or emergent (58.8 percent) compared with all other ED visits. Forty-two percent of the ADR ED visits were reported as nonurgent. Urgent/emergent visits are defined as visits in which the patient requires attention for an acute illness or injury that threatens life or function and

Table 4. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by visit status: United States, 1992

Visit status	Number of visits in thousands	Standard error in thousands	ADR ED visits[1,2] Percent distribution	ADR ED visits[1,2] Standard error of percent	All other ED visits[2] Percent distribution	All other ED visits[2] Standard error of percent
ADR ED visits[1,2]	4,122	276	100.0	. . .	100.0	. . .
Type of visit						
Illness visit	2,203	164	53.4	1.9	58.7	0.9
First visit	2,053	155	49.8	2.0	55.6	0.9
Follow-up	150	31	3.6	0.8	3.1	0.2
Injury visit	1,351	115	32.8	1.9	35.3	0.8
First visit	1,261	109	30.6	1.9	31.7	0.7
Follow-up	90	20	2.2	0.5	3.6	0.2
First visit	3,314	227	80.4	1.8	87.3	0.7
Follow-up visit	240	37	5.8	0.8	6.7	0.4
Other[3]	568	84	13.8	1.8	6.0	0.6
Urgency of visit						
Urgent/emergent	2,425	158	58.8	2.3	44.0	1.4
Non-urgent	1,697	168	41.2	2.3	56.0	1.4

[1]ADR is alcohol related and/or drug related.
[2]ED is emergency department.
[3]Includes visits for other reasons and blank or invalid responses.

Table 5. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by selected cause of injury: United States, 1992

Cause of injury and E code[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits with an E code entered[1,2,3]	1,842	142	100.0	. . .	100.0	. . .
Motor vehicle accidents, traffic and nontraffic .E810–E825	289	47	15.7	2.2	14.0	0.5
Motor vehicle traffic accident of unspecified nature .E819	184	42	10.0	2.1	9.1	0.5
Accidental poisoning by drugs, medicinal and biological substances .E850–E858	224	37	12.1	2.0	0.4	0.1
Accidental poisoning by analgesic, antipyretics, and antirheumatics .E850	74	20	4.0	1.1	*0.1	0.0
Accidental poisoning by other drugs .E858	105	28	5.7	1.6	0.2	0.1
Accidental falls .E880–E888	208	28	11.3	1.5	27.1	0.8
Other and unspecified fall .E888	102	18	5.5	1.1	15.0	0.7
Other accidents .E916–E928	246	37	13.3	1.9	36.6	0.7
Striking against or struck accidentally by objects or persons. .E917	117	25	6.4	1.4	10.5	0.4
Accidents caused by cutting and piercing instruments or objects .E920	86	23	4.7	1.3	10.8	0.5
Adverse effects of drugs and medicinal and biological substances in therapeutic use ..E930–E949	264	40	14.3	2.3	0.4	0.1
Other and unspecified drugs and medicinal substances .E947	91	20	4.9	1.2	*0.1	0.0
Suicide and self-inflicted injury .E950–E959	121	36	6.6	1.8	0.1	0.0
Suicide and self-inflicted poisoning by solid or liquid substances .E950	*80	26	4.4	1.3	*0.0	0.0
Homicide and injury purposely inflicted by other persons .E960–E969	332	50	18.0	2.6	4.4	0.3
Fight, brawl, rape .E960	122	20	6.6	1.2	1.7	0.2
Assault by other and unspecified means .E968	182	40	9.9	2.1	2.0	0.2
Other[4]	159	35	8.6	1.7	17.0	0.6

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]Includes railway accidents (E800–807); other vehicle road accidents (E826–E829); water transport accidents (E830–E838); air and space transport accidents (E840–E845); vehicle accidents not elsewhere classifiable (E846–E848); accidental poisoning by other solid and liquid substances, gases, and vapors (E860–E869); misadventure to patients during surgical and medical care (E870–E876); surgical and medicinal procedures as the cause of abnormal reaction of or later complication without mentions of misadventure at the time of procedure (E878–E879); accidents caused by fire and flames (E890–E899); accidents due to natural and environmental factors (E900–E909); accidents caused by submersion, suffocation, and foreign bodies (E910–E915); late effects of accidental injury (E929); injury undetermined whether accidental or purposely inflicted (E980–E989); and injury resulting from operations of war (E990–E999).

where delay would be harmful to the patient.

Cause of injury

The causes of injury for ADR ED visits are shown in table 5. Up to three external causes of injury are coded and classified according to the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM) (2). The three cause-of-injury classifications most often mentioned were "homicide and injury purposely inflicted," "motor vehicle accidents," and "adverse effects of drugs, medicinal and biological substances." It is interesting to note that although "homicide and injury purposely inflicted" was the leading cause of injury for ADR ED visits, it represented the fifth leading cause of injury classification for all other ED visits (4.4 percent). "Homicide and injury purposely inflicted" was also significantly higher than the corresponding category of all other ED visits. "Assault" and "fight, brawl, rape" and "striking" accounted for most of the homicide and purposely inflicted injuries.

"Accidental poisoning by drugs, medicinal and biological substances" accounted for about 12 percent of the ADR ED visits. Seventy-six percent of all "suicide and self-inflicted injuries" and 71 percent of visits for "adverse effects of drugs, medicinal and biological substances" were alcohol and drug related (figure 4). The likelihood of having injuries caused by "assaults," "fight, brawl, rape," "accidental poisoning," or "suicide" was greater for ADR ED visits than for all other ED visits.

Reason for visit

The patient's principal reason for visit is coded and classified according to *A Reason for Visit Classification for Ambulatory Care* (RVC) (3). The RVC is divided into eight modules or groups of reasons as shown in table 6. Up to three reasons for visit are coded in item 11 of the Patient Record form. The patient's complaint(s), symptom(s), or other reason(s) for *this* visit is recorded in the "patient's own words."

The symptom module accounted for more than half of the visits with "general symptoms." "Symptoms referable to psychological/mental disorders," "symptoms referable to the digestive system," and "symptoms referable to the nervous system" each accounted for 8–10 percent of the ED visits. There were significantly more ADR ED visits classified as "symptom referable to psychological/mental disorders" (9.1 percent) than those classified under "all other" ED visits (1.2 percent). The treatment module accounted for 4 percent of the ADR ED visits and was also significantly higher than treatment for all other ED visits.

Thirty-four percent of ADR ED visits were classified in the injuries

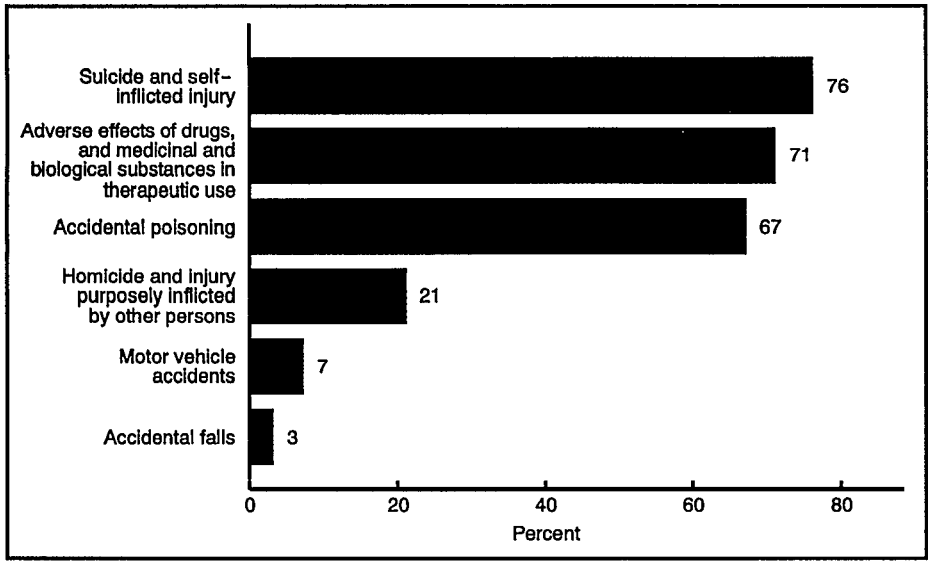

Figure 4. Percent of alcohol- or drug-related emergency department visits by external cause of injury: United States, 1992

and adverse effects module and the majority of these were subclassified as injury by type and/or location. ADR ED visits for "poisoning and adverse effects" (11.0 percent) were higher than all other ED visits (0.4 percent).

The 15 most frequently mentioned principal reasons for visit are presented in table 7. The most frequently reported reason for visit was "adverse effect of drug abuse" (6.4 percent) and these visits were significantly more than those classified under all other ED visits (0.1 percent). "Abdominal pain," "chest pain," and "violence" were also prominent reasons for visit, each making up about 3 percent of the ADR ED visits. The percent of ADR ED visits with a reported reason of "violence" was more than seven times that for all other ED visits. The percent of ADR ED visits classified under "other symptoms or problems relating to psychological and mental disorders" (2.2 percent) was five times greater than for all other ED visits.

Principal diagnosis

The principal diagnosis or problem associated with the patient's most important reason for visit and any other significant current diagnoses are rendered by the provider and recorded in item 12 of the Patient Record form. Up to three diagnoses are coded and classified according to the ICD–9–CM (2).

Table 8 shows the ADR ED visits using the major disease categories specified by the ICD–9–CM. Injury and poisoning accounted for the majority (42.6 percent) of the visits, which is significantly higher than the same category in all other ED visits (32.3 percent). Mental disorders were reported in about a fourth of visits, which is much greater than all other ED visits (1.7 percent). Symptoms, signs, and ill-defined conditions comprised 10.1 percent of ADR ED visits.

Table 9 shows the 15 principal diagnoses most frequently rendered by providers. Nondependent abuse of drugs was the most common diagnosis,

Table 6. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by the patient's principal reason for visit: United States, 1992

Principal reason for visit and RVC code[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Symptom module .S001–S999	2,190	174	53.1	2.0	72.2	0.6
General symptoms .S001–S099	408	54	9.9	1.1	15.4	0.3
Symptoms referable to psychological/mental disorders .S100–S199	375	66	9.1	1.3	1.2	0.1
Symptoms referable to the nervous system (excluding sense organs) .S200–S259	320	45	7.8	1.0	5.9	0.2
Symptoms referable to the digestive system .S500–S639	370	50	9.0	1.1	11.7	0.3
Symptoms referable to the musculoskeletal system .S900–S999	338	41	8.2	1.0	15.2	0.4
Disease module .D001–D999	143	33	3.5	0.8	3.1	0.2
Diagnostic/screening and preventive module .X100–599	60	14	1.5	0.4	0.8	0.1
Treatment module .T100–T899	165	25	4.0	0.7	2.6	0.1
Injuries and adverse effects module .J001–J999	1,436	121	34.8	1.7	19.6	0.6
Injury by type and/or location .J001–J799	607	68	14.7	1.4	16.8	0.5
Injury, NOS .J800–J899	375	51	9.1	1.1	2.5	0.2
Poisoning and adverse effects .J900–J999	455	51	11.0	1.0	0.4	0.1
Test results module .R100–R700	*10	8	*0.2	0.2	0.2	0.0
Administrative module .A100–A140	*25	11	*0.6	0.3	0.1	0.0
Other[4] .U990–U999	94	23	2.3	0.6	1.3	0.2

[1]Based on *A Reason for Visit Classification for Ambulatory Care* (RVC), Vital Health Stat 2(78). 1979.
[2]ADR is alcohol related or drug related.
[3]ED is emergency department.
[4]Includes problems and complaints not elsewhere classified, entries of "none," blanks, and illegible entries.

Table 7. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by the 15 principal reasons for visit most frequently mentioned by patients: United States, 1992

Principal reason for visit and RVC code[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Adverse effect of drug abuse .J910	262	37	6.4	0.8	*0.1	0.0
Abdominal pain, cramps, spasms, NOS .S545	150	27	3.6	0.7	5.6	0.2
Chest pain and related symptoms (not referable to a specific body system) .S050	150	26	3.6	0.6	5.2	0.2
Violence, NOS .J815	123	30	3.0	0.7	0.4	0.0
Convulsions .S205	110	29	2.7	0.7	0.8	0.1
Unconscious on arrival .J840	102	24	2.5	0.6	0.6	0.1
Accidental poisoning .J900	101	19	2.4	0.5	0.2	0.0
Depression .S110	*98	49	*2.4	1.2	0.4	0.0
Lacerations and cuts: facial area .J210	96	21	2.3	0.5	1.6	0.1
Head, neck, and face injury; type unspecified .J505	94	18	2.3	0.4	1.1	0.1
Other symptoms or problems relating to psychological and mental disorders, NEC .S165	89	21	2.2	0.5	0.4	0.0
Headache .S210	83	19	2.0	0.5	2.9	0.2
Vomiting .S530	80	23	2.0	0.5	2.1	0.2
Skin rash .S860	76	16	1.8	0.4	1.4	0.1
Vertigo–dizziness .S225	75	18	1.8	0.5	1.2	0.1

[1]Based on *A Reason for Visit Classification for Ambulatory Care* (RVC), Vital Health Stat 2(78). 1979.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.

Table 8. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by the principal diagnoses recorded by hospital staff: United States, 1992

Principal diagnosis and ICD–9–CM code[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Infectious and parasitic disease .001–139	*44	19	*1.1	0.5	3.6	0.2
Mental disorders .290–319	952	102	23.1	1.6	1.7	0.1
Diseases of the nervous system and sense organs .320–389	81	24	2.0	0.6	6.9	0.3
Diseases of the circulatory system .390–459	90	18	2.2	0.4	4.4	0.2
Diseases of the respiratory system .460–519	108	22	2.6	0.5	12.6	0.5
Diseases of the digestive system .520–579	206	36	5.0	0.8	6.1	0.2
Diseases of the genitourinary system .580–629	34	10	0.8	0.2	4.4	0.2
Diseases of the skin and subcutaneous tissue .680–709	56	14	1.3	0.4	3.0	0.2
Diseases of the musculoskeletal system and connective tissue .710–739	87	23	2.1	0.6	4.3	0.2
Symptoms, signs, and ill-defined conditions .780–799	418	46	10.1	1.0	11.7	0.3
Injury and poisoning .800–999	1,757	132	42.6	2.1	32.3	0.7
Supplementary classification .V01–V82	106	17	2.6	0.4	3.4	0.2
All other diagnoses[4]	68	19	1.6	0.5	2.9	0.1
Unknown[5]	115	21	2.8	0.5	2.5	0.2

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]Includes neoplasms (140–239); endocrine, nutritional and metabolic diseases and immunity disorders (240–279); 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).
[5]Includes blank diagnoses, uncodable diagnoses, and illegible diagnoses.

accounting for 8.2 percent of principal diagnoses. Other frequently mentioned diagnoses included certain adverse effects, poisoning, alcohol dependence syndrome, other open wound of head, and general symptoms. Neurotic disorders were represented in significantly more ADR ED visits than in all other ED visits.

Diagnostic and screening services

Diagnostic and screening services ordered or provided by hospital staff for ADR ED visits are shown in table 10. At least one diagnostic/screening service was reported in 94.6 percent of the visits.

Blood pressure was the most frequently reported diagnostic and/or screening service, followed by other blood tests. EKG, urinalysis, chest x ray and mental status exam were each mentioned in about 20 percent of the ADR visits. Except for x rays of the extremities, patients for ADR ED visits

Table 9. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by the 15 principal diagnoses most frequently recorded by hospital staff: United States, 1992

Principal diagnosis and ICD–9–CM code[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Nondependent abuse of drugs 305	339	47	8.2	1.0	*0.0	0.0
Certain adverse effects NEC. 995	225	32	5.5	0.9	0.6	0.1
Poisoning by other and unspecific drugs and medicinal substances. 977	208	40	5.0	0.9	*0.1	0.0
Alcohol dependence syndrome 303	191	26	4.6	0.6	–	–
Other open wound of head. 873	155	28	3.8	0.6	2.8	0.1
General symptoms. 780	138	31	3.3	0.7	2.6	0.1
Contusion of lower limb and of other and unspecified sites 924	*99	38	*2.4	0.9	2.0	0.1
Symptoms involving respiratory abnormalities 786	96	24	2.3	0.6	3.0	0.2
Depressive disorder NEC. 311	*95	48	*2.3	1.2	0.2	0.0
Intercranial injury of other and unspecified nature. 854	95	19	2.3	0.5	0.6	0.1
Poisoning by analgesic, antipyretics, and antirheumatics. 965	95	22	2.3	0.5	*0.0	0.0
Neurotic disorder. 300	74	16	1.8	0.4	0.6	0.1
Other symptoms involving abdomen and pelvis 789	59	16	1.4	0.4	2.7	0.1
Gastritis and duodenitis. 535	56	14	1.4	0.4	0.5	0.1
Open wound of other and unspecified sites, except limbs. 879	54	15	1.3	0.4	1.4	0.1

[1]Based on the *International Classification of Diseases, 9th Revision, Clinical Modification* (ICD–9–CM).
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.

Table 10. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by diagnostic and screening services ordered or provided: United States, 1992

Diagnostic and screening and services[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
None	221	29	5.4	0.8	12.4	0.7
Blood pressure	3,468	266	84.1	1.7	73.2	1.3
Other blood test	2,018	168	49.0	2.1	27.8	0.6
EKG[4]	879	78	21.3	1.6	12.8	0.4
Urinalysis	854	80	20.7	1.4	14.9	0.4
Chest x ray	811	83	19.7	1.4	16.7	0.4
Mental status exam	772	103	18.7	2.0	5.3	0.9
Other diagnostic imaging	565	64	13.7	1.4	10.3	0.4
Extremity x ray	562	66	13.6	1.2	15.1	0.4
CT scan/MRI[5]	236	40	5.7	0.9	2.2	0.2
HIV serology[6]	*41	14	*1.0	0.3	0.3	0.1
Other	822	109	19.9	2.3	19.7	1.3

[1]Numbers may not add to totals because more than one service may be reported per visit.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]EKG is electrocardiogram.
[5]CT is computerized tomography and MRI is magnetic resonance imaging.
[6]HIV is human immunodeficiency virus.

were more likely to receive any of these diagnostic services or tests than were patients for all other ED visits. This was especially true for other blood tests and mental status exams. As expected, "other blood test" was performed at twice the rate for ADR visits compared with all other ED visits. However, patients from ADR ED visits were three times more likely to receive mental status exams than were patients for all other ED visits.

Procedures

More than half of the ADR ED visits were administered at least one procedure (table 11). The most frequently reported procedures were intravenous fluids, wound care, other, and nasogastric tube/gastric lavage. In comparison with all other ED visits, ADR ED visits had a greater likelihood of having nasogastric tube/gastric lavage administered. Compared with all other ED visits, ADR ED visits were also more likely to include intravenous

Table 11. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by procedures provided: United States, 1992

Procedures[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
None	1,954	149	47.4	1.8	58.2	0.8
Intravenous fluids	1,145	91	27.8	1.7	13.8	0.4
Wound care	721	89	17.5	1.8	12.6	0.4
Nasogastric tube/gastric lavage	320	45	7.8	1.1	0.7	0.1
Bladder catheter	186	36	4.5	0.8	2.5	0.1
Orthopedic care	177	28	4.3	0.7	8.0	0.3
Eye/ENT care[4]	83	21	2.0	0.5	2.8	0.2
Endotracheal intubation	*31	12	*0.8	0.3	0.4	0.0
Other[5]	347	59	8.4	0.0	8.0	0.0

[1]Numbers may not add to totals because more than one procedure may be reported per visit.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]ENT is ear, nose, and throat.
[5]Includes CPR (cardiopulmonary resuscitation), lumbar puncture, and other.

Table 12. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by medication therapy and number of medications prescribed or provided: United States, 1992

Medication therapy[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Drug visits[4]	2,627	177	63.7	2.5	69.4	0.8
Visits without mention of medication	1,495	159	36.3	2.5	30.6	0.8
Number of medications prescribed or provided						
One	1,109	88	26.9	1.7	32.9	0.5
Two	755	72	18.3	1.5	21.1	0.5
Three	351	51	8.5	1.1	9.0	0.3
Four	212	32	5.1	0.7	3.5	0.2
Five	200	29	4.8	0.7	2.9	0.2

[1]Includes prescription drugs, over-the-counter preparations, immunizing agents, and desensitizing agents.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]Visits at which one or more drugs were provided or prescribed by the health care provider.

fluids, wound care, and/or bladder catheter procedures.

Drug mentions

The majority of ADR ED visits included medication therapy. One medication was administered during 26.9 percent of the visits and two medications were administered during 18.3 percent of the visits (table 12). In about 10 percent of the ADR ED visits, four or five medications were administered to patients, which was higher than what was administered in all other ED visits.

Because there may be multiple medications per visit, the total number of drug mentions may exceed the total number of visits. "Drug mentions" refer to the total number of medications listed in item 17 of the Patient Record form. There were 5.5 million drug mentions for ADR ED visits. This averages to 2.1 drug mentions per drug visit. "Drug visit" refers to visits with at least one drug prescribed or provided.

The number of drug mentions by therapeutic classification is shown in table 13. The classification system used was adapted from the therapeutic categories in the *National Drug Code Directory* (NDC) (4). The largest percent of mentions for ADR ED visits were drugs used for relief of pain. Metabolic and nutrient agents were administered more often in ADR ED visits than in all other ED visits. Seventy-five percent of all antidotes were administered during ADR ED visits, representing 4.7 percent of these visits and significantly more than all other ED visits (0.1 percent). Metabolic and nutrient agents were also administered for ADR ED visits more often than to all other ED visits.

The 15 most frequently used generic substances in drugs mentioned for ADR ED visits are shown in table 14. The most frequently

Table 13. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by therapeutic classification of drug mentions: United States, 1992

Therapeutic classification[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED mentions[2,3]	5,518	406	100.0	. . .	100.0	. . .
Drugs used for relief of pain	1,111	115	20.1	1.7	30.3	0.5
Gastrointestinal agents	557	74	10.1	1.1	4.5	0.2
Antimicrobial agents	545	57	9.9	0.9	17.0	0.4
Psychopharmacological drugs	518	59	9.4	0.9	4.8	0.2
Metabolic and nutrient agents	466	53	8.4	0.9	1.7	0.1
Respiratory tract drugs	432	60	7.8	0.9	11.5	0.4
Neurologic drugs	268	38	4.9	0.7	2.2	0.1
Cardiovascular-renal drugs	268	46	4.9	0.8	6.5	0.3
Antidotes	261	44	4.7	0.8	0.1	0.0
Immunologic agents	237	40	4.3	0.7	3.1	0.2
Anesthetics	130	30	2.4	0.5	2.3	0.1
Skin/mucous membrane	122	24	2.2	0.4	3.5	0.2
Hormones and related agents	105	21	1.9	0.4	3.1	0.2
Hematologic agents	102	22	1.9	0.4	1.0	0.1
Other and unclassified[4]	394	48	7.1	0.7	8.4	0.3

[1]Based on the standard drug classification used in the *National Drug Code Directory*, 1985 edition.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]Includes radiopharmaceuticals/contrast media, oncolytics, otologics, antiparasitics, ophthalmics, and unclassified/miscellaneous drugs.

Table 14. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments of drug mentions for the 15 most frequently used generic substances: United States, 1992

Generic substance[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED mentions[2,3]	5,518	406	100.0	. . .	100.0	. . .
Acetaminophen	258	38	4.7	0.6	7.4	0.4
Thiamine	242	32	4.4	0.6	0.1	0.0
Ibuprofen	209	37	3.8	0.7	5.8	0.2
Diphenhydramine	185	30	3.4	0.5	1.5	0.1
Ketorolac	152	25	2.8	0.5	2.5	0.2
Charcoal	138	26	2.5	0.5	*0.0	0.0
Meperidine	127	26	2.3	0.5	2.4	0.1
Phenytoin	114	25	2.1	0.5	0.4	0.0
Magnesium cathartics	109	20	2.0	0.4	0.1	0.0
Lidocaine	88	23	1.6	0.4	1.5	0.1
Tetanus toxoid	83	21	1.5	0.4	0.8	0.1
Oxygen	82	22	1.5	0.4	1.4	0.1
Hydroxyzine	80	20	1.4	0.4	1.6	0.1
Naloxone	79	18	1.4	0.3	0.0	0.0
Cephalexin	77	23	*1.4	0.4	1.4	0.1

[1]Frequency of mention combines single-ingredient agents with mentions of the agent as an ingredient in a combination drug.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.

mentioned generic substances listed as an ingredient were acetaminophen, thiamine, ibuprofen, and diphenhydramine.

The 15 most frequently mentioned medications according to the entry name of the drug (the actual name written on the Patient Record form by the health care provider), whether brand name, generic name, or therapeutic effect, are shown in table 15. Tylenol, thiamine, and Benadryl were the three drugs most frequently provided or prescribed during ADR ED visits. However, thiamine, charcoal, Dilantin, and charcoal activated with sorbitol are more likely administered for ADR ED visits than for all other ED visits. Medications not shown in table 15—like Ipecac, Valium, magnesium sulfate, and Ancef—were also more likely to be administered for ADR ED visits.

Disposition

The most frequent dispositions of ADR ED visits are displayed in table 16. Thirty-five percent of the ADR ED visits were "referred to other physicians or clinic," followed by "return to ED PRN." "Transfer to other facility" was the disposition for 5.9 percent of the ADR ED visits, which was significantly higher than those for

Table 15. Number, percent distribution, and corresponding standard errors of alcohol and drug-related visits to hospital emergency departments of drug mentions for the 15 drugs most frequently provided or prescribed: United States, 1992

Entry name of drug[1]	Number of drug mentions in thousands	Standard error in thousands	Percent distribution	Standard error of percent	Therapeutic classification[2]	Percent distribution	Standard error of percent
ADR ED mentions[3]	5,518	406	100.0	. . .		100.0	. . .
Tylenol	247	37	4.5	0.6	Analgesic	7.2	0.3
Thiamine	238	32	4.3	0.6	Vitamin/mineral	*0.1	0.0
Benadryl	185	30	3.4	0.5	Antihistamine	1.5	0.1
Toradol	152	25	2.8	0.5	Antiarthritic agent	2.5	0.2
Motrin	139	33	2.5	0.6	Antiarthritic agent	3.1	0.2
Charcoal	128	26	2.3	0.5	Gastrointestinal agent	*0.0	0.0
Demerol	126	26	2.3	0.5	Analgesic	2.4	0.1
Dilantin	113	25	2.1	0.5	Anticonvulsant agent	0.4	0.0
Charcoal, activated with sorbitol	106	29	1.9	0.5	Antidote	*0.0	0.0
Tylenol no. 3	94	25	1.7	0.5	Analgesic	2.1	0.2
Tetanus toxoid	83	21	1.5	0.4	Vaccine/antiserum	0.8	0.1
Diphtheria tetanus toxoids	82	21	1.5	0.4	Vaccine/antiserum	1.1	0.1
Oxygen	82	22	1.5	0.4	Adjunct to anesthesia and analeptic	1.4	0.1
Narcan	79	18	1.4	0.3	Antidote	0.0	0.0
Phenergan	75	21	1.4	0.4	Nasal decongestant	2.5	0.2

[1]The entry made by the health care provider on the prescription or other medical records. This may be a trade name, generic name, or desired therapeutic effect.
[2]Based on the *National Drug Code Directory*, 1985 edition (NDC). In cases where a drug had more than one therapeutic use, it was listed under the NDC primary classification.
[3]ADR is alcohol related and/or drug related and ED is emergency department.

Table 16. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by disposition: United States, 1992

Disposition[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Refer to other physician/clinic	1,436	115	34.8	2.2	37.1	1.4
Return to ED PRN[4]	823	94	20.0	2.2	25.2	1.4
Admit to hospital	806	116	19.6	2.3	13.2	0.4
Return to referring physician	599	77	14.5	1.7	21.5	1.4
Other	384	78	9.3	1.7	4.9	0.6
Transfer to other facility	241	40	5.9	0.9	1.0	0.1
Return to ED-appointment	206	45	5.0	1.1	4.8	0.4
No follow-up planned	156	23	3.8	0.6	6.1	0.6
Left AMA[5]	149	30	3.6	0.7	1.0	0.1
DOA/died in ED[6]	*3	3	*0.1	0.1	0.3	0.0

[1]Numbers may not add to totals because more than one disposition may be reported per visit.
[2]ADR is alcohol related and/or drug related.
[3]ED is emergency department.
[4]PRN is as needed.
[5]AMA is against medical advice.
[6]DOA is dead on arrival.

all other ED visits (1.0 percent). It should be noted that "transfer to other facility" includes not only other medical facilities but also to other institutions such as jails. The percent of visits resulting in a disposition of "admit to hospital" was 19.6 percent for ADR ED visits, compared with 13.2 percent for all other ED visits. Dispositions of "other" and "left against medical advice" were significantly more for ADR ED visits compared with all other ED visits.

Expected source of payment

The expected sources of payment most often mentioned were "patient paid," "private/commercial" insurance, and Medicaid (table 17). "Patient paid" was considerably higher for ADR ED visits than for all other ED visits. "Other" forms of payment were also higher for ADR ED visits compared with all other ED visits. Medicare was recorded as the source of payment in 10 percent of the ADR ED visits and "other government" insurance and "HMO/other prepaid" were each mentioned about 4 percent of the time.

Readers should note that 1) providers were asked to check all of the applicable payment categories for item 8 on the Patient Record form, resulting in

Table 17. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by patient's expected sources of payment: United States, 1992

Expected sources of payment[1]	Number of visits in thousands	Standard error in thousands	ADR ED visits[2,3] Percent distribution	ADR ED visits[2,3] Standard error of percent	All other ED visits[3] Percent distribution	All other ED visits[3] Standard error of percent
ADR ED visits[2,3]	4,122	276	100.0	. . .	100.0	. . .
Patient paid	1,078	118	26.1	2.2	13.2	0.6
Private/commercial	1,024	97	24.8	2.0	36.5	1.1
Medicaid	933	98	22.6	1.6	22.7	1.1
Other	413	60	10.0	1.4	6.7	0.5
Medicare	412	44	10.0	1.1	15.4	0.5
HMO/other prepaid	200	48	4.8	1.2	7.4	0.8
Other government	181	31	4.4	0.8	4.5	0.5
Unknown	78	17	1.9	0.4	1.7	0.3
No charge	*55	26	*1.3	0.7	*0.8	0.4

[1]Numbers may not add to totals because more than one expected source of payment may be reported per visit.
[2]ADR is alcohol and drug related.
[3]ED is emergency department.

Table 18. Number, percent distribution, and corresponding standard errors of visits to hospital emergency departments by type of health care provider and region: United States, 1992

Health care provider and region	Number of visits in thousands	Standard error in thousands	ADR ED visits[1,2] Percent distribution	ADR ED visits[1,2] Standard error of percent	All other ED visits[2] Percent distribution	All other ED visits[2] Standard error of percent
ADR ED visits[1,2]	4,122	276	100.0	. . .	100.0	. . .
Health care providers seen[3]						
Registered nurse	3,609	267	87.6	1.9	82.9	1.5
Staff physician	3,492	242	84.7	2.1	82.4	1.6
Resident/intern	740	120	17.9	2.8	13.5	1.5
Nurse's aide	429	82	10.4	2.0	9.4	1.3
Other physician	424	63	10.3	1.6	11.8	1.4
Licensed practical nurse	265	76	6.4	1.9	6.5	1.0
Nurse practitioner	*79	33	*1.9	0.8	1.9	0.5
Physician assistant	*78	27	*1.9	0.7	2.0	0.4
Geographic region						
Midwest	1,217	187	29.5	3.7	28.7	1.9
South	1,080	134	26.2	3.0	33.2	1.8
West	1,036	133	25.1	3.0	19.2	1.5
Northeast	789	84	19.1	2.2	18.9	1.2

[1]ADR is alcohol related and/or drug related.
[2]ED is emergency department.
[3]Numbers may not add to totals because more than one provider may be seen and reported per visit.

multiple payment sources for each visit, and 2) the "patient paid" category includes the patient's contribution toward "co-payments" and "deductibles."

Health providers

The distribution of ADR ED visits by the health care provider seen by the patient is presented in table 18. Registered nurses and staff physicians accounted for the majority of these health care providers. Residents and interns were seen in 17.9 percent of the visits. Physician assistants and nurse practitioners were seen the least with fewer than 2 percent of the visits each.

Geographic region

ADR ED visits differ by geographic region (table 18). Visits in the Midwest were significantly higher than visits in the Northeast. The percent distribution of ADR ED visits for the South (26.2 percent) was less than its percent distribution of non-ADR ED visits (33.2 percent). For all other regions, there was no significant difference between percent distributions of ADR ED visits and all other ED visits.

Additional reports that utilize 1992 NHAMCS data will be published. Survey data will also be available on computer tape at a nominal cost from the National Technical Information Service in the summer of 1994. Questions regarding this report, future reports, or the NHAMCS, may be directed to the Ambulatory Care Statistics Branch by calling (301) 436–7132.

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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
#	Figure suppressed to comply with confidentiality requirements

Technical notes

Source of data and sample design

The information presented in this report is based on data collected in the National Hospital Ambulatory Medical Care Survey (NHAMCS) from December 2, 1991 through December 27, 1992. The target universe of NHAMCS includes visits made in the United States by patients to emergency departments (ED's) and outpatient departments (OPD's) of non-Federal, short-stay or general hospitals. Telephone contacts are excluded. The data were adjusted to produce annual estimates.

NHAMCS utilizes a multistage probability sample design that involves samples of primary sampling units (PSU's), hospitals with ED's and/or OPD's within PSU's, ED's within hospitals and/or clinics within OPD's, and patient visits within ED's and/or clinics. For 1992, a sample of 524 non-Federal, short-stay and general hospitals was selected from the SMG Hospital Market Database. Of this group, 474 hospitals were in scope, or eligible to participate in the survey; and 437 of these sample hospitals had ED's. The hospital response rate for the 1992 NHAMCS was 93 percent. Hospital staff were asked to complete Patient Record forms (figure 1) for a systematic random sample of patient visits occurring during a randomly assigned 4-week reporting period. Responding ED's completed 36,271 Patient Record forms.

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 the National Center for Health Statistics, Health Care Surveys Section, Research Triangle Park, 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 by less than twice the standard error from the value that would be obtained from a complete census.

The standard errors used in this report were approximated using SUDAAN software. SUDAAN computes standard errors by using a first-order Taylor approximation of the deviation of estimates from their expected values. A description of the software and the approach it uses has been published (5). Exact standard error estimates were used in tests of significance in this report. Standard errors for all estimates are presented in each table. Standard errors for rates can be calculated using the relative standard errors (RSE) for the number of visits (i.e., multiply the rate by the RSE for the estimate of interest).

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 nonresponse 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 and/or clinic nonresponse

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

Test of significance and rounding

The determination of statistical inference is based on a two-sided *t*-test. The Bonferroni inequality was used to establish the critical value for statistically significant differences (0.05 level of confidence). Terms relating to differences such as "higher than" indicate that the differences are 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

ADR diagnosis—An alcohol-related and/or drug-related visit is defined by one or more of the following diagnoses: pellagra (ICD 265.2), alcoholic psychoses (ICD 291), drug withdrawal syndrome (ICD 292.0), acute alcoholic intoxication (ICD 303.0), other and unspecified alcoholic dependence (ICD 303.9), unspecified drug dependence (ICD 304.0), alcohol abuse (ICD 305.0), tobacco use disorder (ICD 305.1), alcoholic cardiomyopathy (ICD 425.5), acute alcoholic hepatitis (ICD 571.1), alcoholic cirrhosis of liver (ICD 571.2), other current conditions in the mother classifiable elsewhere, but complicating pregnancy, childbirth, or the puerperium: drug dependence (ICD 648.3) and mental disorders (ICD 648.4), suspected damage to fetus from drugs (ICD 655.5), fetal alcohol syndrome (ICD 760.71), drug withdrawal syndrome in newborn (ICD 779.5), poisoning by opiates and related narcotics (ICD 965.0), poisoning by barbiturates (ICD 967.0), toxic effects of alcohol, unspecified (ICD 980.9), unspecified adverse effect of drug, medicinal, and biological substances (ICD 995.2), alcoholism (ICD V011.3), renal dialysis status (ICD V045.1), other unspecified

dependence on machines (ICD V046), and radiotherapy (ICD V058.1).

Drug mention—A drug mention is the physician's entry on the Patient Record form of a pharmaceutical agent—by any route of administration—for prevention, diagnosis, or treatment. Generic as well as brand-name drugs are included, as are nonprescription and prescription drugs. Along with all new drugs, the physician also records continued medications if the patient was specifically instructed during the visit to continue the medication. Physicians may report up to five medications per visit.

Drug visit—A drug visit is a visit at which medication was prescribed or provided by the physician.

Emergency department—An emergency department is a hospital facility that provides unscheduled outpatient services to patients whose conditions require immediate care and is staffed 24 hours a day. If an ED provides emergency services in different areas of the hospital, all 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.

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

Nonurgent—A visit is nonurgent if the patient does not require attention immediately or within a few hours.

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

Patient—A patient is an individual, not currently admitted to any health care institution on the premises, who is seeking 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.

Visit—A visit is 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.

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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