



4D.

#### **INJURY-RELATED INPATIENT DISCHARGES AND EMERGENCY DEPARTMENT VISITS BY INTENT AND MECHANISM OF INJURY**

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Injury hospitalizations and injury-related emergency department visits are defined here through the range of ICD-9-CM codes 800-999 used as the first-listed diagnosis. In addition, the supplementary classification of external causes of injury and poisoning (ICD-9-CM codes E800 – E999) is used to permit the classification of environmental events, circumstances and conditions as the cause of injury, poisoning and other adverse effects. The “E” code classification is used to describe both the *mechanism* or external cause of injury (e.g., motor vehicle traffic, fall, poisoning), but also the manner or *intent* of the injury (e.g., self-inflicted, assault, accident).

In 2004, approximately one in eight inpatient hospitalizations for injury (and one in five emergency department visits) did not have an external cause code. On the other hand, some of the non-injury first-listed diagnoses may have an external cause of injury code. Among elderly Arizonans 65+ who were hospitalized for fall-related injuries, stroke or heart attack rather than fractures were frequent first-listed diagnoses (<http://www.azdhs.gov/plan/hip/for/falls/2003/falt403.xls>).

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Note: comparative U.S. data can be found in the publications of the National Center for Health Statistics, such as National Trends in Injury Hospitalizations 1979 – 2001:

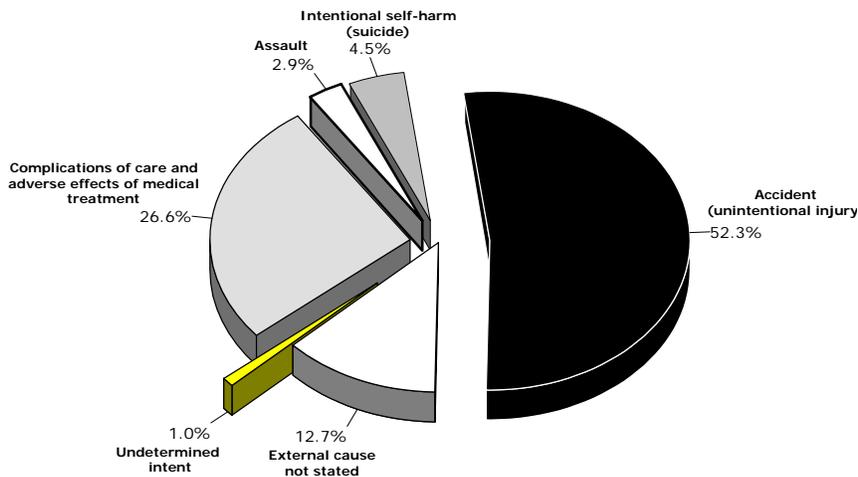
<http://www.cdc.gov/nchs/products/pubs/pubd/other/miscpub/miscpub.htm#Injury> or

Emergency Department Visit Injury Data: [http://www.cdc.gov/nchs/about/otheract/injury/injury\\_emergency.htm](http://www.cdc.gov/nchs/about/otheract/injury/injury_emergency.htm)

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**Figure 4D-1**  
**Percent Distribution of Inpatient Discharges by Intent of Injury, Arizona Residents, 2004**

N = 59,080 (ICD-9-CM codes 800-999 used as first-listed diagnosis)

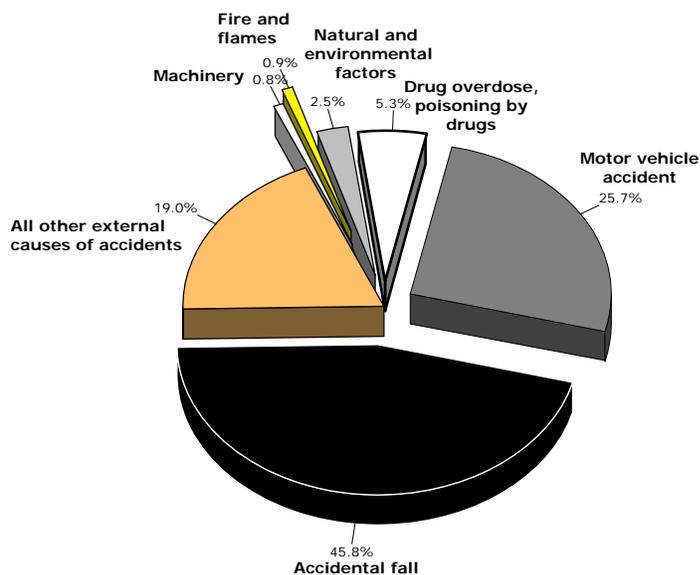


In 2004, there were 59,080 inpatient discharges for injury and poisoning. *Unintentional injuries in accidents* accounted for 52.3 percent of all inpatient discharges for injury (**Figure 4D-1**). Approximately 15,689 inpatient discharges were for *complications of medical care and adverse effects of medical treatment* (including adverse drug reactions and complications from surgical and medical procedures) and represented 26.6 percent of all injury-or poisoning-related inpatient hospitalizations. *Self-inflicted injuries in suicide* resulted in 2,720 inpatient discharges (4.5 percent). *Assault* accounted for 1,693 inpatient hospitalizations (2.9 percent of all hospital discharges for injury).

The external cause was not provided for 12.7 percent of inpatient discharges for injury.

**Figure 4D-2**  
**Percent Distribution of Inpatient Discharges by Mechanism of Unintentional Injury, Arizona Residents, 2004**

N = 30,896 (First-listed external cause codes E800-E869, E880 - E929)



*Accidental falls* (45.8 percent, **Figure 4D-2**), *motor vehicle accidents* (25.7 percent), and *drug overdoses* (5.3 percent) accounted for the largest proportions of inpatient discharges for unintentional injury.

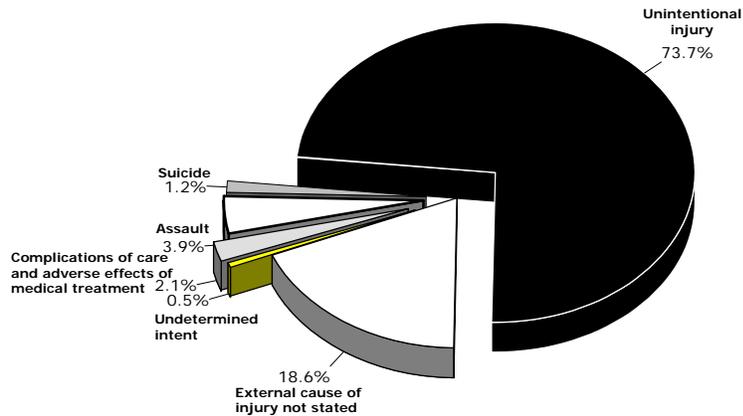
Among the natural and environmental factors as external causes of inpatient hospitalization for unintentional injury, the three most frequent were *poisoning and toxic reaction caused by venomous animals* (304 inpatient discharges), *other injury causes by animals* (306 inpatient discharges), and *exposure to excessive natural heat* (123 inpatient discharges)

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In 2004, there were 394,613 injury-related emergency department visits among Arizona residents, 6.7 times as many as inpatient hospitalizations for injury. *Unintentional injuries or accidents* accounted for three out of four (290,993 or 73.7 percent) of all injury-related emergency department visits (**Figure 4D-3**). The external cause of injury was classified as *assault* for 15,350 emergency department visits: these were the injuries purposely inflicted by another person. Complications of care and adverse effects of medical treatment accounted for a greater number of emergency department visits than self-inflicted injuries in suicide (2.1 percent vs. 1.2 percent, respectively, **Figure 4D-3**).

**Figure 4D-3**  
Percent Distribution of Injury-Related Emergency Department Visits by Intent of Injury, Arizona Residents, 2004

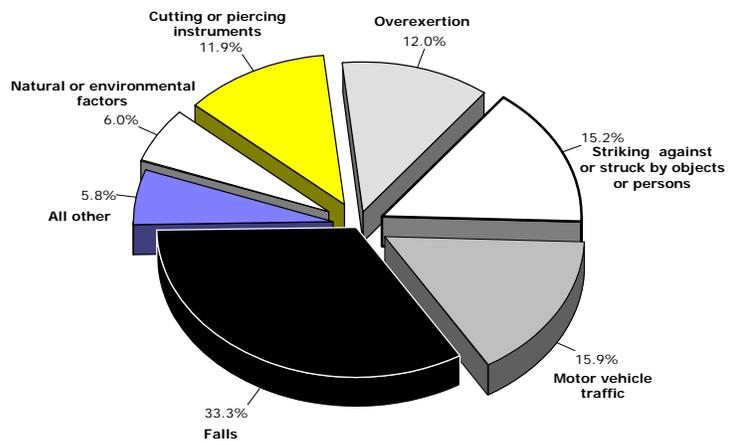
N = 394,613 (ICD-9-CM codes 800-999 used as first-listed diagnosis)



*Accidental falls* (96,966 ED visits, **Table 4D-2**), *motor vehicle traffic accidents* (46,1780 and *striking against or struck by objects or persons* (44,095) were the three most frequent mechanisms of unintentional injuries treated in emergency rooms (**Figure 4D-4**).

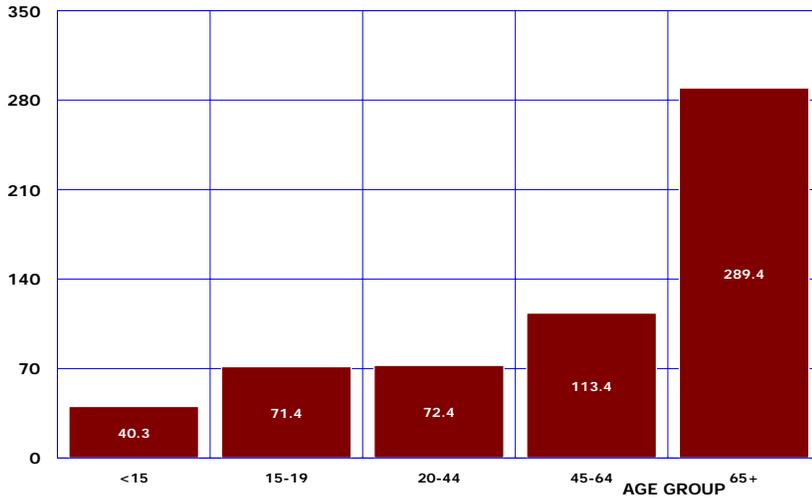
**Figure 4D-4**  
Percent Distribution of Injury-Related Emergency Department Visits by Mechanism of Unintentional Injury, Arizona Residents, 2004

N = 290,993 (First-listed external cause codes E800-E869, E880 - E929)



*Overexertion* (34,824 visits) accounted for a greater number of emergency department visits than the following four categories of unintentional injury combined: *motor vehicle non-traffic accidents* (9,005) *fire and flames* (6,770), *natural and environmental factors* (17,560) and *accidents involving machinery* (1,216, **Table 4D-2**).

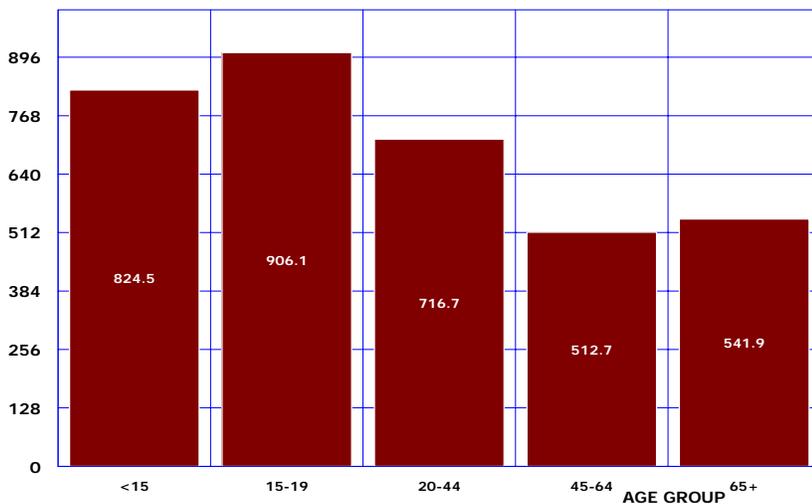
**Figure 4D-5**  
**Rates\*for Injury-Related Inpatient Discharges**  
**by Age Group, Arizona Residents, 2004**



\*Number of inpatient discharges per 10,000 resident population in specified age group.

The rates (i.e., the number of inpatient hospitalizations per 10,000 persons) for injury-related inpatient discharges clearly are associated with the age of the injured patient (**Figure 4D-5**). The older the injured person, the more likely it is to be admitted as inpatient. The rate of 289.4 per 100,000 elderly Arizonans 65+ was 7.2 times greater than the rate of 40.3/10,000 for children under the age of 15 years.

**Figure 4D-6**  
**Rates\*for Injury-Related Emergency**  
**Department Visits by Age Group,**  
**Arizona Residents, 2004**



\*Number of emergency department visits per 10,000 resident population in specified age group.

The rates for injury-related emergency department visits (i.e., the number of ED visits per 10,000 persons; **Figure 4D-6**) reveal a different age-specific pattern. The rates are the highest among the younger patients, who are more likely to be released home rather than admitted as inpatients. The rate of 906.1 ED visits per 10,000 adolescents 15-19 years old was 1.7 times greater than the rate of 541.9/10,000 among Arizonans aged 65 years or older.