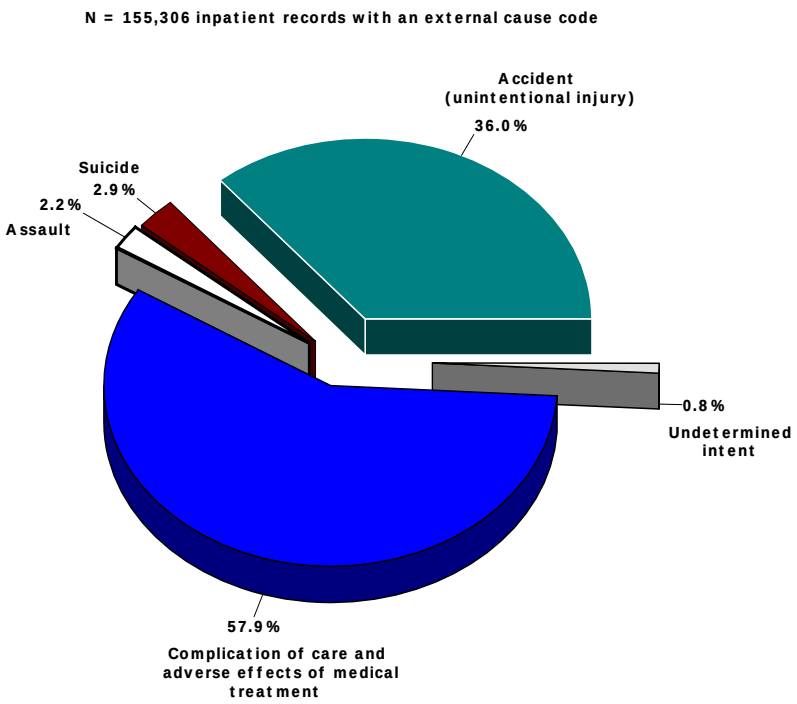
4D.

INJURY-RELATED INPATIENT DISCHARGES AND EMERGENCY ROOM VISITS BY INTENT AND MECHANISM OF INJURY

Prior to 2009, injury hospitalizations and injury-related emergency room visits were 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* of external cause of injury (e.g., motor vehicle traffic, fall, poisoning), but also the manner or *intent* of the injury (e.g., suicide, assault, accident).

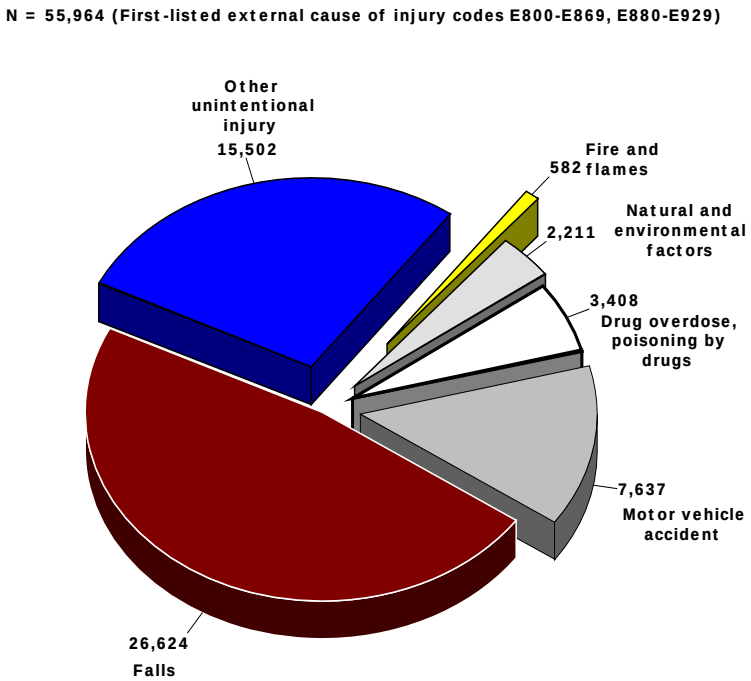
In 2008, the reporting requirements for hospital were revised and the non-injury first-listed diagnoses may also have an external cause of injury code. Beginning with the 2009 edition of this report, the reader is advised that the number of suicides, accidents, etc. shown in **Table 4D-1** and **Table 4D-2** no longer reflects only those where the principal diagnosis was an injury. To continue to do so would only mean undercounting the external causes of injury. As an example, in 2009, among 7,979 suicide attempt-related ER visits, *injury or poisoning* was the first-listed diagnosis on 6,260 ER discharge records, *mental disorders* were identified as first-listed diagnosis on the additional 1,255 suicide-related records, and the first-listed diagnosis for 455 ER discharges mentioning suicide attempt was classified as either *chronic* or *infectious* disease.

Figure 4D-1
Percent Distribution of Inpatient Discharges by Intent of Injury, Arizona Residents, 2009



In 2009, injury was indicated as the principal diagnosis on 64,560 inpatient discharge records (**Table 4A-1).** However, the E-codes for external causes of injury were provided on a substantially greater number of 155,306 inpatient discharges (**Figure 4D-1**, **Table 4D-1**). *Complications of medical care and adverse effects of medical treatment* (including adverse drug reactions and complications from surgical and medical procedures) accounted for the absolute majority of inpatient hospitalizations by the intent of injury (57.9 percent). *Unintentional injuries in accidents* accounted for 36.0 percent of all inpatient discharges by intent of injury. *Self-inflicted injuries in suicide* resulted in 4,549 inpatient hospitalizations (2.9 percent). *Assault* accounted for 3,489 inpatient hospitalizations (2.2 percent of all hospital discharges with known intent of injury).

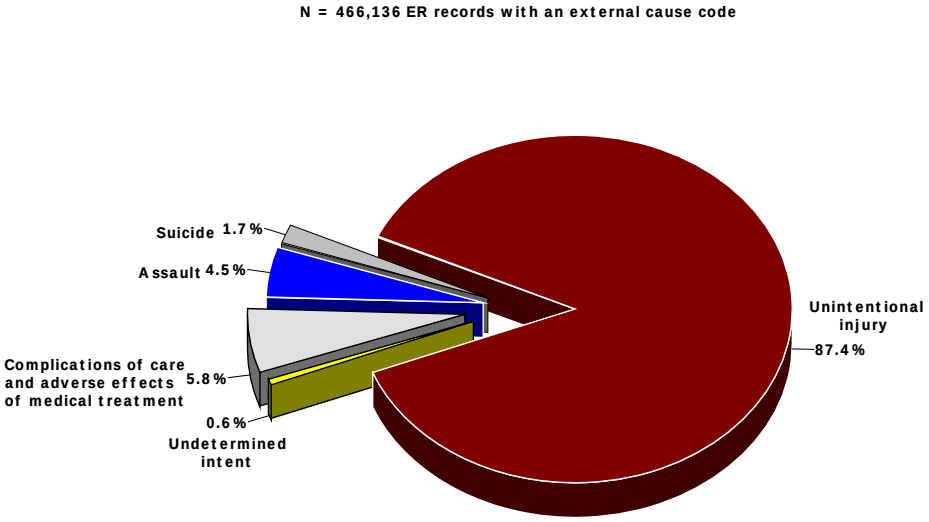
Figure 4D-2
Percent Distribution of Inpatient Discharges by Mechanism of Unintentional Injury, Arizona Residents, 2009



Accidental falls (47.6 percent, **Figure 4D-2, Table 4D-1**), *motor vehicle accidents* (13.7 percent), and *drug overdoses* (6.1 percent) accounted for the largest proportions of inpatient hospitalizations with known mechanism of unintentional injury in 2009.

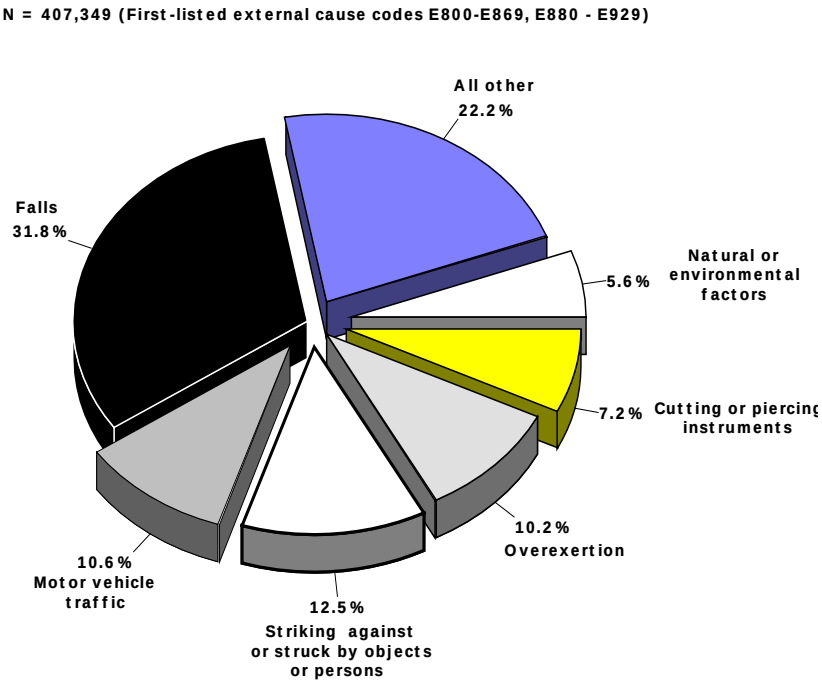
Among the natural and environmental factors as external causes of inpatient hospitalization due to unintentional injury, the three most frequent were *poisoning and toxic reaction caused by venomous animals and plants* (19.7 percent of inpatient discharges due to natural and environmental factors), *other injury causes by animals* (53.8 percent), *exposure to excessive natural heat* (338 inpatient discharges or 17.6 percent), and e*xposure to excessive natural cold,* which accounted for 2.3 percent (51 out of 2,211) of inpatient discharges with injuries due to natural and environmental factors.

Figure 4D-3
Percent Distribution of Injury-related Emergency Room Visits by Intent of Injury, Arizona Residents, 2009



In 2009, there were 466,136 emergency room visits with known intent of injury among Arizona residents, 8.3 times as many as inpatient discharges. *Unintentional injuries or accidents* accounted for nine out of ten (407,349 or 87.4 percent) of all injury-related emergency room visits (**Figure 4D-3, Table 4D-2**). The external cause of injury was classified as *assault* for 21,193 emergency room 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 room visits than *self-inflicted injuries in suicide* (5.8 percent vs. 1.7 percent, respectively, **Figure 4D-3, Table 4D-2**).

Figure 4D-4
Percent Distribution of Injury-related Emergency Room Visits by Mechanism of Unintentional Injury, Arizona Residents, 2009

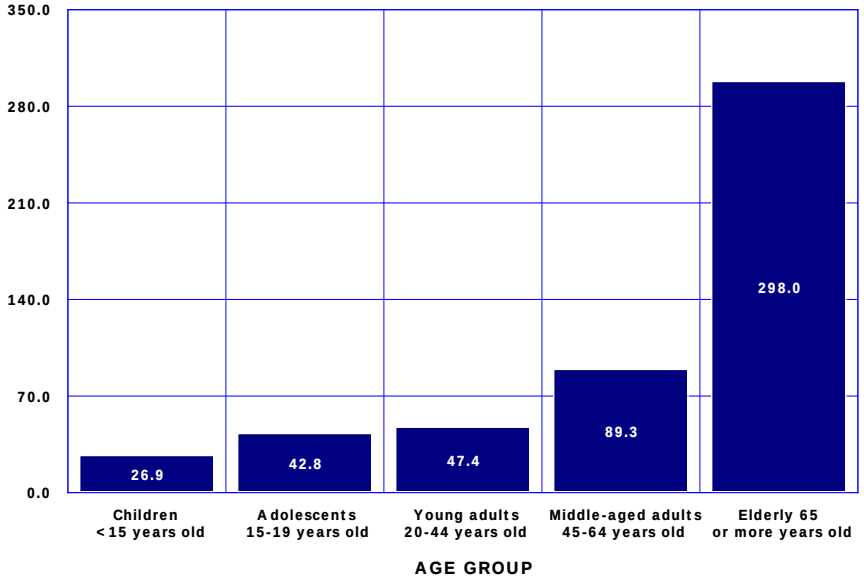


Accidental falls (129,343 ER visits, **Table 4D-2**), *striking against or struck by objects or persons* (50,892), and *motor vehicle traffic accidents* (43,269) were the three most frequent mechanisms of unintentional injuries treated in emergency rooms (**Figure 4D-4, Table 4D-2**).

Overexertion (41,622 visits) accounted for a greater number of emergency room visits than the following two categories of unintentional injury combined: *foreign body accidentally entering eye or other orifice* (9,733), and *natural and environmental factors* (122,805; **Table 4D-2**).

In 2009, more than 1,300 residents of Arizona who were *exposed to excessive natural heat* ended up in emergency rooms (1,319; **Table 4D-2**).

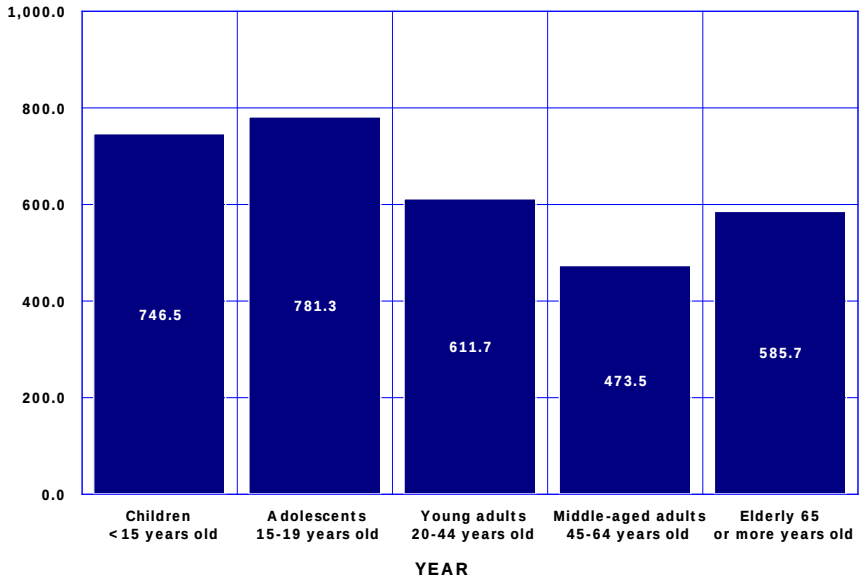
Figure 4D-5
Rates* for Injury-related Inpatient Discharges by Age Group, Arizona Residents, 2009



*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 298.0 per 10,000 elderly Arizonans 65+ was 11 times greater than the rate of 26.9 /10,000 for children under the age of 15 years.

Figure 4D-6
Rates* for Injury-related Emergency Room Visits by Age Group, Arizona Residents, 2009



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

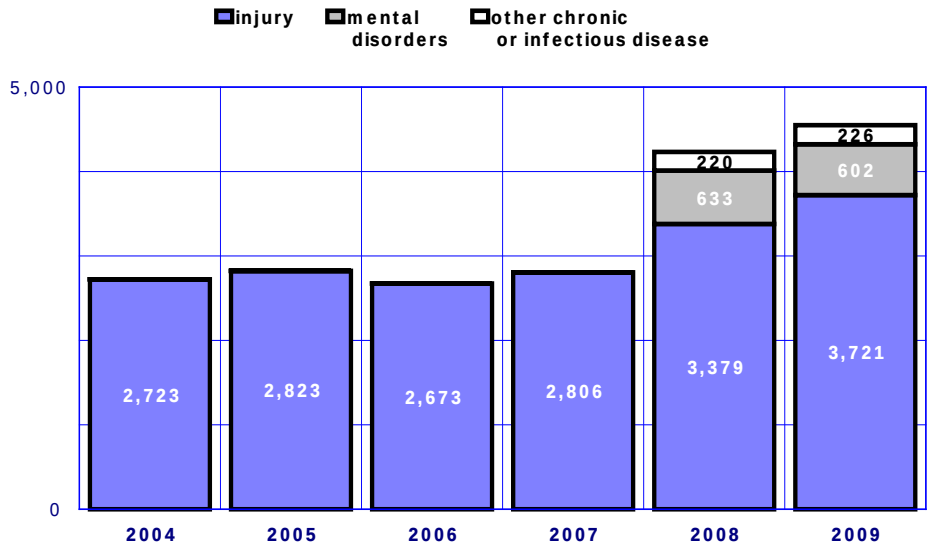
The rates for injury-related emergency room visits (i.e., the number of ER visits per 10,000 persons; **Figure 4D-6**) reveal a different age-specific pattern. The rates are the highest among the younger patients, who are more likely to be released home rather than admitted as inpatients. The rate of 781.3 ER visits per 10,000 adolescents 15-19 years old was 1.8 times greater than the rate of 473.5/10,000 among middle-aged Arizonans 45-64 years old.

Both in 2008 and 2009, there was a substantial increase in the number of suicide-related inpatient discharges and emergency room visits (**Figure 4D-7** and **Figure 4D-8**). It was only partly due to the change in the reporting requirements for hospitals. In 2009, *injury or poisoning* was the principal diagnosis on 3,721 inpatient discharge records, which also included the E codes for suicide (E950-E959). *Mental disorders* were identified as the principal diagnosis on the additional 602 suicide-related records. For the additional 226 inpatient discharges mentioning suicide attempt, the principal diagnosis was classified as either *chronic* or *infectious disease*.

From 2007 to 2009 there was a 32.6 percent increase in suicide-related inpatient discharges where the principal diagnosis was an injury.

From among the 4,549 inpatient discharges related to a suicide attempt in 2009, 2092 or 46.0 percent were transferred to a psychiatric facility.

Figure 4D-7
Suicide-related Inpatient Discharges by Principal Diagnosis and Year, Arizona Residents, 2009



Injury or poisoning was the principal diagnosis on 6,269 ER discharge records, which also included the E codes for suicide (E950-E959). *Mental disorders* were identified as the principal diagnosis on the additional 1,255 suicide-related records. For the additional 455 ER discharges mentioning suicide attempt, the principal diagnosis was classified as either *chronic* or *infectious disease*.

From 2007 to 2009 there was a 34.7 percent increase in suicide-related emergency room visits where the principal diagnosis was an injury.

From among 7,979 suicide attempt-related ER visits in 2009, 2,290 or 28.3 percent of the patients were transferred to a psychiatric facility, and 50 expired in the emergency room.

Figure 4D-8
Suicide-related Emergency Room Visits by Principal Diagnosis and Year, Arizona Residents, 2009