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## Emergency Department Visits by Persons Recently Discharged from U.S. Hospitals

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### Abstract

*Background*—Emergency department (ED) visits are rarely used as an outcome of prior hospitalization, but could be an indicator of poor inpatient care or follow-up planning.

*Study objective*—To examine the rate and characteristics of ED visits of patients recently discharged from any hospital.

*Methods*—Data from the 2005 and 2006 National Hospital Ambulatory Medical Care Surveys (NHAMCS) and National Hospital Discharge Surveys (NHDS) were used to produce ratios of the numbers of ED visits where patients were discharged from any hospital within the last 7 days to the numbers of hospital discharges. NHAMCS, an annual survey of visits to U.S. hospital EDs, reported data for patients discharged from any hospital within 7 days previous to the ED visit. The NHDS is an annual survey of inpatient discharges from U.S. hospitals. Data from nonnewborn patients were weighted to produce national estimates.

*Results*—About 2.3 million ED visits (2.0 percent of all visits) were made by persons who had been hospitalized within the last 7 days. This corresponds to 68 ED visits per 1,000 live hospital discharges. About 10 percent of patients at these ED visits presented with medical or surgical complications that may have been related to their recent hospitalization. Uninsured persons were nearly three times as likely as those privately insured to make an ED visit following hospital discharge.

*Conclusion*—A large number of ED visits following recent hospitalization may be related to prior hospitalization. Returning to the ED after hospitalization may be an important measure to help improve inpatient care quality. Disparities in rates of ED visits following hospitalization may be attributed to differential inpatient or follow-up care.

**Keywords:** emergency department visits • hospital discharges • survey • NHAMCS • NHDS

### Introduction

Emergency department (ED) visits are frequently used as an outcome of care in the ambulatory setting, but are rarely used as an outcome of prior hospitalization. Instead, inpatient hospital care has commonly used re-admission as an outcome (1,2). Visiting an ED after hospital discharge may indicate poor care or follow-up planning during the inpatient stay. Investigation into the epidemiology of returning to an ED shortly after hospitalization may assist in identifying potential shortcomings of prior inpatient care, as well as evaluating the economic burden that results from these shortcomings.

There is a paucity of data on ED visits following recent hospitalization. The purpose of this study was to describe the volume and characteristics of ED visits where the patient had been discharged from any hospital within the last 7 days using data from the 2005 and 2006 National Hospital Ambulatory Medical Care Surveys (NHAMCS) and to calculate a ratio of the number of these ED visits per live hospital discharges using data from National Hospital Discharge Surveys (NHDS) in the denominator.



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## Methods

### Study population

We used data from the 2005–2006 NHAMCS and NHDS, which are both conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). The NHAMCS is an annual probability sample survey of U.S. hospital EDs and outpatient departments that uses a four-stage probability sampling procedure including sampling nonfederal, short-stay, and general hospitals within geographic areas and ED visits within hospitals to produce nationally representative estimates of ED visits. A published report describes the plan and operation of the NHAMCS (3). The NHDS follows a similar sampling design to the NHAMCS, although the samples of hospitals are not independent (4).

### Study procedures

Data abstracted from ED patient medical records included demographic data, mode of arrival, expected source of payment, immediacy with which the patient should be treated, diagnosis, cause of injury, and disposition. For the first time in 2005, data were collected on whether the patient was discharged from any hospital within the last 7 days. These data were missing for 24.8 percent of the sampled records for patients older than 30 days in 2005–2006. However, because the distributions of characteristics for records with an unknown status were more similar to those with a negative than positive indication of recently discharged status, it is believed that using only those records with a positive response validly represents a minimum count of visits by recently hospitalized patients. A sensitivity analysis was performed, given the high item nonresponse rate.

First-listed diagnosis codes (coded according to the *International Classification of Diseases, Ninth Revision, Clinical Modification* (5) for ED patients who had been discharged from any hospital within the last 7 days

were examined by major disease categories that were large enough to have reliable estimates. The codes used to define these groups are presented in [Table 1](#).

Participation in the surveys is voluntary and protocols were approved by NCHS' research ethics review board.

### Sample size

In 2005 and 2006, the number of eligible sample NHDS hospitals and NHAMCS EDs was approximately 500 and 400, respectively, each year. There were 751,700 nonnewborn, live hospital discharge and 69,454 ED patient record forms completed; 1,548 of the latter were for patients older than 30 days who were discharged from any hospital within 7 days prior to the ED visit. The survey response rates for the NHDS and NHAMCS averaged about 91 percent and 84 percent, respectively, each year. A sample weight for each ED visit and hospital discharge is adjusted for survey nonresponse and applied in the analysis to produce unbiased national annual estimates of ED visits and discharges. For hospitals that refused, the weights of visits to hospitals similar to the nonrespondent hospitals were inflated to account for visits represented by the nonrespondent hospitals.

### Main outcome measures

The main outcome measure was the ratio of the number of ED visits by patients aged 30 days and over discharged from any hospital in the last 7 days to the number of live hospital discharges, excluding newborns. These ratios are presented by patient and hospital characteristics. The hospital re-admission rate is defined as the ratio of the number of ED visits by patients discharged from any hospital within the last 7 days and who were admitted to the hospital or transferred to another hospital to the number of live hospital discharges, excluding newborns. Due to small NHAMCS sample sizes, only a total hospital re-admission rate is presented.

## Statistical analysis

SUDAAN and stata software were used for all statistical analyses (6,7). Standard errors for the ratios of ED visits to discharges were computed taking the variances of both the numerator and denominator into account (8). Estimates were not presented if they were based on fewer than 30 cases in the sample data. Estimates based on 30 or more cases include an asterisk (\*) if the relative standard error (i.e., the standard error divided by the estimate expressed as a percentage) exceeded 30 percent. Additional information about the methodology of the NHAMCS and NHDS may be found at: <http://www.cdc.gov/nchs/nhcs.htm>.

A sensitivity analysis of 2005 NHAMCS ED data was performed to determine if the findings were stable under different assumptions about the characteristics of the missing cases. Since 1.9 percent of all ED visits, in 2005, were made by patients who had been discharged from a hospital within the past 7 days, we randomly assigned 1.9 percent of the missing cases to the recently hospitalized category and the remainder to the not recently hospitalized category. Additional analyses were conducted in which 0.95 percent, 3.8 percent, and 7.6 percent of the ED discharges with missing data for the recently discharged item were randomly assigned to the recently discharged category to determine how the results might change under different assumptions about the true nature of the missing cases.

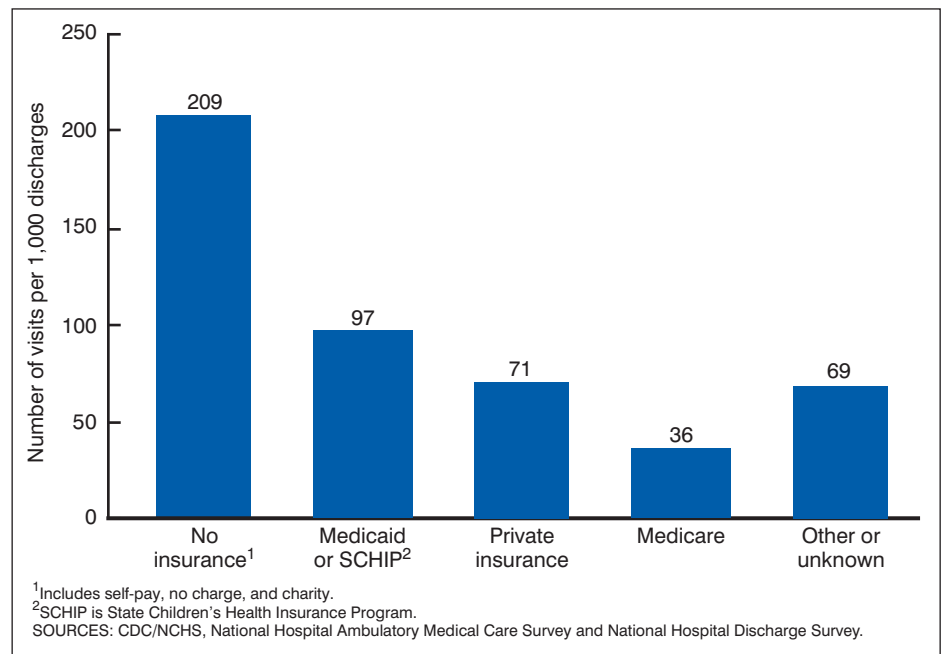
## Results

In 2005–2006, there were an estimated 2.3 million average annual ED visits (95 percent confidence interval (CI) 2.0–2.6 million) (2.0 percent of all ED visits) in the United States made by persons who were discharged from any hospital within 7 days prior to the ED visit. Given that there were about 34.0 million live discharges, this corresponds to 68.2 ED visits per 1,000 live hospital discharges ([Table 2](#)). The mean age was 43.3 years (95 percent CI 41.5–45.1) for the recently hospitalized compared with

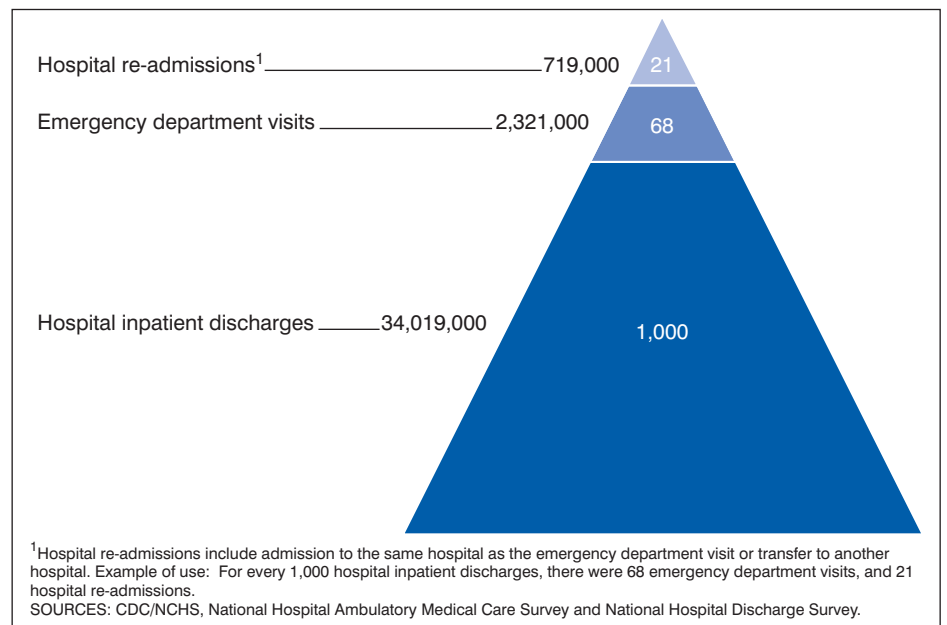
36.2 years (95 percent CI 35.6–36.7) for those not recently hospitalized. The leading diagnoses at ED visits made by the recently hospitalized were for symptoms, such as abdominal and chest pain, followed by injury or poisoning. Among visits by females 15–44 years of age, 8.9 percent of visits were related to pregnancy and its complications (Table 3). At about 1 in 10 of recently hospitalized visits, the patient presented with a medical or surgical complication (e.g., postoperative bleeding, surgical-site infection). Some of the verbatim reasons for visit abstracted from the medical record included the following: “constant sharp pains in lower abdomen for 3 days from surgical incision”; “possible infection—Caesarean section”; “can’t urinate”; “lumps under left arm post-surgery”; “can’t eat since heart surgery”; and “medication reaction.” Compared with ED visits where the patient had not been recently discharged, recently hospitalized visits were about twice as likely to result in hospitalization or transfer (31.0 percent versus 13.4 percent) and have ambulance recorded as the mode of arrival (26.0 percent versus 14.9 percent) (Table 4).

Rates of visits to EDs by post-hospitalized patients per 1,000 live discharges by patient demographics are shown in Table 2. In general, ED visit rates after a hospital discharge declined with patient age. Persons under age 25 years had higher rates of post-hospital discharge ED visits than persons 65 years of age and over. Uninsured persons (as characterized by self-pay, no charge, and charity patients) had the highest rate of ED visits following a hospital discharge compared with persons with any type of insurance, and were nearly three times as likely as privately insured persons to make an ED visit (Figure 1). On average, for every 1,000 live hospital discharges there were 21 hospital re-admissions (Figure 2).

Figure 3 and Table 4 show that the percent distributions of selected variables for ED visits where the patient was not recently discharged from the hospital are similar to visits where this



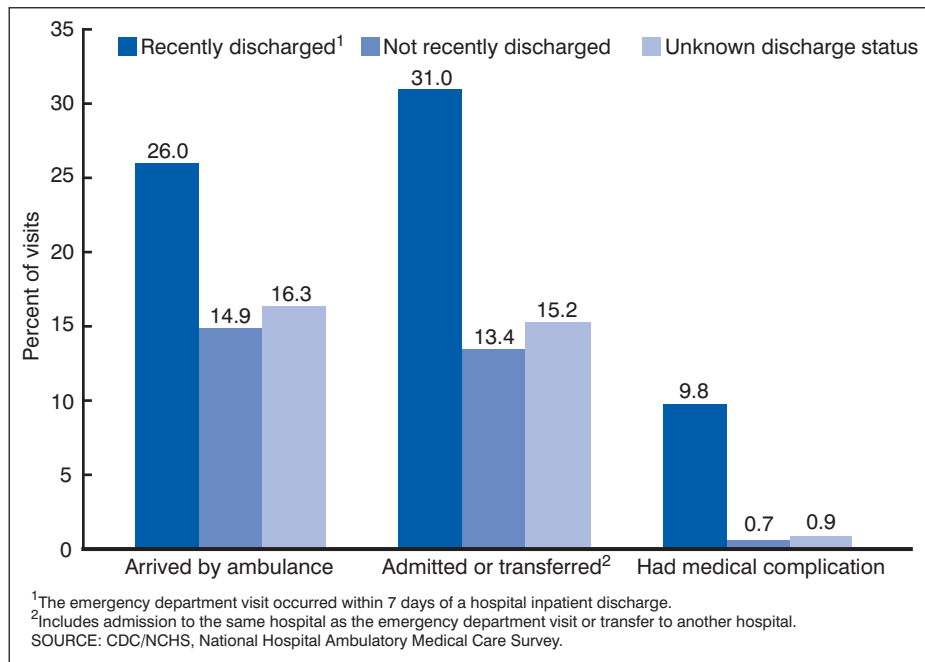
**Figure 1. Average annual rate of emergency department visits per hospital discharges by expected source of payment: United States, 2005–2006**



**Figure 2. Average annual numbers of emergency department visits and hospital re-admissions within 7 days of a hospital discharge in relation to the number of hospital discharges with corresponding ratios: United States, 2005–2006**

information was missing. A sensitivity analysis of the 2005 ED data showed that when 0.95 percent, 1.9 percent, 3.8 percent, and 7.6 percent of the cases (i.e., one-half, two, and four times the percentage of ED visits with a recent hospitalization) missing on the recently discharged item were assigned to the

recently discharged group, ED visits for patients recently discharged represented 7.2 percent, 8.0 percent, 9.6 percent, and 12.7 percent of live hospital discharges, respectively. Associations between recently discharged status and selected patient and visit characteristics (i.e., age, arrival by ambulance, expected source



**Figure 3. Average annual percentage of emergency department visits with selected visit characteristics by recently discharged status: United States, 2005–2006**

of payment, and admitted or transferred) were similar to those found in the main analysis even when as many as 7.6 percent of the missing cases were allocated to the recently discharged status. Characteristics with no relationship with status (patient, sex, and race) continued to have no relationship.

## Discussion

For patients who visit an ED for care within 7 days of a hospitalization, these data suggest that a large number of cases are related to the prior hospitalization. Most directly, about 10 percent of visits had E-codes indicating that the visit was for an adverse effect of medical treatment. However, studying adverse events of care alone is likely an underestimate of the proportion of cases related to prior hospitalization. Many ED visits shortly after hospital discharge may be for the same diagnosis as the prior hospitalization (and potentially related to poor care), but are not adverse events of care. For example, those who visited for mental illness, which accounted for 4.9 percent of ED visits with a recent hospitalization, were likely to have had

that mental illness 1 week prior, and better care or follow-up might have prevented the ED visit.

Even though recently hospitalized patients account for a small proportion of the ED caseload (2.0 percent), other conditions that are seen in the ED with similar frequencies include open wound of head and sprains and strains of neck and back; more than asthma and heart disease, but less than abdominal and chest pain. From a different perspective, approximately 6.8 percent of all hospitalizations result in a visit to the ED within 7 days. We observed that ED visits made by those recently discharged were more acute than other ED visits in that patients were more likely to arrive by ambulance and be re-admitted to the hospital.

The data are similar to that of Cardin et al. who conducted a randomized trial to assess the effectiveness of an intervention to reduce returns to the ED after hospitalization (as well as after ED visits) (9). Although the study was conducted at one hospital in Canada, examination of the control group data suggest a rate of return to the ED within 7 days of hospitalization of 5.1 percent,

similar to the U.S. rate of 6.8 percent. Of these visits, Cardin found that 96.1 percent were unscheduled and 74.5 percent were both unscheduled and related to the prior hospitalization. Again, this suggests a strong relationship between recent hospitalizations and current ED visits.

Comparisons of our results for the 7-day hospital re-admission rate were difficult to find in the literature, as most studies focus on 28- or 30-day re-admission rates instead. However, Westert, et al. examined 7-day re-admission rates for 6 diagnoses in Finland, Scotland, the Netherlands, California, New York State, and Washington State (10). The rates of re-admission varied between 0.1 and 3.8 readmissions per 100 discharges, which is consistent with our rate of 2.1 per 100.

Also of note in these data are the clear disparities that appear in the rates of return to ED after recent hospitalization. The uninsured were more likely to return to the ED after recent hospitalization than any other insurance class. Medicare, in contrast, had the lowest rate of return to the ED, despite likely having older and at least as complex patients as other classes of insurance. Future research should investigate whether case complexity accounts for these differences or whether differences in care by insurance class during hospitalization or lack of proper follow up are leading to differential rates of returning to the ED. Examination of returns to the ED after recent hospitalization may be a means to reduce disparities if data of this type can highlight variation in care among different populations. It is clearly unknown during what length of time after hospitalization an ED visit should be attributed to care given in the hospital. In this survey, we chose a short length of time (7 days) in order to increase the likelihood of the ED visit reflecting care in the hospital. Again, had a higher day cutoff been used, the total percentage of ED cases that might appear to be related to recent hospitalization would have been higher. As the time frame under examination increases, however, a greater percentage



of the cases seen might have resulted from factors unrelated to the hospitalization. Future research should examine more closely the relationship between these ED visits and the recent hospitalizations to determine if these were avoidable.

## Limitations

This study has several limitations. The NHDS does not include hospital discharge data from certain types of hospitals (e.g., long-stay psychiatric hospitals or Veteran's Affairs hospitals), but the NHAMCS data may include ED visits by patients who were discharged from any type of hospital. Therefore, the rate of ED visits per hospital discharges may be biased depending on how well the recently discharged ED visit rates from NHDS-eligible hospitals compare with those from NHDS-ineligible hospitals. In the NHAMCS, there is no indicator to ascertain whether the patient was discharged from the same hospital as the ED visit or from an NHDS-eligible hospital.

Due to small sample sizes, estimates for some variables were not reliable. The survey is subject to some nonsampling errors (e.g., when information is available from the medical record, but survey procedures are not followed by the data abstractor and the item is left blank). Because race is missing for about one-quarter of hospital discharges, the rates of ED visits per 1,000 discharges represent overestimates for the three race categories presented. Notwithstanding, the sampling variation is sufficiently large to indicate that there were no significant differences in visit rates per discharges by race. The use of data from multiple surveys could potentially cause some misclassification if definitions or collection is not consistent between surveys. However, there were no instances where this appeared likely. The large percentage of cases missing recently discharged status implies that the estimates presented in [Tables 1 and 2](#) are lower-bound estimates of numbers, percentages, and rates as missing cases were treated as not recently discharged.

## Conclusion

A large number of ED visits following recent hospitalization may be related to prior hospitalization. Returning to the ED after hospitalization may be an important measure to help improve inpatient care quality. Disparities in rates of ED visits following hospitalization may be attributed to differential inpatient or follow-up care.

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**Table 1. Major disease category for primary diagnosis and ICD–9–CM codes(s)**

Major disease category	ICD–9–CM code(s) <sup>1</sup>
Mental disorders . . . . .	290–319
Diseases of the circulatory system . . . . .	390–459
Diseases of the respiratory system . . . . .	460–519
Diseases of the digestive system . . . . .	520–579
Diseases of the musculoskeletal system and connective tissue. . . . .	710–739
Normal pregnancy and complications of pregnancy . . . . .	630–659, V22–24
Symptoms, signs, and ill-defined conditions. . . . .	780–799
General symptoms . . . . .	780
Chest pain . . . . .	786.5
Abdominal pain . . . . .	789.0
Injury and poisoning . . . . .	800–999
Adverse effects and complications of surgical and medical care. . . . .	996–999
Supplementary classification . . . . .	V01–V82, excluding V22–24

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

**Table 2. Average annual number and percent distribution of emergency department visits and hospital discharges and percentage of emergency department visits and rate per 1,000 hospital discharges of emergency department visits by patients who were discharged from a hospital within the previous 7 days by selected patient and hospital characteristics: United States, 2005–2006**

Patient and hospital characteristics	Number of emergency department visits in thousands	Percent distribution of emergency department visits	Percent of emergency department visits (95% confidence interval) <sup>1</sup>	Number of hospital discharges in thousands	Percent distribution of hospital discharges	Rate of emergency department visits per 1,000 discharges (95% confidence interval) <sup>2</sup>
All visits for patients recently discharged <sup>3</sup>	2,321	100.0	2.0 (1.8–2.2)	34,019	100.0	68.2 (57.8–78.7)
Patient characteristics						
Age:						
Under 15 years	221	9.5	1.0 (0.8–1.2)	2,351	6.9	94.0 (60.8–127.1)
15–24 years	328	14.1	1.7 (1.4–2.1)	3,094	9.1	105.9 (79.4–132.4)
25–44 years	689	30.0	2.0 (1.7–2.3)	7,593	22.3	90.7 (74.8–106.7)
45–64 years	591	25.5	2.5 (2.0–3.1)	8,371	24.6	70.6 (54.3–86.8)
65–74 years	217	9.3	3.1 (2.5–4.0)	4,712	13.9	46.0 (34.1–57.9)
75 years and over	276	11.9	2.7 (2.2–3.4)	7,899	23.2	35.0 (27.3–42.6)
Sex:						
Female	1,234	53.2	1.9 (1.7–2.2)	20,444	60.1	60.4 (50.7–70.0)
Male	1,088	46.9	2.0 (1.8–2.3)	13,575	39.9	80.1 (66.5–93.8)
Race: <sup>4</sup>						
White	1,726	74.3	2.0 (1.8–2.3)	20,440	60.1	84.4 (68.9–99.9)
Black	509	21.9	1.9 (1.5–2.3)	4,098	12.0	124.3 (95.0–153.6)
Other	86	3.7	2.1 (1.4–3.2)	1,353	4.0	63.9 (29.3–98.5)
Not stated	...	...	...	8,129	23.9	...
Primary expected source of payment:						
Private insurance	786	33.9	2.0 (1.7–2.3)	11,152	32.8	70.5 (56.1–84.9)
Medicaid or SCHIP <sup>5</sup>	562	24.2	1.9 (1.6–2.2)	5,820	17.1	96.5 (76.3–116.7)
Medicare	474	20.4	2.9 (2.4–3.4)	13,159	38.7	36.0 (28.7–43.3)
No insurance <sup>6</sup>	347	14.9	1.7 (1.4–2.1)	1,659	4.9	208.8 (155.1–262.5)
Other or unknown	154	6.6	1.4 (1.0–1.9)	2,228	6.5	69.0 (44.1–93.8)
Hospital characteristics						
Region:						
Northeast	468	20.2	2.1 (1.7–2.6)	7,076	20.8	66.2 (47.4–85.0)
Midwest	599	25.8	2.2 (1.7–2.9)	7,780	22.9	76.9 (46.9–107.0)
South	882	38.0	1.9 (1.5–2.3)	12,754	37.5	69.2 (52.3–86.0)
West	372	16.1	1.8 (1.4–2.3)	6,409	18.8	58.1 (42.5–73.8)
Metropolitan status:						
MSA <sup>7</sup>	2,028	87.4	2.0 (1.8–2.3)	28,360	83.4	71.5 (58.8–84.2)
Non-MSA	293	12.6	1.7 (1.2–2.3)	5,582	16.4	52.6 (30.4–74.7)
Not stated	...	...	...	77	0.2	...

... Category not applicable.

<sup>1</sup>Percentage of all emergency department visits for each category that occurred within 7 days of a hospital inpatient discharge.

<sup>2</sup>Based on the number of live hospital discharges (excluding newborns) estimated from the National Hospital Discharge Survey.

<sup>3</sup>Patient discharged from a hospital inpatient stay within 7 days of the emergency department visit, excluding visits by patients older than 30 days.

<sup>4</sup>Race was not stated for 23.9% of records in the National Hospital Discharge Survey. Race was imputed for 11.7% of records in the National Hospital Ambulatory Medical Care Survey.

<sup>5</sup>SCHIP is State Children's Health Insurance Program.

<sup>6</sup>Includes self-pay, no charge, and charity.

<sup>7</sup>MSA is metropolitan statistical area.

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

**Table 3. Average annual number, percent distribution, and percentage of emergency department visits by patients who were discharged from any hospital within the last 7 days by visit characteristics: United States, 2005–2006**

Visit characteristic	Number of visits in thousands	Percent distribution	Percent of emergency department visits (95% confidence interval) <sup>1</sup>
All visits for patients recently discharged <sup>2</sup> . . . . .	2,321	100.0	2.0 (1.8–2.2)
Mode of arrival:			
Ambulance . . . . .	604	26.0	3.3 (2.9–3.9)
Other . . . . .	1,717	74.0	1.7 (1.5–2.0)
Immediacy with which patient should be treated:			
Immediate . . . . .	167	7.2	2.7 (1.9–3.7)
Emergent . . . . .	368	15.9	3.1 (2.5–3.8)
Urgent . . . . .	890	38.4	2.2 (1.8–2.6)
Semi-urgent . . . . .	403	17.4	1.6 (1.3–2.0)
Nonurgent . . . . .	220	9.5	1.4 (1.2–1.8)
No triage or unknown . . . . .	274	11.8	1.6 (1.2–2.1)
Major disease category for primary diagnosis:			
Symptoms, signs, and ill-defined conditions . . . . .	618	26.6	2.7 (2.3–3.2)
Abdominal pain . . . . .	153	6.6	3.2 (2.5–4.0)
General symptoms <sup>3</sup> . . . . .	145	6.2	2.6 (2.0–3.4)
Chest pain . . . . .	96	4.1	2.2 (1.6–3.0)
Injury and poisoning . . . . .	371	16.0	1.3 (1.1–1.6)
Adverse effects and complications of surgical and medical care . . . . .	114	4.9	8.0 (5.6–11.3)
Diseases of the respiratory system . . . . .	171	7.4	1.4 (1.1–1.8)
Diseases of the circulatory system . . . . .	159	6.8	3.8 (2.9–4.9)
Diseases of the digestive system . . . . .	143	6.2	2.0 (1.6–2.6)
Diseases of the musculoskeletal system and connective tissue . . . . .	135	5.8	2.0 (1.5–2.6)
Supplementary classification, excluding pregnancy . . . . .	115	5.0	3.8 (2.7–5.3)
Mental disorders . . . . .	113	4.9	2.7 (1.9–4.0)
Normal pregnancy and complications of pregnancy <sup>4</sup> . . . . .	52	2.2	3.2 (2.0–5.0)
Mechanism of injury: <sup>5</sup>			
Unintentional injuries (E-codes 800–848, 850–869, 880–929) . . . . .	274	11.8	1.0 (0.8–1.2)
Falls (E-codes 880–886, 888) . . . . .	100	4.3	1.2 (0.8–1.6)
Intentional injuries (E-codes 950–979, 990–999) . . . . .	52	2.3	2.2 (1.5–3.4)
Adverse effects of medical treatment (E-codes 870–879, 930–949) . . . . .	228	9.8	12.3 (9.7–15.5)
Medical or surgical complications (E-codes 870–879) . . . . .	197	8.5	18.2 (14.2–23.0)
Adverse drug effects (E-codes 930–949) . . . . .	*	*	*
Alcohol or drug use <sup>6</sup> . . . . .	43	1.9	2.2 (1.3–3.5)
Visit disposition:			
Admitted or transferred to another hospital . . . . .	719	31.0	4.3 (3.7–5.1)
Not admitted or transferred to another hospital . . . . .	1,602	69.0	1.6 (1.4–1.8)

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

<sup>1</sup>Percentage of all emergency department visits for each category that occurred within 7 days of a hospital inpatient discharge.

<sup>2</sup>Patient discharged from a hospital inpatient stay within 7 days of the emergency department visit, excluding visits by patients older than 30 days.

<sup>3</sup>General symptoms include alteration of consciousness, syncope, convulsions, dizziness, fever, and fatigue.

<sup>4</sup>Females 15–44 years of age who had been discharged from any hospital within the last 7 days made 8.9% of emergency department visits where the primary diagnosis was related to normal pregnancy or complications of pregnancy.

<sup>5</sup>Based on the Supplementary Classification of External Cause of Injury and Poisoning, *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD–9–CM) (5).

<sup>6</sup>Alcohol and drug abuse are not contained in the “Supplementary Classification of External Cause of Injury and Poisoning,” but are frequently recorded as a cause of injury or poisoning.

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



**Table 4. Average annual percent distribution of emergency department visits, by selected patient and hospital characteristics, according to hospital discharge status: United States, 2005–2006**

Selected patient characteristics	Recently discharged <sup>1</sup>	Not recently discharged	Recently discharge status unknown or blank
	Percent distribution (95% confidence interval)	Percent distribution (95% confidence interval)	Percent distribution (95% confidence interval)
<b>Patient characteristics</b>			
Age: . . . . .	100.0	100.0	100.0
Under 15 years . . . . .	9.5 (7.6–11.8)	20.2 (19.1–21.5)	18.1 (16.3–20.1)
15–24 years . . . . .	14.1 (12.0–16.6)	16.4 (15.8–16.9)	16.5 (15.6–17.5)
25–44 years . . . . .	29.7 (26.9–32.7)	28.9 (28.2–29.6)	30.1(28.7–31.6)
45–64 years . . . . .	25.5 (21.9–29.4)	20.3 (19.7–21.0)	20.2 (19.1–21.3)
65–74 years . . . . .	9.3 (7.5–11.5)	5.9 (5.6–6.2)	5.8 (5.3–6.4)
75 years and over . . . . .	11.9 (9.8–14.3)	8.3 (7.8–8.9)	9.3 (8.5–10.1)
Sex:			
Female . . . . .	53.2 (50.1–56.2)	54.5 (53.8–55.1)	53.5 (52.5–54.5)
Male . . . . .	46.9 (43.8–49.9)	45.5 (44.9–46.2)	46.5 (45.5–47.5)
Race:			
White . . . . .	74.3 (70.0–78.2)	72.4 (69.7–74.9)	75.3 (72.3–78.0)
Black . . . . .	21.9 (18.1–26.3)	23.7 (21.5–26.1)	22.4 (19.7–25.3)
Other . . . . .	3.7 (2.3–5.9)	3.9 (2.6–5.9)	2.4 (1.8–3.0)
Primary expected source of payment:			
Private insurance . . . . .	33.9 (30.4–37.5)	35.0 (33.4–36.5)	31.1 (28.5–33.9)
Medicaid or SCHIP <sup>2</sup> . . . . .	24.2 (21.1–27.6)	25.6 (24.1–27.3)	23.5 (21.1–26.1)
Medicare . . . . .	20.4 (17.8–23.3)	13.9 (13.1–14.8)	13.9 (12.8–15.1)
No insurance <sup>3</sup> . . . . .	14.9 (12.3–18.0)	17.0 (15.7–18.3)	18.2 (16.1–20.5)
Other or unknown . . . . .	6.6 (5.0–8.8)	8.5 (7.3–9.8)	13.2 (10.3–16.9)
Mode of arrival:			
Ambulance . . . . .	26.0 (23.3–29.3)	14.9 (13.9–16.0)	16.3 (14.7–18.0)
Other . . . . .	74.0 (70.8–77.0)	85.1 (84.0–86.1)	83.8 (82.0–85.3)
Immediacy with which patient should be treated:			
Immediate . . . . .	7.2 (5.1–10.0)	5.7 (4.7–7.0)	3.9 (3.0–5.1)
Emergent . . . . .	15.9 (13.1–19.0)	10.2 (9.1–11.4)	10.2 (8.2–12.7)
Urgent . . . . .	38.4 (34.4–42.5)	35.1 (32.4–38.0)	34.4 (30.9–38.1)
Semi-urgent . . . . .	17.4 (14.6–20.5)	20.6 (18.5–22.9)	23.7 (20.6–27.1)
Nonurgent . . . . .	9.5 (7.4–12.0)	13.7 (11.5–16.2)	11.4 (8.8–14.7)
No triage or unknown . . . . .	11.8 (8.8–15.6)	14.7 (12.1–17.8)	16.3 (12.4–21.2)
Visit disposition:			
Admitted or transferred to another hospital . . . . .	31.0 (27.6–34.7)	13.4 (12.5–14.4)	15.2 (13.7–16.8)
Not admitted or transferred to another hospital . . . . .	69.0 (65.4–72.5)	86.6 (85.6–87.5)	84.8 (83.2–86.3)
<b>Hospital characteristics</b>			
Geographic region:			
Northeast . . . . .	20.2 (15.8–24.4)	19.0 (16.5–21.9)	19.1 (16.5–21.9)
Midwest . . . . .	25.8 (19.4–33.4)	21.5 (18.3–25.0)	21.6 (18.4–25.1)
South . . . . .	38.0 (31.5–44.9)	41.4 (37.3–45.7)	41.3 (37.3–45.5)
West . . . . .	16.1 (12.5–20.3)	18.1 (15.8–20.6)	18.0 (15.8–20.5)
Metropolitan status:			
MSA <sup>4</sup> . . . . .	87.4 (82.8–90.9)	84.1 (79.3–87.9)	84.2 (79.5–88.0)
Non-MSA . . . . .	12.6 (9.1–17.3)	15.9 (12.1–20.7)	15.8 (12.0–20.5)

<sup>1</sup>The emergency department visit occurred within 7 days of a hospital inpatient discharge.<sup>2</sup>SCHIP is State Children's Health Insurance Program.<sup>3</sup>Includes self-pay, no charge, and charity.<sup>4</sup>MSA is metropolitan statistical area.

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

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