

## STATISTICAL BRIEF #75

June 2009

### Sports Injuries in Children Requiring Hospital Emergency Care, 2006

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#### Introduction

During 2006, unintentional injuries accounted for nearly a quarter of the estimated 119.2 million visits to hospital emergency departments (EDs) in the United States.<sup>1</sup> Unintentional injuries sustained during sports and recreation are very common and frequently require emergency care; about 12,000 Americans are treated each day in the ED for sports- and recreation-related injuries.<sup>2</sup> Approximately two-thirds of all sports-related injury ED visits are for children.<sup>3,4</sup>

While the majority of children who visit the ED for sports-related injuries are treated and released, a small yet significant number of children are hospitalized for further care. A better understanding of the types of sports injuries for which children are being seen in the ED and differences in utilization patterns by patient demographics is critical to gain a complete picture of ED utilization for sports injuries in children.

This Statistical Brief presents data from the Healthcare Cost and Utilization Project (HCUP) on characteristics of ED care for sports injuries among children (patients ages 5 to 17 years) from the 25 states that provided ED and inpatient hospital data to HCUP in 2006. Common reasons for sports-related injury ED visits are examined with a specific focus on understanding which conditions resulted in the child being treated and released from the ED versus admitted to the hospital. Additionally, ED visits for sports-related injuries are examined by age, gender, urban-rural area of residence, and community-level income.

#### Findings

Sports-related injuries accounted for one in five (22.0 percent) of 1.4 million visits to the ED for injuries among children aged 5 to 17 years in 2006 in the 25 states included in this brief (table 1). The

<sup>1</sup>Pitts SR, Niska RW, Xu J, Burt CW. National Hospital Ambulatory Medical Care Survey: 2006 Emergency Department Summary. Advance data from vital and health statistics; no. 386. Hyattsville, MD: National Center for Health Statistics. 2008.

<sup>2</sup>Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report: Non-fatal sports- and recreation-related injuries treated in emergency departments, United States, July 2000–June 2001. *MMWR Weekly*. 2002;51(33):736–739.

<sup>3</sup>Burt CW, Overpock MD. Emergency visits for sports-related injuries. *Annals of Emergency Medicine*. 2001; 37(3):301–308.

<sup>4</sup>Simon TD, Bublitz C, Hambidge SJ. Emergency department visits among pediatric patients for sports-related injury: basic epidemiology and impact of race/ethnicity and insurance status. *Pediatric Emergency Medicine*. 2006; 22(5):309–305.

#### Highlights

- Sports-related injuries accounted for one in five (22.0 percent) of the 1.4 million visits to the ED for injuries among children ages 5 to 17 in the 25 states included in this Brief.
- Children were treated and released from the ED in 98.7 percent of sports-related ED visits; whereas, in 1.3 percent of cases children were admitted to the hospital for further care.
- Oldest children (15–17 years) had the highest ED visit rates for sports injuries and the youngest children (5–9 years) had the lowest rates (154.0 visits versus 29.8 visits per 10,000 children in each age group, respectively).
- Boys had three times greater ED visit rates for sports injuries compared to girls (146.7 visits per 10,000 boys compared to 49.7 visits per 10,000 girls).
- Rates of sports injury visits were highest in remote rural settings (133.4 ED visits per 10,000 children) and lowest in metropolitan areas (105.0 and 87.7 visits per 10,000 children in small and large metropolitan areas, respectively).
- Superficial injury (contusion) was the single most common treat-and-release ED condition related to sports injury for boys and girls (51,700 and 20,000 visits, respectively).
- Leg and arm fractures were the most common reasons for sports-related ED visits in children to result in hospital admission, collectively accounting for 1,900 admissions from the ED.

overwhelming majority (98.7 percent) of sports-related injuries were "treat-and-release" cases (i.e., the child was released from the ED rather than being admitted to that hospital for further care); the remaining 1.3 percent of visits resulted in hospital admission.

#### *General characteristics of ED visits for sports injuries in children*

ED visits for sports-related injuries among children aged 5 to 17 years varied by demographic characteristics, with rates being highest among older children and boys, as well as among children living in non-metropolitan areas (table 1 and figure 1).

The mean age of children seen in the ED for sports-related injuries was older than the mean age of children seen for all injuries (13.2 years versus 11.1 years). Whereas rates of ED visits for all injuries were similar across age groups (approximately 452 visits per 10,000 children), ED visits for sports injuries varied by age group: oldest children had the highest visit rates and the youngest children had the lowest rates (154.0 visits versus 29.8 visits per 10,000 children in each age group, respectively). The association between increasing age and higher rate of ED visits for sports injuries in children held true, regardless of whether visits were treat-and-release or resulted in hospitalization. On average, children admitted to the hospital were slightly older (13.7 years) than those who were treated and released from the ED (13.2 years).

The rate of ED visits for sports injuries in children was about three times greater among boys than girls (146.7 visits per 10,000 boys compared to 49.7 visits per 10,000 girls), and this gender difference increased for those ED visits that resulted in hospitalization (2.2 admissions per 10,000 boys compared to 0.3 admissions per 10,000 girls). This gender difference may be attributable to a larger percentage of boys engaging in sports-related activities compared to girls.<sup>5</sup>

Similar to all injury ED visits in children, rates of sports injury visits were highest in non-metropolitan/non-micropolitan (remote rural) settings (133.4 ED visits per 10,000 children) and lowest in metropolitan areas (105.0 and 87.7 visits per 10,000 children in small and large metropolitan areas, respectively). However, these large differences in ED visit rates in children by patient residence were not seen among those sports injury ED visits that resulted in a hospital admission (which ranged from 1.2 to 1.4 visits per 10,000 children).

Lastly, rates of ED visits in children for all injuries were inversely associated with community-level income, such that the poorest communities experienced the highest rates of injury ED visits. However, rates of ED visits in children for sports-related injuries did not follow a similar trend nor did they vary as much by community-level income. Sports-related injury ED visits were highest among children from lower-middle income communities (100.1 visits per 10,000 children) and lowest among children from upper-middle income communities (94.1 visits per 10,000 children). The poorest and wealthiest communities had similar rates of ED visits in children for sports injuries (about 97 visits per 10,000 children). Rates of sports injury ED visits in children resulting in hospitalization were relatively constant regardless of community-level income (which ranged from 1.2 to 1.4 visits per 10,000 children).

#### *Most common reasons for treat-and-release ED visits for sports injuries in children, by gender*

The majority of all ED visits in children for sports-related injuries result in the child being treated-and-released from the ED. Table 2 presents the top five reasons for treat-and-release ED visits for sports injuries among both boys and girls: superficial injury (contusion), sprains and strains, arm fracture, open wounds of the head, neck, and trunk, and other injuries due to external factors. These five conditions collectively accounted for about 81 percent of all ED visits for sports injuries in children and rarely resulted in admission to the hospital. The number of ED visits for boys for these conditions were two to five times greater than for girls.

Superficial injury (contusion) was the single most common treat-and-release ED condition related to sports injury for boys and girls (51,700 and 20,000 visits, respectively). Sprains and strains were second most frequent (43,700 and 19,000 visits among boys and girls, respectively), followed by arm fracture (42,000 and 10,900 visits among boys and girls, respectively). The fourth most common sports-injury visit for boys was open wounds of the head, neck, or trunk. The gender difference was most striking for this condition for which boys accounted for more than 5 times as many ED visits than girls (22,300 compared to 4,300 visits, respectively). The fifth most common reason for treat-and-release ED visits related to

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<sup>5</sup> Pate RR, Trost SG, Levin S, Dowda M. Sports participation and health-related behaviors among U.S. youth. *Archives of Pediatric Adolescent Medicine*. 2000;154:904-911.

sports injuries in children was a mix of other conditions and injuries not classified elsewhere (such as head injury, low blood oxygen, and heat stroke) accounting for a total of 26,400 treat-and-release ED visits in children in 2006.

#### *Most common reasons for ED visits for sports injuries in children that resulted in a hospital stay, by gender*

While the majority of ED visits in children for sports injuries were treat-and-release cases, about 1.3 percent (3,900 ED visits in the 25 study states) resulted in hospital admission. Table 3 presents the top five sports-related injury conditions for which children were admitted to the hospital after being seen in the ED: leg fracture, arm fracture (also a top listed condition for treat-and-release ED visits), intracranial injury, crushing injury, and skull and face fractures. These five conditions collectively accounted for 28.7 percent of all sports injury ED visits in children. On average, about 4 percent of these conditions seen in the ED resulted in hospitalization among children. Across all five conditions, boys were more frequently hospitalized than girls.

Leg and arm fractures were among the most common reasons for sports injury ED visits that resulted in hospital admission, collectively (across boys and girls) accounting for 1,900 admissions from the ED, respectively. ED visits for leg fracture resulted in hospital admission 10 times more frequently compared to visits for arm fracture (10.9 percent versus 1.1 percent, respectively). A significantly greater proportion of boys who initially presented to the ED with a sports-related leg or arm fracture were admitted to the hospital compared to girls with the same conditions.

While crushing or internal injury was seen less frequently in the ED than other injuries, it resulted in hospitalization in more than half the ED visits (51.8 percent). A substantially greater proportion of boys who initially presented to the ED with a sports-related crushing or internal injury were hospitalized for treatment compared to girls (54.8 versus 31.7 percent, respectively).

The two remaining top five conditions for sports injury ED visits in children that resulted in a hospital stay, intracranial injury and skull and face fractures, each resulted in hospital admission in less than 5 percent of cases. The rate of hospital admission for intracranial injury was similar between genders (about 4.5 percent), while the rate for skull and face fractures was more than twice as high in boys (3.3 percent versus 1.5 percent).

#### **Data Source**

The estimates in this Statistical Brief are based upon data from the HCUP 2006 State Emergency Department Databases (SEDD) and 2006 State Inpatient Databases (SID) for the following 25 states: Arizona, California, Connecticut, Florida, Georgia, Hawaii, Indiana, Iowa, Kansas, Maine, Maryland, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, and Wisconsin. 2006 Claritas data are used for population denominators.

#### **Definitions**

##### *Case Definition*

For this report, the Clinical Classification Software (CCS) codes defining sports injuries included the following External Cause of Injury Codes (commonly referred to as E-codes):

E886.0: Tackles in sports that cause fall on same level from collision

E917.0: Striking against or struck accidentally by objects or persons in sports without subsequent fall

E917.5: Striking against or struck accidentally by objects or persons in sports with subsequent fall

##### ED visits

ED visits included information on all visits to hospital-affiliated emergency rooms for children aged 5 to 17 years of age in the 25 study states regardless of whether the child was treated-and-released from that ED or admitted to that hospital from the ED. This information was obtained by combining the State Emergency Department Databases (SEDD) with the State Inpatient Databases (SID) to get a complete enumeration of hospital-based ED visits within each participating state.

##### Treat-and-release ED visits

Treat-and-release ED visits were those ED visits in which children were treated and released from that

ED— i.e., they were not admitted to that specific hospital. Information on treat-and-release cases is included in the State Emergency Department Databases (SEDD).

#### ED visits resulting in a hospital stay

ED visits resulting in a hospital stay included those children initially seen in the ED and then admitted to the same hospital. This information is included in the State Inpatient Databases (SID).

#### *Diagnoses, ICD-9-CM, and Clinical Classifications Software (CCS)*

ICD-9-CM is the International Classification of Diseases, Ninth Revision, Clinical Modification, which assigns numeric codes to diagnoses. There are about 13,600 ICD-9-CM diagnosis codes. E-codes supplement the ICD-9-CM diagnosis codes. These codes designate the cause of injury. Multiple E-codes may be present on a single hospital record.

CCS categorizes ICD-9-CM diagnosis and procedure codes into clinically meaningful categories.<sup>6</sup> This "clinical grouper" makes it easier to quickly understand patterns of procedure use.

For ED hospital records that were treat-and-release cases, this Brief reports the first-listed CCS diagnosis which is the diagnosis that appears first on the record and may not be the principal diagnosis. For ED visits that result in hospital admission, this Brief reports the principal CCS diagnosis that appears on the inpatient hospital record. The principal CCS diagnosis is that condition established after study to be chiefly responsible for admission to the hospital.

#### *Types of hospitals included in HCUP*

HCUP is based on data from community hospitals, defined as short-term, non-Federal, general and other hospitals, excluding hospital units of other institutions (e.g., prisons). HCUP data include OB-GYN, ENT, orthopedic, cancer, pediatric, public, and academic medical hospitals. They exclude long-term care, rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals, but these types of discharges are included if they are from community hospitals.

#### *Unit of analysis*

The unit of analysis is the ED visit or hospital discharge (i.e., the hospital stay), not a person or patient. This means that children visiting the ED multiple times in one year will be counted each time as a separate case. Multiple ED visits by children is not uncommon; thus, rates presented in this brief must be interpreted with caution. The numerator for the rates is "number of ED visits," and one child may have several visits to the ED in a given year; thus, the rates should be interpreted as the rate of "visits" or "rate of hospitalizations" rather than the "rate of children" being seen in the ED or admitted to the hospital from the ED. Denominator data for rates were based on 2006 Claritas data for the 25 study states.

#### *Urban-rural patient residence*

Urban-rural patient residence is a four category urban-rural designation for the patient's county of residence. The categorization is a simplified adaptation of the 2003 version of the Urban Influence Codes (UIC). The 12 categories of the UIC are combined into four broader categories that differentiate between large and small metropolitan, micropolitan (large town rural), and a non-metropolitan/non-micropolitan (remote rural) residual.

#### *Median community-level income*

Median community-level income is the median household income of the patient's ZIP Code of residence. The cut-offs for the quartile designation are determined using ZIP Code demographic data obtained from Claritas. The income quartile value is missing for homeless and foreign patients.

### **About HCUP**

HCUP is a family of powerful health care databases, software tools, and products for advancing research. Sponsored by the Agency for Healthcare Research and Quality (AHRQ), HCUP includes the largest all-payer encounter-level collection of longitudinal health care data (inpatient, ambulatory surgery, and emergency department) in the United States, beginning in 1988. HCUP is a Federal-State-Industry Partnership that brings together the data collection efforts of many organizations—such as State data organizations, hospital associations, private data organizations, and the Federal government—to create a national information resource.

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<sup>6</sup> HCUP CCS. Healthcare Cost and Utilization Project (HCUP), May 2008. U.S. Agency for Healthcare Research and Quality, Rockville, MD. [www.hcup-us.ahrq.gov/toolsoftware/ccs/ccs.jsp](http://www.hcup-us.ahrq.gov/toolsoftware/ccs/ccs.jsp).

HCUP would not be possible without the contributions of the following data collection Partners from across the United States:

**Arizona** Department of Health Services  
**Arkansas** Department of Health  
**California** Office of Statewide Health Planning and Development  
**Colorado** Hospital Association  
**Connecticut** Hospital Association  
**Florida** Agency for Health Care Administration  
**Georgia** Hospital Association  
**Hawaii** Health Information Corporation  
**Illinois** Department of Public Health  
**Indiana** Hospital Association  
**Iowa** Hospital Association  
**Kansas** Hospital Association  
**Kentucky** Cabinet for Health and Family Services  
**Maine** Health Data Organization  
**Maryland** Health Services Cost Review Commission  
**Massachusetts** Division of Health Care Finance and Policy  
**Michigan** Health & Hospital Association  
**Minnesota** Hospital Association  
**Missouri** Hospital Industry Data Institute  
**Nebraska** Hospital Association  
**Nevada** Department of Health and Human Services  
**New Hampshire** Department of Health & Human Services  
**New Jersey** Department of Health and Senior Services  
**New York** State Department of Health  
**North Carolina** Cecil G. Sheps Center for Health Services Research  
**Ohio** Hospital Association  
**Oklahoma** State Department of Health  
**Oregon** Association of Hospitals and Health Systems  
**Rhode Island** Department of Health  
**South Carolina** State Budget & Control Board  
**South Dakota** Association of Healthcare Organizations  
**Tennessee** Hospital Association  
**Texas** Department of State Health Services  
**Utah** Department of Health  
**Vermont** Association of Hospitals and Health Systems  
**Virginia** Health Information  
**Washington** State Department of Health  
**West Virginia** Health Care Authority  
**Wisconsin** Department of Health and Family Services  
**Wyoming** Hospital Association

#### **About the SEDD**

The State Emergency Department Databases (SEDD) are hospital databases, from data organizations in participating States, which capture discharge information on all emergency department visits that do not result in an admission. Information on patients initially seen in the emergency room and then admitted to the hospital is included in the State Inpatient Databases (SID). The SEDD contain a core set of clinical and non-clinical information on all patients, regardless of payer. SEDD data can be combined with SID discharges that originate in the ED to enumerate all ED visits in a given state or market area. The SEDD can be used to investigate questions unique to one state; to compare data from two or more states; to conduct market area variation analyses; and to identify state-specific trends in ED care utilization, access, charges, and outcomes.

#### **About the SID**

The HCUP State Inpatient Databases (SID) are hospital inpatient databases from data organizations participating in HCUP. The SID contain the universe of the inpatient discharge abstracts in the

participating HCUP states, translated into a uniform format to facilitate multi-State comparisons and analyses. Together, the SID encompass about 90 percent of all U.S. community hospital discharges in 2006. Information on patients initially seen in the ED and then admitted to the hospital is included in the SID. The SID can be used to investigate questions unique to one state; to compare data from two or more states; to conduct market area variation analyses; and to identify state-specific trends in inpatient care utilization, access, charges, and outcomes.

### About HCUPnet

HCUPnet is an online query system that offers instant access to the largest set of all-payer health care databases that are publicly available. HCUPnet has an easy step-by-step query system, allowing for tables and graphs to be generated on national and regional statistics, as well as trends for community hospitals in the U.S. HCUPnet generates statistics using data from HCUP's Nationwide Inpatient Sample (NIS), Kids' Inpatient Database (KID), State Inpatient Databases (SID), and State Emergency Department Databases (SEDD).

### For More Information

For more information about HCUP, visit [www.hcup-us.ahrq.gov](http://www.hcup-us.ahrq.gov).

For additional HCUP statistics, visit HCUPnet, our interactive query system, at [www.hcup.ahrq.gov](http://www.hcup.ahrq.gov).

For information on other hospitalizations in the U.S., download *HCUP Facts and Figures: Statistics on Hospital-based Care in the United States in 2006*, located at <http://www.hcup-us.ahrq.gov/reports.jsp>.

For a detailed description of HCUP and more information on the SEDD please refer to the following publications:

Steiner, C., Elixhauser, A., Schnaier, J. The Healthcare Cost and Utilization Project: An Overview. *Effective Clinical Practice* 5(3):143-51, 2002.

*Introduction to the HCUP State Emergency Department Databases (SEDD)*. Online. December 2007. U.S. Agency for Healthcare Research and Quality. [http://www.hcup-us.ahrq.gov/db/state/sedddist/Introduction\\_to\\_SEDD.pdf](http://www.hcup-us.ahrq.gov/db/state/sedddist/Introduction_to_SEDD.pdf).

### Suggested Citation

Wier, L. (Thomson Reuters), Miller, A. (Student), and Steiner, C. (AHRQ). *Sports Injuries in Children Requiring Hospital Emergency Care, 2006*. HCUP Statistical Brief #75. June 2009. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb75.pdf>.

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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other HCUP data and tools, and to share suggestions on how HCUP products might be enhanced to further meet your needs. Please e-mail us at [hcup@ahrq.gov](mailto:hcup@ahrq.gov) or send a letter to the address below:

Irene Fraser, Ph.D., Director  
Center for Delivery, Organization, and Markets  
Agency for Healthcare Research and Quality  
540 Gaither Road  
Rockville, MD 20850

**Table 1. Overview of ED visits among children<sup>†</sup> with sports injuries in 25 selected states, 2006**

	All injury ED visits	Sports injury ED visits		
		All sports injury ED visits	Treat-and-release ED visits for sports injuries	ED visits for sports injuries resulting in hospital admission
Number of visits (percentage of all ED visits)	1,349,900	296,700 (100%)	292,800 (98.7%)	3,900 (1.3%)
Mean child age in years	11.1	13.2	13.2	13.7
<i>Rates per 10,000 children</i>				
All ED visits in children	452.3	99.4	98.1	1.3
<i>Age</i>				
5–9 years	452.6	29.8	29.4	0.3
10–14 years	451.9	130.9	129.5	1.5
15–17 years	452.4	154.0	151.4	2.6
<i>Gender</i>				
Girls	373.5	49.7	49.4	0.3
Boys	527.2	146.7	144.5	2.2
<i>Patient residence*</i>				
Large metropolitan	408.0	87.7	86.3	1.4
Small metropolitan	464.5	105.0	103.8	1.2
Micropolitan (large town rural)	577.5	128.5	127.3	1.2
Non-metropolitan, non-micropolitan (remote rural)	577.6	133.4	132.1	1.3
<i>Median community level income*</i>				
Bottom quartile (poorest)	568.5	96.5	95.1	1.3
Second quartile (lower middle income)	481.3	100.1	98.9	1.2
Third quartile (upper middle income)	400.7	94.1	92.9	1.3
Fourth quartile (wealthiest)	340.4	97.3	95.9	1.4

<sup>†</sup>Patients aged 5 to 17 years.

\*A small percentage of ED records that were missing patient residence or median community-level income information were excluded from rate calculations.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Emergency Department Databases (SEDD) and State Inpatient Databases (SID) for the following 25 states: Arizona, California, Connecticut, Florida, Georgia, Hawaii, Indiana, Iowa, Kansas, Maine, Maryland, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, and Wisconsin; Denominator data for rates were based on 2006 Claritas data for the 25 study states.

**Table 2. Top 5 most common reasons for treat-and-release ED visits for sports injuries in children<sup>†</sup>, in 25 study states, 2006\***

Rank	First-listed/principal diagnosis	Number of visits	Number (percent) of visits that were treat-and-release	Number (percent) of visits that resulted in hospital admission
<b>Boys</b>				
1	Superficial injury, contusion	51,700	51,600 (99.8%)	80 (0.2%)
2	Sprains and strains	43,700	43,700 (99.9%)	40 (0.1%)
3	Fracture of upper limb (arm)	42,000	41,500 (98.8%)	500 (1.2%)
4	Open wounds of head, neck, or trunk	22,300	22,300 (99.9%)	20 (0.1%)
5	Other injuries and conditions due to external causes <sup>‡</sup>	19,500	19,400 (99.5%)	90 (0.5%)
<b>Girls</b>				
1	Superficial injury, contusion	20,000	20,000 (100.0%)	**
2	Sprains and strains	19,000	19,000 (100.0%)	**
3	Fracture of upper limb (arm)	10,900	10,800 (99.5%)	50 (0.5%)
4	Other injuries and conditions due to external causes <sup>‡</sup>	6,900	6,900 (99.6%)	30 (0.4%)
5	Open wounds of head, neck, or trunk	4,300	4,300 (100.0%)	**

<sup>†</sup>Patients aged 5 to 17 years.

\*Reasons for treat-and-release visits were based on the first-listed diagnosis on the ED record; hospital-admitted cases were based on principal diagnosis on the inpatient record.

\*\*Counts suppressed due to small cell size (less than 11).

<sup>‡</sup> Other injuries include a mix of conditions not classified elsewhere, such as head injury, low blood oxygen, and heat stroke.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Emergency Department Databases (SEDD) and State Inpatient Databases (SID) for the following 25 states: Arizona, California, Connecticut, Florida, Georgia, Hawaii, Indiana, Iowa, Kansas, Maine, Maryland, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, and Wisconsin.



**Table 3. Top 5 most common reasons for ED visits that resulted in a hospital stay for sports injuries in children<sup>†</sup>, in 25 study states, 2006\***

Rank	First-listed/principal CCS diagnosis	Number of visits for this condition	Number (percent) of visits for this condition that were treat-and-release	Number (percent) of visits that resulted in hospital admission
<b>Boys</b>				
1	Fracture of lower limb (leg)	9,300	8,200 (88.0%)	1,100 (12.0%)
2	Fracture of upper limb (arm)	42,000	41,500 (98.8%)	500 (1.2%)
3	Intracranial injury	10,200	9,700 (95.2%)	500 (4.8%)
4	Crushing injury or internal injury	900	400 (45.2%)	500 (54.8%)
5	Skull and face fractures	5,200	5,000 (96.7%)	200 (3.3%)
<b>Girls</b>				
1	Fracture of lower limb (leg)	2,300	2,100 (93.3%)	200 (6.7%)
2	Intracranial injury	2,500	2,400 (95.7%)	100 (4.3%)
3	Fracture of upper limb (arm)	10,900	10,800 (99.5%)	50 (0.5%)
4	Crushing injury or internal injury	140	100 (68.3%)	40 (31.7%)
5	Skull and face fractures	1,900	1,900 (98.5%)	30 (1.5%)

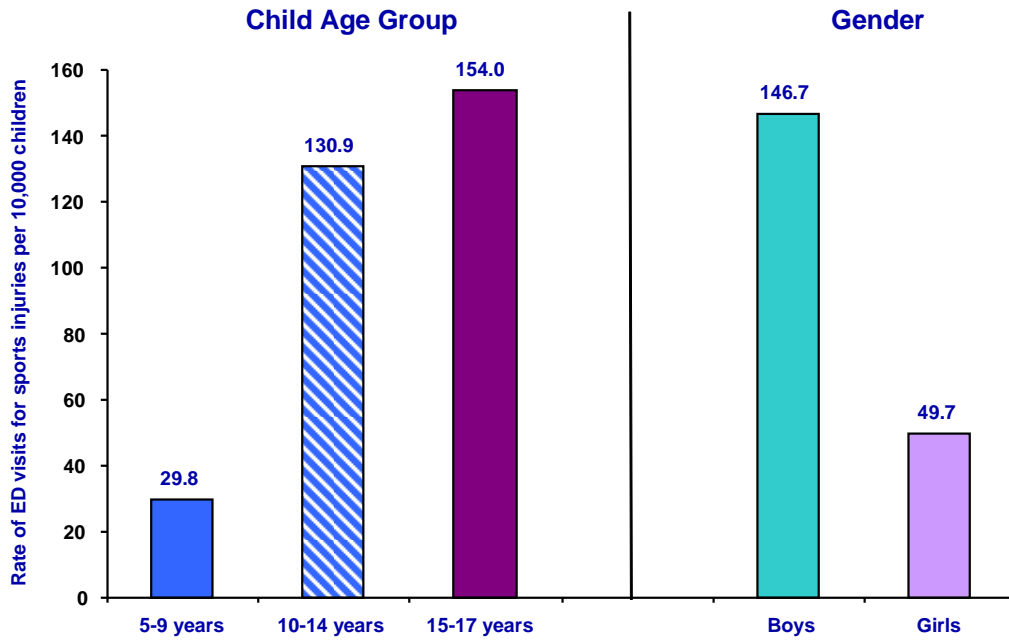
<sup>†</sup>Patients aged 5 to 17 years.

\*Reasons for treat-and-release visits were based on the first-listed diagnosis on the ED record; hospital-admitted cases were based on principal diagnosis on the inpatient record.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Emergency Department Databases (SEDD) and State Inpatient Databases (SID) for the following 25 states: Arizona, California, Connecticut, Florida, Georgia, Hawaii, Indiana, Iowa, Kansas, Maine, Maryland, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, and Wisconsin.



**Figure 1. Older children and boys were treated in the ED for sports-related injuries more commonly than younger children and girls, 2006**



Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Emergency Department Databases (SEDD) and State Inpatient Databases (SID) for the following 25 states: Arizona, California, Connecticut, Florida, Georgia, Hawaii, Indiana, Iowa, Kansas, Maine, Maryland, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, and Wisconsin; denominator data for rates were based on 2006 Claritas data for the 25 study states.