RESULTS IN BRIEF
CHILDREN'S HEALTH COUNCIL

Injuries in Children Enrolled in HUSKY A

November 2001

In the United States, one in every four to five children is seriously injured each year.[i] Injury is the leading cause of death among children, surpassing all diseases combined. The National Center for Injury Prevention and Control (NCIPC) estimates that for every death, there are 34 hospitalizations and 1000 emergency department visits. Injuries also account for a significant percentage of visits to physicians and clinics. In Connecticut, injury is the leading cause of death for children and young adults.[ii] According to the Injury Prevention Center at the Connecticut Children's Medical Center, for each death there are 24 hospital admissions for treatment of non-fatal injuries.[iii]

Injuries are preventable. In order to determine the impact of childhood injuries on the health and health care of children enrolled in HUSKY A, the Children's Health Council has begun to track injuries and describe injury-related health care received by children in the program.[iv] Results will be used in work with health plans and others to develop and target interventions aimed at reducing the incidence of childhood injuries.

Methods

Using HUSKY A enrollment data, 127,313 children under age 19 who were continuously enrolled between October 1, 1999 and September 30, 2000 were identified. HUSKY A encounter data were searched for records with ICD-9-CM codes indicating that an injury was sustained and treated during that time period.[v] No doubt, additional children received treatment for dental injuries, but these services could not be counted using encounter data for dental care.[vi]

Results

In 1999-00, one of every five children (N=25,766) sustained injuries and were treated at least once in an ambulatory care setting, emergency department or hospital. Overall, one of every eight children (N=15,883), or two-thirds of those who received any injury-related care, were seen in emergency departments or were hospitalized for treatment of an injury. Children who were most likely to have received care for an injury were:

- Preschool children (2–5) and adolescents (11-15, 16-18)
- Male
- White or Hispanic (for emergency care or hospitalization)
- Living in non-urban areas
- Living in Hartford, New Haven, compared to Bridgeport (emergency care or hospitalization)
- On cash assistance (for emergency care or hospitalization)

A significant proportion of injury-related care (38%) took place in non-emergency care settings, that is, providers' offices or clinics; however, two-thirds of children who were treated for injuries were seen in emergency departments (15,666 children made 18,389 visits) or hospitalized (588 children had 664 admissions).

Of all the emergency visits made by children continuously enrolled in HUSKY A in 1999-00, 30% were visits for treatment of an injury (Figure 1); the next largest proportion was visits for care of respiratory symptoms. Most encounter records for emergency care (74%) were not coded so that the mechanism and intentionality could be determined. Children who sustained injuries were nearly three times as likely to have had emergency care than children who did not. The leading types of injuries for which children obtained emergency care varied by age.

Just over 2% of children who received any injury-related care were hospitalized (n=588). Of all the hospitalizations for children continuously enrolled in HUSKY A in 1999-00, 13% were hospitalizations for injuries (Figure 2). Most encounter records for hospitalization (67%) were not coded so that the mechanism and intentionality could be determined.

Injured children were more likely to be admitted for less than 24 hours (27% of admissions), perhaps for observation, compared to children admitted for other diagnoses (18 %). Among children admitted for more than 24 hours, the mean length of stay for injured children (4.8 days) was 33% longer than mean length of stay for other diagnoses (3.6 days). For every 1,000 emergency visits, there were approximately 36 hospital admissions. In 1999-00, the percentage of hospitalizations for injuries (13.0%) was exceeded only by hospitalizations for respiratory conditions (23.0%) and mental disorders (17.3%). The leading types of injury for which children were hospitalized varied by age.

Conclusions

- **One in five children in HUSKY A were injured in a one-year period.**

- **The mechanism of injury and intent could not be determined in most cases due to missing E-codes in encounter data.**

Recommendations

The Children's Health Council will convene representatives of Department of Social Services, HUSKY A health plans, Department of Public Health, and the Injury Prevention Center at the Connecticut Children's Medical Center to:

- Report on results of surveillance and public awareness efforts;
- Report on member education and other injury prevention initiatives currently underway in HUSKY A health plans;
- Develop approaches to improving risk assessment in primary care and promoting use of seat belts, child car seats, smoke alarms, and other safety measures that have been shown to reduce childhood injuries.

In order to ensure that program data can be used to identify leading external causes of injury and develop interventions to reduce childhood injuries in HUSKY A, the Department of Social Services should:

- Direct its data vendor to require E-codes on encounter records (critical edit) for emergency treatment or hospitalization of injured children;
- Direct its external quality reviewer to conduct a data validation study on the extent to which E-codes reported in hospital records for emergency care and discharges are reported in encounter data.

Figure 1. Emergency Visits By Diagnostic Group

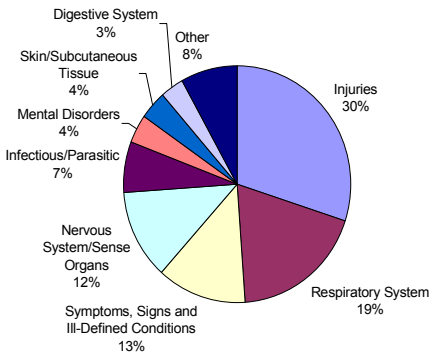
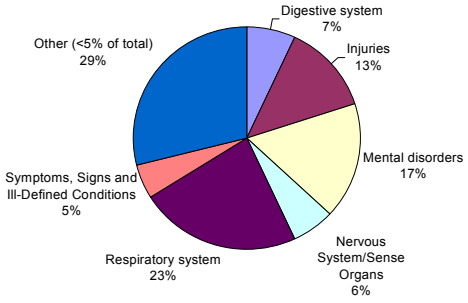


Figure 2. Hospitalizations by Diagnostic Group



[i] National Center for Injury Prevention and Control. Childhood injury fact sheet. Atlanta, GA: Centers for Disease Control and Prevention, 1999. http://www.cdc.gov/ncipc.

[ii] Connecticut Department of Public Health. Looking toward 2000: an assessment of health status and health services. Hartford, CT: DPH, 1999.

[iii] Connecticut Childhood Injury Prevention Center. Childhood injury in Connecticut. http://www.ctsafekids.org.

[iv] A detailed report of methods and findings is available from the Children's Health Council <www.childrenshealthcouncil.org>

[v] Injury-related care indicated by encounter records for ambulatory care, emergency care or hospitalization with ICD-9-CM codes 800-995.9 and/or E800-E999, except those codes for adverse effects of medical care (E870-E876) or drugs in therapeutic use (E930-E949).

[vi] Other limitations of the data are described in the detailed report available from the Children's Health Council.