



CHILDHOOD INJURY IN NEBRASKA 2003-2007



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EXECUTIVE SUMMARY

Injuries are a major public health problem in Nebraska, resulting in significant numbers of deaths, hospitalizations, and emergency department visits. From 2003 to 2007, there were a total of 533 childhood injury deaths, 4,342 trauma incidents, and 227,318 records of injury-related hospitalization and emergency department (ED) visits in the state. During this time period, unintentional injury was the overall leading cause of death for Nebraska children between the ages of 0-19.

In an effort to better understand the patterns of injury among children ages 0-19 in Nebraska, this report summarizes data from a variety of sources, including death certificates, hospital discharge data, trauma registry, the Crash Outcome Data Evaluation System (CODES), and the Youth Risk Behavior Survey (YRBS). More specifically, this report describes the leading causes of injury death and the leading causes of injury hospital discharges, including inpatient and emergency department visits, among Nebraska children from 2003-2007. Findings in this report indicate that patterns of injury differ by age, gender, and race, as well as the type, cause, severity, and intentionality of the injuries.

Some of the key findings from this report, as well as recommended prevention measures, include the following:

Fatal Injuries

- *Deaths due to injury made up 35% of total deaths to Nebraska children; however, among 15 – 19 year olds, more than four-fifths (82%) of deaths were due to injuries.*
- *Motor vehicle crashes were the leading cause of injury deaths among Nebraska children, contributing to the deaths of 50 children each year, on average.*

Measures to prevent motor vehicle-related injuries include child safety seat distribution and education programs; consistent use of child safety seats or seat belts appropriate to weight and age of the child; mass media campaigns targeted at reducing alcohol-impaired driving; and implementation of strict graduated licensing laws.

- *Suicide was the fourth leading cause of death overall for children under 19 years old in Nebraska. Nineteen Nebraska children and youth died each year, on average, from suicide*

Firearms were the leading cause of suicide death, while poisoning was the most common method used in suicide attempts according to hospital discharge data.

- *Homicide was the fifth leading cause of death for children ages 0-19 in Nebraska, Thirteen children and youth in Nebraska died each year, on average, due to homicide.*

The homicide rate was the highest for infants under one year of age. These deaths were most commonly related to abuse.

Non-fatal Injuries

- *Falls were the most common cause of injury-related hospital discharges among Nebraska children ages 0-19, making up 28.5% of all hospital discharges due to unintentional injury. Nearly half of fall injuries occurred in the home.*

Measures to prevent fall-related injuries in children include adult supervision near fall hazards (e.g. stairs, playgrounds); installing home safety devices, such as window guards and stair gates; and wearing bicycle helmets and protective sports equipment

- *Being unintentionally struck by or against an object was the second leading cause of injury hospital discharges for Nebraskans ages 0-19, and the leading cause of injury hospital discharges among children ages 10-19. Most of these were sports-related injuries.*

Measures to prevent sports-related injuries include monitoring the environment children play in (e.g., heat, protective ground surface, properly maintained equipment); using proper safety equipment (e.g., helmets, padding); and supervision.

- *The causes that contributed to the longest average hospital length of stay (6 days) were fire/burn-related injuries and other pedestrian injuries.*

Measures to prevent fire/burn-related injuries include installing and maintaining smoke alarms at home; lowering the temperature on water heaters to 120 degrees Fahrenheit; or installing anti-scald devices on water faucets and shower heads.

Differences in fatal and non-fatal injuries by age, gender, and race

- *The injury death rate was the highest for children ages 15-19. However, the injury hospital discharge rate was the highest for children ages 1-4.*
- *Children ages 15 – 19 years had the highest death and hospital discharge rates due to motor vehicle crashes.*
- *Males were more likely to die from all major causes of injury than females. Hospital discharge rates for injuries were also higher for males than for females, except for motor vehicle crash-related injuries.*
- *Males were more likely to die from suicide while females were more likely to be hospitalized for suicide attempts.*
- *White youth had a higher unintentional injury death rate than non-white youth. However, non-white youth had a higher suicide rate and homicide rate than white youth.*

Conclusions

From 2003 to 2007, unintentional injury was the leading cause of death among Nebraska youth under 20 years old. Injury deaths were most common among children ages 15-19 due to their greater involvement in fatal motor vehicle crashes. Effective strategies to prevent motor vehicle crash-related injuries among adolescents include consistent safety belt use and graduated licensing laws.

Nonfatal injuries were most common among youth ages 1-4 due to their greater involvement in falls. Effective strategies to prevent falls among children include parent/caregiver supervision and the use of home safety devices such as stair gates. Struck by/against injuries (mostly due to sports-related injuries) were also common among youth. The proper use of helmets and padding are effective strategies to prevent sports-related stuck by/against injuries in children.

Many, if not most, injuries are preventable. Strategies to prevent injuries among children include: (1) parent and caregiver education; (2) proper use of technology, such as child safety seats; home safety devices; and sports equipment; and (3) legislation. Community-based programs which combine these strategies are generally most effective in injury prevention. However, successful injury prevention efforts depend on a clear understanding of the problem. Ongoing collection of data from a variety of sources is vital in monitoring trends and assessing effectiveness of childhood injury prevention strategies.

INTRODUCTION

Keeping children safe is a universal priority. Injury is the leading cause of death for Nebraska children between the ages of 1-19. Injuries occur regardless of one's age, gender, race, or economic status. Whether resulting in hospitalization, disability, disfigurement, or death, injuries take a significant emotional, economic, and social toll on individuals as well as society as a whole. Since injury victims are generally younger than persons dying from other leading causes of death such as heart disease or cancer, the number of years of potential life lost or impaired is especially large.

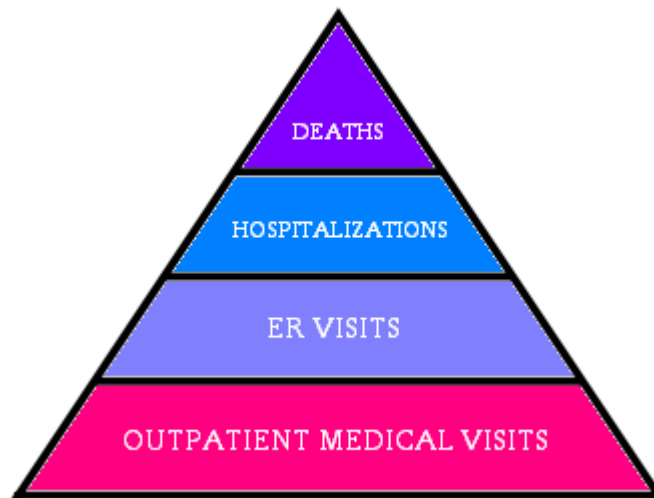


FIG. 1 - THE INJURY PYRAMID

Primarily combining Death Certificate data and Hospital Discharge Data, this report aims to expose the magnitude of childhood injury in Nebraska. Supplemental data was taken from the Crash Outcome Data Evaluation System (CODES), Youth Risk Behavior Survey, and Trauma Registry. Using multiple sources provides a more robust assessment of the pattern of childhood injury. The Death Certificate data and the Trauma Registry data are also used to describe injury among different racial groups. Our goal is to describe the childhood injury status and provide proven prevention strategies for individuals and organizations to implement programs to prevent childhood injuries in Nebraska. These include parents and caregivers, health educators, school districts, local district health departments, and the media.

Included in this report are data describing the leading causes of injury and injury death among Nebraska children, any patterns of injury that emerge, and the best practices for injury prevention. This information shows us where the biggest childhood injury problems lie so that the Injury Prevention Program may best

prioritize needs, allocate resources, and target prevention strategies. Additionally, it allows us to gauge the effectiveness of our previous efforts to prevent such injuries.

In this report, injury information is divided into sections by type. Each section provides an overall description of the injury, recent trends, analysis of deaths and hospital discharges caused by the injury type, and best practices for prevention. Race data are included for fatal injuries and trauma; this information is not available for the hospital discharge data. Additionally, where available a set of national and Nebraska objectives corresponding to the injuries are presented. These were selected from the National Healthy People 2010 and the Nebraska 2010 Health Goals and Objectives.

Often synonymously thought of as “accidents,” injuries might just seem like an unfortunate fact of life. However, research shows that with the right information, the majority of injuries prove to be both predictable and preventable.

METHODOLOGY

Data Sources

Nebraska death certificate data (2003-2007), hospital discharge data (2003-2007), Youth Risk Behavior Survey (YRBS) Data, Crash Outcome Data Evaluation System data (CODES), and Trauma Registry data were used for this report.

Death certificates classify injuries by external cause of death. The data includes information on a variety of attributes of the deceased, including age, gender, race, ethnicity, place of residence, and primary and secondary causes of deaths. The death certificate data was coded based on ICD-10 (International Classification of Diseases-10th Revision).

The 2003-2007 hospital discharge data (HDD) was provided by Nebraska acute care hospitals to the Nebraska Hospital Association (NHA) using the 1992 Uniform Billing form (UB-92). The records for each discharge contain information on the date of admission, date of discharge, patient's age and gender, county of residence, and primary and secondary diagnosis codes, as well as a dedicated field for an E-code. An E-Code specifies the external cause of injury. The E-code data, a subset of HDD containing injury-related records, was provided to the Nebraska Department of Health and Human Services (DHHS) by NHA. Diagnosis codes are used to describe the type of injury, such as a broken arm. Both injuries and their external cause are classified according to the 9th Revision of the International Classification of Diseases, Clinical Modification (ICD-9-CM). Discharge records in the E-code database are identified as inpatient, outpatient-ER (emergency room), and outpatient non-ER.

The YRBS is a self-administrated, school-based survey for students in grades 9-12. The YRBS has been completed nine times in Nebraska during the spring semester bi-annually from 1991 to 2007. YRBS is based on the self-reported health behaviors of a random sample of youth. It describes the risk behaviors of those surveyed. This report presents results of data from 2003 to 2007.

The Nebraska Crash Outcome Data Evaluation System (CODES) is a multi-agency program that prepares information for the National Highway Traffic Safety Administration (NHTSA), state legislators, highway safety agencies, and local health departments to support their research priorities, legislation, and injury prevention programs. CODES links and uses motor vehicle crash data and other medical records, such as hospital discharge data and death certificate data, to

trace the injured occupants from the crash scene throughout the health care system and to identify the causes and outcomes of motor vehicle crashes.

Nebraska Trauma Registry (NTR) is a database which contains detailed information about trauma patients in Nebraska. The information includes patient demographics, patient insurance category, injury, pre-hospital activity, the referring hospital, the receiving hospital and the rehabilitation center.

The Injury Severity Score (ISS) is an anatomical scoring system that provides an overall injury severity score for patients with multiple injuries. ISS is calculated by squaring the Abbreviated Injury Score (AIS) from the three most severely injured body regions and adding the results. National Trauma Data Bank (NTDB) categorized injuries based on ISS as minor (ISS 1—9), moderate (ISS 10—15), severe (ISS 16—24), and very severe (ISS >24).

Analysis

For hospital discharge data, the injury data set was developed using the methodology specified in STIPDA: Injury Surveillance Workgroup 5: Consensus Recommendations for Injury Surveillance in State Health Departments. (State and Territorial Injury Prevention Directors Association, Atlanta, GA. 2007 [p.24]). Rehab patients and non-ER outpatients were excluded.

Injuries were grouped according to the Centers for Disease Control and Prevention Injury Grouping Matrix (*Appendix*). The leading causes of injury death and injury hospital discharge are addressed in this report. These include falls, motor vehicle crashes, suffocation, struck by/against, cutting/piercing, overexertion, poisoning, drowning, fire/burn, suicide, and homicide.

Age-adjusted rates are per 100,000 Nebraska population and are age-adjusted to the 2000 U.S. standardized population. Age-specific rates were calculated by dividing the actual number of cases in a given period (e.g. 2003-2007) for a specific age group by the population in that age group for that period and multiplying by 100,000. The numerator and the denominator refer to the same age group.

Years of potential life lost (YPLL) is a measure of premature death. In this report, YPLL before age 75 is calculated from the difference between 75 and the age at death. For example, the death of a person 10 years old contributes 65 years of life lost before age 75. YPLL is calculated by summing the years of life lost for all deaths over all ages.

All of the analyses presented in this report are based on the deaths and hospital discharges of Nebraska residents. Nebraska residents who died outside the state or who were treated at out-of-state hospitals are not included. Thus, rates may be underestimated if Nebraskans died or were treated in other states.

A limitation of the hospital discharge data is that it is record-based; therefore, one patient may be counted more than once if discharged for the same injury more than once. The rates displayed in this report reflect the number of discharge records, rather than the number of patients discharged.

DEFINITION OF TERMS

- **Accident**: Fatal injury or poisoning that occurred without intent to harm or cause death, similar to unintentional injuries.
- **Age-adjusted rate**: A rate that has been standardized to the age distribution of a particular population so that it is independent of the age distribution of the population it represents. Age-adjusted rates are used to compare rates over time or between different population groups.
- **Age-specific rate**: A rate for a specified age group is calculated by dividing the actual number of cases in a given period (e.g., 1999-2003) for a specific age group by the population in that age group for that period. The numerator and the denominator refer to the same age group.
- **Crude death rate or crude hospitalization rate**: The number of deaths or hospitalizations in a specified population (e.g., per 100,000). Crude rates are not adjusted for differences in demographic distributions among populations, such as age distributions.
- **Death certificate**: A legal document providing the details of an individual's death. Cause and manner of death are provided as well as key demographic information.
- **E-codes**: The external cause of injury codes (E-codes) are a subset of the International Classification of Diseases, and are used to classify the environmental events, circumstances, and conditions that are the cause of injury, poisoning, or other adverse effects. E-code classifications used in this report are listed in Appendix A.
- **Epidemiology**: the study of factors that affect the health of a certain population. Epidemiology provides the foundation for interventions and strategies made in the interest of public health and preventive medicine.
- **Hospital discharges**: Records from hospital discharges including hospital inpatient, outpatient, and emergency department visits.
- **ICD-9-CM**: The International Classification of Diseases, Ninth Revision, Clinical Modification coding system is used to classify diagnoses on inpatient and outpatient care records.
- **ICD-10**: The International Classification of Diseases, Tenth Revision, is the system used to classify the causes of death listed on death certificates beginning in 1999.
- **Inpatient**: Individuals in hospital care for longer than 24 hours.

- Intent of injury: Intentional injuries, such as homicide and suicide, involve acts in which there is intent to kill or harm. Unintentional injuries involve acts in which there is no intent to harm; these injuries are sometimes labeled as “accidental.” In some cases, the intentionality has not been determined. These injuries are categorized as “undetermined intent.”
- Mechanism of injury: The activities or circumstances that led to the hospitalization, emergency department treatment, or death, e.g., fall, motor vehicle crash, etc.
- Other specified and classifiable: Injuries that may include foreign body entering eye or orifice, caught accidentally in or between objects, accident caused by explosive material, accident caused by electric current, exposure to radiation, or late effects of accidents.
- Place of occurrence code: This code is used to designate the place where the injury occurred (e.g., home, farm, mine and quarry, street and highway, public building, place for recreation and sports, and residential institution).
- Rate: The number of cases or records per 100,000 population.
- Underlying cause of death: Defined by the World Health Organization as the disease or injury that initiated the train of events leading directly to death; or the circumstances of the accident or violence which produced the fatal injury. Most standard mortality data are compiled by underlying cause of death.
- Undetermined: Categorization of a death when all available information is inadequate to point to any single manner of death.

AN OVERVIEW OF CHILDHOOD INJURY IN NEBRASKA

Childhood injuries are a major public health problem in Nebraska and in the United States resulting in significant numbers of deaths, hospitalizations, and ER visits. Table 1 provides a demographic distribution of patients represented in childhood injury records of Death Certificate and Hospital Discharge data from 2003 to 2007 which were analyzed for this report.

There were a total of 533 childhood injury deaths, 4,342 trauma incidents, and 227,318 records of injury-related hospitalization and ER visits from the years 2003 to 2007. Males accounted for nearly two-thirds (65.5%) of the childhood injury deaths and for 59.1% of hospitalization and ER visits. It should be noted that males make up 51.2% of the population in Nebraska based on the 2005 census data.

Quick Facts

“Among children under 20 years old, unintentional injury was the leading cause of death in both the U.S. (2003-2006) and Nebraska (2003-2007).”

Total # of:

Deaths: **533**

Hospital Discharges: **227,318**

Trauma Incidents: **4,342**

Leading causes of:

Injury Death: motor vehicle crash, fire/flare, drowning, suffocation, and poisoning

Injury Hospital Discharges: fall, being struck by/against, being cut or pierced, motor vehicle crash, and overexertion

Among injury-related deaths and trauma incidents, children ages 1 to 14 were under-represented as compared to their population, especially children ages 5-9 years (representing only 8.2% of childhood injury deaths and 13.2% of trauma patients vs. 23.5% of the childhood population). In contrast, those between the ages of 15-19 were over-represented in injury death and trauma registry data. Despite only representing 26.3% of the population, children ages 15-19 constitute a majority of both injury deaths (60.8%) and trauma patients (50.9%). Whites accounted for 84.8% of childhood injury deaths and African Americans accounted for 8.8%, while Native Americans accounted for 3.7% and Asians for 2.2%. Race information is not available for hospital discharges.

**Table 1: Injury-related Deaths and Hospital Discharges by
Gender, Age, and Race, Nebraska, 2003-2007**

	Deaths		Trauma		Hospital Discharges		2005 Census Population (%)
	N	%	N	%	N	%	
GENDER							
Male	349	65.50	2,809	64.70	134,263	59.06	51.20
Female	184	34.50	1,533	35.30	93,055	40.94	48.80
Total	533	100	4,342	100	227,318	100	100
AGE							
0-1	36	6.75	132	3.20	7,395	3.25	5.25
1-4	60	11.26	541	12.50	59,098	26.00	20.28
5-9	43	8.07	571	13.20	44,658	19.65	23.46
10-14	66	12.38	884	20.40	52,065	22.90	24.75
15-19	328	61.54	2,209	50.90	64,102	28.20	26.27
Total	533	100	4,342	100	227,318	100	100
RACE							
Asian	12	2.25	31	0.83			1.75
African American	46	8.63	411	11.00			5.79
Native American	18	3.38	35	0.93			1.42
Other	3	0.56	39	1.04			2.37
White	454	85.18	3,234	86.20			88.67
Total	533	100	3,750	100			100

Note: Records with unknown age and race are excluded from this table.
Hospital discharges include hospital inpatients and ER visits.
Highlighted rows indicate over-represented groups.

LEADING CAUSES OF DEATH IN THE UNITED STATES AND NEBRASKA

Injuries overall, including both intentional and unintentional injuries, were the fourth leading cause of death for all ages combined in Nebraska from 2003 to 2007. However, among children under 20 years old, unintentional injury was the leading cause of death in both the U.S. (2003-2006) and Nebraska (2003-2007) (Table 3).

Leading causes of death differed by age. Unintentional injuries ranked first for all ages from 1-19 in both the U.S. and Nebraska. However, congenital anomalies represented the leading cause of death among infants younger than one year old in Nebraska, as well as nationwide. Unintentional injury was not among the top five causes of death for infants.

Within age groups, the rank of intentional injury deaths varied as well. Nationally, suicide was the third leading cause of death for the age groups 10-14 and 15-19. In Nebraska, suicide was the second leading cause of death for these same age groups, as well as the fourth leading cause of death for children overall. Nationally, homicide ranked among the top five causes of death for children ages 1-19. However, in Nebraska homicide ranked among the top five causes of death only for the age groups 1-9 and 15-19.

Table 2: Five Leading Causes of Death By Age United States, 2003-2006 Total Deaths						
Rank	Age Group					
	0-1	1-4	5-9	10-14	15-19	All (0-19)
1	Birth Defects N=22,614	Unintentional Injury N=6,632	Unintentional Injury N=4,338	Unintentional Injury N=5,619	Unintentional Injury N=26,855	Unintentional Injury N=47,671
2	Premature Birth N=19,046	Birth Defects N=2,147	Cancer N=1,986	Cancer N=2,016	Homicide N=8,237	Birth Defects N=27,237
3	SIDS N=8,961	Cancer N=1,545	Birth Defects N=763	Suicide N=1,013	Suicide N=6,355	Premature Birth N=19,046
4	Maternal Pregnancy Comp. N=6,884	Homicide N=1,494	Homicide N=514	Homicide N=870	Cancer N=2,827	Homicide N=12,423
5	Placenta Cord Membranes N=4,391	Heart Disease N=685	Heart Disease N=383	Birth Defects N=752	Heart Disease N=1,508	SIDS N=8,961

Source: Centers of Disease Control and Prevention - WISQARS

Table 3: Five Leading Causes of Death by Age Nebraska, 2003-2007 Total Deaths						
Rank	Age Groups					
	0-1	1-4	5-9	10-14	15-19	All (0-19)
1	Birth Defects N=177	Unintentional injury N=46	Unintentional Injury N=38	Unintentional Injury N=44	Unintentional Injury N=223	Unintentional Injury N=370
2	SIDS N=106	Birth Defects N=15	Cancer N=16	Suicide N=18	Suicide N=78	Birth Defects N=204
3	Premature Birth N=74	Homicide N=14	Homicide N=5	Cancer N=16	Homicide N=27	SIDS N=106
4	Other Respiratory Condition N=61	Cancer N=12	Birth Defects N=4	Heart Disease N=8	Cancer N=21	Suicide N=96
5	Maternal Complication N=60	Ill-defined N=6	Asthma N=1	Birth Defects N=6	Heart Disease N=7	Homicide N=67

Source: DHHS Vital Statistics, 2003-2007

LEADING CAUSES OF INJURY DEATH, TRAUMA AND HOSPITAL DISCHARGE IN NEBRASKA

Among injury deaths, motor vehicle crashes represented the leading cause among Nebraska children (Table 4). However, falls were the leading cause of hospital discharge for all ages combined in Nebraska from 2003 to 2007 (Table 5).

The causes of injury death differed by age groups. Suffocation was the predominant cause of injury death for infants less than 1 year old, while motor vehicle crashes were the leading cause of injury death for those in the 1-19 age groups. Motor vehicle crashes ranked second for Nebraska infants less than one year old (Table 4).

There were more males (64.7%) than females (35.3%) admitted to trauma centers because of injury. Over half (50.9%) of trauma patients were in the age group 15-19 years; however, this age group makes up only 26.3 percent of the population. Similarly, 7.0 percent of trauma patients were infants less than one year old, although they only make up 5.3 percent of the population.

The causes of injury hospital discharge also varied by age groups, but these were different from the causes of injury death. Falls ranked first for Nebraska children ages 0-9; for those ages 10-19, being struck by or against was the leading cause of hospital discharge (Table 5). Overall (ages 0-19), falls were the leading cause of injury hospitalization among children and youth.

Table 4: Five Leading Causes of Injury Death by Age Nebraska, 2003-2007 Total Deaths						
Age Groups						
Rank	<1	1-4	5-9	10-14	15-19	All (0-19)
1	Suffocation N=6	MV Traffic N=15	MV Traffic N=20	MV Traffic N=26	MV Traffic N=185	MV Traffic N=251
2	MV Traffic N=5	Fire/Flame N=10	Fire/Flame N=5	Drowning N=3	Poisoning N=9	Fire/Flame N=29
3	Fire/Flame N=3	Drowning N=7	Other Land Transport N=4	Fire/Flame N=3	Fire/Flame N=8	Drowning N=21
4	Drowning N=2	Other Pedestrian N=4	Drowning N=3	Other Land Transport N=2	Drowning N=6	Suffocation N=17
5	Fall N=1	Suffocation N=4	Suffocation N=3	Poisoning N=2	Firearm N=3	Poisoning N=13

Note: Causes coded as "Other Specified" and "Unspecified" are excluded in this matrix
Source: DHHS Vital Statistics, 2003-2007

Table 5: Five Leading Causes of Hospital Discharges for Injury by Age Nebraska, 2003-2007						
Rank	Age Groups					
	0-1	1-4	5-9	10-14	15-19	All (0-19)
1	Falls N=3,100	Falls N=21,599	Falls N=14,859	Struck By/Against N=14,407	Struck By/Against N=15,342	Falls N=62,535
2	Struck By/Against N=991	Struck By/Against N=11,500	Struck By/Against N=10,218	Falls N=13,372	MV Traffic N=10,108	Struck By/Against N=52,458
3	MV Traffic N=376	Natural/Environ mental N=3,721	Cut/Pierce N=4,218	Cut/Pierce N=4,649	Falls N=9,605	Cut/Pierce N=18,529
4	Fire/Burn N=375	Cut/Pierce N=3,364	Natural/Environ mental N=2,618	Overexertion N=4,161	Overexertion N=6,049	MV Traffic N=16,086
5	Cut/Pierce N=266	Poisoning N=2,466	Other Pedal Cycle N=2,525	MV Traffic N=2,596	Cut/Pierce N=6,032	Overexertion N=13,560

*Hospital visits includes visit as inpatient, ER, and Non-ER patient

Note: Causes coded as "Other Specified" and "Unspecified" are excluded in this matrix.

Source: Nebraska Hospital Discharge Data, 2003-2007

INJURY DEATHS AS A PERCENTAGE OF ALL DEATHS

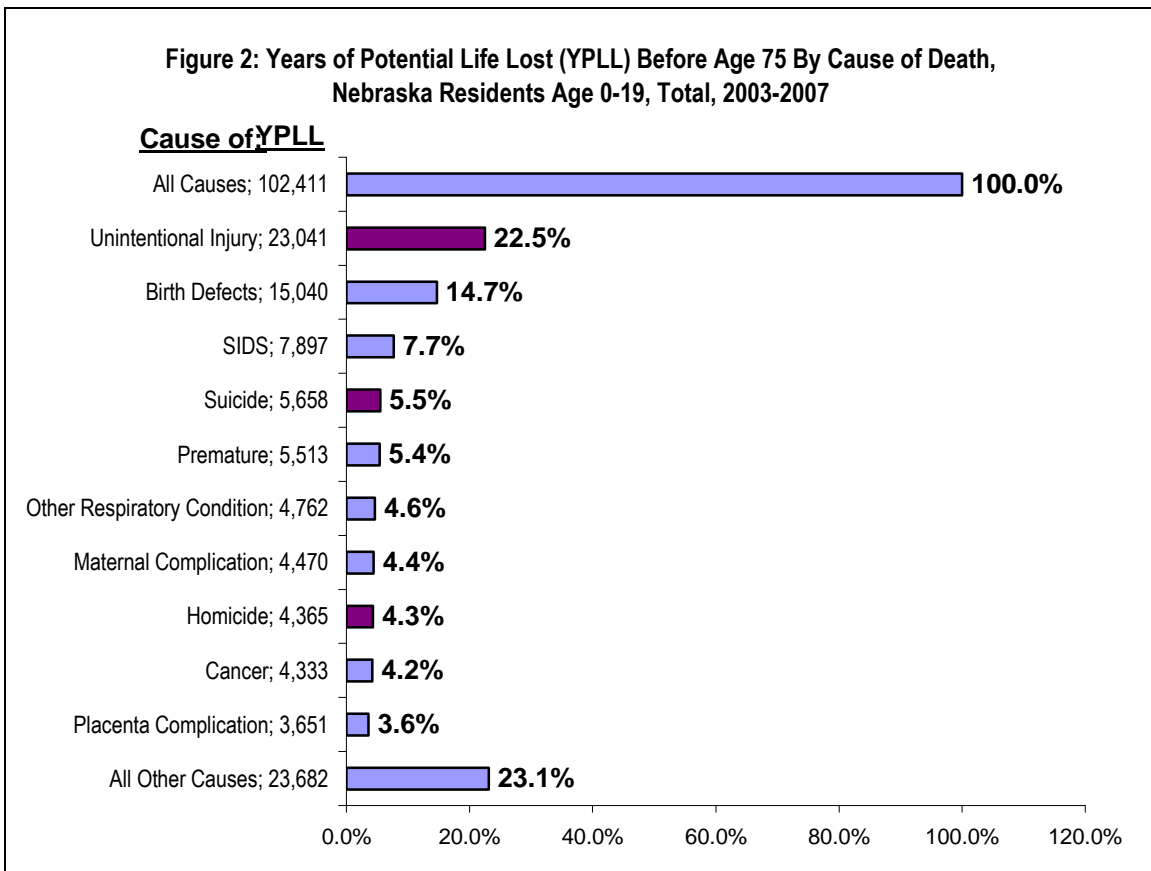
In Nebraska from 2003-2007, over 35% of all deaths among children were the result of injuries. The death toll is most apparent when looking at 15-19 year olds, whose percentage of deaths due to injury was 82%. For all age groups, with the exception of infants less than one year old, more than 40% of all deaths were due to injuries (Table 6).

Table 6: Injury Deaths as a Percent of All Deaths by Age Nebraska Residents Age 0-19, 2003-2007			
Age Group	Injury Deaths	All Deaths	% of Deaths Due to Injury
0-1	36	754	4.8
1-4	60	144	41.7
5-9	43	82	52.4
10-14	66	115	57.4
15-19	328	400	82.0
Total (0-19)	533	1,495	35.7

Source: DHHS Vital Statistics, 2003-2007

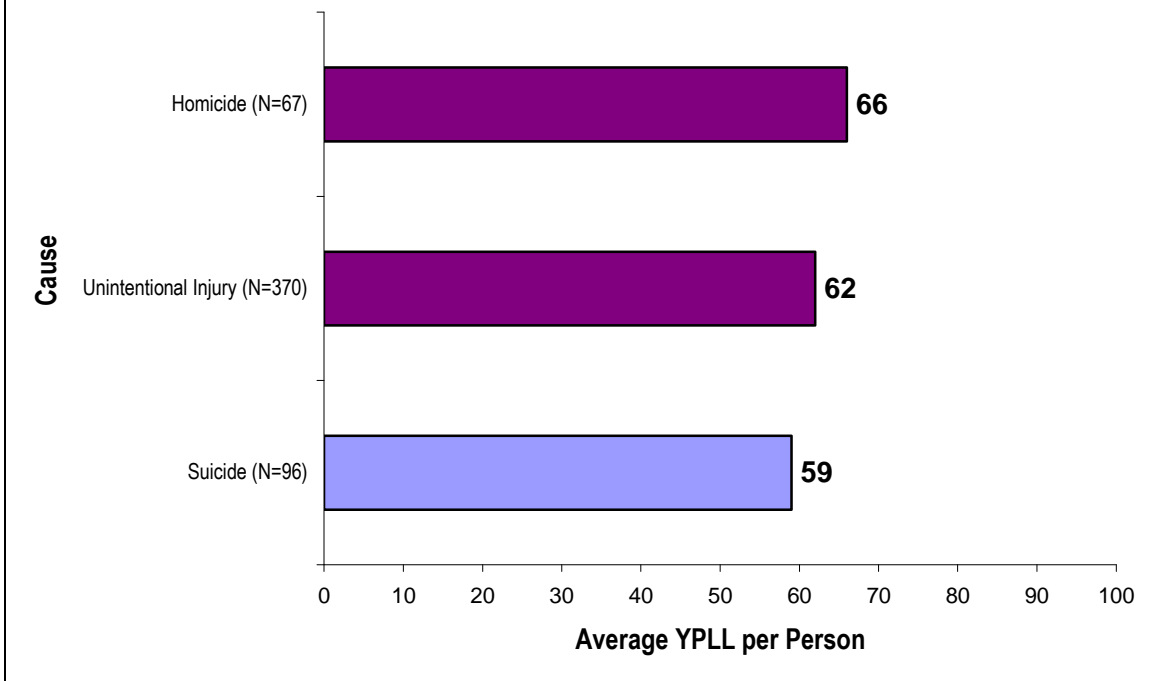
AVERAGE YEARS OF POTENTIAL LIFE LOST DUE TO INJURY

The Years of Potential Life Lost (YPLL) is a measure of premature death. Therefore, the younger the age of the person at death, the more years of potential life were lost. In Nebraska, more years of potential life were lost due to unintentional and intentional (suicide and homicide) injuries combined than to any other cause of death (Figure 2). In fact, the highest ranking cause of potentially lost life was unintentional injury. The average number of potential years lost per person dying from unintentional injury among Nebraska children was 62. For suicide and homicide, the number of potential years lost was 59 and 66, respectively (Figure 3).



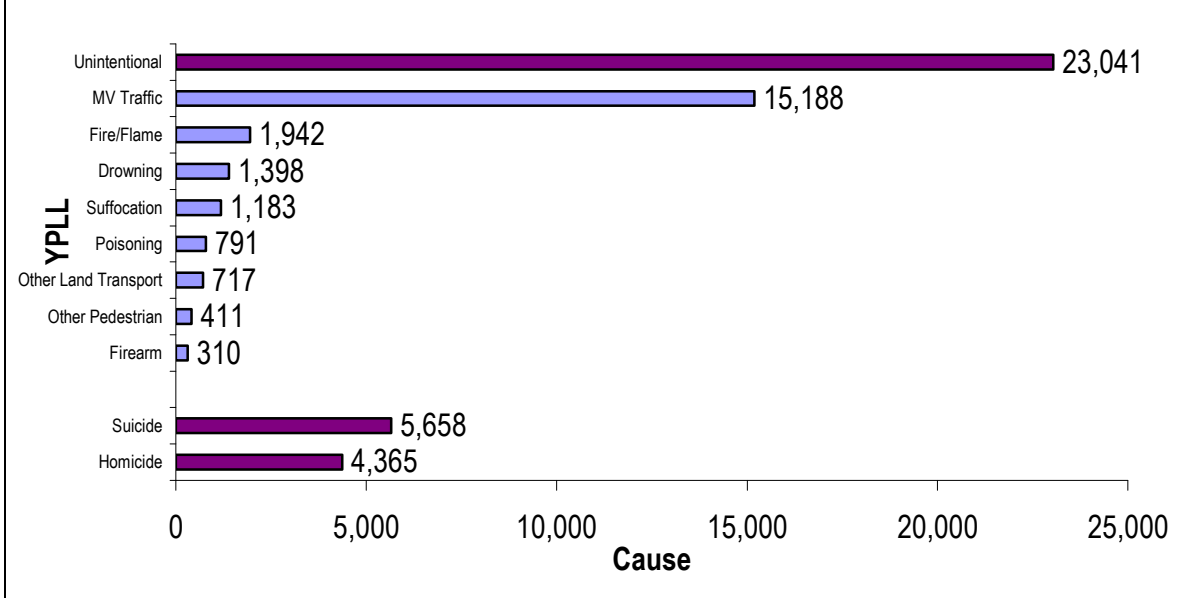
Source: DHHS Vital Statistics, 2003-2007

Figure 3: Average Years of Potential Life Lost (YPLL) Before Age 75 by Cause of Death, Nebraska Residents Age 0-19, 2003-2007



Source: DHHS Vital Statistics, 2003-2007

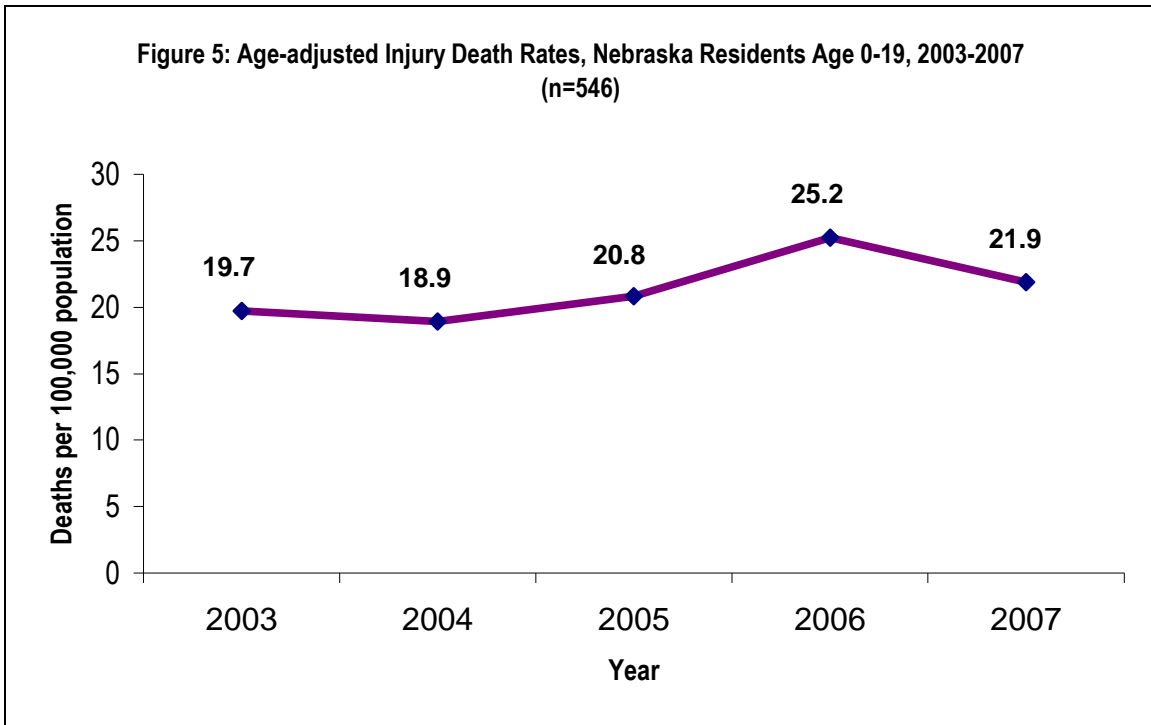
Figure 4: Years of Potential Life Lost (YPLL) Before Age 75 by Cause of Injury, Nebraska Residents age 0-19, 2003-2007



Source: DHHS Vital Statistics, 2003-2007

INJURY DEATH RATES OVER TIME

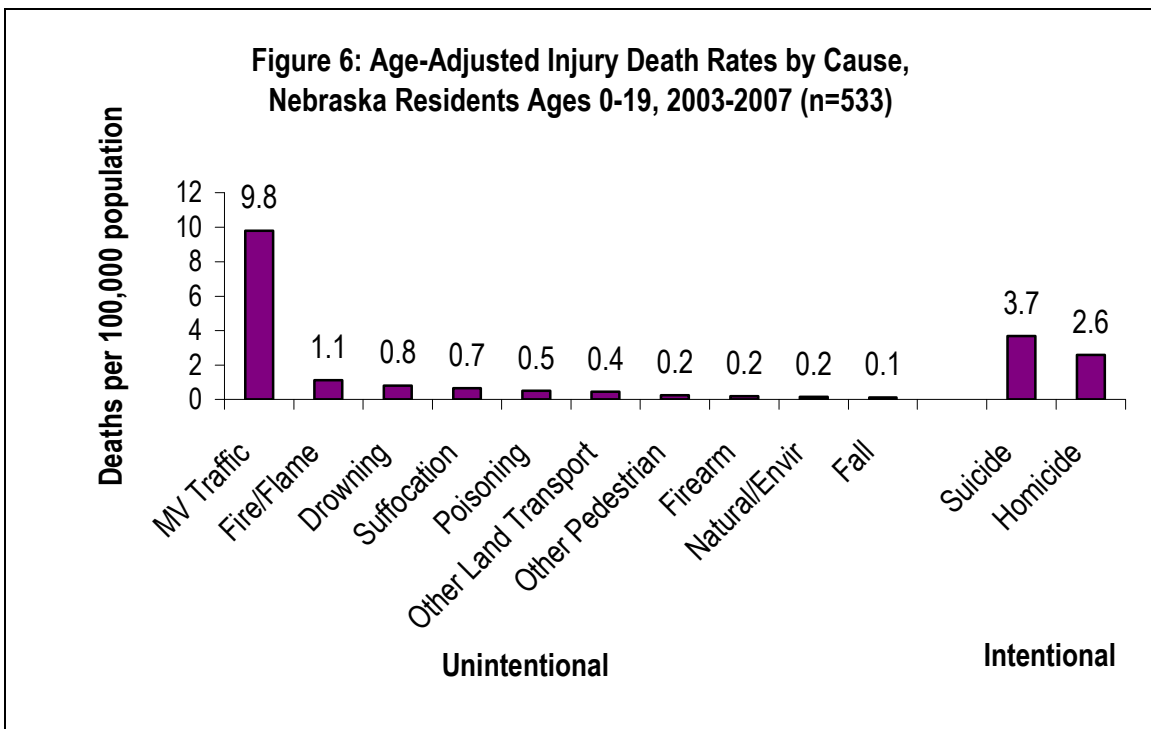
From 2003-2007, the age-adjusted childhood injury death rates in Nebraska remained fairly consistent, ranging from 19.7 to 25.2 deaths per 100,000 population. In 2006, the rate increased to 25.2 deaths per 100,000, decreasing to a rate of 21.9 deaths in 2007 (Figure 5).



Source: DHHS Vital Statistics, 2003-2007

LEADING CAUSES OF INJURY DEATH

From 2003-2007, 67.8% of childhood injury deaths in Nebraska were because of unintentional causes, 29.9% were because of intentional causes (suicide and homicide), and for 2.0%, the intent was undetermined. The leading cause of injury deaths was motor vehicle crashes, with an age-adjusted rate of 9.8 deaths per 100,000 population. Suicide was the second leading cause of injury death with an age-adjusted rate of 3.7 per 100,000. Homicide and fire/burn also contributed significantly to the total number of injury deaths with age-adjusted rates of 2.6 and 1.1 per 100,000, respectively (Figure 6).

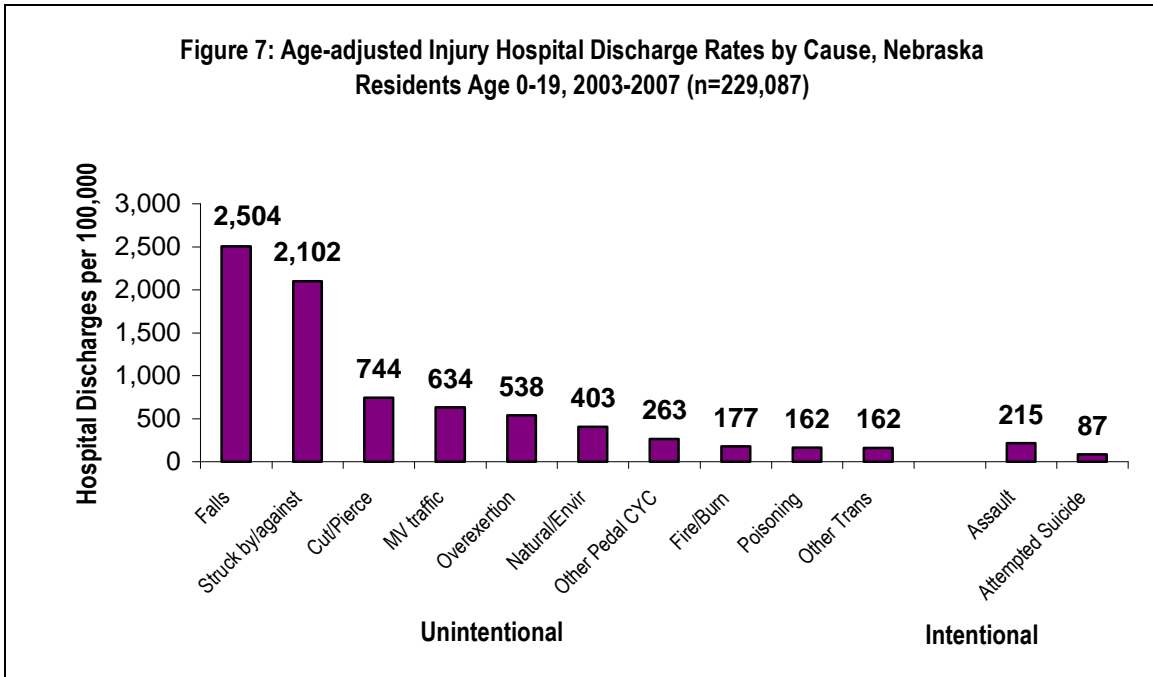


Source: DHHS Vital Statistics, 2003-2007

LEADING CAUSES OF HOSPITAL DISCHARGE DUE TO INJURY

While motor vehicle crashes and suicide combined caused over 60 percent (65.1%) of childhood injury deaths in Nebraska from 2003 to 2007, they were responsible for less than 10 percent (8.1%) of hospital discharges due to injury.

Approximately 96 percent (96.2%) of the injury hospital discharges (hospital inpatients and ER visits) in Nebraska were from unintentional causes; 3.4 percent were from intentional causes. The leading cause of hospital discharges due to unintentional injury was falls, with an age-adjusted rate of 2,504 per 100,000 (Figure 7). For intentional injuries, 71 percent of injury hospital discharges were due to assault, with an age-adjusted rate of 215 per 100,000.

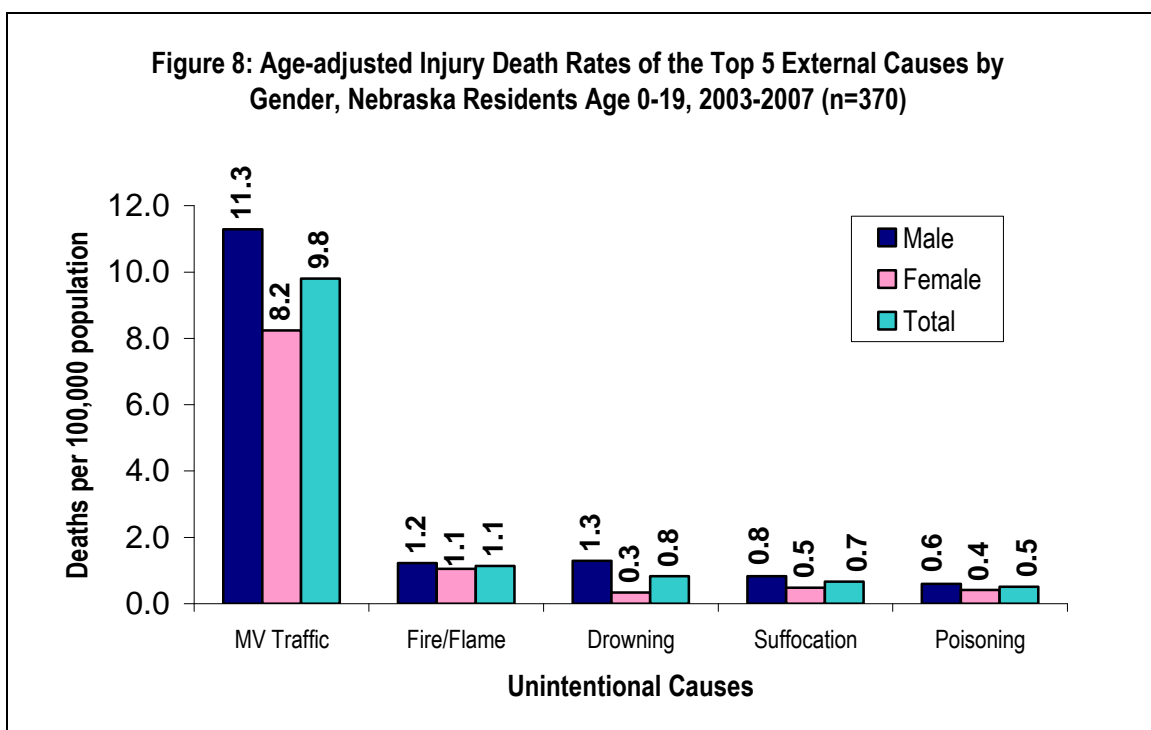


Source: NE Hospital Discharge Data

INJURY DEATH AND HOSPITAL DISCHARGE RATES BY GENDER

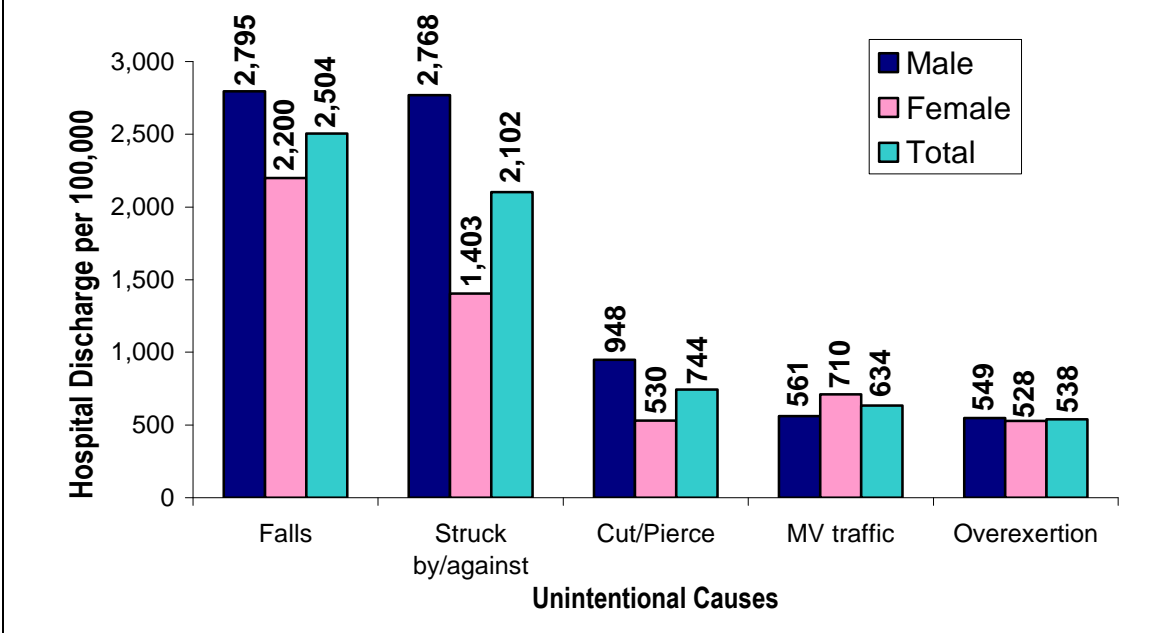
Injury death and hospital discharge rates differed between males and females. More males died from the top five causes of unintentional injury than did females, and the difference was especially large for deaths from motor vehicle crashes (Figure 8).

Hospital discharge rates for injuries due to motor vehicle crashes were higher for females than for males (Figure 9). However, males were more likely than females to die from those types of injuries.



Source: DHHS Vital Statistics, 2003-2007

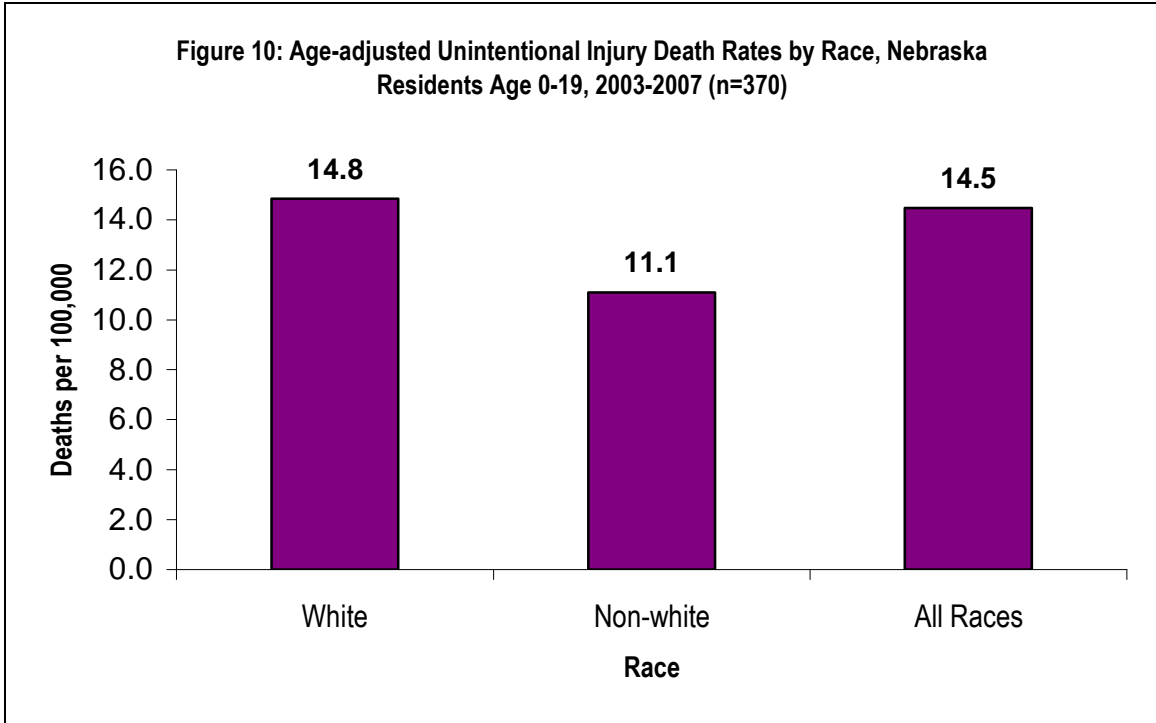
**Figure 9: Age-adjusted Unintentional Injury Hospital Discharge Rates by Gender
Nebraska Residents Age 0-19, 2003-2007 (n=6,522)**



Source: NE Hospital Discharge Data, 2003-2007

INJURY DEATH RATES BY RACE

White children had a higher unintentional death rate than did non-white children (14.8 vs. 11.1 per 100,000, respectively). The overall rate was 14.5 per 100,000 deaths (Figure 10).

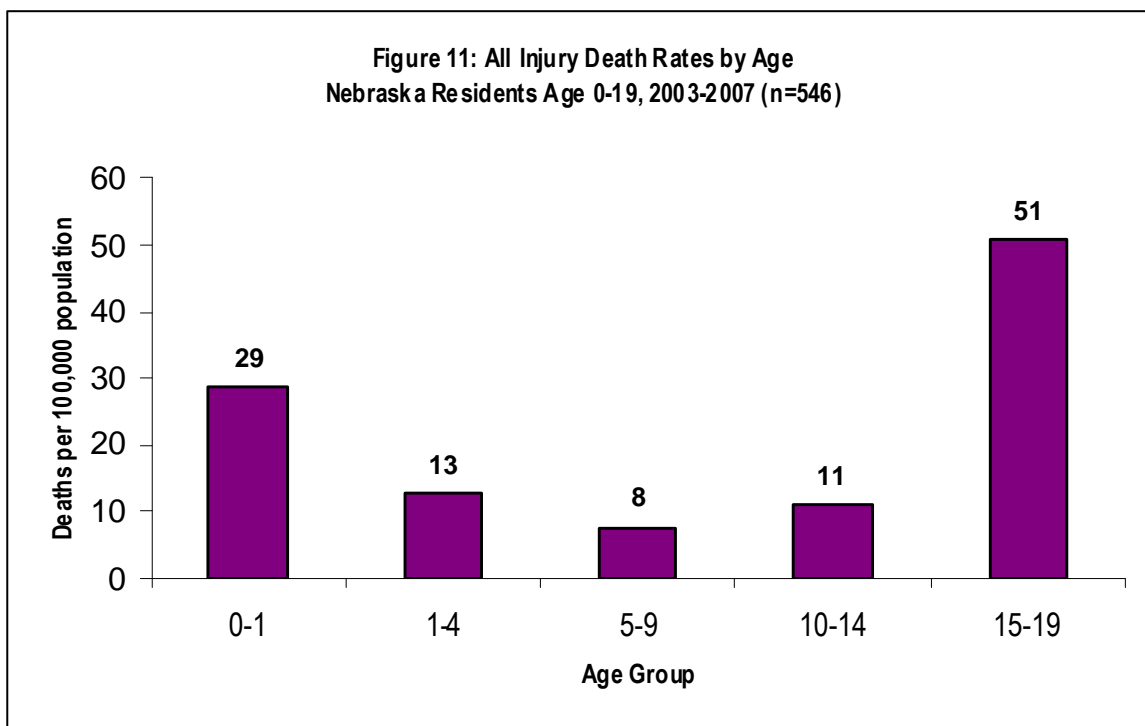


Source: DHHS Vital Statistics, 2003-2007

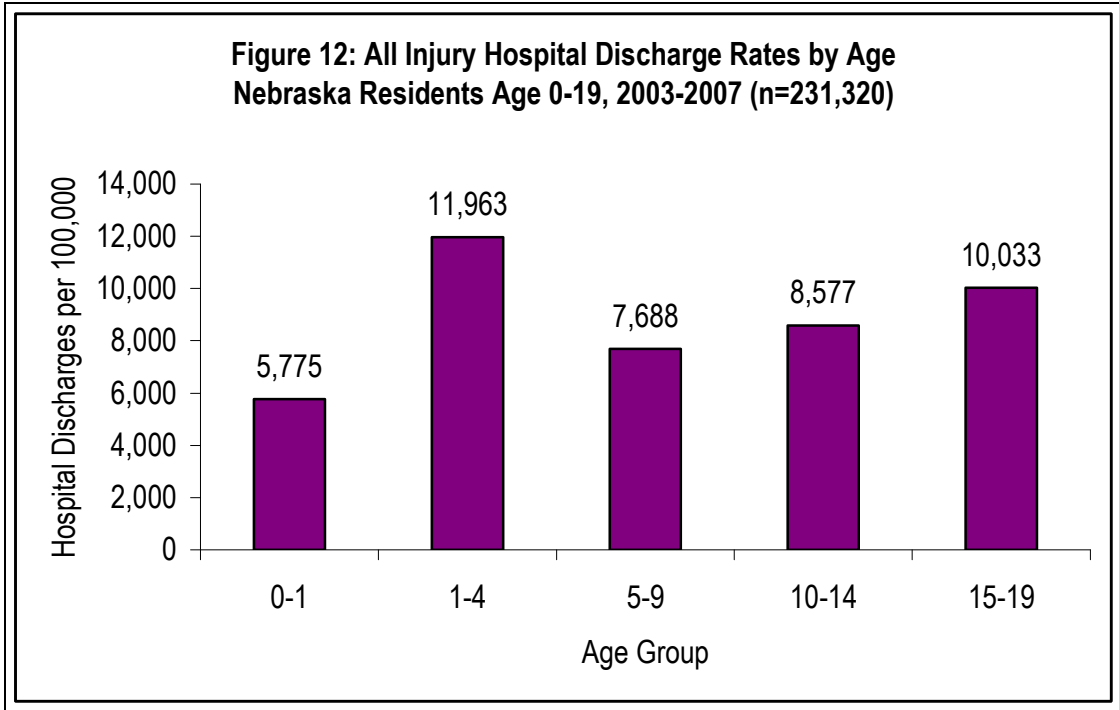
INJURY DEATH AND HOSPITAL DISCHARGE RATES BY AGE

Overall, injury death rates were the highest for the oldest age group (15-19) (Figure 11). Among children under 15, infants less than one year old had the highest rates of injury deaths (29 per 100,000). Suffocation and motor vehicle crashes were the leading causes of injury deaths for infants under age one. Injury deaths remained relatively constant between ages 1-14. Children ages 15-19 had an injury death rate of 51 per 100,000 – a rate 4.6 times higher than that of children ages 10-14 (11 per 100,000) (Figure 11). The leading cause of injury death for the 15-19 year age group was motor vehicle crashes (Table 4).

Hospital discharge rates for injury were the highest for Nebraska children ages 1-4 (11,963 per 100,000). The injury death rate was lowest for infants under age one year (Figure 12). The leading cause of hospital discharges for those between the ages of 1 to 4 was falls, with a rate of 21,599 per 100,000.



Source: DHHS Vital Statistics, 2003-2007



Source: NE Hospital Discharge Data, 2003-2007

TRAUMA

From 2003 to 2007, there were more overall records of male trauma registry patients than female patients (2,809 vs. 1,533, respectively). Males had a higher total in each severity category as well (Table 7). As age increased, the number of trauma registry patients increased. The youngest age group (less than one year old) had a total of 137 trauma patients, whereas the oldest (ages 15-19) had 2,209 (Table 8). Whites accounted for 86.2 percent of patients. African Americans made up 11.0 percent, Native Americans 0.9 percent, and Asians 0.8 percent (Table 9). For all sexes, ages, and races, the overwhelming majority of trauma injuries were categorized as minor (Table 7-9).

	Female		Male		Total	
	N	%	N	%	N	%
Critical	144	9.4%	247	8.8%	391	9.0%
Severe	160	10.4%	216	7.7%	376	8.7%
Moderate	128	8.3%	216	7.7%	344	7.9%
Minor	1,009	65.8%	1,983	70.6%	2,992	68.9%
Unknown	92	6.0%	147	5.2%	239	5.5%
Total	1,533	100	2,809	100	4,342	100

Source: NE Trauma Registry

	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Critical	17	12.4%	32	5.9%	31	5.4%	63	7.1%	248	11.2%	391	9.0%
Severe	18	13.1%	40	7.4%	37	6.5%	66	7.5%	215	9.7%	376	8.7%
Moderate	7	5.1%	22	4.1%	39	6.8%	68	7.7%	208	9.4%	344	7.9%
Minor	87	63.5%	406	75.0%	433	75.8%	634	71.7%	1,432	64.8%	2,992	68.9%
Unknown	8	5.8%	41	7.6%	31	5.4%	53	6.0%	106	4.8%	239	5.5%
Total	137	100	541	100	571	100	884	100	2,209	100	4,342	100

Source: NE Trauma Registry

	Asian		African American		Native American		Others		White		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Critical	4	12.9%	3	0.7%	5	14.3%	2	5.1%	290	9.0%	351	9.4%
Severe	3	9.7%	299	72.7%	--	--	2	5.1%	293	9.1%	328	8.7%
Moderate	4	12.9%	29	7.1%	2	5.7%	1	2.6%	275	8.5%	311	8.3%
Minor	17	54.8%	30	7.3%	28	80.0%	31	79.5%	2,183	67.5%	2,558	68.2%
Unknown	3	9.7%	50	12.2%	--	--	3	7.7%	193	6.0%	202	5.4%
Total	31	100	411	100	35	100	39	100	3,234	100	3,750	100

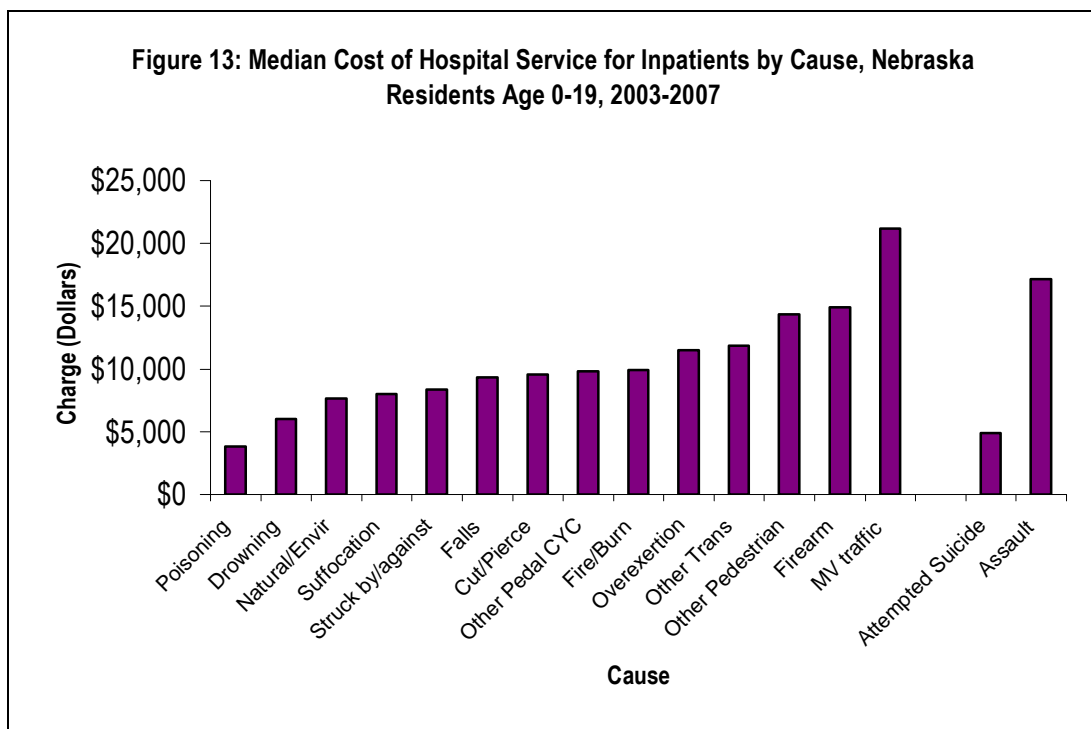
Source: NE Trauma Registry

AVERAGE HOSPITAL CHARGES

Between 2003 and 2007, the cause of unintentional injury with the highest median charge for inpatients was motor vehicle crashes, at \$21,187. For ER patients, the cause with the highest median charge was drowning, at \$929. For inpatients, assault was 3.5 times costlier than attempted suicide (\$17,150 vs. \$4,874) (Figure 13). Conversely, for ER patients, the median charge for attempted suicide was double that of assault (\$1,054 vs. \$508) (Figure 14).

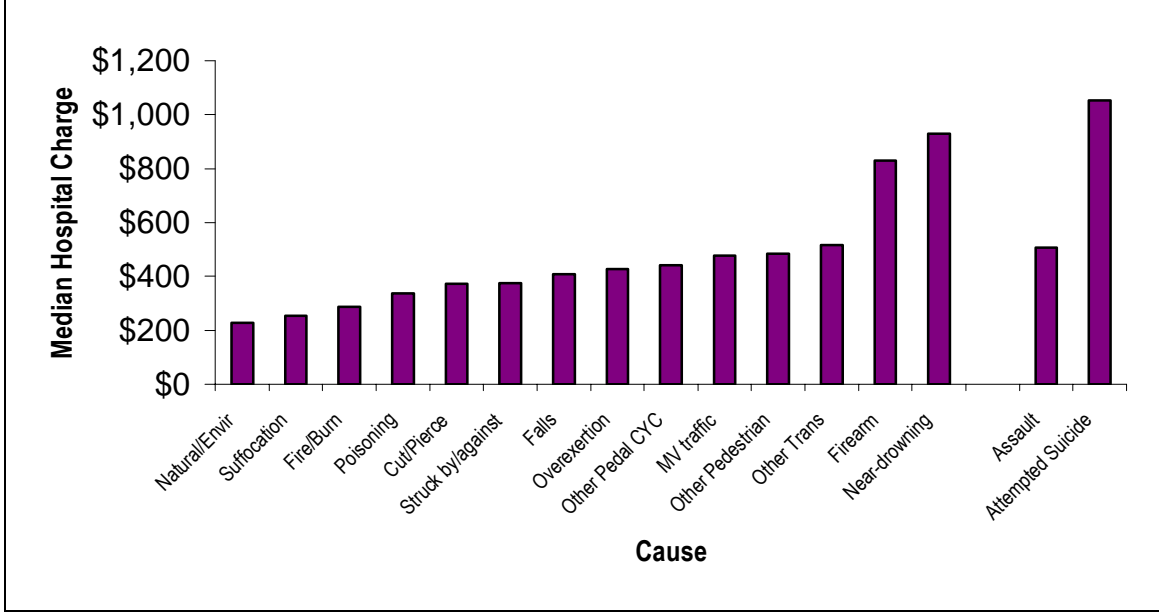
Regarding injury among Nebraska children and youth, nearly two-thirds of medical charges were billed to commercial insurance companies (65.1%). Medicaid was billed 28% of hospital charges, 4% were self-paid, and federal programs were billed the remaining 3% (Figure 15).

The median hospital charge varied by geographic region between 2003 and 2007. The median charge for ER patients was highest in Scotts Bluff County (\$451), Sarpy/Cass Counties (\$446), Douglas County (\$407), and Lancaster County (\$407) (Map 2). For inpatients, the median charge was highest in Douglas County (\$12,289), the counties served by the Three Rivers Public Health Department (\$12,237), and Sarpy/Cass Counties (\$11,073) (Map 1).



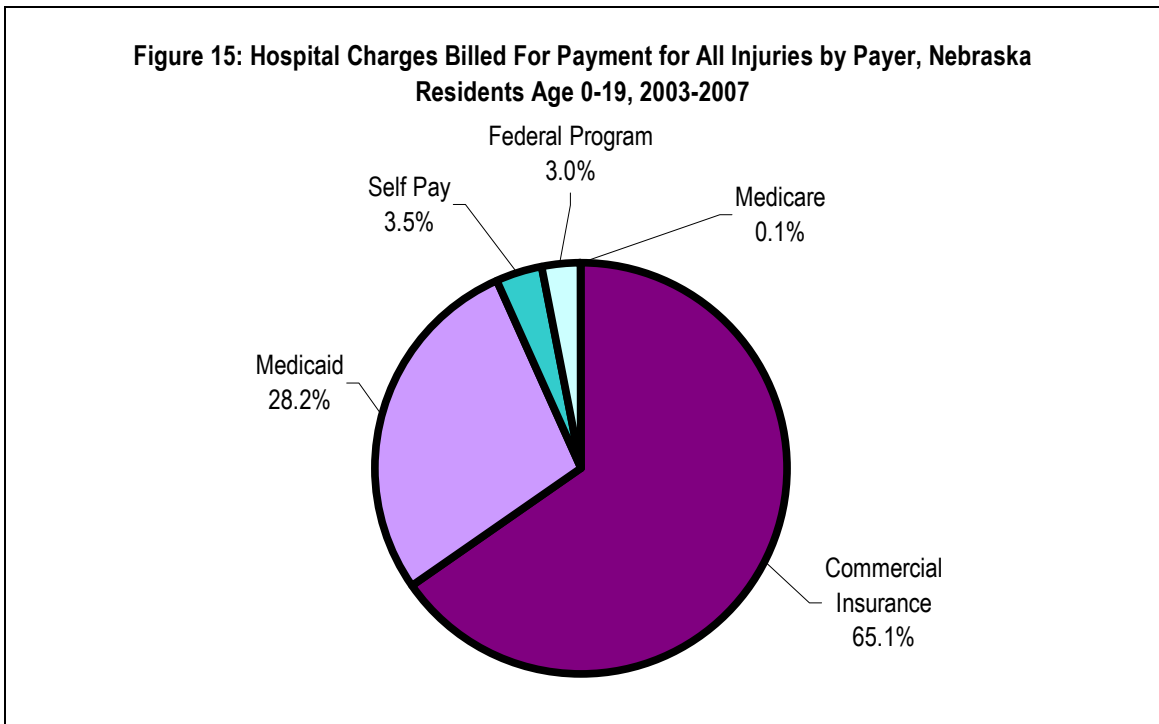
Source: NE Hospital Discharge Data, 2003-2007

Figure 14: Median Hospital Charge for ER Visits by Cause, Nebraska Residents, Age 0-19, 2003-2007



Source: NE Hospital Discharge Data, 2003-2007

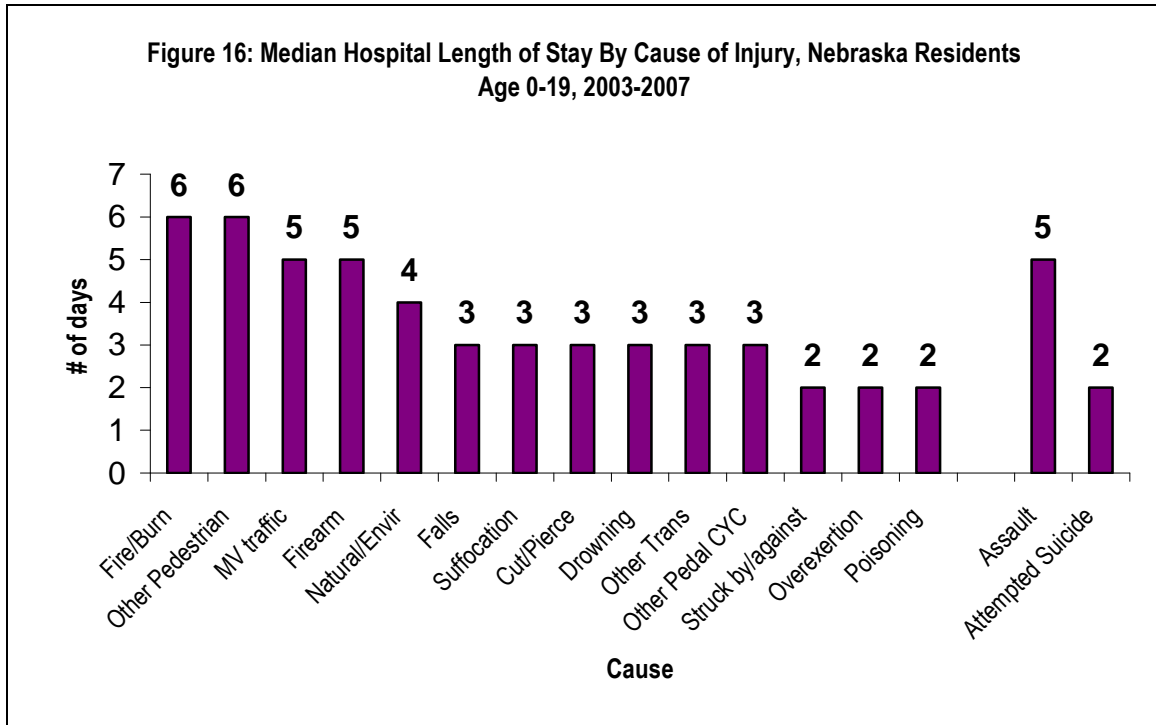
Figure 15: Hospital Charges Billed For Payment for All Injuries by Payer, Nebraska Residents Age 0-19, 2003-2007



Source: NE Hospital Discharge Data, 2003-2007

AVERAGE LENGTH OF STAY

Between 2003 and 2007, the causes that contributed to the longest average hospital length of stay were fire/burn-related injuries and other (involving non-traffic vehicles and non-motor vehicles) pedestrian injuries (average of 6 days). Other significant causes were motor vehicle crashes, firearm injuries, and natural/environmental injuries (5 days, 5 days, and 4 days, on average, respectively). The median hospital length of stay due to assault was over 2 times greater than that for attempted suicide (5 days vs. 2 days, on average, respectively) (Figure 16).



Source: NE Hospital Discharge Data, 2003-2007

FALLS

Overview

The falls category includes:

- Fall on or from stairs or steps,
- Fall on or from ladders or scaffolding,
- Fall from or out of building or other structure, such as a balcony or roof,
- Fall into hole or other opening in surface,
- Fall from one level to another including: fall from playground equipment, chairs, beds, and other furniture,
- Fall on same level from slipping, tripping, or stumbling,
- Fall on same level from collision, pushing, or shoving, by or with other person, including in sports,
- Other and unspecified falls.

Quick Facts

#1 cause of unintentional injury hospital discharge

Total # of:

Deaths: **3**

Hospital Discharges: **62,535**

Trauma Incidents: **906**

Falls were the leading cause of unintentional childhood hospital discharge (Figure 7) but they were only the tenth leading cause of unintentional childhood injury in Nebraska from 2003 to 2007 (Figure 6).

Falls accounted for 0.8% of all unintentional childhood injury deaths. There were three deaths due to unintentional falls between 2003 and 2007. The age-adjusted death rate for unintentional falls was 0.12 per 100,000 population in Nebraska (Figure 6).

In Nebraska, unintentional falls were responsible for 62,535 hospital discharges each year, making up 28.5% of all hospital discharges due to unintentional injury. The age-adjusted hospital discharge rate averages 2,504 per 100,000 population from 2003 to 2007 (Figure 7).

DEATHS

There were a total of three deaths due to unintentional falls for a rate of 0.12 per 100,000 population from 2003-2007. Of these deaths, all were white.

HOSPITAL DISCHARGES

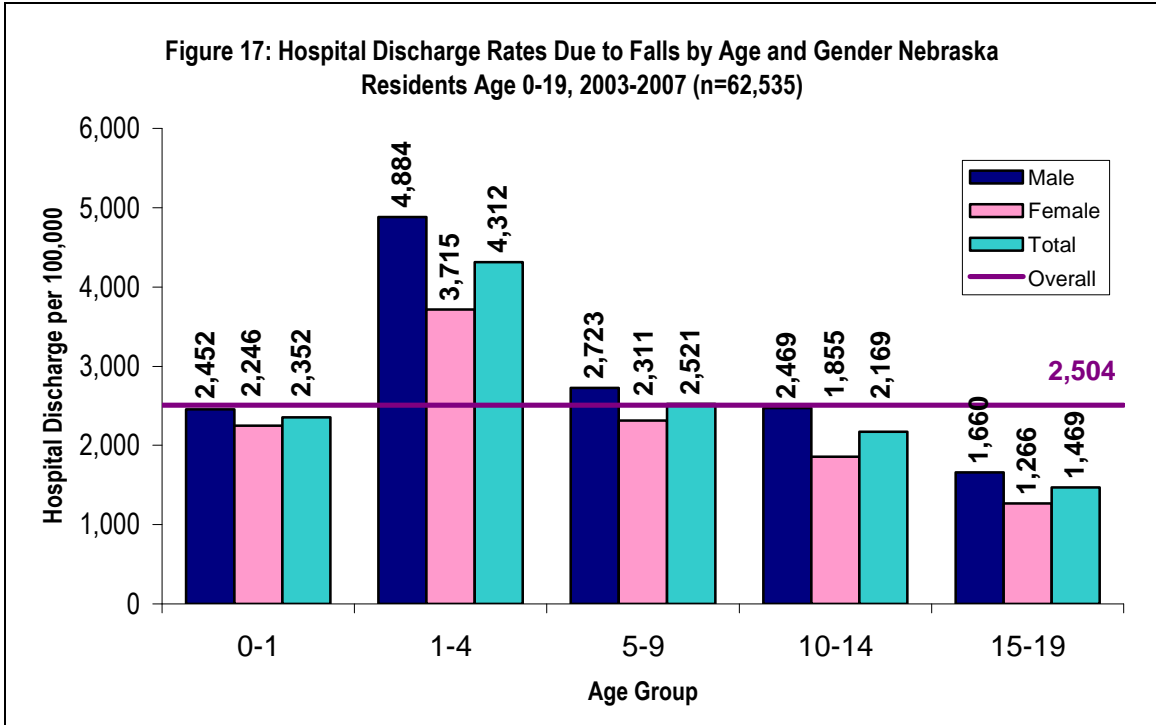
Hospital discharges for fall-related injuries varied by age and gender. Children between the ages of 1 and 4 had the highest rates (4,312 per 100,000). Among all childhood age groups, males had higher hospital discharge rates than females, especially in the 1-4 year age group (Figure 17).

The type of the fall also varied among the age groups. For children ages 0-9, the most common type of unintentional fall injury was “falls from one level to another level” (Figure 18). “Falls from slipping, tripping, or stumbling” was the most common type of hospital discharge for those in the 10-19 year age group (Figure 18).

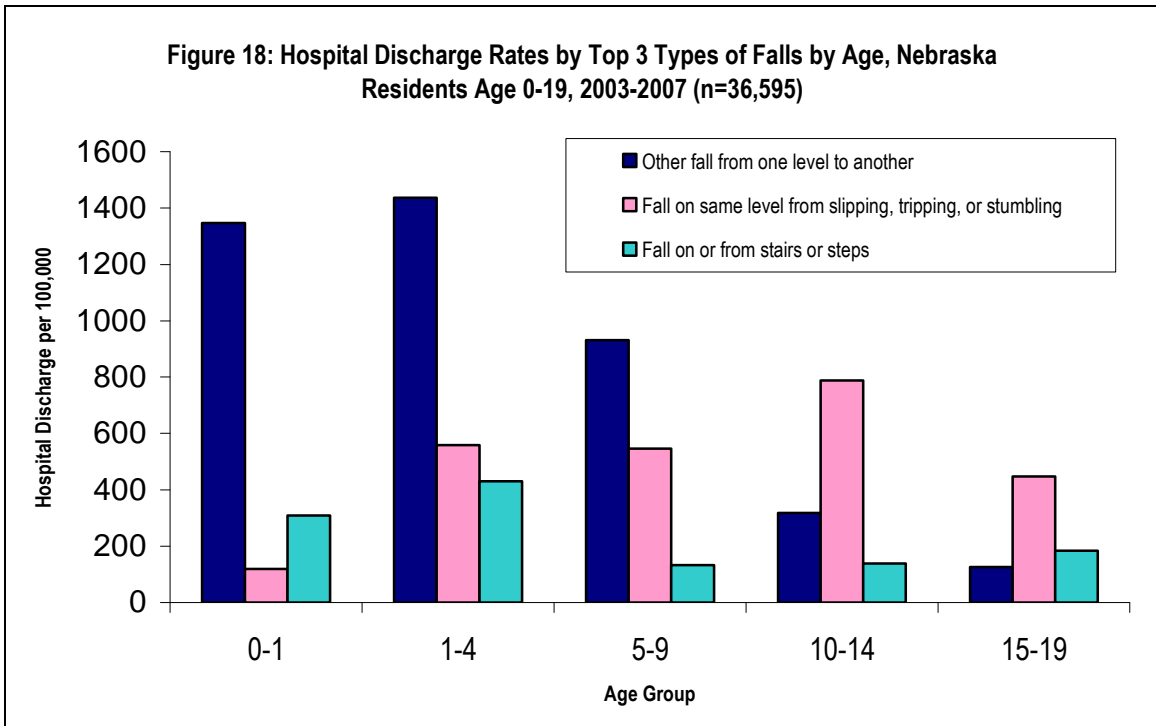
Nearly half of fall injuries occurred in the home. The leading injury type was open wounds.

Only 25 percent of fall injury records included a code for place of occurrence. Of those, 49.0% of fall-related injuries occurred in the home, while 18.4% occurred in a place of recreation and sports, and 14.6% occurred in public buildings (Figure 19). For Nebraska children between the ages of 0-9 years, the most common place where falls occurred was the home; however youth ages 10-19 years most commonly fell in places of sports or recreation (Table 10).

Overall, open wounds were the leading type of injury caused by falls, especially for children ages 1-4. For children under age 1, contusions with intact skin was the leading type of injury. For children ages 5-15, fractures were the leading fall-related injury type for hospitalizations and ER visits. However, sprains and strains were the leading injury types for those in the 15-19 age group (Figure 20).



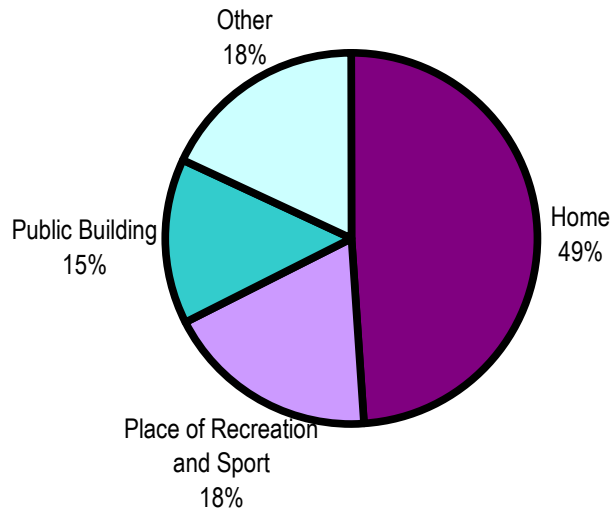
Source: NE Hospital Discharge Data, 2003-2007



Source: NE Hospital Discharge Data, 2003-2007

Note: Other and unspecified categories were excluded in this chart

**Figure 19: Fall Injury by Place of Occurrence
Nebraska Residents Age 0-19, 2003-2007 (n=15,604)**



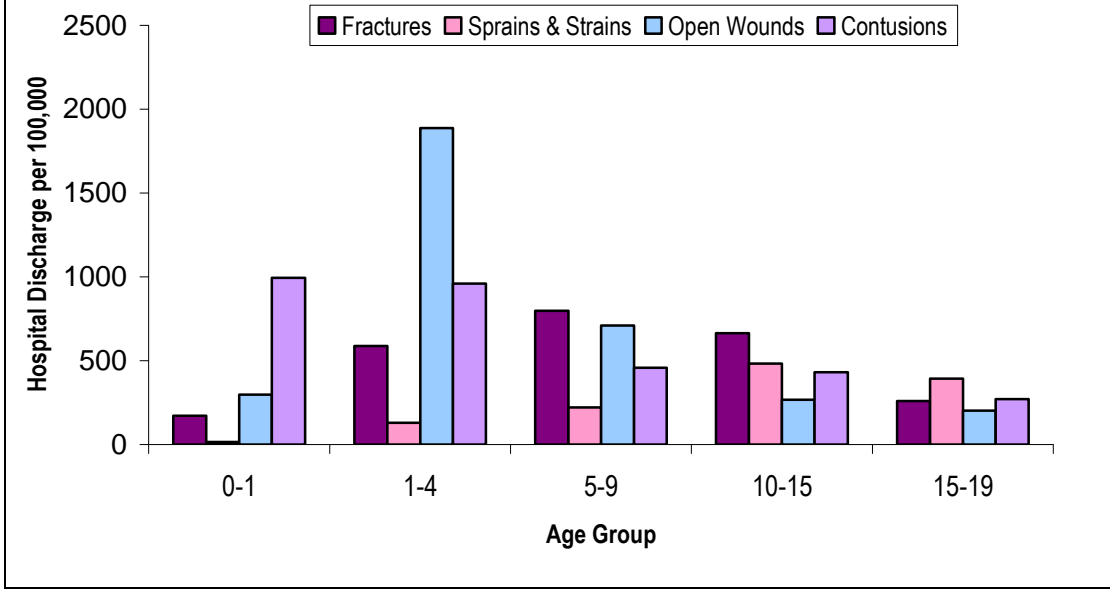
Source: NE Hospital Discharge Data, 2003-2007

**Table 10: Unintentional Fall Injury Hospital Discharges by Age and Place,
Nebraska Residents Age 0-19, 2003-2007 (n=15,604)**

	<u>0-1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Home	661	83.1	3,749	68.7	1,626	44.3	965	29.5	646	26.8	7,647	49
Place of Sport/Recreation	5	0.6	332	6.1	757	20.6	1,084	33.1	695	28.9	2,873	18.4
Public Building	43	5.4	596	10.9	711	19.4	599	18.3	330	13.7	2,279	14.6
Other	86	10.7	783	14.4	573	15.7	627	19.2	736	30.6	2,805	18.1
Total	795	100	5,460	100	3,667	100	3,275	100	2,407	100	15,604	100

Source: NE Hospital Discharge Data, 2003-2007

Figure 20: Hospital Discharge Rates by Age and Injury Type Due to Falls, Nebraska Residents Age 0-19, 2003-2007 (n=51,398)



Source: NE Hospital Discharge Data, 2003-2007

TRAUMA

From 2003 to 2007, there were a total of 906 fall-related trauma cases ages 0-19 reported in Nebraska. The majority of these were male (63.0%). For both genders, the majority of fall-related trauma incidents were minor (82.7% for females and 80.4% for males) (Table 11).

With the exception of infants less than one year old, the number of fall-related trauma incidents was generally stable across age groups. The lowest total was attributed to those between 15 to 19 years (n=198) and the highest total to children ages 1-4 (n=231) (Table 12). As with the gender groups, the majority of trauma incidents were classified as minor across all age groups as well (81.2% of the total) (Table 11).

	<u>Female</u>		<u>Male</u>		<u>Total</u>	
	N	%	N	%	N	%
Critical	8	2.4	25	4.4	33	3.6
Severe	25	7.5	29	5.1	54	6.0
Moderate	8	2.4	30	5.3	38	4.2
Minor	277	82.7	459	80.4	736	81.2
Unknown	17	5.1	28	4.9	45	5.0
Total	335	100	571	100	906	100

Source: NE Trauma Registry

	<u>0-1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Critical	3	4.9	7	3.0	7	3.2	5	2.5	12	5.9	34	3.7
Severe	8	13.1	15	6.5	8	3.7	8	4.0	16	7.8	55	6.0
Moderate	4	6.6	6	2.6	3	1.4	10	5.0	15	7.3	38	4.2
Minor	44	72.1	195	84.4	182	84.3	164	82.0	156	76.1	741	81.2
Unknown	2	3.2	8	3.5	16	7.4	13	6.5	6	2.9	45	4.9
Total	61	100	231	100	216	100	200	100	205	100	913	100

Source: NE Trauma Registry

PREVENTION: FALLS

Proven Interventions for Prevention

- A population-based epidemiological analysis determined that parents and others who care for infants should be informed of the 3 A's for infant injury control: anticipate, act, and be accountable. All of the injuries documented in the analysis were preventable if the caregiver had acted to prevent the injury.^{6, 9, 11}
- Research has shown that community-based education programs to reduce bicycle-related head injuries among children by promoting the use of helmets have been shown to be successful. Program components could include: public and physician education, school safety programs, an outreach campaign for low-income populations, extensive media coverage, bike rodeos, fitting and distribution of helmets, helmet discounts, and informational brochures in monthly insurance and utility bills.^{1,2, 4, 6,11, 13}
- Protective surfacing under and around playground equipment can prevent falls or reduce the severity of fall-related injuries.⁹

Laws and Regulations

- In June 2000, the American Society for Testing and Materials (ASTM) established voluntary safety standards for window guards, which ensure that those guards designed for single-family homes or the lower floors of apartment buildings have simple emergency-release mechanisms for use in the event of a fire.⁸
- Playground equipment guidelines have been developed by the U.S. Consumer Product Safety Commission (CPSC) and ASTM. Fifteen states have passed legislation or regulations to address playground safety.⁸
- All baby walkers must meet ASTM voluntary and mandatory standards, which require that baby walkers either be too wide to fit through a standard doorway or have features, such as a gripping mechanism, to stop the walker at the edge of a step.⁹
- Decreasing the height of playground equipment and using protective surfaces on the playground (e.g. energy-absorbing materials such as shredded rubber, wood chips, wood fiber, and sand) are strategies have been shown to markedly reduce injury risk to children. ^{1,12}

- It is necessary to educate the public about the need for playgrounds to have separate age-appropriate playground areas for children.¹ Only 42 percent of U.S. playgrounds have separate play areas for children ages 2 to 5 and children ages 5 to 12, and only 9 percent have signs indicating the age-appropriateness of equipment.³
- A recent study found that the rate of playground-related injuries at North Carolina childcare centers dropped 22 percent after a law was passed requiring new playground equipment and surfacing in childcare facilities to conform to U.S. Consumer Product Safety Commission guidelines.⁸

Prevention Interventions for Parents and Caregivers

- Check to make sure playground equipment your child uses is properly designed and maintained and there's a safe, soft landing surface below.³
- Use home safety devices, such as guards on windows that are above ground level, stair gates, and guard rails. These devices can help keep a busy, active child from taking a dangerous tumble.⁹
- Make sure your child wears protective gear when playing active sports, such as wrist guards, knee and elbow pads, and a helmet when in-line skating.⁹
- Supervise young children at all times around fall hazards, such as stairs and playground equipment, whether you're at home or out to play.⁹
- The use of safety gates at the tops and bottoms of stairs reduces a young child's chances of falling.³
- Any house with a baby or toddler in it should have safety gates at the top and bottom of every staircase.⁸
- Safety gates at the tops of stairs must be attached to the wall, as these are more secure than the kind held in place by outward pressure.
- Keep hallways and stairs well-lit and free of clutter, and don't let children play on stairs.
- Keep young children safe by strapping them into seats and carriers and avoiding baby walkers.⁸
- Never leave young children alone on changing tables, beds, couches or other furniture.
- Always strap them into high chairs, infant carriers, swings and strollers.

- Never use baby walkers on wheels. Stationary play centers give your baby a chance to practice standing and moving in an upright position without going anywhere and getting into hazardous situations.
- Always put a baby in a carrier on the floor, not on top of a table or other furniture.
- Keep children at play safe with the right safety gear and adult supervision.⁸
- If you have playground equipment, the ground beneath it should be cushioned with shredded rubber, hardwood fiber mulch or chips, or fine sand. Grass and soil are not as good at preventing serious injuries. The material should be 12 inches deep and extend at least six feet in all directions. This won't prevent falls, but it can reduce the risk and severity of injuries.
- Insist that children wear their helmets correctly every time they ride their bikes, scooters, skateboards or inline skates. Helmets should be centered on top of their heads, with straps snugly fastened under their chins. Make sure their helmets carry stickers indicating they meet safety standards.
- Make sure children wear knee pads, elbow pads and wrist guards while inline skating or skateboarding. Skaters should take lessons; skate on smooth, paved surfaces free of traffic and avoid skating at night.
- Children under age 8 should not ride scooters without close adult supervision. Make sure children riding scooters wear knee pads and elbow pads in addition to helmets.

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Additional Resources

Back to Sleep Campaign
<http://www.nichd.nih.gov/sids/>

Home Safety Council
<http://www.homesafetycouncil.org/index.asp>

U.S. Consumer Product Safety Commission
<http://www.cpsc.gov/>

MOTOR VEHICLE CRASHES

Quick Facts

#1 cause of unintentional injury death

#4 leading cause of unintentional injury hospital discharge

Total # of:

Deaths: **251**

Hosp. Discharges: **16,086**

Trauma Incidents: **1,711**

Overview

Motor vehicle crashes were the leading cause of injury death (Figure 6) and the fourth leading cause of injury hospital discharge in Nebraska (Figure 7). There were an average of 50 deaths and 3,217 hospital discharges due to motor vehicle crash-related injuries among Nebraska residents aged 0-19 each year from 2003 to 2007. Motor vehicle crash-related deaths accounted for 67.8 percent of all unintentional injury deaths and 47.3 percent of all childhood injury deaths in Nebraska from 2003 to 2007.

Death rates for motor vehicle crash-related injuries were the highest for males ages 15-19 (Figure 22) while hospital discharge rates were the highest for females ages 15-19 (Figure 24).

DEATHS

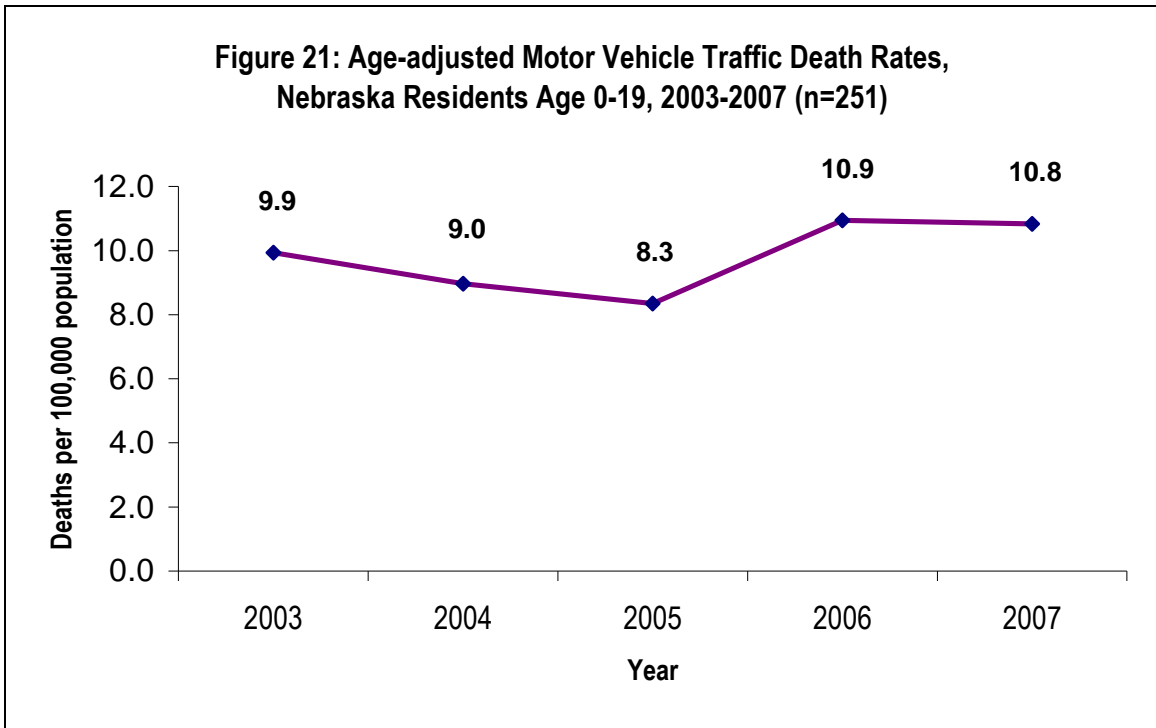
The rate for motor vehicle crash-related deaths in Nebraska remained relatively stable between 2003 and 2007. The lowest rate was in 2005 (8.3 per 100,000) and the highest in 2006 (10.9 per 100,000) (Figure 21).

On average, 50 Nebraska children were killed in motor vehicle crashes each year, with an age-adjusted death rate of 9.8 per 100,000 population (Figure 6). Youth ages 15-19 years had the highest death rate (28.3 per 100,000) among Nebraska residents ages 0-19 (Figure 22). Motor vehicle crashes were the leading cause of injury death for children/youth ages 1-19, and the second leading cause for infants under one year old (Table 4).

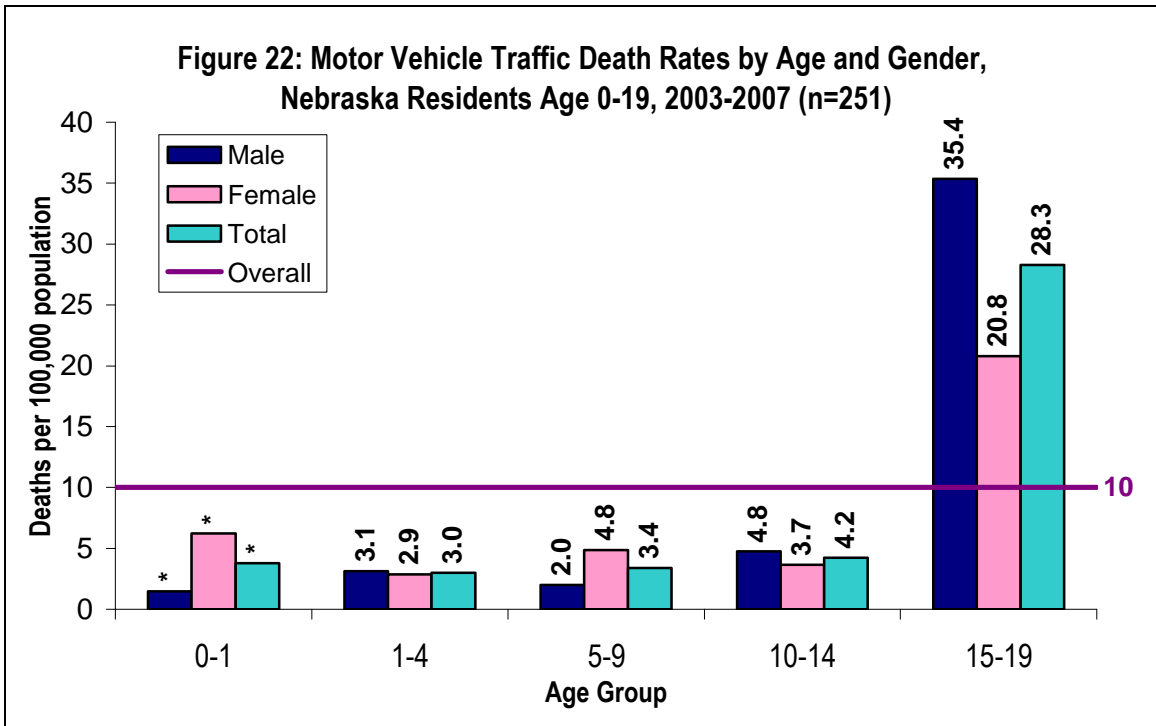
Males in the 0-1 and 5-14 year age groups had lower motor vehicle crash death rates compared to females in the same age groups. However, males age 1-4 and especially those ages 15-19 were more likely to die from motor vehicle crashes (Figure 22). The overall death rate for males was 1.4 times greater than that for females (11.3 vs. 8.2 per 100,000, respectively).

Of Nebraska children who died in motor vehicle crashes, 41 percent were drivers, 45 percent were passengers, 4 percent were pedestrians, 2 percent were motorcyclists, and the remaining deaths were unspecified (Table 13). Of the 251 total motor vehicle crash-related deaths to Nebraska residents aged 0 - 19 in 2003 - 2007, 102 involved females and 149 involved males. Of the 102 adolescent drivers who died in motor vehicle crashes, 72 were males whereas only 30 were females. Of the 114 youth passengers who died in motor vehicle crashes, 61 were females and 53 were males (Table 14).

The motor vehicle crash-related death rate for whites was 1.5 times that of non-whites (10.1 vs. 6.7 per 100,000, respectively). The age-adjusted overall rate for all races was 9.8 per 100,000 (Figure 23).



Source: DHHS Vital Statistics, 2003-2007

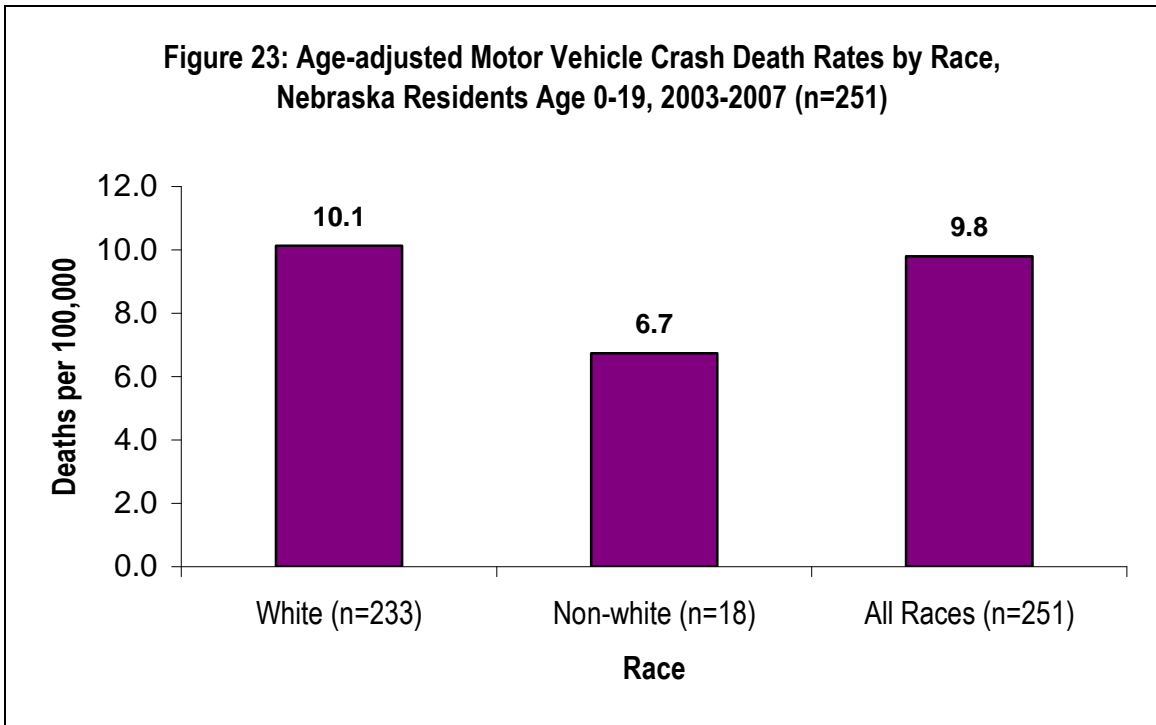


Source: DHHS Vital Statistics, 2003-2007

*Fewer than 5 discharges

Table 13: Age-adjusted Deaths and Percentages Due to MVC by Age, Nebraska Residents Age 0-19, 2003-2007 (n=251)												
	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Driver	—	—	—	—	—	—	5	19.2	97	52.4	102	40.6
Passenger	3	60.0	10	66.7	16	80.0	15	57.7	70	37.8	114	45.4
Motor Cyclist	—	—	—	—	—	—	—	—	5	2.7	5	2.0
Other	2	40.0	3	33.3	4	20.0	6	23.1	13	7.0	30	12.0
Total	5	100	15	100	20	100	26	100	185	100	251	100

Source: DHHS Vital Statistics, 2003-2007



Source: DHHS Vital Statistics, 2003-2007

Table 14: Age-adjusted Deaths and Percentages Due to Motor Vehicle Crash by Gender, Nebraska Residents Age 0-19, 2003-2007 (n=251)

	<u>Female</u>		<u>Male</u>		<u>Total</u>	
	N	%	N	%	N	%
Driver	30	29.4	72	48.3	102	40.6
Passenger	61	59.8	53	35.6	114	45.4
Motor Cyclist	1	1.0	4	2.7	5	2.0
Pedal Cyclist	2	2.0	2	1.3	4	1.6
Pedestrian	2	2.0	8	5.4	10	4.0
Unspecified	6	5.9	10	6.7	16	6.4
Total	102	100	149	100	251	100

Source: DHHS Vital Statistics, 2003-2007

HOSPITAL DISCHARGES

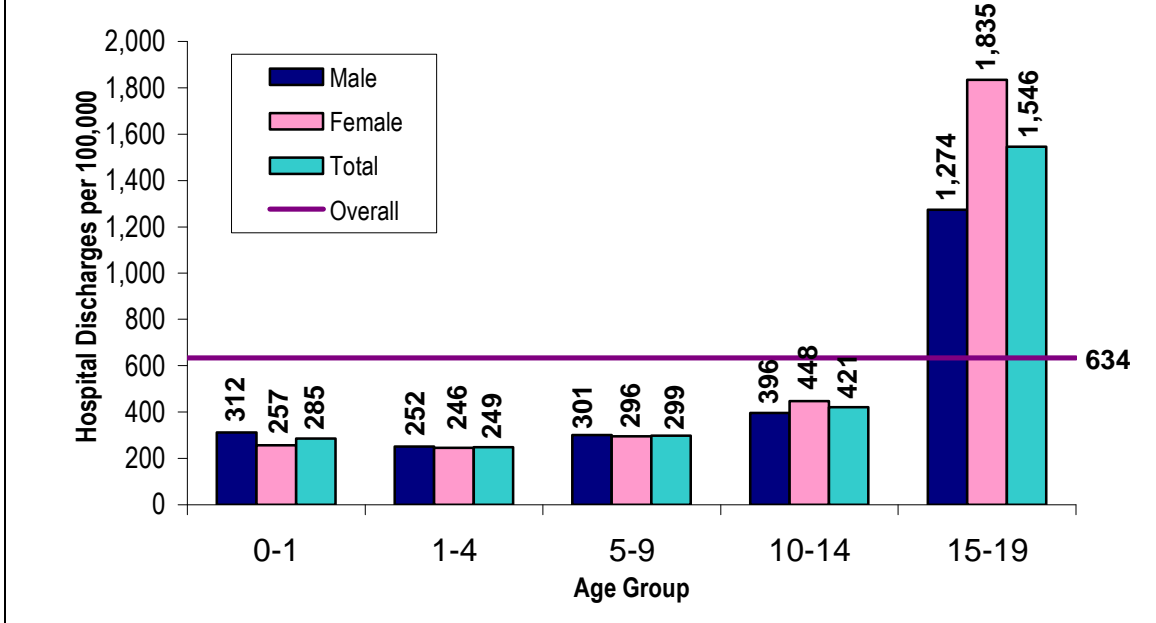
In Nebraska, motor vehicle crashes were the fourth leading cause of injury hospital discharge for children and youth ages 0-19 with an age-adjusted rate of 634 per 100,000 population (Figure 24).

Females had a higher age-adjusted hospital discharge rate than did males for motor vehicle crash injuries (710.1 vs. 560.9 per 100,000, respectively).

The hospital discharge rate for motor vehicle crash injuries peaked significantly for both males and females at the 15-19 year age group (1,274 and 1,835 per 100,000, respectively). For the age groups 0 to 1, 1 to 4, and 5 to 9 years, females had a slightly lower hospital discharge rate; the rate for females in the 10-14 year age group was slightly higher, and the rate for females in the 15-19 year age group was significantly higher (Figure 24).

Approximately 36 percent of Nebraska youth discharged from a hospital due to motor vehicle crashes were drivers. Fifty percent of them were passengers, 4.5 percent were pedestrians, 2.7 percent were pedal-cyclists, 2.5 percent were motorcyclists, and the remaining deaths were other/unspecified (Table 15). Of the 16,086 total motor vehicle crash-related hospital discharges, 8,790 involved females and 7,296 involved males. Among both drivers and passengers injured in motor vehicle crashes, more females were discharged from hospitals than males (Table 16).

Figure 24: Motor Vehicle Traffic Hospital Discharge Rates by Age and Gender, Nebraska Residents Age 0-19, 2003-2007 (n=16,086)



Source: NE Hospital Discharge Data, 2003-2007

Table 15: Age-adjusted Hospital Discharges and Percentages Due to MVC by Age, Nebraska Residents Age 0-19, 2003-2007 (n=16,086)

	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Driver	7	1.9	10	0.8	27	1.5	179	6.9	5,618	55.6	5,841	36.3
Passenger	364	96.8	1,066	85.6	1,351	76.8	1,807	69.6	3,402	33.7	7,990	49.9
Motor Cyclist	--	--	3	0.2	39	2.2	109	4.2	251	2.5	402	2.5
Pedal-cyclist	--	--	21	1.7	116	6.6	210	8.1	83	0.8	430	2.7
Pedestrian	3	0.8	92	7.4	163	9.3	206	7.9	255	2.5	719	4.5
Other	2	0.5	54	4.3	64	3.6	85	3.3	499	4.9	704	4.4
Total	376	100	1,246	100	1,760	100	2,596	100	10,108	100	16,086	100

Source: NE Hospital Discharge Data, 2003-2007

Table 16: Age-adjusted Hospital Discharges and Percentages Due to MVC by Gender, Nebraska Residents Age 0-19, 2003-2007 (n=16,086)						
	Male		Female		Total	
	N	%	N	%	N	%
Driver	2,444	33.5	3,397	38.6	5,841	36.3
Passenger	3,409	46.7	4,581	52.1	7,990	49.7
Motor Cyclist	351	4.8	51	0.6	402	2.5
Pedal-cyclist	328	4.5	102	1.2	430	2.7
Pedestrian	432	5.9	287	3.3	719	4.5
Unknown	263	3.6	327	3.7	590	3.7
Other	69	0.9	45	0.5	114	0.7
Total	7,296	100	8,790	100	16,086	100

Source: NE Hospital Discharge Data, 2003-2007

CONTRIBUTING FACTORS

Restraint use in motor vehicle crashes varied across age groups 0-19 years from 2003 to 2007. However, in general among those age 19 and under, a greater percentage of vehicle occupants and drivers used seatbelts in the older age groups (Table 17). In motor vehicle crashes overall, 81% used a restraint, 14.7% did not; 3.5% used a child safety seat, and 0.3% used a helmet (Table 17).

Among drivers, 86.8% used a seatbelt, 12.8% did not; 0.3% used a helmet, and 0.1% used a child safety seat (Table 18). Among passengers, 61.8% used a seatbelt, 21.9% did not; 16% used a child safety seat, and 0.4% used a helmet (Table 19). For both drivers and passengers, restraint use was more prevalent among the older age groups (Table 18, 19).

Among the 211 recorded crashes involving motorcycles, 156 (73.9%) of cyclists age 19 and under wore a helmet and 55 (26.1%) did not. More helmets were used in the older age categories (Table 20).

Among the nearly 50,000 motor vehicle crashes recorded from 2003 to 2007 among drivers age 19 and under, 634 of them involved alcohol. Of these, 99.4% involved youth between the ages of 15-19 years. The remaining 0.6% involved youth between the ages of 10-14 years (Table 21).

Table 17: Restraint Use by Age, Nebraska Residents Age 0-19, 2003-2007 (n=55,798)												
	<u><1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Not Used	9	2.2%	71	5.2%	234	11.4%	677	20.7%	7,198	14.8%	8,189	14.7%
Seatbelt Used	46	11.2%	269	19.5%	1,409	68.6%	2,530	77.3%	41,248	84.7%	45,502	81.5%
Child Safety Seat Used	357	86.7%	1,038	75.3%	400	19.5%	43	1.3%	94	0.2%	1,932	3.5%
Helmet Used	--	--	--	--	10	0.5%	24	0.7%	141	0.3%	175	0.3%
Total	412	100	1,378	100	2,053	100	3,274	100	48,681	100	55,798	100

Source: Nebraska Crash Outcome Data Evaluation System, 2003-2007

Table 18: Restraint Use by Age For Drivers, Nebraska Residents Age 0-19, 2003-2007 (n=44,125)												
	<u><1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Not Used	--	--	*	*	4	44.4%	122	23.1%	5,507	12.6%	5,633	12.8%
Seatbelt Used	--	--	*	*	2	22.2%	394	74.6%	37,896	86.9%	38,292	86.8%
Child Safety Seat Used	--	--	--	--	--	--	2	0.4%	63	0.1%	65	0.1%
Helmet Used	--	--	--	--	3	33.3%	10	1.9%	120	0.3%	133	0.3%
Total	--	--	*	*	9	100	528	100	43,586	100	44,123	100

Source: Nebraska Crash Outcome Data Evaluation System, 2003-2007

Table 19: Restraint Use by Age For Passengers, Nebraska Residents Age 0-19, 2003-2007 (n=11,673)												
	<u><1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Not Used	9	--	70	5.1%	230	11.3%	555	20.2%	1,691	33.2%	2,555	21.9%
Seatbelt Used	46	--	268	19.5%	1,407	68.8%	2,136	77.8%	3,352	65.8%	7,209	61.8%
Child Safety Seat Used	357	--	1,038	--	400	--	41	1.5%	31	0.6%	1,867	16.0%
Helmet Used	--	--	--	--	7	0.3%	14	0.5%	21	0.4%	42	0.4%
Total	--	--	1,376	100	2,044	100	2,746	100	5,095	100	11,673	100

Source: Nebraska Crash Outcome Data Evaluation System, 2003-2007

Table 20: Helmet Use by Motorcyclists, Nebraska Residents Age 0-19, 2003-2007 (n=211)										
	<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>TOTAL</u>	
	N	%	N	%	N	%	N	%	N	%
Not Used	3	100.0%	3	27.3%	5	21.7%	44	25.3%	55	26.1%
Used	--	--	8	72.7%	18	78.3%	130	74.7%	156	73.9%
Total	3	100	11	100	23	100	174	100	211	100

Source: Nebraska Crash Outcome Data Evaluation System, 2003-2007

Table 21: Alcohol Use in Motor Vehicle Drivers by Age, Nebraska Residents Age 0-19, 2003-2007 (n=49,503)										
	<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>TOTAL</u>	
	N	%	N	%	N	%	N	%	N	%
NO	4	100.0%	11	100.0%	643	99.4%	48,211	98.7%	48,869	98.7%
YES	--	--	--	--	4	0.6%	630	1.3%	634	1.3%
TOTAL	4	100	11	100	647	100	48,841	100	49,503	100

Source: Nebraska Crash Outcome Data Evaluation System, 2003-2007

TRAUMA

From 2003 to 2007, there were a total of 1,711 trauma incidents related to motor vehicle crashes among Nebraska residents, age 0 - 19. Of these, more involved males than females (940 vs. 771, respectively). For both genders, over half of the trauma incidents were categorized as minor. However, among both groups the second leading severity type was critical (Table 22).

As age increased, the number of motor vehicle crash-related trauma incidents increased as well. There were 4.8 times more incidents among those ages 15-19 than among those ages 10-14 (1,154 vs. 239, respectively) (Table 23). The leading severity type across most age groups was minor, followed by critical (Table 23).

	Female		Male		Total	
	N	%	N	%	N	%
Critical	103	13.4	130	13.8	233	13.6
Severe	93	12.1	100	10.6	193	11.3
Moderate	97	12.6	105	11.2	202	11.8
Minor	433	56.2	555	59.0	988	57.7
Unknown	45	5.8	50	5.3	95	5.6
Total	771	100	940	100	1,711	100

Source: NE Trauma Registry

	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Critical	3	12.0	13	10.3	17	10.2	37	15.5	163	14.1	233	13.6
Severe	3	12.0	9	7.1	17	10.2	29	12.1	135	11.7	193	11.3
Moderate	3	12.0	15	11.9	25	15.0	32	13.4	127	11.0	202	11.8
Minor	12	48.0	76	60.3	101	60.5	128	53.6	671	58.1	988	57.7
Unknown	4	16.0	13	10.3	7	4.2	13	5.4	58	5.0	95	5.6
Total	25	100	126	100	167	100	239	100	1,154	100	1,711	100

Source: NE Trauma Registry

YRBS

The YRBS (Youth Risk Behavior Survey) is a self-administrated, school-based survey for students in grades 9-12. YRBS participation rates fell below 60% in 2007; thus, results from this year are only representative of the students who completed the survey and findings cannot be generalized to all Nebraska students.

The percentage of Nebraska children and youth who wore a seatbelt “most of the time or always” while riding in a car driven by someone else was 55.3 percent in 2003, 65.8 percent in 2005, and 62.6 percent in 2007 (Table 24). From 2003 to 2007, a greater percentage of those 14 years or younger responded “most of the time or always” than did those 15 years or older (Table 24).

The percentage of Nebraska children and youth who had driven a car or another vehicle while intoxicated in the past 30 days was 21.6 in 2003, 15.9 in 2005, and 17.2 in 2007. The considerable majority of these drivers were 15 years or older. The percentage of Nebraska children and youth who had ridden in a car with an intoxicated driver in the past 30 days was 39.0 in 2003, 34.7 in 2005, and 33.0 in 2007. As before, the majority of these passengers were 15 years old or older (Table 25).

The percentage of Nebraska children and youth who wore a helmet “most of the time or always” while riding a bike in the past 12 months rose from 2.8 in 2003 to 3.2 in 2005, and to 4.6 in 2007 (Table 27). Across all 5 years, about a third of the survey takers chose “not applicable.” Those 14 years or younger were more likely to wear a helmet (Table 27).

Table 24: How often do you wear a seat belt when riding in a car driven by someone else?							
Year/Age Group		<u>14 or Younger</u>		<u>15 or Older</u>		<u>Total</u>	
		N	%	N	%	N	%
2003	Never/Rarely/ Sometimes	73	39.5	1,234	45.0	1,307	44.7
	Most of the time/ Always	112	60.5	1,507	55.0	1,619	55.3
2005	Never/Rarely/ Sometimes	125	28.6	1,155	34.9	1,280	34.2
	Most of the time/ Always	312	71.4	2,152	65.1	2,464	65.8
2007	Never/Rarely/ Sometimes	27	32.1	416	37.8	443	37.4
	Most of the time/ Always	57	67.9	684	62.2	741	62.6

Source: NE Youth Risk Behavior Survey, 2003-2007

Note: The 2007 survey had a low participation rate.

Table 25: During the past 30 days, did you drive a car or other vehicle when you had been drinking alcohol?							
Year/Age Group		<u>14 or Younger</u>		<u>15 or Older</u>		<u>Total</u>	
		N	%	N	%	N	%
2003	No	173	95.1	2,089	77.3	2,262	78.4
	Yes	9	4.9	613	22.7	622	21.6
2005	No	408	94.2	2,699	82.7	3,107	84.1
	Yes	25	5.8	563	17.3	588	15.9
2007	No	74	91.4	902	82.1	976	82.8
	Yes	7	8.6	196	17.9	203	17.2

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 26: During the past 30 days, did you ride in a car or other vehicle driven by someone who had been drinking alcohol?							
Year/Age Group		<u>14 or Younger</u>		<u>15 or Older</u>		<u>Total</u>	
		N	%	N	%	N	%
2003	No	130	70.3	1,652	60.4	1,782	61.0
	Yes	55	29.7	1,085	39.6	1,140	39.0
2005	No	296	68.2	2,138	65.0	2,434	65.3
	Yes	138	31.8	1,153	35.0	1,291	34.7
2007	No	59	70.2	744	66.7	803	67.0
	Yes	25	29.8	371	33.3	396	33.0

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 27: When you were riding a bicycle during the past 12 months, how often did you wear a helmet?							
Year/Age Group		<u>14 or Younger</u>		<u>15 or Older</u>		<u>Total</u>	
		N	%	N	%	N	%
2003	Not Applicable	55	29.7	1,096	39.9	1,151	39.3
	Never/Rarely/ Sometimes	121	65.4	1,576	57.4	1,697	57.9
	Most of the time/ Always	9	4.9	74	2.7	83	2.8
2005	Not Applicable	91	20.9	1,182	35.7	1,273	34.0
	Never/Rarely/ Sometimes	324	74.3	2,025	61.2	2,349	62.8
	Most of the time/ Always	21	4.8	100	3.0	121	3.2
2007	Not Applicable	14	16.7	384	34.6	398	33.3
	Never/Rarely/ Sometimes	63	75.0	679	31.1	742	62.1
	Most of the time/ Always	7	8.3	48	4.3	55	4.6

Source: NE Youth Risk Behavior Survey, 2003-2007

PREVENTION: MOTOR VEHICLE CRASHES

Proven Interventions for Prevention

- Research has shown that child safety seat distribution and education programs are effective when implemented in hospitals and clinics, as part of postnatal home visits, and when provided by an auto insurance company. Effectiveness was found among urban, suburban, and rural populations, and among affluent and poor populations.¹
- Child safety seat checks and fitting stations have proven effective in increasing child safety seat use and reducing misuse.⁴
- The Task Force on Community Preventive Services found strong evidence that the use of community-wide information and enhanced enforcement campaigns were associated with a 13% increase in use of child safety seats. These campaigns include mass media, information and publicity, public displays about safety seats, and special strategies such as checkpoints, dedicated law enforcement officials, or alternative penalties (e.g., informational warnings instead of citations).¹
- The Task Force on Community Preventive Services found strong evidence that mass media campaigns were associated with a 13% decrease in total alcohol-related crashes. Campaign messages ranged from those focused on law enforcement activities and the legal consequences of drinking and driving, to the social and health consequences of alcohol impaired driving.¹
- Incentive and education programs (1) provide children and parents with rewards and opportunities for rewards for the purchase and correct use of child safety seats, and (2) include educational components of varying intensities. Incentive and education programs are recommended based on their effectiveness in increasing child safety seat use in a variety of populations and settings and using various reward systems¹
- States that implement a primary seat belt law have a higher usage rate compared to those with secondary laws.¹
- Implementation of strict graduated licensing laws.³

Child Occupant Protection and Safety Restraint Use Laws

- All 50 states and the District of Columbia have child restraint laws. In 42 states, including the District of Columbia, all children younger than age 16 are covered by either safety belt laws or child restraint laws.⁵
- As of April 2008, 43 states, including the District of Columbia, upgraded their child restraint laws to require the use of booster seats or other appropriate child restraint device by children up to as old as 9 years.⁵
- Belt use laws in 27 states, including the District of Columbia, are standard, or primary, meaning police may stop vehicles solely for belt law violations.⁵
- Nebraska law states that all children up to age six must ride correctly secured in a federally-approved child safety seat. Children ages six up to age eighteen must ride secured in a safety belt or child safety seat. Drivers and front seat passengers are required to ride buckled up in a safety belt or child safety seat. Enforcement of this law is secondary, meaning that the driver must be cited for another violation in addition to the seat belt violation. Note, however, that everybody in the vehicle must be buckled up if the driver holds a provisional operators permit (POP) or a school permit.

Prevention Interventions for Parents and Caregivers

- All children ages 12 years and under should be properly restrained in the back seat on every ride.⁵
- Choose and use correctly the right restraint for your child.⁵
 - Infants should ride in rear-facing car seats as long as possible, until they are at least 12 months old *and* weigh at least 20 pounds. Keep children rear-facing to 30-40 pounds if your car seat allows it.
 - Children who are at least one year old, weigh 20 to 40 pounds and can no longer ride rear-facing should ride in forward-facing car seats secured with harnesses.
 - Children more than 40 pounds should be correctly secured in belt-positioning booster seats or other appropriate child restraints until the adult lap and shoulder belts fit correctly (usually around age 8 and when the child is about 4 feet 9 inches tall).
- Every car seat must be installed and used according to the manufacturer's instructions and vehicle owner's manual.⁵
 - Check www.recalls.gov for car seat recalls.

- Return the product registration forms for all new car seats to the manufacturer to ensure you will be notified of any recalls.
 - Only use a seat with all parts, instructions and labels.
 - Check www.nhtsa.dot.gov to see if a car seat that has been in a crash passes NHTSA's test for continued use.
- Obey all traffic laws, including those for child restraint use. ⁵

References

1. Guide to Community Preventive Services. (2009) Motor Vehicle Occupant Injury. <http://www.thecommunityguide.org/mvoi/index.html>. Last updated: 02/10/2009.
2. National Center for Statistics & Analysis. (2007). Traffic Safety Facts: Restraint Use. Retrieved August 21, 2009, from: <http://www.nrd.nhtsa.dot.gov/Pubs/810690.pdf>
3. Nebraska Health and Human Services System. (2004). Nebraska Injury Prevention State Plan. Retrieved August 21, 2009, from: <http://www.hhs.state.ne.us/hpe/injury.htm>
4. Nebraska Health and Human Services System. (2005). Safe Kids Nebraska Program.
5. Safe Kids Worldwide (SKW). Motor Vehicle Fact Sheet. Washington (DC): SKW, 2007.

Resources for Child Passenger Safety

America Academy of Pediatrics
<http://www.aap.org/family/carseatguide.htm>

Centers for Disease Control and Prevention
 Motor Vehicle-Related Injuries-Child Passenger Safety
http://www.cdc.gov/Motorvehiclesafety/Child_Passenger_Safety/index.html

Centers for Disease Control and Prevention
 National Center for Injury Prevention and Control
<http://www.cdc.gov/ncipc/duip/mvsafety.htm>

Centers for Disease Control and Prevention-Safe Child
<http://www.cdc.gov/safechild/>

Children's Safety Network
<http://www.childrenssafetynetwork.org/>

Click It...Don't Risk It
<http://www.clickitdontriskit.com>

Governor's Highway Safety Association
<http://statehighwaysafety.org/>

Insurance Institute for Highway Safety
<http://www.iihs.org/>

National Highway Traffic Safety Administration
<http://www.nhtsa.dot.gov/>

Nebraska Department of Motor Vehicles
<http://www.dmv.ne.gov/highwaysafety/index.html>

National Safety Council – Greater Omaha Chapter
<http://www.safenebraska.org/>

Safe Kids USA
<http://www.usa.safekids.org/>

Nebraska Safe Kids Program
<http://www.hhs.state.ne.us/hpe/safekids.htm>

Safe Ride News
<http://www.saferidenews.com/srndnn/>

SafetyLit
<http://www.safetylit.org/>

U.S. Consumer Product Safety Commission
<http://www.cpsc.gov/>

SUFFOCATION

Overview

The unintentional suffocation category is defined as inhalation and ingestion of food and other objects causing obstruction of the respiratory tract, or accidental mechanical suffocation, including suffocation in a bed or cradle, by a plastic bag, due to lack of air in an enclosed place, or by falling earth or other substances.

Quick Facts

#1 cause of unintentional injury death for infants (ages 0-1)

Total # of:

Deaths: **17**

Hospital Discharges: **733**

From 2003 to 2007, suffocation was the leading cause of unintentional injury death for infants under age one year (6 deaths). Additionally, suffocation was the fourth leading cause of unintentional injury death for children overall (ages 0-19) (Table 4). Seventeen Nebraska children died and 733 (28.3 per 100,000) were discharged from a hospital due to unintentional suffocation from 2003 to 2007.

DEATHS

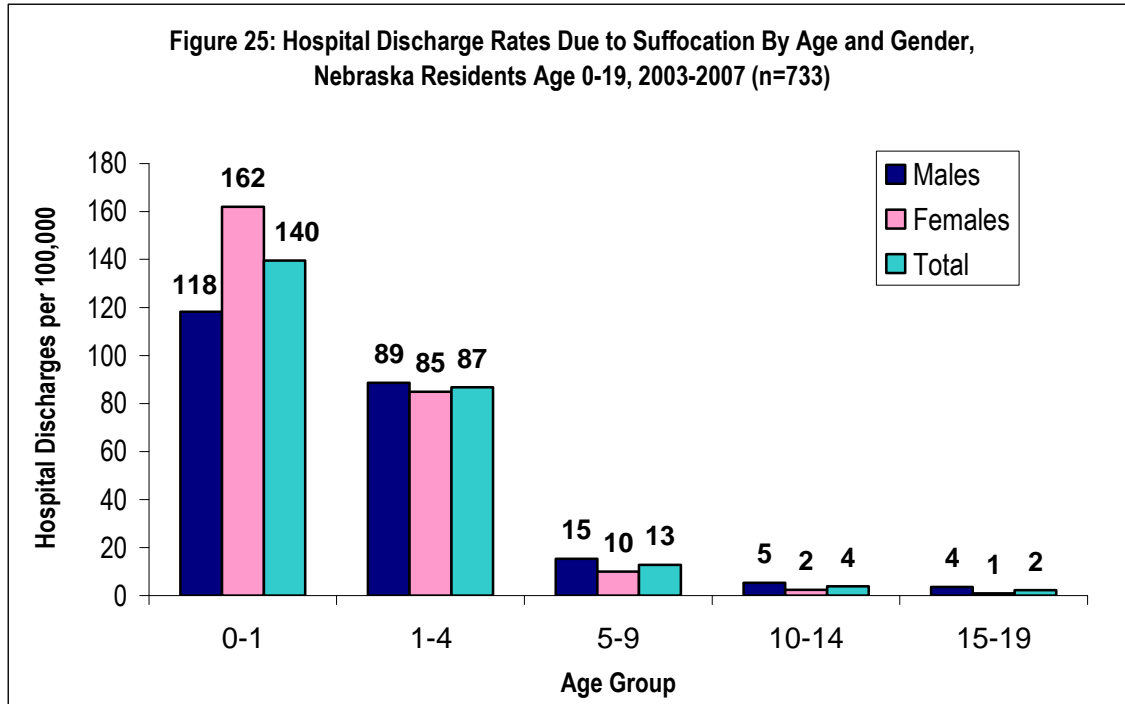
Between 2003 and 2007, a total of 17 Nebraska children or youth died due to accidental suffocation. In total, 11 males and 6 females died. Infants less than one year old had the highest number of deaths (n=6). Half of them died from accidental suffocation and strangulation in bed. Of the total deaths, 76.5 percent (n=13) were white and 23.5 percent (n=4) were non-white.

HOSPITAL DISCHARGES

The highest hospital discharge rates for unintentional suffocation were in the under one-year age group. The rate for this age group (140 per 100,000) was 1.6 times higher than the next leading age group, the 1-4 year age group (87 per 100,000). The rates remained relatively stable and were lowest for youth age 15-19 years (2 per 100,000) (Figure 25).

For all age groups, males had higher hospital discharge rates for unintentional suffocation than did females, with the exception of infants less than one year old (Figure 25).

For youth ages 15-19, "inhalation and ingestion of food causing obstruction of respiratory tract" was the leading cause of unintentional suffocation. "Inhalation or ingestion of other object causing obstruction of the respiratory tract" occurred most frequently in children ages 0-4 years and was the leading means of suffocation for children ages 0-15 years (Table 28).



Source: NE Hospital Discharge Data, 2003-2007

Table 28: Hospital Discharges and Percentages Due to Suffocation by Age, Nebraska Residents 0-19, 2003-2007 (n=733)

	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Inhalation & ingestion of food causing obstruction of respiratory tract or suffocation	57	31	70	16.1	25	33.3	9	37.5	8	53.3	169	23.1
Inhalation & ingestion of other object causing obstruction of respiratory tract or suffocation	125	67.9	360	82.8	45	60	13	54.2	4	26.7	547	74.6
Accidental mechanical suffocation	2	1.1	5	1.1	5	6.7	2	8.3	3	20	17	2.3
Total	184	100	435	100	75	100	24	100	15	100	733	100

Source: NE Hospital Discharge Data, 2003-2007

PREVENTION: SUFFOCATION

Proven Interventions for Prevention

- The majority of incidents of childhood suffocation, strangulation, and choking occur in the home. Product design, regulation, and recalls can help prevent injuries and death due to asphyxiation in young children (e.g., the requirement that toys pass a small parts test for children under 3 years of age and recalls of dangerous toys by the U.S. Consumer Product Safety Commission).¹
- Other strategies for preventing asphyxia include educating families, caregivers, and child care providers on age-appropriate food items and sizes for safe ingestion as well as age-appropriate toys; supervising children while they are eating and playing; and scanning the home environment for possible hazards.¹
- Safe sleep practices can reduce external suffocations caused by soft bedding. Home visiting programs can help teach new parents about risk-reducing ways to put their child to bed and how to outfit a crib and nursery. Back to Sleep campaigns can raise awareness about the proper way to place infants in cribs.¹

Current Laws and Regulations

- The Child Safety Protection Act bans any toy intended for use by children under age 3 that may pose a choking, aspiration or ingestion hazard and requires choking hazard warning labels on packaging for these items when intended for use by children ages 3 to 6.⁴
- On August 14, 2008, the President signed the Consumer Product Safety Improvement Act of 2008 (CPSIA) into law. The implementation of the CPSIA will have dramatic changes for the marketplace. Selling recalled products is now unlawful. The law sets strict limits for lead in paint and for lead content. Additionally, three types of phthalates are permanently prohibited in certain toys and child care articles and three other phthalates are prohibited on an interim basis in certain child care articles and children's products that can be placed in a child's mouth.²
- The U.S. Consumer Product Safety Commission (CPSC) has issued voluntary guidelines for drawstrings on children's clothing to prevent strangulation in the neck and waist drawstrings of upper outerwear garments, such as jackets and sweatshirts.³
- In 1992, the CPSC voted to ban infant cushions in order to prevent infants from suffocating while sleeping. Banned cushions have all the following features: 1) a flexible fabric covering; 2) is loosely filled with a granular

material such as plastic foam beads or pellets; 3) is easily flattened; 4) is capable of conforming to the body or face of an infant; and 5) is intended or promoted for use by children under age one year. ⁴

- In general, legislation goes hand-in-hand with product modification in that the measures introduced have largely required manufacturers to change the style or design of their products to decrease children's risk (i.e., exposure) of suffocation. Product changes through legislation rather than parental supervision remove (permanently) a larger portion of existing risk. ⁴
- Education is a more active intervention that is designed to instruct the parent or caregiver how to separate the child from the choking or suffocation hazard. Educational intervention can include instruction on how to perform the Heimlich maneuver, and/or how to administer CPR to a child who has stopped breathing. ³

Prevention Interventions for Parents and Caregivers

Protect kids from the dangers of suffocation by following these rules:

- Never place an infant face-down on soft surfaces, such as a waterbed, comforter, sheepskin rug, or mattress cover. ⁵
- Never put an infant in a crib or on a bed with soft bedding, blankets, pillows, stuffed animals, or plush toys. ⁵
- Keep plastic garbage bags and large sandwich-style plastic bags out of the reach of young kids. ⁵
- Make sure your baby's crib mattress is the right size and fits snugly in the crib. This keeps a baby from getting caught between the mattress and the crib sides. ⁵
- Place infants to sleep on their backs on a firm, flat, tight-fitting crib mattress in a crib that meets national safety standards. ⁵
- Remove pillows, comforters, toys, and other soft products from the crib. Consider using a sleeper instead of a blanket. If a blanket is used, tuck the blanket around the crib mattress, covering baby only as high as his/her chest. A fitted bottom sheet specifically made for a crib should be used. Nothing

should hang above a crib with string or ribbon that is longer than seven inches.⁵

- Check for recalled cribs, playpens, high chairs, changing tables, strollers, and other nursery products. Visit the Consumer Product Safety Commission's website (www.cpsc.gov) to check for recalled products and learn how to repair or replace the recalled item.⁶
- Always supervise young children while they are eating or playing. Avoid giving infants round or hard foods to eat like nuts, raw carrots, popcorn, seeds, or hard candy. Hot dogs and grapes are okay if the skin is removed and the food is chopped into small, non-round pieces. Small items such as coins, safety pins, jewelry and buttons should be kept out of children's reach. Learn First Aid and CPR.⁶
- Use the "toilet paper roll rule": toys or items that fit through a cardboard toilet paper roll are too small for young children. Ensure that children play with age-appropriate toys according to safety labels.⁶
- Inspect old and new toys regularly for damage. Make any necessary repairs or discard damaged toys.⁶
- Remove hood and neck drawstrings from all children's outerwear, such as jackets and sweatshirts. To prevent strangulation, never allow children to wear necklaces, purses, scarves, or clothing with drawstrings while on playgrounds.⁶
- Tie up all window blind and drapery cords or cut the ends and retrofit with safety tassels.⁶
- Make sure playground equipment is free of suffocation and strangulation hazards.⁶

References

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2. Consumer Product Safety Commission. (2009). *CPSC Handbook for Resale Stores and Product Resellers*.
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4. Safe Kids Worldwide (SKW). Suffocation and Choking Injuries. Washington (DC): SKW, 2007.
5. The Nemours Foundation. Protecting Kids from Suffocation. Retrieved on August 20, 2009 from http://kidshealth.org/parent/firstaid_safe/home/safety_suffocation.html
6. Washington State Department of Health. Washington State Childhood Injury Prevention Report. 2004. Retrieved August 10, 2009, from <http://www.doh.wa.gov/hsqa/emstrauma/injury/pubs/wscir/WSCIR.pdf>

Additional Resources

Back to Sleep Campaign
<http://www.nichd.nih.gov/sids/>

CDC: Choking Episodes among Children
<http://www.cdc.gov/HomeandRecreationalSafety/Choking/default.html>

Home Safety Council
<http://www.homesafetycouncil.org/index.asp>

U.S Consumer Product Safety Commission
<http://www.cpsc.gov/>

STRUCK BY/AGAINST (UNINTENTIONAL)

Overview

The struck by/against category includes:

- Struck accidentally by a falling object
 - Collapse of building or
 - Object falling from a machine
- Striking against or being struck accidentally by objects and persons
 - Being kicked or stepped on during a game, or being struck by a hit or thrown ball in sports, or
 - Caused by a crowd by collective fear or panic (i.e., crushed, stepped on).

Based on a five-year annual average (2003-2007), unintentional struck by/against was the leading cause of injury hospital discharge for Nebraska children and youth ages 10-19, and the second leading cause of injury hospital discharge for all age groups, 0 – 19 years, combined (Table 5). There were two deaths and 52,458 hospital discharges (2,102 per 100,000) due to unintentional struck by/against injuries. Unintentional struck by/against injuries accounted for 23.1 percent of all injury hospital discharges and 23.9 percent of unintentional injury hospital discharges among Nebraskans under age 19.

DEATHS

Two Nebraska children were killed as a result of unintentional struck by/against injuries from 2003 to 2007.

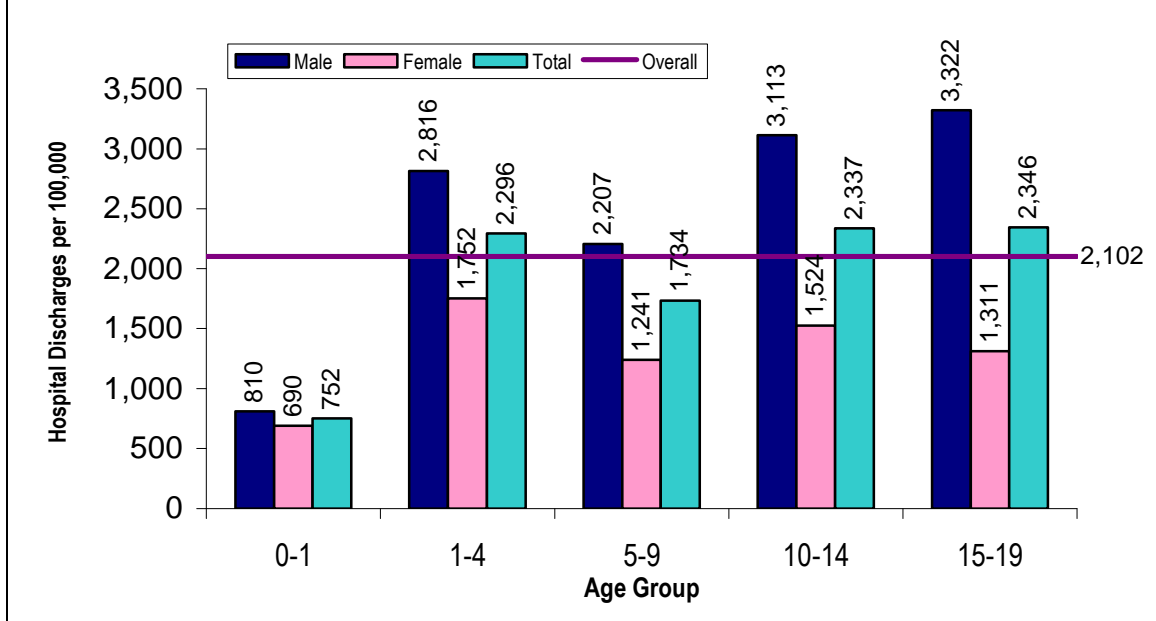
HOSPITAL DISCHARGES

The age-adjusted hospital discharge rate for unintentional struck by/against was almost twice as high for males as for females (2,768.4 vs. 1,402.8 per 100,000, respectively).

The rate of hospital discharge for struck by/against-related injuries was the highest for children ages 15-19 (2,346 per 100,000), for ages 10-14 (2,337 per 100,000), and for ages 1-4 years (2,296 per 100,000). For all age groups 0-19, the hospital discharge rate for struck by/against-related injuries was higher for males than for females, especially in the 15-19 year age group (Figure 26).

There were 52,458 injuries due to unintentional struck by/against from 2003 to 2007. Of these 17,814 (34%) occurred in sports, 7,776 (14.8%) were due to stationary objects, 4,328 (8.3%) were due to furniture, 2,475 (4.7%) were due to falling objects, and 20,065 (38.2%) were due to "other." Sports were responsible for approximately 50 percent (48.3%) of struck by/against-related injuries in the 15-19 age group, and 42.7 percent of the 10-14 age group (Table 29).

Figure 26: Hospital Discharge Rates due to Struck By/Against by Age and Gender, Nebraska Residents Age 0-19, 2003-2007 (n=52,458)



Source: NE Hospital Discharge Data, 2003-2007

Table 29: Hospital Discharges for Struck By/Against-Related Injury and Percentage by Age and Specific Cause, Nebraska Residents Age 0-19, 2003-2007 (n=52,458)

	Falling Object		In Sports		Furniture		Stationary Object		Other		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
0-1	136	5.5	7	0.0	199	4.6	199	2.6	450	2.2	991	1.9
1-4	830	33.5	138	0.8	2,718	62.8	2,970	38.2	4,844	24.1	11,500	21.9
5-9	510	20.6	1,448	8.1	874	20.2	2,005	25.8	5,381	26.8	10,218	19.5
10-14	419	16.9	7,610	42.7	310	7.2	1,357	17.5	4,711	23.5	14,407	27.5
15-19	580	23.4	8,611	48.3	227	5.2	1,245	16.0	4,679	23.3	15,342	29.2
Total	2,475	100	17,814	100	4,328	100	7,776	100	20,065	100	52,458	100

Source: NE Hospital Discharge Data, 2003-2007

TRAUMA

From 2003 to 2007, there were a total of 335 trauma incidents related to being struck by or against among 0 – 19 year olds in Nebraska. More of these involved males than females (272 vs. 63, respectively). For both genders, over two-thirds of the trauma incidents were categorized as minor (Table 30).

As age increased, the number of trauma incidents related to being struck by or against increased as well. As with gender, the leading severity type across all age groups was minor (Table 31).

	<u>Female</u>		<u>Male</u>		<u>Total</u>	
	N	%	N	%	N	%
Critical	1	1.6	5	1.8	6	1.8
Severe	8	12.7	12	4.4	20	6.0
Moderate	2	3.2	4	1.5	6	1.8
Minor	50	79.4	234	86.0	284	84.8
Unknown	2	3.2	17	6.3	19	5.7
Total	63	100	272	100	335	100

Source: NE Trauma Registry

	<u>0-1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Critical	1	12.5	--	--	--	--	2	1.8	3	2.1	6	1.8
Severe	1	12.5	3	8.6	3	7.7	5	4.4	8	5.7	20	6.0
Moderate	--	--	--	--	--	--	--	--	6	4.3	6	1.8
Minor	6	75.0	29	82.9	35	89.7	98	86.7	116	82.9	284	84.8
Unknown	--	--	3	8.6	1	2.6	8	7.1	7	5.0	19	5.7
Total	8	100	35	100	39	100	113	100	140	100	335	100

Source: NE Trauma Registry

PREVENTION: STRUCK BY/AGAINST

Proven Interventions for Prevention

- The environment children play in (e.g., heat, protective ground surface, properly maintained equipment); proper safety equipment (e.g., helmets, padding); supervision; physical check-ups; and regular hydration are just a few of the factors that should be considered to prevent injuries to children while they are playing sports. ³
- Children should have access to and consistently use the appropriate gear necessary for each respective sport. ⁴
- Children being enrolled in organized sports through schools, community clubs, and recreation areas that are properly maintained assist in preventing sports-related injuries. ⁴
- Coaches should be trained in first aid and CPR, and should have a plan for responding to emergencies. Coaches should be well versed in the proper use of equipment, and should enforce rules on equipment use. ⁴
- Sports programs with adults on staff who are Certified Athletic Trainers are ideal because they are trained to prevent or provide immediate care for athletic injuries. ⁴
- Wear helmets that are properly fitted and maintained when: ²
 - Riding a bike, motorcycle, snowmobile, scooter, or all-terrain vehicle;
 - Playing a contact sport, such as football, ice hockey, lacrosse, or boxing;
 - Using in-line skates or riding a skateboard;
 - Batting and running bases in baseball or softball;
 - Riding a horse; or
 - Skiing, sledding, or snowboarding

Prevention Interventions for Parents and Caregivers

- *Make sure children wear the right gear.* Players should wear appropriate and properly fit protective equipment such as pads (neck, shoulder, elbow, chest, knee, shin), helmets, mouthpieces, face guards, protective cups, and/or eyewear. Young athletes should not assume that protective gear will protect them from performing more dangerous or risky activities. ¹
- *Strengthen muscles.* Conditioning exercises before games and during practice strengthens muscles used in play. ¹

- *Increase flexibility.* Stretching exercises before and after games or practice can increase flexibility.¹
- *Use the proper technique.* This should be reinforced during the playing season.¹
- *Take breaks.* Rest periods during practice and games can reduce injuries and prevent heat-related illness.¹
- *Play safe.* Strict rules against headfirst sliding (baseball and softball), spearing (football), and body checking (ice hockey) should be enforced.
- *Stop the activity* if there is pain.¹
- *Avoid heat injury* by drinking plenty of fluids before, during and after exercise or play; decrease or stop practices or competitions during high heat/humidity periods; wear light clothing.¹

References

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<http://www.childrenssafetynetwork.org/topics/showtopic.asp?pkTopicID=34>
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Additional Resources

Children's Hospital Boston: Injury Prevention
<http://www.childrenshospital.org/az/Site1113/mainpageS1113P0.html>

Think First
www.thinkfirst.org

U.S. Consumer Product Safety Commission
www.cpsc.gov

CUTTING/PIERCING (UNINTENTIONAL)

The unintentional cutting and/or piercing category is defined as injuries caused by cutting and piercing instruments or objects including a powered lawn mower, other powered hand tools, powered household appliances and implements, knives, swords, daggers, other hand tools and implements, hypodermic needles, and other specified cutting and piercing instruments or objects.

DEATHS

There were no deaths coded as unintentional cutting/piercing from 2003 to 2007.

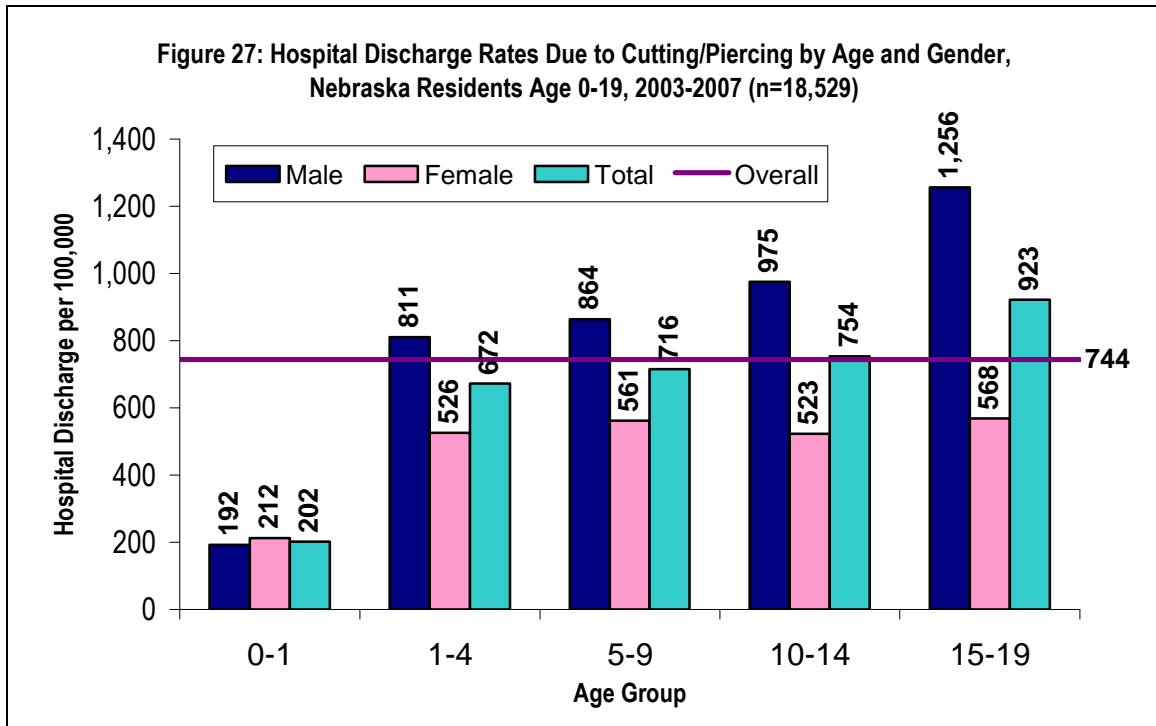
HOSPITAL DISCHARGES

Unintentional cutting and/or piercing-related injury was the third leading cause of injury hospital discharge from 2003 to 2007 for Nebraskans age 19 and under. In total, there were 18,529 hospital discharges due to unintentional cutting and/or piercing during this five year span (Table 5).

Cutting and/or piercing injuries affected all age groups with a peak at ages 15-19 (a rate of 923 per 100,000) (Figure 27). Infants less than one year old had the lowest hospital discharge rate due to cutting or piercing (202 hospital discharges per 100,000 population).

In every age group, with the exception of infants under one year old, males had a comparably higher age-adjusted rate of cutting or piercing injuries than did females; overall, the male rate of hospital discharge due to cutting or piercing was 948 per 100,000, whereas the female rate was 530 per 100,000 (Figure 27).

Knives, swords and daggers were the mechanism most frequently used in cutting/piercing injuries, contributing to 16.4 percent (3,039 cases) of the total number. Powered hand tools, household appliances, and power tools contributed to 2 percent (378 cases) of cutting/piercing injuries. Other significant causes were other hand tools/implements and hypodermic needles (Table 32).



Source: NE Hospital Discharge Data, 2003-2007

Table 32: Causes of Hospital Discharges Due to Cutting/Piercing by Age, Nebraska Residents Age 0-19, 2003-2007 (n=18,529)

	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Powered hand tools, household appliances, and implements	1	0.4	31	0.9	26	0.6	77	1.7	243	4.0	378	2.0
Knives, swords, and daggers	9	3.4	299	8.9	484	11.5	806	17.3	1,441	23.9	3,039	16.4
Other hand tools and implements	34	12.8	192	5.7	224	5.3	301	6.5	373	6.2	1,124	6.1
Hypodermic needles	--	--	5	0.1	25	0.6	15	0.3	27	0.4	72	0.4
Other specified	196	73.7	2,554	75.9	3,142	74.5	3,133	67.4	3,632	60.2	12,657	68.3
Unspecified	26	9.8	283	8.4	317	7.5	317	6.8	316	5.2	1,259	6.8
Total	266	100	3,364	100	4,218	100	4,649	100	6,032	100	18,529	100

Source: NE Hospital Discharge Data, 2003-2007

TRAUMA

From 2003 to 2007, there were a total of 81 trauma incidents related to cutting or piercing. Of these, more involved males than females (67 vs. 14, respectively). For both genders, over two-thirds of the trauma incidents were categorized as minor (Table 33).

As age increased, the number of cutting or piercing-related trauma incidents increased as well. Only in the 15-19 year age group was there at least one trauma incident in each of the five severity groups. For the other four age groups, nearly all of trauma incidents were classified as minor. As with gender, the leading severity type across all age groups was minor (Table 34).

	<u>Female</u>		<u>Male</u>		<u>Total</u>	
	N	%	N	%	N	%
Critical	--	--	3	4.5	3	3.7
Severe	--	--	1	1.5	1	1.2
Moderate	1	7.1	1	1.5	2	2.5
Minor	13	92.9	60	89.6	73	90.1
Unknown	--	--	2	3.0	2	2.5
Total	14	100	67	100	81	100

Source: NE Trauma Registry

	<u>0-1</u>		<u>1-4</u>		<u>5-9</u>		<u>10-14</u>		<u>15-19</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
Critical	--	--	1	12.5	--	--	--	--	2	5.6	3	3.7
Severe	--	--	--	--	--	--	--	--	1	2.8	1	1.2
Moderate	--	--	1	12.5	--	--	--	--	1	2.8	2	2.5
Minor	1	100.0	6	75.0	11	100.0	24	96.0	31	86.1	73	90.1
Unknown	--	--	--	--	--	--	1	4.0	1	2.8	2	2.5
Total	1	100	8	100	11	100	25	100	36	100	81	100

Source: NE Trauma Registry

OVEREXERTION

Overexertion is defined in ICD-9-CM as “overexertion and strenuous movements.” The category includes excessive physical exercise, overexertion from lifting, pulling, and pushing, as well as strenuous movements in recreational and other activities.

DEATHS

There were no deaths coded as overexertion from 2003 to 2007.

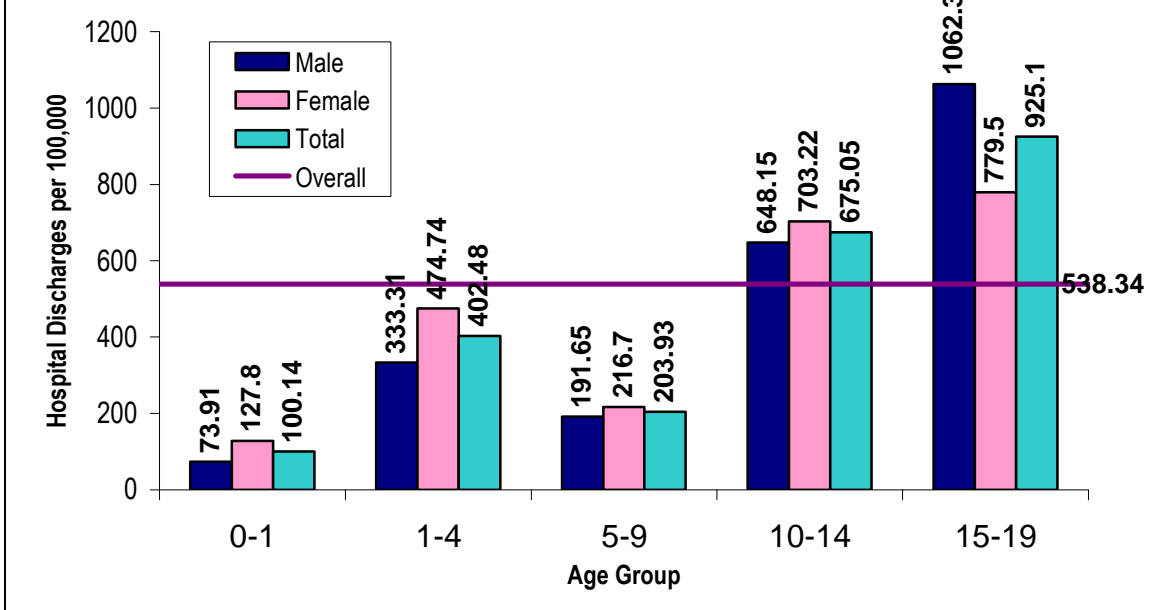
HOSPITAL DISCHARGES

All overexertion injuries were coded as unintentional.

Based on a five-year annual average (2003-2007), overexertion was the fifth leading cause of injury hospital discharge (Figure 7) among Nebraskans age 19 and under. There was an average of 2,712 hospital discharge records for overexertion-related injuries each year.

The hospital discharge rate for overexertion injury peaked for the 15-19 year age group (925 per 100,000 hospital discharges). The general trend showed hospital discharge rates increasing with age, with a dip for the 5-9 year age group for which the rate was 204 per 100,000. Infants less than one year old had the lowest hospital discharge rate for injuries related to overexertion (100 per 100,000) (Figure 28).

Figure 28: Hospital Discharge Rates Due to Overexertion by Age and Gender, Nebraska Residents Age 0-19, 2003-2007 (n=13,560)



Source: NE Hospital Discharge Data, 2003-2007

POISONING

Overview

Unintentional poisoning was the fifth leading cause of unintentional injury death among Nebraska children ages 0-19 between 2003 and 2007 (Figure 6). In total, 13 Nebraska children/youth (0.5 per 100,000 population) died from unintentional poisoning, and 4,158 (162 per 100,000 population) were treated at a hospital for unintentional poisoning each year.

Agents involved in unintentional poisonings include medications, alcohols, gases/vapors, cosmetics/personal care products, cleaning products, pesticides, and plants.

In addition to poisoning events known to be unintentional, a number of deaths and hospital discharges occur every year from poisoning of undetermined intent. These are cases where there is no clear evidence that the poisoning was intentional (suicide or homicide) or unintentional. From 2003 to 2007, 13 Nebraska children/youth died from poisoning of undetermined intent, four died from suicide-related poisoning, and two died from poisoning of undetermined intent. There were 416 Nebraska children/youth treated at hospitals for poisoning of undetermined intent in addition to the 4,158 who were treated at hospitals for unintentional poisoning and the 1,489 who were treated at hospitals for poisoning-related suicide attempts.

DEATHS

Overall, the number of deaths due to unintentional poisoning was nearly twice as high for males (n=8) as for females (n=5). Generally, as age increased, the number of deaths due to poisoning increased as well. From 2003 to 2007, two youth from the 10 to 14 year age group died while nine from the 15 to 19 year age group died.

The leading agents of unintentional poisonings were narcotics and psychodysleptics, which were responsible for 23 percent of all resulting deaths. Other and unspecified drugs, medicaments and biological substances were responsible for 54 percent, and other substances were responsible for the remaining 23 percent.

There were a total of 13 deaths due to unintentional poisoning. Of these deaths, 77 percent were white children (n=10). Three non-whites died; this is an over-representation as compared to their population (23% of unintentional poisoning deaths vs. 15.2% of population).

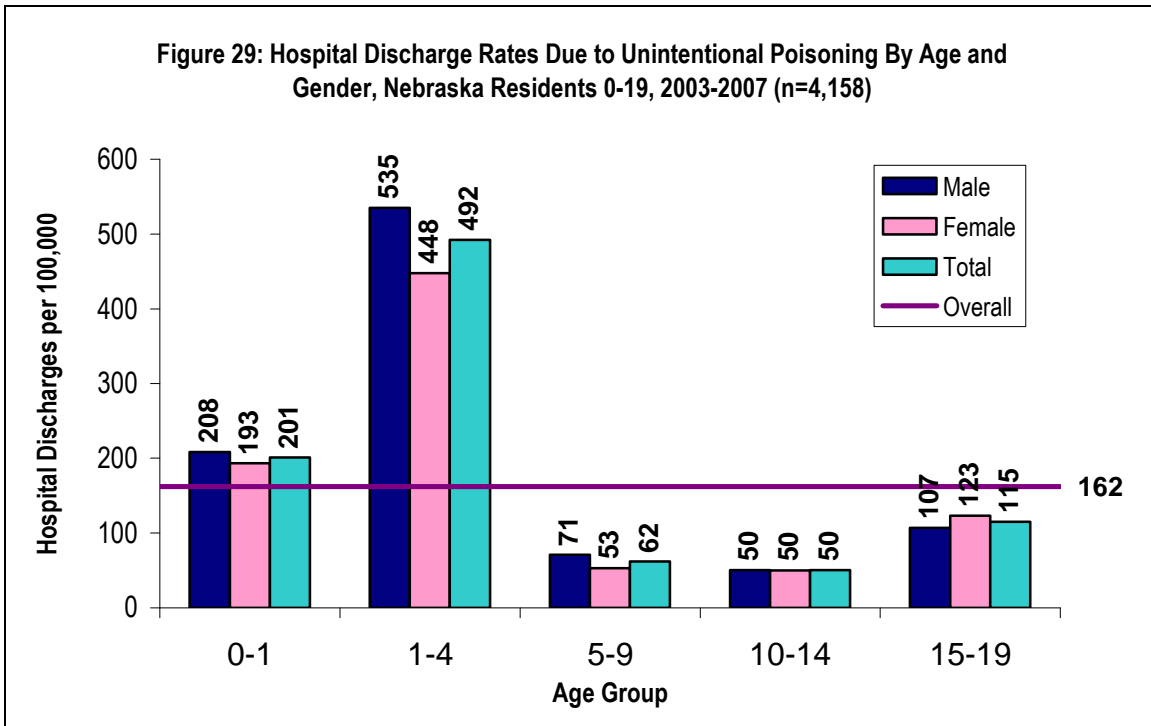
HOSPITAL DISCHARGES

Based on a five-year annual average for 2003-2007, there were 832 hospital discharges each year for unintentional poisoning for an age-adjusted rate of 162 per 100,000. Unintentional poisoning was among the top 5 causes of injury hospital discharge for ages 1-4 (Table 5).

Males and females were fairly equally likely to be treated at a hospital for unintentional poisoning with age-adjusted rates of 171 vs. 153 per 100,000, respectively.

Nebraskans ages 1-4 years had the highest hospital discharge rate for unintentional poisoning followed by infants under age one. Hospital discharge rates for unintentional poisoning showed little variation for individuals older than age 5 (Figure 29).

Approximately 61.2 percent of hospital discharges for unintentional poisoning were due to drugs, medicinal substances, and biologicals (i.e. vaccines). Additionally, 4.8 percent were due to cleansing and polishing agents, disinfectants, paints, and varnishes and 2.2 percent were due to alcohol. The remaining 22.8 were classified as other solid and liquid substances (Table 35).



Source: NE Hospital Discharge Data, 2003-2007

Table 35: Hospital Discharges for Unintentional Poisoning by Type of Agent, Nebraska Residents Age 0-19, 2003-2007 (n=4,158)

	0-1		1-4		5-9		10-14		15-19		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Drugs, medicinal substances, and biologicals	125	47.2	1,692	68.6	154	42.1	131	42.3	444	59.1	2,546	61.2
Alcohol	3	1.1	37	1.5	2	0.5	5	1.6	44	5.9	91	2.2
Cleansing/polishing agents, disinfectants, paints, and varnishes	15	5.7	144	5.8	13	3.6	9	2.9	19	2.5	200	4.8
Other solid and liquid substances	67	25.3	506	20.5	113	30.9	98	31.6	164	21.8	948	22.8
Gases and vapors	55	20.8	87	3.5	84	23	67	21.6	80	10.7	373	9
Total	265	100	2,466	100	366	100	310	100	751	100	4,158	100

Source: NE Hospital Discharge Data, 2003-2007

PREVENTION: POISONING

Proven Interventions for Prevention

- Poison Control Centers can be valuable resources in helping to prevent poisonings in communities. They can also be cost-saving services for states, according to the Health Resources and Services Administration (HRSA). For every dollar spent on Poison Control Center services, \$7 is saved in medical spending. National organizations like the Home Safety Council and the American Association of Poison Control Centers can provide educational materials to help individuals understand common poisons found in the home and steps to take to reduce risks and help keep children safe.³
- Child-resistant packaging of prescription medicine effectively reduces the poisoning mortality rate among children ages 4 years and under. Child-resistant packaging of prescription medications has prevented an estimated 460 deaths among children under age 4 years from 1974 through 1992.⁵
- Carbon monoxide detectors are effective in preventing residential carbon monoxide poisoning. It is estimated that carbon monoxide detectors may prevent half of such deaths.⁵

Laws and Regulations

- The Poison Control Center Enhancement and Awareness Act of 2000 established funding for a toll-free 24-hour hotline: 1-800-222-1222.⁵
- The toll-free 24-hour hotline connects the public to their local poison control center, staffed by professionals in poisoning management.⁵
- Only fourteen states and some local jurisdictions have passed legislation requiring the use of carbon monoxide detectors in homes.⁵

Prevention Interventions for Parents and Caregivers

- Store all household products and medications locked out of children's sight and reach. Never leave potentially poisonous household products unattended while in use.¹
- Put the poison control number, 1-800-222-1222, on or near every home telephone and save it on your cell phone. The line is open 24 hours a day, 7 days a week.¹
- Always read labels, follow directions and give medicines to children based on their weights and ages. Only use the dispenser that comes packaged with children's medications.¹
- Store poisons in their original containers.⁴
- Install a battery-operated carbon monoxide detector in your home and check or replace the battery when you change the time on your clocks each spring and fall. If the detector sounds, leave your home immediately and call 911.²
- Ensure that space heaters, furnaces, fireplaces, and wood-burning stoves are vented properly and inspected annually.¹
- Avoid taking medicine in front of children because they often copy adults.¹
- Do not call medicine "candy."¹
- Be aware of any legal or illegal drugs that guests may bring into your home. Do not let guests leave drugs where children can find them, for example, in a pillbox, purse, backpack, or coat pocket.¹
- Never leave children alone with household products or drugs. If you are using chemical products or taking medicine and you have to do something else, such as answer the phone, take any young children with you.¹
- Do not leave household products out after using them. Return the products to a childproof cabinet as soon as you are done with them.¹
- Identify poisonous plants in your house and yard and place them out of reach of children or remove them.¹

References

1. Centers for Disease Control and Prevention (CDC). (2009). Poisoning. Retrieved on August 12, 2009, from <http://www.cdc.gov/HomeandRecreationalSafety/Poisoning/preventiontips.htm>
2. Centers for Disease Control and Prevention (CDC). (2009). Carbon Monoxide Prevention. Retrieved on August 12, 2009, from <http://www.cdc.gov/co/>
3. Children's Safety Network National Resource Center for Injury and Violence Prevention. (2009). Poison Prevention. Retrieved August 10, 2009, from <http://www.childrenssafetynetwork.org/topics/showtopic.asp?pkTopicID=33>
4. Nebraska Regional Poison Center (2008). Steps to prevent poisonings. Retrieved on August 27, 2009, from: <http://www.nebraskapoisson.com/steps.aspx>
5. Safe Kids Worldwide (SKW). Poison Fact Sheet. Washington (DC): SKW, 2007

Additional Resources

American Academy of Pediatrics
www.aap.org/parents.html

American Association of Poison Control Centers
www.aapcc.org

Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health
www.cdc.gov/niosh

Consumer Product Safety Commission
www.consumer.gov/productsafety.htm

Nebraska Regional Poison Center
www.nebraskapoisson.com

Poison Prevention Week Council
www.poisonprevention.org

U.S. Consumer Product Safety Commission
www.cpsc.gov

DROWNING (UNINTENTIONAL)

Overview

Drowning can be classified into two categories: boat-related and non-boat-related. Boat-related drownings include those that occur as a result of near-drowning off a boat or other watercraft as well as those that occur when someone falls from or is washed overboard from a boat. Non-boat-related drownings might result from recreational activities (water-skiing, diving, swimming, playing in or near irrigation ditches, and other water-based recreation), in swimming pools, or in bathtubs. In Nebraska, most cases (93.2%) that required hospital treatment were due to non-boat-related drownings.

In Nebraska, drowning was among the top five causes of injury death for all children ages 0-19. In total, 21 Nebraska children died and 132 received hospital treatment for near-drowning from 2003 to 2007.

DEATHS

In total, two infants less than age one year old died due to drowning, seven in the 1 to 4 year age group, three in the 4 to 9 year age group, three in the 10 to 14 year age group, and six in the 15 to 19 year age group in the years 2003 to 2007. Approximately 43 percent of all drowning deaths involve children ages 0-4 years.

For Nebraska children ages 1-4, swimming pools accounted for two out of the seven drowning and near-drowning deaths. For those ages 15-19, drowning and near-drowning while in natural water accounted for 2/3 of all drowning deaths. In total, there were three drowning fatalities in swimming pools, eight in natural water, two in an unspecified other location, and eight in an unspecified location.

There were a total of 21 deaths due to unintentional drowning among children, resulting in a rate of 0.82 per 100,000 population. Of these deaths, 90.5% were of whites and 9.5% were of non-whites (Table 36).

Table 36: Deaths Due to Drowning by Race, Nebraska Residents Age 0-19 2003-2007						
	<u>Males</u>		<u>Females</u>		<u>Total</u>	
	N	%	N	%	N	%
White	15	88.2%	4	100.0%	19	90.5%
Non-white	2	11.8%	—	—	2	9.5%
Total	17	100.0%	4	100.0%	21	100.0%

Source: DHHS Vital Statistics, 2003-2007

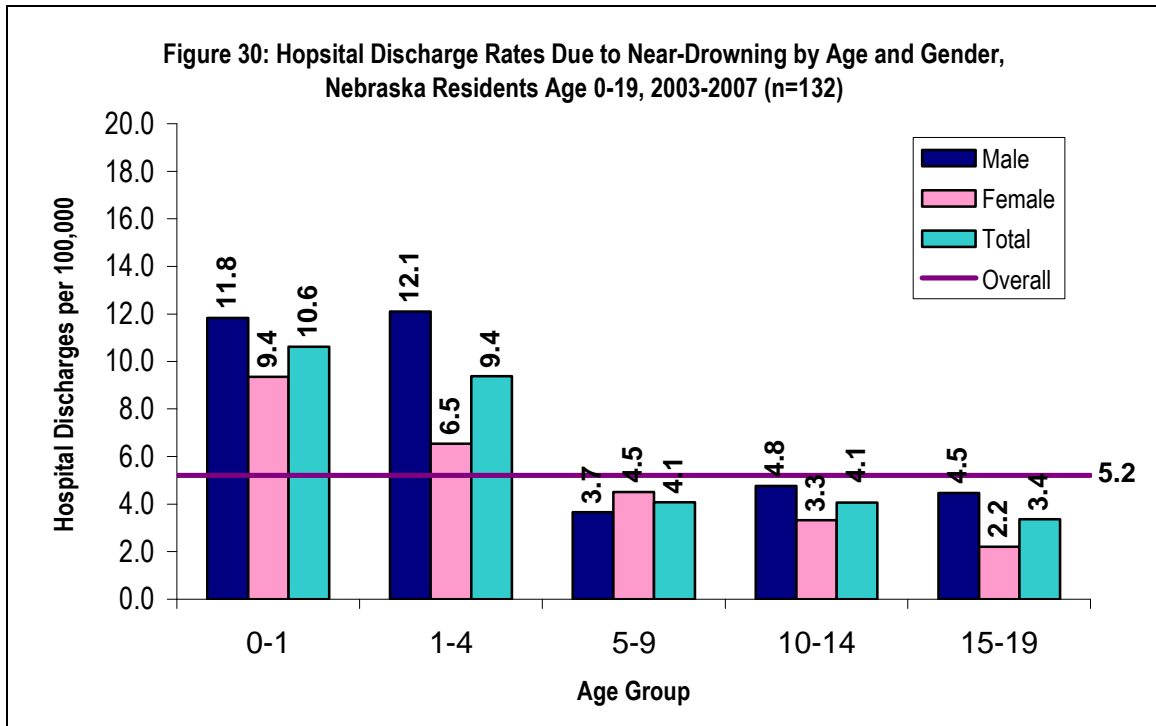
HOSPITAL DISCHARGES

On average, there were approximately 26 hospital discharges for near-drowning each year (5.2 per 100,000) (Figure 30). Children in the 1-4 year age group and those in the 10-14 year age group accounted for nearly 55 percent (54.5%) of all hospital discharges due to near-drowning. The highest hospital discharge rates for near-drowning were for infants less than one year old (10.6 per 100,000), and the lowest were among teens in the 15-19 year age group (3.4 per 100,000) (Figure 30).

For children under age one, 85.7 percent of hospital discharges related to near-drowning listed the bathtub as the place of occurrence. For the 1-4 year age group, the most common place of occurrence leading to near-drowning injuries was a swimming pool or quenching tank (46.8%). Sports-related/recreational activity without diving equipment was the most frequently coded occurrence for the 15-19 year age group, accounting for 63.6% of hospital discharges for that age group (Table 37).

There were 132 hospital discharges in total. Of these, 52 near-drowning-related injuries occurred in swimming pools/quenching tanks, 44 in sports or recreational activities, 20 in bathtubs, 9 during water-transport activities, and 7 were listed as other/unspecified (Table 37).

In all age groups, with the exception of the 5-9 year age group, hospital discharge rates for near-drowning were higher for males than for females (Figure 30).



Source: NE Hospital Discharge Data, 2003-2007

Table 37: Hospital Discharges by Cause of Submersion and Age Nebraska Residents Age 0-19, 2003-2007 (n=132)

	<u>Water Transport-related</u>		<u>In Sports or Recreation</u>		<u>In bathtub</u>		<u>Pool/Quenching Tank</u>		<u>Other/Unspecified</u>		<u>Total</u>	
	N	%	N	%	N	%	N	%	N	%	N	%
0-1	—	—	1	2.3	12	60	1	1.9	—	—	14	10.6
1-4	2	22.2	11	25	8	40	22	42.3	4	57.1	47	35.6
5-9	4	44.4	8	18.2	—	—	11	21.2	1	14.3	24	18.2
10-14	1	11.1	10	22.7	—	—	12	23.1	2	28.6	25	18.9
15-19	2	22.2	14	31.8	—	—	6	11.5	—	—	22	16.7
Total	9	99.9	44	100	20	100	52	100	7	100	132	100

Source: NE Hospital Discharge Data, 2003-2007

PREVENTION: DROWNING

Proven Interventions for Prevention

- Laws and regulations enacted to address water safety often concentrate on swimming pool regulations and personal flotation device mandates. According to the National Conference of State Legislators, at least 12 states have laws related to swimming pool safety, which may include: certified lifeguards on duty, fences, alarms, safety covers, light fixture requirements, and safe spa and pool drain standards.³
- Environmental protections (e.g., isolation pool fences and lifeguards) can protect children and youth from drowning. Other strategies include educating individuals about avoiding alcohol while participating in water activities; supervising children engaged in water activities; equipping swimmers, and those supervising them, with water safety skills; and CPR training.³
- Four-sided isolation fencing around home pools could prevent 50 percent to 90 percent of childhood drownings and near-drownings. When used properly, door alarms, pool alarms and automatic pool covers add an extra layer of protection.⁴
- From 1999 to 2003, it is estimated that 85 percent of boating-related drownings could have been prevented if the victim had been wearing a personal flotation device. In 2003, 62 percent of children ages 14 and under who drowned in reported recreational boating accidents were not wearing PFDs (personal flotation devices) or life jackets.⁴
- Educational efforts focused on PFDs and safe boating practices are effective in increasing PFD usage.⁴

Laws and Regulations

- The U.S. Consumer Product Safety Commission has developed voluntary guidelines, including education and labeling, to address the hazard of infants drowning in five-gallon buckets.⁴
- Ten states (AZ, CA, FL, IN, GA, IL, ME, MA, NJ & OR) and many communities have safety laws requiring some type of fencing around residential swimming pools.⁴
- Several communities in Nebraska have local ordinances that require fencing around swimming pools.

- Forty-six states and the District of Columbia require children to wear PFDs (i.e. life jackets) while on board a recreational boat.⁴
- Recreational boats must carry one properly sized, U.S. Coast Guard-approved PFD (accessible and in good condition) for each person on board.⁴

Prevention Interventions for Parents and Caregivers

- Fence it off: Install a four-sided isolation fence, with self-closing and self-latching gates, around backyard swimming pools. This can help keep children away from the area when a parent cannot supervise them. Pool fences should completely separate the house and play area from the pool.²
- Make life jackets a "must." Make sure kids wear life jackets in and around natural bodies of water, such as lakes or the ocean, even if they know how to swim.²
- Learn CPR: Learn cardiopulmonary resuscitation (CPR) and get recertified every two years. CPR can help a child stay alive with little or no brain damage.²
- Be on the look out: Supervise young children at all times around bathtubs, swimming pools, and natural bodies of water. Adults watching kids near water should avoid distracting activities like playing cards, reading books, or talking on the phone. Always designate a responsible adult to watch young children while in the bath and all children swimming or playing in or around water.²
- Always swim with a buddy. Select swimming sites that have lifeguards whenever possible.¹
- Avoid drinking alcohol before or during swimming, boating, or water skiing. Do not drink alcohol while supervising children.¹
- Learn to swim. Be aware that the American Academy of Pediatrics does not recommend swimming classes as the primary means of drowning prevention for children younger than age 4 years. Constant, careful supervision and barriers such as pool fencing are necessary even when children have completed swimming classes.¹
- Do not use air-filled or foam toys, such as water wings, noodles, or inner-tubes, in place of life jackets (personal flotation devices). These toys are not designed to keep swimmers safe.¹

If you have a swimming pool at home: ¹

- Install a four-sided, isolation pool fence that completely separates the house and play area of the yard from the pool area. The fence should be at least 4 feet high. Use self-closing and self-latching gates that open outward with latches that are out of reach of children. Also, consider additional barriers such as automatic door locks or alarms to prevent access or notify you if someone enters the pool area.
- Remove floats, balls and other toys from the pool and surrounding area immediately after use. The presence of these toys may encourage children to enter the pool area or lean over the pool and potentially fall in.

If you are in or around natural bodies of water: ¹

- Know the local weather conditions and forecast before swimming or boating. Strong winds and thunderstorms with lightning strikes are dangerous.
- Use U.S. Coast Guard-approved life jackets when boating, regardless of distance to be traveled, size of boat, or swimming ability of boaters.
- Know the meaning of and obey warnings represented by colored beach flags.
- Watch for dangerous waves and signs of rip currents (e.g. water that is discolored and choppy, foamy, or filled with debris and moving in a channel away from shore). If you are caught in a rip current, swim parallel to shore; once free of the current, swim toward shore.

References

1. Centers for Disease Control and Prevention (CDC). (2008). Water-related injuries: Fact Sheet. Retrieved on September 3, 2009, from <http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/waterinjuries-factsheet.htm>
2. Centers for Disease Control and Prevention (CDC). (2009). Safe Child: Drownings. Retrieved on September 3, 2009, from <http://www.cdc.gov/SafeChild/Drowning/default.htm>
3. Children's Safety Network National Resource Center for Injury and Violence Prevention. (2009). Sports Safety. Retrieved September 2, 2009, from <http://www.childrenssafetynetwork.org/topics/showtopic.asp?pkTopicID=3>

4. Safe Kids Worldwide (SKW). Drowning and Water-Related Injuries, Washington (DC): SKW, 2007.

Additional Resources

America Academy of Pediatrics
<http://www.aap.org/healthtopics/watersafety.cfm>

Home Safety Council
<http://www.homesafetycouncil.org/index.asp#>

U.S. Consumer Product Safety Commission
<http://www.cpsc.gov/>

FIRE/BURN

Overview

The fire/burn category includes:

- Asphyxia or poisoning due to conflagration (fire) or ignition
- Burning by fire
- Secondary fires resulting from explosion
- Burning or scalding by hot substance or object, caustic or corrosive material, and steam.

Fires/burns were the second leading cause of unintentional childhood injury death (Figure 6) and the eighth leading cause of unintentional childhood injury hospital discharge in Nebraska from 2003 to 2007 (Figure 7). On average, five Nebraskan children died and 900 were discharged from a hospital due to unintentional fire/burn each year.

DEATHS

From 2003 to 2006, the number of deaths among children due to fire or burn increased from 3 in 2003 to 9 in 2006. In 2007, the number of fatalities decreased to 6. The overall death rate for the 5-year span was 1.1 per 100,000.

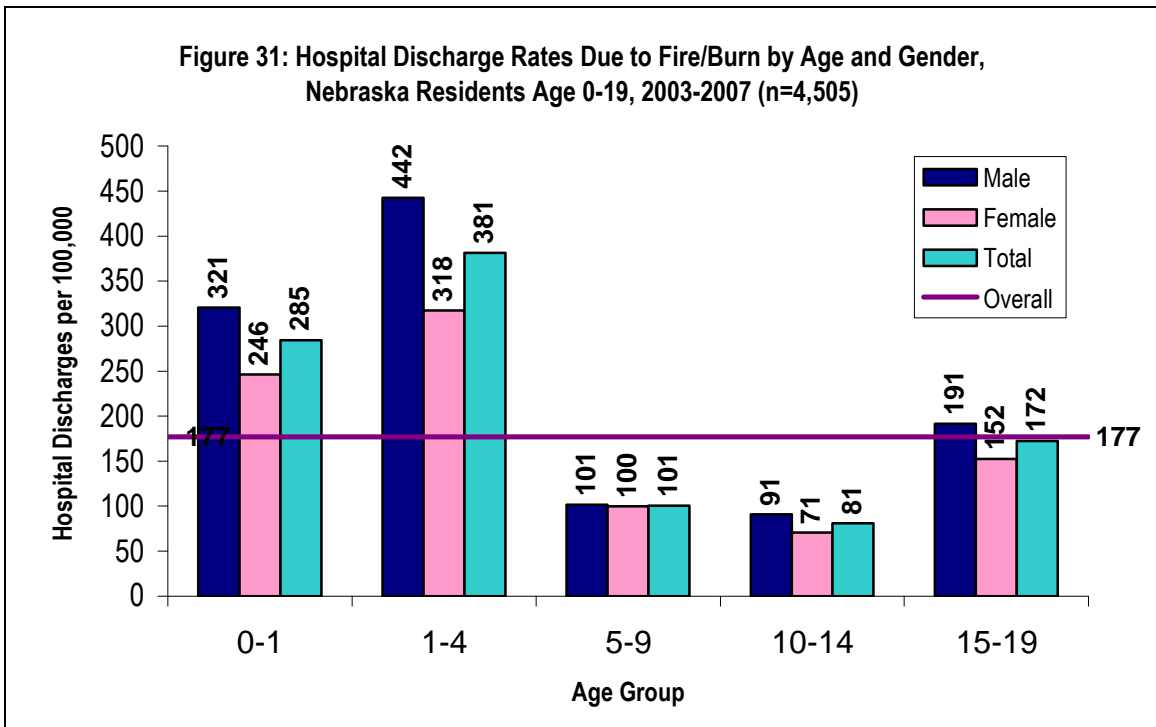
Nebraska children ages 1-4 years experienced the highest number of fire or burn deaths (n=10), followed by youth ages 15-19 (n=8). Approximately 45 percent of all fire or burn deaths involve children ages 0-4. Five children between the ages of 5-9 died due to a fire or burn-related injury. There were three deaths of infants less than one year old and as well as three deaths of children ages 10-14.

The number of deaths due to fire or burn from 2003 to 2007 was fairly consistent across genders (16 for males vs. 13 for females). The 29 total deaths due to unintentional fire or burn-related injuries were all white children.

HOSPITAL DISCHARGES

On average, there were approximately 901 hospital discharges for fire or burn-related injuries each year. Children ages 0-4 years accounted for over half (50.7%) of these hospital discharges. The highest hospital discharge rate was for children ages 1-4 (381 per 100,000), and the lowest was for children ages 10-14 (81 per 100,000) (Figure 31).

Hospital discharge rates for fire or burn-related injuries were higher for males than for females in every age group (Figure 31).



Source: NE Hospital Discharge Data, 2003-2007

PREVENTION: FIRE/BURN-RELATED INJURIES

Proven Interventions for Prevention

- Smoke alarms are extremely effective at preventing fire-related deaths and injuries. The chances of dying in a residential fire are cut in half when a smoke alarm is present.²
- Less porous cigarette paper, which reduces the chance of cigarette fires, costs \$0.0001 per pack and generates \$0.07 in benefits to society.²
- Smoke alarms and sprinkler systems combined could reduce fire-related deaths by 82 percent and injuries by 46 percent.²
- Child-resistant cigarette lighters, which make it more difficult for a child to ignite the lighter, cost \$0.04 per lighter and generate \$3.17 in benefits to society.³
- Hot tap water scalds can be prevented by lowering the setting on water heater thermostats to 120 degrees Fahrenheit or below and by installing anti-scald devices in water faucets and shower heads.³

Laws and Regulations

- Many states and the District of Columbia have laws requiring the use of smoke alarms in new and existing homes. A few states still have no comprehensive smoke alarm laws. Other states have a variety of laws covering specific situations such as new dwellings or multi-occupancy dwellings only.¹
- In 1994, the U.S. Consumer Product Safety Commission (CPSC) issued a mandatory safety standard requiring disposable and novelty cigarette lighters to be child-resistant. Since this has been in effect, the number of deaths and injuries associated with these fires has declined by 31 percent and 26 percent, respectively.¹
- To protect children from burns, the CPSC issued regulations requiring that children's sleepwear must be flame-resistant and self-extinguish if a flame causes it to catch fire. The rules cover all children's sleepwear above size 9 months and up to size 14. Children's sleepwear must be either flame-resistant or be snug-fitting.¹

Prevention Interventions for Parents and Caregivers

- Install and maintain smoke alarms in your home—on every floor and near all rooms family members sleep in. Test your smoke alarms once a month to make sure they are working properly.³
- Create and practice a family fire escape plan, and involve kids in the planning. Make sure everyone knows at least two ways out of every room and identify a central meeting place outside.³
- Use safe cooking practices, such as never leaving food unattended on the stove or grill. Also, supervise young children whenever they're near cooking surfaces.³
- Keep matches, gasoline, lighters, and all other flammable materials locked away and out of children's reach.²
- Never place portable space heaters near flammable materials (such as draperies, blankets, etc).²
- Do not leave burning candles unattended.⁴
- Perform proper maintenance on furnaces, fireplaces, chimneys, and wood stoves.
- Check water heater temperature. Set your water heater's thermostat to 120 degrees Fahrenheit or lower. Infants who aren't walking yet can't get out of water that may be too hot, and maintaining a constant thermostat setting can help control the water temperature throughout your home—preventing it from getting too high.²
- Do not smoke in bed or empty smoldering ashes into trash cans; never leave burning cigarettes unattended; and keep ashtrays away from upholstered furniture and curtains.¹

References

1. Centers for Disease Control and Prevention (CDC). (2009). Fire Deaths and Injuries: Prevention Tips. Retrieved on August 12, 2009, from <http://www.cdc.gov/ncipc/factsheets/fireprevention.htm>
2. Centers for Disease Control and Prevention (CDC). (2009). Safe Child: Burns. Retrieved on August 12, 2009, from <http://www.cdc.gov/safechild/burns/default.htm>
3. Safe Kids Worldwide (SKW). Burn and Scalds Safety. Washington (DC): SKW, 2007.
4. Safe Kids Worldwide (SKW). Fire Safety. Washington (DC): SKW, 2007.

Additional Resources

CDC: National Center for Injury Prevention and Control-Fires
<http://www.cdc.gov/HomeandRecreationalSafety/Fire-Prevention/index-fs.html>

CDC: Safe Child
<http://www.cdc.gov/safechild/burns/default.htm>

Children's Safety Network
<http://www.childrenssafetynetwork.org/default.asp>

Consumer Product Safety Commission
<http://www.cpsc.gov/>

Fire Safety.Gov
<http://www.firesafety.gov/>

National Fire Protection Association
<http://www.nfpa.org/index.asp>

SUICIDE AND ATTEMPTED SUICIDE

Overview

In Nebraska, suicide was the second leading cause of injury death for individuals ages 10-19, and the fourth leading cause of injury death for all age groups combined between 2003 and 2007 (Table 3). In total, 96 Nebraska children and youth (3.7 per 100,000) died and 2,229 (87.3 per 100,000) were treated at a hospital for attempted suicide/self-inflicted injuries.

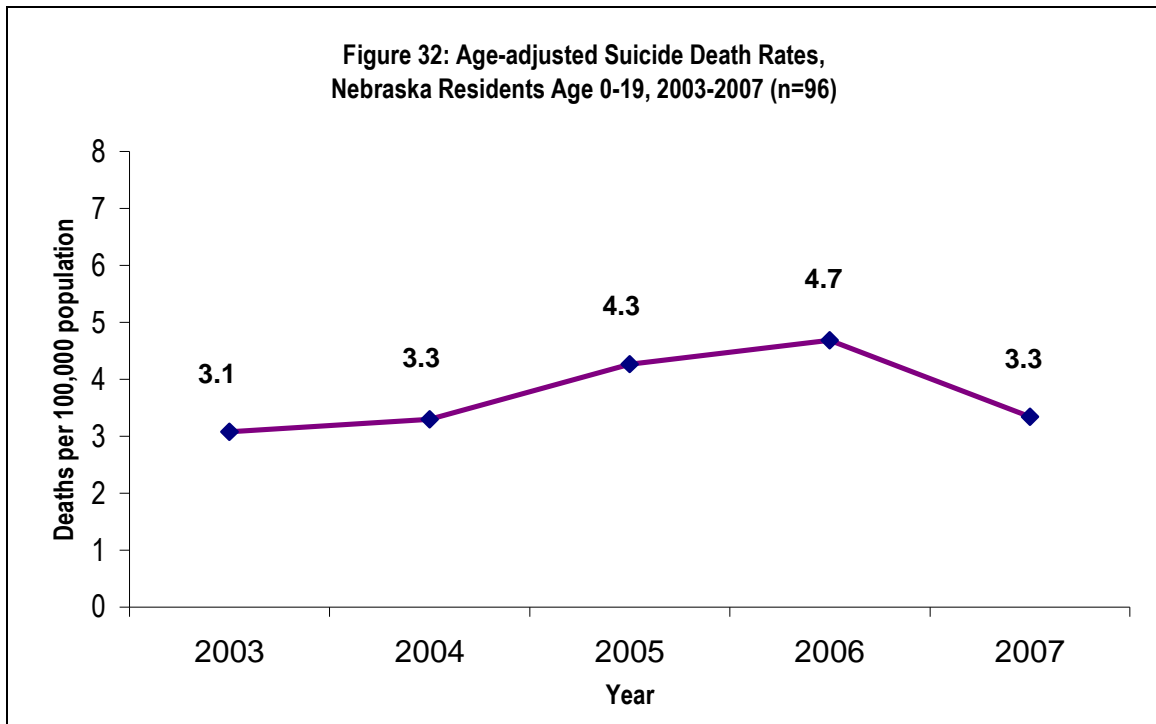
DEATHS

The age-adjusted death rate for suicide among Nebraskans age 19 and under climbed from 3.1 per 100,000 population in 2003 to 4.7 per 100,000 in 2006. In 2007, the death rate dipped back down to 3.3 per 100,000 population (Figure 32).

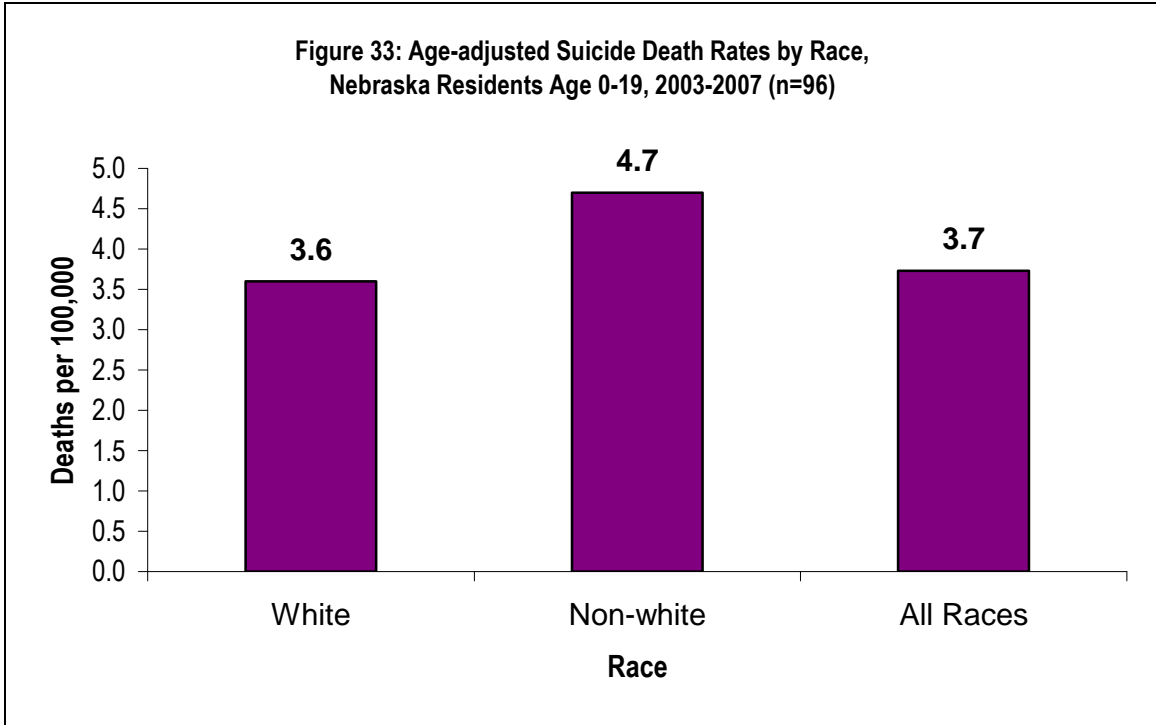
Suicide rates varied according to age, gender, and race. Among Nebraska residents, suicide deaths were seen only in the age groups 10-14 years and 15-19 years. The death rate due to suicide was over 4 times higher for teens ages 15-19 than for those ages 10-14 (11.9 per 100,000 population vs. 2.9 per 100,000). For both males and females, the highest death rate was seen in the 15-19 year age group (20.8 and 2.5 per 100,000, respectively).

Males were more likely to die from suicide than were females in all age groups. The age-adjusted suicide death rate was 5.7 times higher for males than for females (6.3 vs. 1.1 per 100,000, respectively). Non-whites had a higher suicide rate (4.7 per 100,000) than did whites (3.6 per 100,000) (Figure 33).

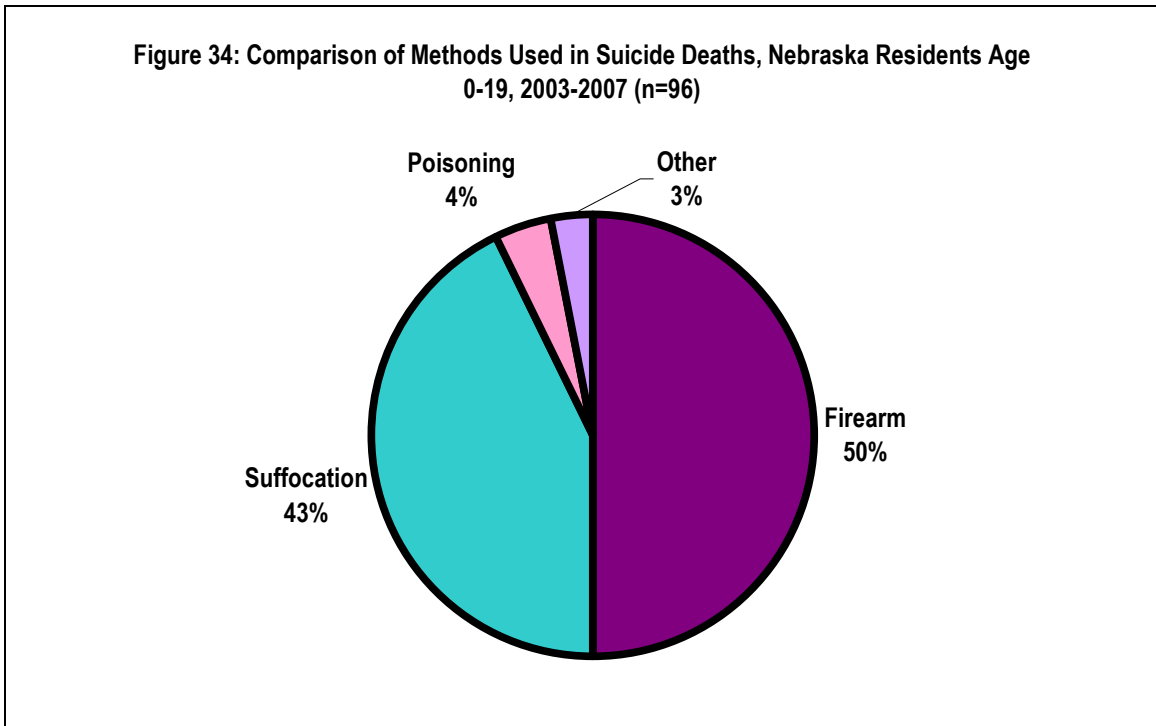
Firearms were the leading cause of suicide death among Nebraska children and teens, representing half the total (50%). Suffocation and poisoning also contributed significantly to the suicide death rate in Nebraska from 2003 to 2007 (43% and 4%, respectively) (Figure 34).



Source: DHHS Vital Statistics, 2003-2007



Source: DHHS Vital Statistics, 2003-2007



Source: DHHS Vital Statistics, 2003-2007

HOSPITAL DISCHARGES

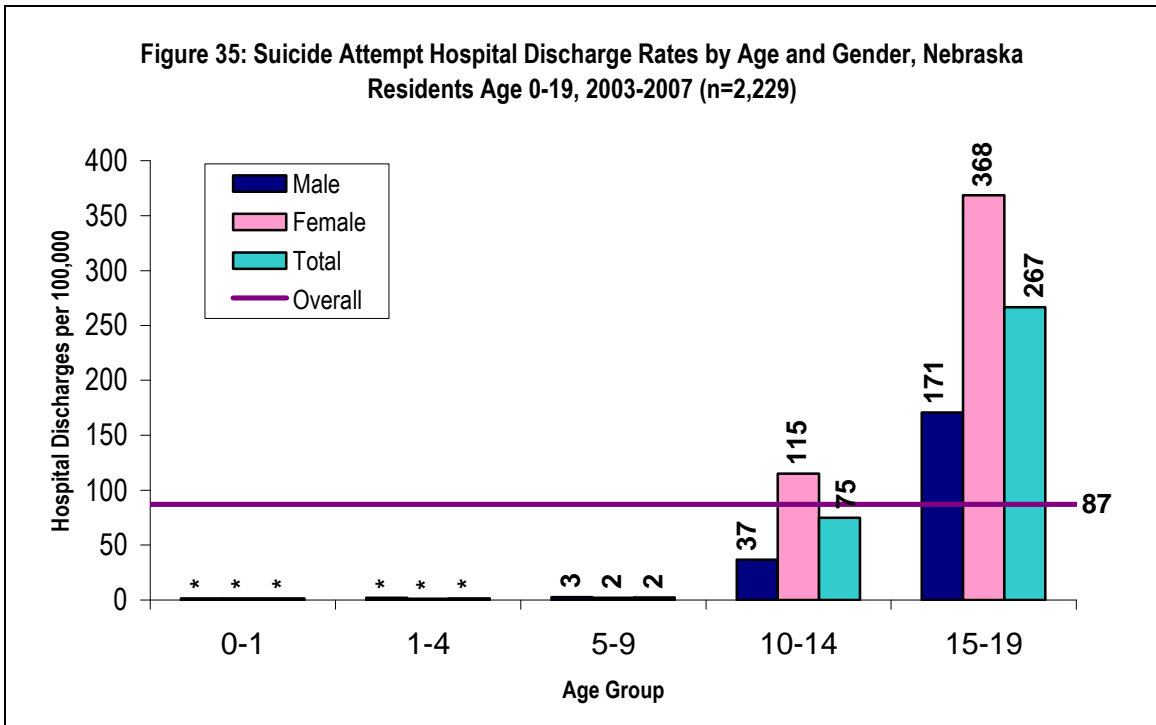
Overall, the age-adjusted rate for hospital discharges due to injuries resulting from attempted suicide was 87.3 per 100,000 Nebraska residents' ages 0-19 years (Figure 7).

For Nebraska youth ages 10-19, the rate of hospital discharges due to attempted suicide was higher for females than for males. Generally, the hospital discharge rate increased along with age, with the highest rate for both males and females seen among teens ages 15-19 (170 and 368 per 100,000 population, respectively) (Figure 35).

The methods used in suicide attempts resulting in hospital treatment were different from those resulting in death. For both gender groups and all age groups, hospital discharges for suicide attempts were nearly two-thirds of the time the result of poisoning (65.8%). Approximately 22 percent were due to cutting/piercing and 3 percent were due to suffocation. In contrast, the majority of suicide deaths were the result of firearms (50%), suffocation (43%), or poisoning (4%) (Figure 36).

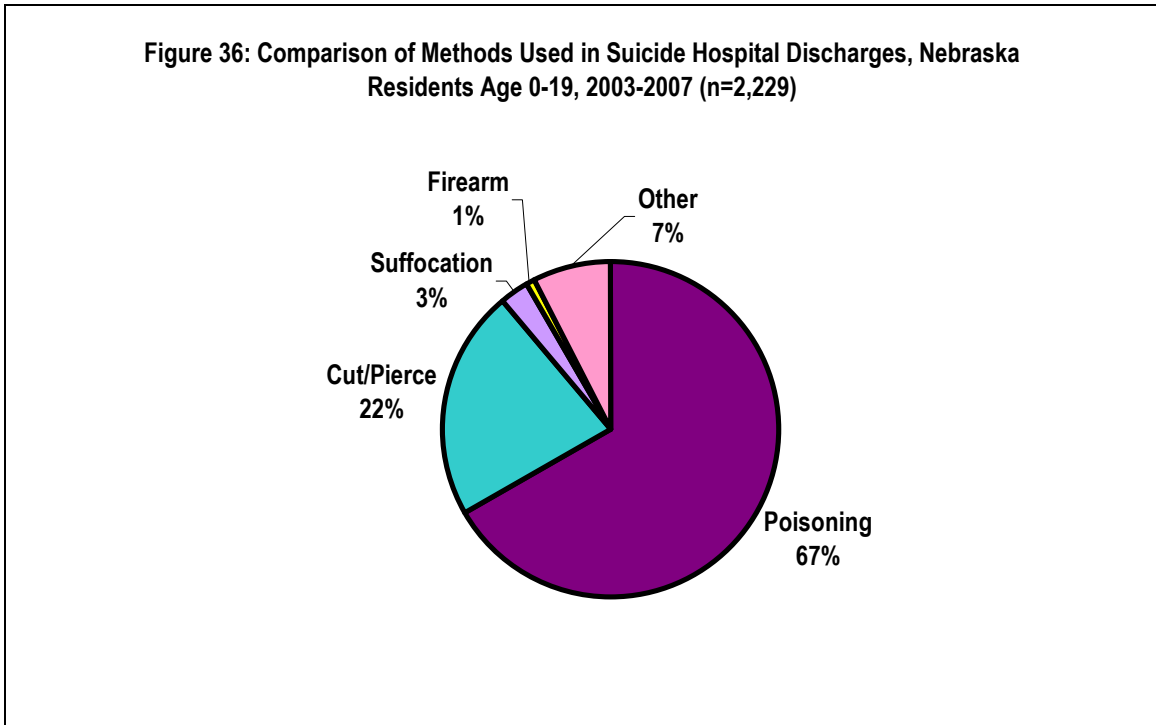
It should be noted that hospital discharge data for suicide does not include persons who went to state psychiatric facilities. The number of actual suicide attempts was greater than hospital discharge data indicate as they do not include those who did not seek assistance in a hospital setting. There were also an unknown number of suicide attempts that are reported as unintentional injury.

Figure 35: Suicide Attempt Hospital Discharge Rates by Age and Gender, Nebraska Residents Age 0-19, 2003-2007 (n=2,229)



Source: NE Hospital Discharge Data, 2003-2007
 *Fewer than 5 discharges

Figure 36: Comparison of Methods Used in Suicide Hospital Discharges, Nebraska Residents Age 0-19, 2003-2007 (n=2,229)



Source: NE Hospital Discharge Data, 2003-2007

YRBS

From 2003 to 2007, the percentage of Nebraska children and youth who had stopped their usual activities because they felt sad or hopeless every day for at least two consecutive weeks during the past 12 months was 24.5 in 2003, 25.4 in 2005, and 22.2 in 2007. A similar percentage of those surveyed answered affirmatively in both age groups (Table 38).

The percentage of Nebraska children and youth who had seriously considered attempting suicide within the last 12 months decreased from 17.6 in 2003 to 16.6 in 2005, and again to 14.5 in 2007. During this time span, a greater percentage of those ages 14 years or younger had considered suicide than those ages 15 years or older (with the exception of, in 2003, when the percentage was the same for both age groups) (Table 39).

The percentage of Nebraska children and youth who had made a plan about how they would attempt suicide within the last 12 months decreased from 17.7 in 2003, to 14.1 in 2005, and again to 10.5% in 2007. During this time span, a greater percentage of those ages 14 years or younger had made a suicide plan than those ages 15 years or older (Table 40).

The percentage of Nebraska children and youth who carried out their plans for suicide within the past 12 months was 8.4 in 2003, 9.0 in 2005, and 7.5 in 2007. With the exception of, in 2007, a greater percentage of those ages 15 years or older attempted suicide than those ages 14 years of younger during this time period (Table 41).

For those who had attempted suicide within the past 12 months, 3.1 percent were treated by a doctor or nurse in 2003, 3.0 percent in 2005, and 2.8 percent in 2007. Generally, attempts by youth ages 15 years or older tended to need treatment slightly more often than those ages 14 years or younger (Table 42).

Table 38: During the past 12 months, did you ever stop doing your usual activities because you felt sad/hopeless almost every day for two weeks or more in a row?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	Yes	44	23.9	673	24.5	717	24.5
	No	140	76.1	2,069	75.5	2,209	75.5
2005	Yes	109	25.1	842	25.5	951	25.4
	No	326	74.9	2,462	74.5	2,788	74.6
2007	Yes	20	24.1	245	22.1	265	22.2
	No	63	75.9	866	77.9	929	77.8

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 39: During the past 12 months, did you ever seriously consider attempting suicide?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	Yes	39	21.2	474	17.3	513	17.6
	No	145	78.8	2,260	82.7	2,405	82.4
2005	Yes	72	16.6	548	16.6	620	16.6
	No	362	83.4	2,754	83.4	3,116	83.4
2007	Yes	19	22.9	154	13.9	173	14.5
	No	64	77.1	953	86.1	1,017	85.5

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 40: During the past 12 months, did you make a plan about how you would attempt suicide?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	Yes	39	21.3	475	17.4	514	17.7
	No	144	78.7	2,248	82.6	2,392	82.3
2005	Yes	69	16.0	457	13.8	526	14.1
	No	362	84.0	2,843	86.2	3,205	85.9
2007	Yes	11	13.3	115	10.3	126	10.5
	No	72	86.7	997	89.7	1,069	89.5

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 41: During the past 12 months, did you actually attempt suicide?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	137	91.9	2,179	91.6	2,316	91.6
	Yes	12	8.1	201	8.4	213	8.4
2005	No	355	91.3	2,664	91.0	3,019	91.0
	Yes	34	8.7	264	9.0	298	9.0
2007	No	69	89.6	913	92.7	982	92.5
	Yes	8	10.4	72	7.3	80	7.5

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 42: If you had attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?							
Year/Age Group		<u>14 or Younger</u>		<u>15 or Older</u>		<u>Total</u>	
		N	%	N	%	N	%
2003	N/a	136	91.9	2,174	91.6	2,310	91.6
	Yes	4	2.7	75	3.2	79	3.1
	No	8	5.4	124	5.2	132	5.2
2005	N/a	535	91.9	2,648	91.1	3,001	91.2
	Yes	11	2.9	87	3.0	98	3.0
	No	20	5.2	173	5.9	193	5.9
2007	N/a	68	90.7	914	93.1	984	92.9
	Yes	2	2.7	28	2.8	30	2.8
	No	5	6.7	40	4.1	45	4.2

Source: NE Youth Risk Behavior Survey, 2003-2007

PREVENTION: SUICIDE/ATTEMPTED SUICIDE

Proven Interventions for Prevention

- Strategies for preventing youth suicides may include: ¹
 - enhancing protective factors,
 - reducing risk factors,
 - strengthening norms that support help-seeking behaviors,
 - implementing screening and prevention activities for high-risk groups, and
 - primary prevention of conditions such as depression, impulsive behavior, and drug or alcohol abuse

- The *CDC Preventing Suicide* guide describes CDC's public health activities and research to prevent suicide and suicidal behavior. The guide outlines four categories of activities which are key to CDC's prevention work: monitoring and researching the problem, supporting and enhancing prevention programs, providing prevention resources, and encouraging research and development. ²

- The National Strategy for Suicide Prevention (NSSP) recommends the public health approach to preventing suicide as a balanced and controlled way to organize prevention efforts and make certain that they are effective. It distinguishes the public health approach, which identifies patterns of risk and behavior in groups of people, from the medical model, which focuses on individuals. The public health approach to suicide prevention, as presented in NSSP, has five basic steps: ³
 1. Clearly define the problem by collecting data and other information.

 2. Identify risk and protective factors. Risk factors are associated with (or lead to) suicides and suicide attempts. Protective factors reduce the likelihood of suicide.

 3. Develop and test interventions. Most interventions seek to reduce risk factors and/or enhance protective factors. Such preventive measures should be scientifically tested to determine if they actually work before being disseminated and implemented.

 4. Implement interventions.

 5. Evaluate effectiveness. Suicide prevention programs should always be evaluated to verify that they are working and to understand how to make them more effective in the particular situation in which they are being used.

- For further information: From 2003 to 2005, the Suicide Prevention Resource Center (SPRC) collaborated with the American Foundation for Suicide Prevention (AFSP) to create a registry of evidence-based suicide prevention practices. Based on expert review of evaluated practices, 12 were identified for inclusion on the registry.³
- The Nebraska Suicide Prevention Coalition has implemented a variety of activities that incorporate best practice strategies. For more information go to www.suicideprevention.nebraska.edu or www.youthsuicideprevention.nebraska.edu.

References

1. Centers for Disease Control and Prevention (CDC). (2009). Suicide Prevention: Retrieved on October 29, 2009, from <http://www.cdc.gov/violenceprevention/pub/PreventingSuicide.html>
2. Children's Safety Network National Resource Center for Injury and Violence Prevention. (2009). Suicide Prevention. Retrieved August 14, 2009, from: <http://www.childrenssafetynetwork.org/topics/showtopic.asp?pkTopicID=5>
3. Suicide Prevention Resource Center. (2009) Retrieved October 30, 2009, from: http://www.sprc.org/suicide_prev_basics/index.asp

Additional Resources

American Foundation for Suicide Prevention
<http://www.afsp.org/>

National Strategy for Suicide Prevention
<http://mentalhealth.samhsa.gov/SuicidePrevention/>

Suicide Prevention Action Network USA
<http://www.spanusa.org/>

The Nebraska State Suicide Prevention Coalition
<http://www.suicideprevention.nebraska.edu>

HOMICIDE AND ASSAULT

Overview

In total, 67 Nebraska children and youth died of homicides, which accounted for 12.6 percent of injury deaths among Nebraska residents age 0-19 from 2003 to 2007. Additionally, a total of 5,490 assaulted children/youth were admitted to or treated at hospitals in this time period. The age-adjusted hospital discharge rate for assault was 215 per 100,000 in Nebraska (Figure 7).

DEATHS

The age-adjusted homicide rates increased from 2.5 per 100,000 in 2003 to 3.1 per 100,000 in 2007. The rate was the lowest in 2005 (1.9 per 100,000) and highest the following year in 2006 (3.5 per 100,000) (Figure 37).

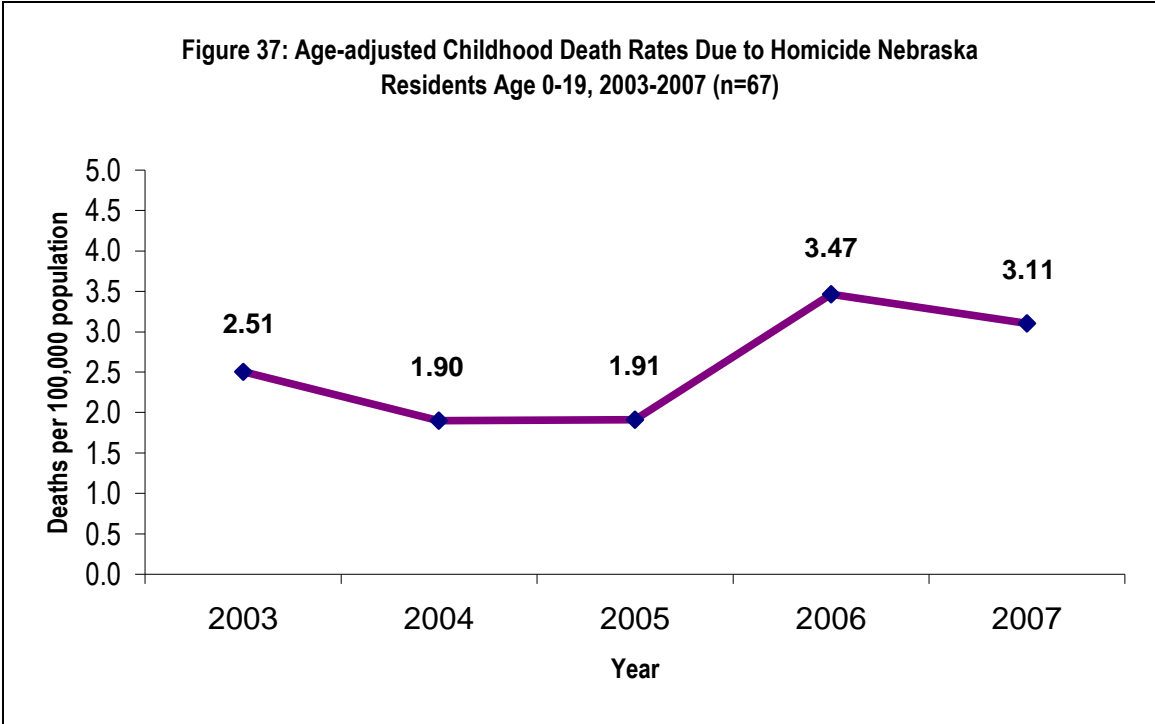
Homicide is the 5th leading cause of injury death for all Nebraska children/youth ages 0-19 (Table 3).

The homicide death rate differed by age and gender. Males had an overall age-adjusted homicide rate 1.7 times higher than females: 3.2 per 100,000 for males vs. 1.9 per 100,000 among females. The highest rate for homicide (12.9 per 100,000) was in the under one year age group. The 15-19 year age group also showed significant homicide death rates, with an age-adjusted average of 4.1 per 100,000 (Figure 38).

Among Nebraska children and youth, there were a total of 67 deaths due to homicide for an overall rate of 2.6 per 100,000 population from 2003-2007. Of these deaths, whites contributed to an age-adjusted rate of 1.4 per 100,000. The homicide death rate for non-whites was a much greater 12.5 per 100,000 population (Figure 39).

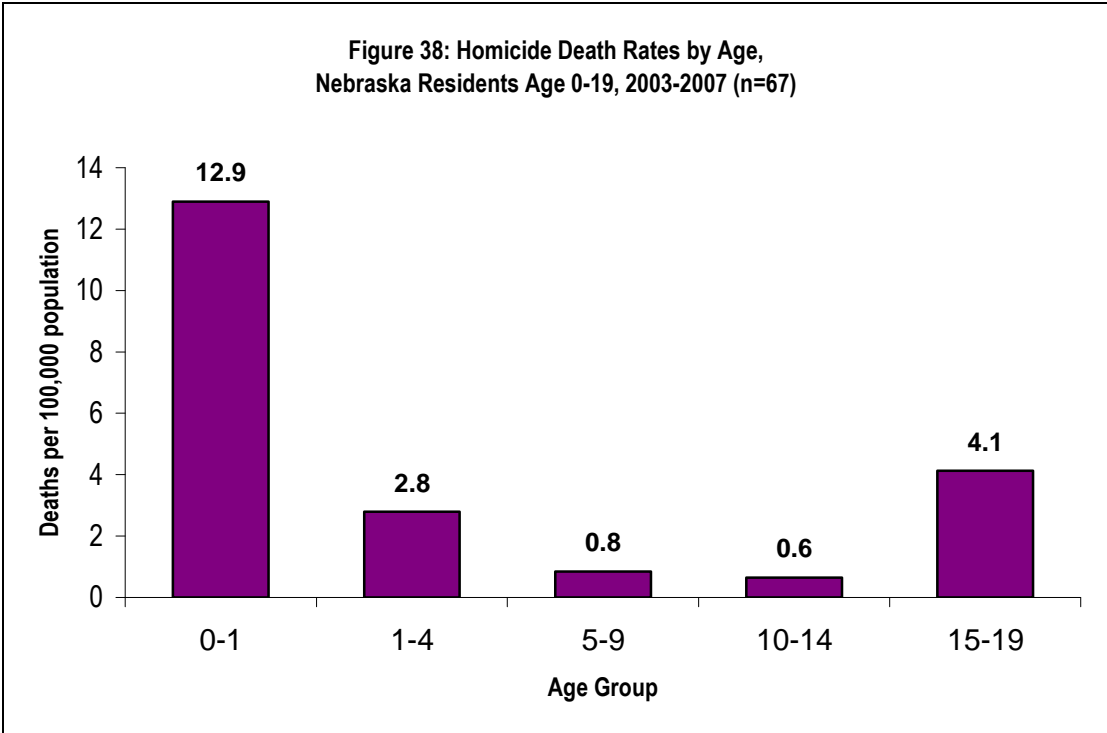
The most common methods used in homicide deaths were firearms, with 32 deaths (47.8%), cutting or piercing, with 3 deaths (4.5%), suffocation, with 2 deaths (3.0%), and other or unspecified methods, with 30 deaths (44.8%). For the under one-year age group, the most common methods were classified as other or unspecified means (including assault by bodily force, neglect and abandonment or other maltreatment) and not specified (including assault by unspecified means).

Figure 37: Age-adjusted Childhood Death Rates Due to Homicide Nebraska Residents Age 0-19, 2003-2007 (n=67)



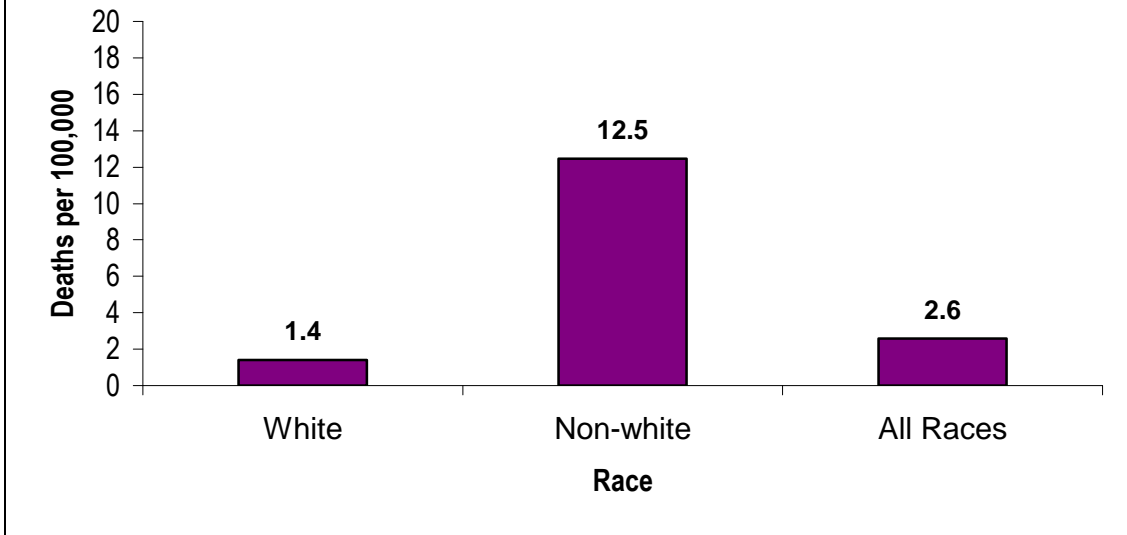
Source: DHHS Vital Statistics, 2003-2007

Figure 38: Homicide Death Rates by Age, Nebraska Residents Age 0-19, 2003-2007 (n=67)



Source: DHHS Vital Statistics, 2003-2007

Figure 39: Age-adjusted Homicide Death Rates by Race,
Nebraska Residents Age 0-19, 2003-2007 (n=67)

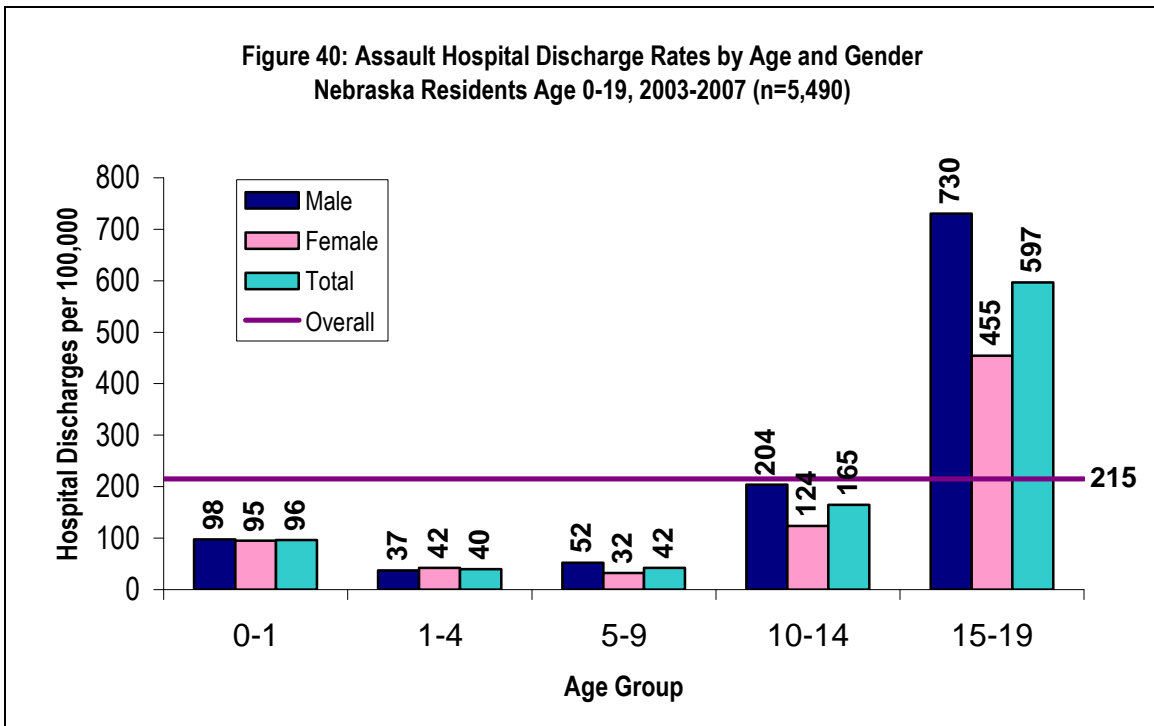


Source: DHHS Vital Statistics, 2003-2007

HOSPITAL DISCHARGES

Hospital discharge rates for assault-related injuries peaked for Nebraska youth ages 15-19 years. The rates were the lowest among children ages 1-4 (Figure 40). Males had higher overall age-adjusted rates of assault than did females (260.5 vs. 166.8 per 100,000 population, respectively).

Over half of hospital discharges for assault were the result of being struck by/against. Additionally, 4.2 percent of assaults were due to cutting or piercing, 3.5 percent were due to firearms, and 41.0 percent were due to other or unspecified causes (Table 43).



Source: NE Hospital Discharge Data, 2003-2007

Table 43: Hospital Discharges due to Assault by Cause, Nebraska Residents Age 0-19, 2003-2007

Cause	N	%
Struck By/Against	2,795	50.9%
Cut/Pierce	230	4.2%
Firearm	192	3.5%
Fire/Burn	11	0.2%
Poisoning	9	0.2%
Other	2,253	41.0%
Total	5,490	100%

Source: NE Hospital Discharge Data, 2003-2007

YRBS

From 2003 to 2007, the percentage of Nebraska children and youth who, in the past 30 days, reported carrying a weapon such as a gun, knife, or a club was 16.9 in 2003, 18.1 in 2005, and 17.4 in 2007. Those ages 15 years or older responded affirmatively to having carried a weapon slightly more often than did those 14 years or younger (Table 44).

The percentage of Nebraska children and youth who had carried a weapon to school in the past 30 days was 5 in 2003, 4.6 in 2005, and 5.6 in 2007. A smaller percentage of those ages 14 or younger brought a weapon to school than of those ages 15 or older in 2003. However, the percentage was the same for both age groups in 2005, and in 2007, a greater percentage of the younger age group brought weapons to school than of the older age group (Table 45).

The percentage of Nebraska children and youth who had specifically carried a gun within the past 30 days decreased from 8.4 in 2003 to 7.9 in 2005, and again to 6.7 in 2007. Of the two age groups (14 years and younger vs. 15 years and older) the younger group answered yes more often than the older age group in 2003. However, in 2005 and 2007, the older group responded affirmatively more often. In both age groups, the overall percentage of children and youth who had carried a gun decreased (Table 46).

The percentage of Nebraska children and youth who had been in a physical fight within the past year decreased from 28.7 in 2003 to 28.1 in 2005 to 27.5 in 2007. In 2003 and 2005, the two age groups showed a similar percentage of children and youth who had been in a physical fight. However, in 2007, over one-third of those ages 14 years or younger had been in a physical fight, whereas approximately one-fourth of those ages 15 years or older had been (36.1 vs. 26.8, respectively) (Table 47).

Of those who had been in a physical fight within the past year, 2.5% were injured enough to need treatment by a doctor or a nurse in 2003. In 2005, 2.9% needed treatment, and in 2007, 3.9% needed treatment (Table 48).

The percentage of Nebraska children and youth who had been threatened or injured with a weapon (such as a gun, knife, or club) on school property within the past 12 months was 8.1 in 2003, 9.6 in 2005, and 8.2 in 2007 (Table 49). The percentage who had been in a physical fight on school property decreased from 9.8 in 2003 to 9.5 in 2005 to 8.5 in 2007 (Table 50). Within this time span, Nebraskans ages 14 years or younger were more likely to have been in a physical fight at school than those 15 year or older in all five years (Table 51).

The percentage of Nebraska children and youth who, within the past year, had been hit, slapped, or otherwise physically hurt by their significant other was 11.5 in 2003, 10.2 in 2005, and 10.4 in 2007. The percentage who had ever been

forced to have sexual intercourse unwillingly was 9.7 in 2003, 8.5 in 2005, and 10.5 in 2007. In both cases, those in the older age group (15 years or older) responded affirmatively more often than did those in the younger age group (14 years or younger) (Table 52).

Table 44: During the past 30 days, did you carry a weapon such as a gun, knife, or club?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	156	85.7	2,226	83.0	2,382	83.1
	Yes	26	14.3	457	17.0	483	16.9
2005	No	353	83.3	2,645	81.7	2,998	81.9
	Yes	71	16.7	593	18.3	664	18.1
2007	No	72	86.7	885	82.2	957	82.6
	Yes	11	13.3	191	17.8	202	17.4

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 45: During the past 30 days, did you carry a weapon such as a gun, knife, of club on school property?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	183	98.9	2,581	94.7	2,764	95.0
	Yes	2	1.1	145	5.3	147	5.0
2005	No	415	95.4	3,144	95.4	3,559	95.4
	Yes	20	4.6	153	4.6	173	4.6
2007	No	78	94.0	1,042	94.5	1,120	94.4
	Yes	5	6.0	61	5.5	66	5.6

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 46: During the past 30 days, did you carry a gun?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	164	90.6	2,470	91.7	2,634	91.6
	Yes	17	9.4	223	8.3	240	8.4
2005	No	394	92.7	2,991	92.0	3,385	92.1
	Yes	31	7.3	260	8.0	291	7.9
2007	No	79	95.2	1,016	93.1	1,095	93.3
	Yes	4	4.8	75	6.9	79	6.7

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 47: During the past 12 months, were you in a physical fight?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	132	73.3	1,919	71.1	2,051	71.3
	Yes	48	26.7	779	28.9	827	28.7
2005	No	306	70.8	2,349	72.0	2,655	71.9
	Yes	126	29.2	914	28.0	1,040	28.1
2007	No	53	63.9	798	73.2	851	72.5
	Yes	30	36.1	292	26.8	322	27.5

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 48: During the past 12 months, were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	173	96.6	2,646	97.5	2,819	97.5
	Yes	6	3.4	67	2.5	73	2.5
2005	No	414	95.8	3,191	97.2	3,605	97.1
	Yes	18	4.2	91	2.8	109	2.9
2007	No	79	96.3	1,062	96.1	1,141	96.1
	Yes	3	3.7	43	3.9	46	3.9

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 49: During the past 12 months, has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	172	93.5	2,511	91.8	2,683	91.9
	Yes	12	6.5	224	8.2	236	8.1
2005	No	386	88.5	2,996	90.7	3,382	90.4
	Yes	50	11.5	308	9.3	358	9.6
2007	No	77	91.7	1,026	91.9	1,103	91.8
	Yes	7	8.3	91	8.1	98	8.2

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 50: During the past 12 months, were you in a physical fight on school property?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	163	88.1	2,452	90.4	2,615	90.2
	Yes	22	11.9	261	9.6	283	9.8
2005	No	369	85.4	2,991	91.2	3,360	90.5
	Yes	63	14.6	289	8.8	352	9.5
2007	No	73	88.0	1,012	91.7	1,085	91.5
	Yes	10	12.0	91	8.3	101	8.5

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 51: During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	166	90.2	2,412	88.4	2,578	88.5
	Yes	18	9.8	316	11.6	334	11.5
2005	No	401	92.8	2,950	89.4	3,351	89.8
	Yes	31	7.2	351	10.6	382	10.2
2007	No	75	90.4	992	89.5	1,067	89.6
	Yes	8	9.6	116	10.5	124	10.4

Source: NE Youth Risk Behavior Survey, 2003-2007

Table 52: Have you ever been physically forced to have sexual intercourse when you did not want to?							
Year/Age Group		14 or Younger		15 or Older		Total	
		N	%	N	%	N	%
2003	No	169	92.3	2,462	90.2	2,631	90.3
	Yes	14	7.7	268	9.8	282	9.7
2005	No	406	93.5	3,006	91.2	3,412	91.5
	Yes	28	6.5	291	8.8	319	8.5
2007	No	74	89.2	996	89.5	1,070	89.5
	Yes	9	10.8	117	10.5	126	10.5

Source: NE Youth Risk Behavior Survey, 2003-2007

PREVENTION: HOMICIDE/ASSAULT YOUTH VIOLENCE

Prevention

- Factors that may protect some youth from violence include:
 - connectedness to family or other adults,
 - ability to discuss problems with parents,
 - the perception that parental expectations for school performance are high, frequent shared activities with parents,
 - youth involvement in social activities,
 - commitment to school, and
 - the consistent presence of a parent during at least one of the following: when awakening, when arriving home from school, during evening mealtimes, and when going to bed

- A number of measures may indirectly affect the factors that contribute to youth violence. Programs that address community deterioration (improving areas for children to play and providing supervised activities); alcohol abuse; gun safety; non violence coping skills; and economic issues can also help to prevent youth violence.¹

References

1. Children's Safety Network. www.childrenssafetynetwork.org. Retrieved on February 5, 2010.

Additional Resources

National Youth Violence Prevention Resource Center
www.safeyouth.org

Centers for Disease Prevention and Control
www.cdc.gov/ViolencePrevention/youthviolence/index.html

APPENDIX

Recommended framework of E-code groupings for presenting injury mortality and morbidity data (February 16, 2005)

Mechanism/Cause	Manner/Intent				
	Unintentional	Self-inflicted	Assault	Undetermined	Other ¹
Cut/pierce	E920.0-.9	E956	E966	E986	E974
Drowning /near-drowning	E830.0-.9, E832.0-.9 E910.0-.9	E954	E964	E984	
Fall	E880.0-E886.9, E888	E957.0-.9	E968.1	E987.0-.9	
Fire/burn	E890.0-E899, E924.0-.9	E958.1,.2,.7	E961, E968.0,.3, E979.3	E988.1,.2,.7	
Fire/burn	E890.0-E899	E958.1	E968.0, E979.3	E988.1	
Hot object/substance	E924.0-.9	E958.2,.7	E961, E968.3	E988.2,.7	
Firearm	E922.0-.3,.8, .9	E955.0-.4	E965.0-4, E979.4	E985.0-.4	E970
Machinery	E919 (.0-.9)				
Motor vehicle traffic ^{2,3}	E810-E819 (.0-.9)	E958.5	E968.5	E988.5	
Occupant	E810-E819 (.0,.1)				
Motorcyclist	E810-E819 (.2,.3)				
Pedal cyclist	E810-E819 (.6)				
Pedestrian	E810-E819 (.7)				
Unspecified	E810-E819 (.9)				
Pedal cyclist, other	E800-E807 (.3) E820-E825 (.6), E826.1,.9 E827-E829(.1)				
Pedestrian, other	E800-807(.2) E820-E825(.7) E826-E829(.0)				
Transport, other	E800-E807 (.0,.1,.8,.9) E820-E825 (.0- .5,.8,.9) E826.2-.8 E827-E829 (.2-.9), E831.0-.9, E833.0-	E958.6		E988.6	

	E845.9				
Natural/environmental	E900.0-E909, E928.0-.2	E958.3		E988.3	
Bites and stings³	E905.0-.6,.9 E906.0-.4,.5,.9				
Overexertion	E927				
Poisoning	E850.0-E869.9	E950.0-E952.9	E962.0-.9	E980.0-E982.9	E972
Struck by, against	E916-E917.9		E960.0; E968.2		E973, E975
Suffocation	E911-E913.9	E953.0-.9	E963	E983.0-.9	
Other specified and classifiable⁴	E846-E848, E914- E915 E918, E921.0-.9, E922.4,5 E923.0-.9, E925.0- E926.9 E928(.3-.5) , E929.0- .5	E955.5,.6,.7,.9 E958.0,.4	E960.1, E965.5- .9 E967.0-.9, E968.4,.6, .7 E979.0-.2, E979.5-.9	E985.5,.6,.7 E988.0,.4	E971, E978, E990-E994, E996 E997.0-.2
Other specified, not elsewhere classifiable	E928.8, E929.8	E958.8, E959	E968.8, E969	E988.8, E989	E977, E995, E997.8 E998, E999
Unspecified	E887, E928.9, E929.9	E958.9	E968.9	E988.9	E976, E997.9
All injury	E800-E869, E880- E929	E950-E959	E960-E969, E979	E980-E989	E970-E978, E990-E999
Adverse effects					E870-E879 E930.0- E949.9
Medical care					E870-E879
Drugs					E930.0- E949.9
All external causes					E800-E999

¹Includes legal intervention (E970-E978) and operations of war (E990-E999).

²Three 4th-digit codes (.4 [occupant of streetcar], .5 [rider of animal], .8 [other specified person]) are not presented separately because of small numbers. However, because they are included in the overall motor vehicle traffic category, the sum of these categories can be derived by subtraction.

³E968.5 (assault by transport vehicle), E906.5 (bite from unspecified animal), E922.4 (unintentional injury [gunshot wound] with BB/pellet), E955.6 (suicide attempt/intentionally self-inflicted injury [gunshot wound] with BB/pellet gun), E968.6 (assault [gunshot wound] with BB/pellet gun), E985.6 (undetermined intent injury [gunshot wound] with BB/pellet gun), E928.3 (unintentional human bite), and E968.7 (assault by human bite), are specific to the *ICD-9-CM* and, therefore, only apply to morbidity coding.

⁴E849 (place of occurrence) has been excluded from the matrix. For mortality coding, an *ICD-9* E849 code does not exist. For morbidity coding, an *ICD-9-CM* E849 code should never be first-listed E code and should only appear as an additional code to specify the place of occurrence of the injury incident.

Note: ICD-9 E codes for coding underlying cause of death apply to injury-related death data from 1979 through 1998. Then there is a new ICD-10 external cause of injury matrix that applies to death data from 1999 and after. This can be found on the [National Center for Health Statistics website](http://www.cdc.gov/nchs/nhanes/).