



Safe Kids Kansas

Report on
Unintentional
Injuries in Kansas
Children



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Introduction

EXECUTIVE SUMMARY

Preventable injury remains the leading killer of Kansas children ages 1-14, taking more lives than any other cause including chronic diseases, homicide and suicide¹. Injuries among children, unlike many diseases such as cancers, can be prevented. A helmet while biking or participating in another wheeled sport on a child can prevent a traumatic brain injury (TBI), and possibly death. A correctly used car seat or seatbelt can keep a child from being ejected during a car crash. Simple injury prevention strategies have the potential to save childrens lives. Here are some key findings described in this report.

Among children 0-14 years old:

- Motor vehicle crashes are the leading cause of unintentional injury death.
- Falls are the leading cause of unintentional injury hospital discharge and emergency department visits.
- From 2007-2008 there were 50,525 unintentional injury emergency department visits.
- From 2005-2009 there were 4,290 unintentional injury hospital discharges.
- From 2000-2010 there were 629 unintentional injury deaths.

The purpose of this document is to provide an overview and brief summaries of analysis of unintentional injury in children ages 0-14 in Kansas. Please refer to the appendix for information regarding databases, injury coding and basic statistics.

¹ CDC - Fatal Injury Data - WISQARS - Injury. (2011, January 1).*CDC- WISQARS - Injury*. Retrieved January 11, 2012, from <http://www.cdc.gov/injury/wisqars/fatal.html>

Demographic Data:

GEOGRAPHIC ANALYSIS:

In order to gain a greater understanding of how causes of unintentional injury relate to a child's location, data is reviewed regarding region as well as population density (see page 5). The regions are those defined by the Kansas Trauma Program: Northcentral, Northeast, Northwest, Southcentral, Southeast and Southwest (Table DD1). Population density refers to the number of persons residing per square mile. There are five levels of population density: frontier, rural, densely-settled rural, suburban, and urban (Table DD2).

Table DD1. Population of Kansas Children by Trauma Region, Kansas 2009

Trauma Region	Children 0-14	
	years old Count	% of Children 0-14 years old
Northcentral	24,170	4.1%
Northeast	293,385	49.9%
Northwest	15,658	2.7%
Southcentral	179,991	30.6%
Southeast	35,758	6.1%
Southwest	39,561	6.7%
Total	588,523	100.0%

Source: 2009 U.S. Census Bureau Data

Most children in Kansas 0-14 years old in 2009 resided in the Northeast and Southcentral Trauma Regions. These regions contain larger cities such as Topeka, Lawrence, Kansas City, and Overland Park in the Northeast Trauma Region, and Wichita for the Southcentral Trauma Region. These two regions account for 80% of the Kansas child population 0-14 years old in 2009 (Table DD1).

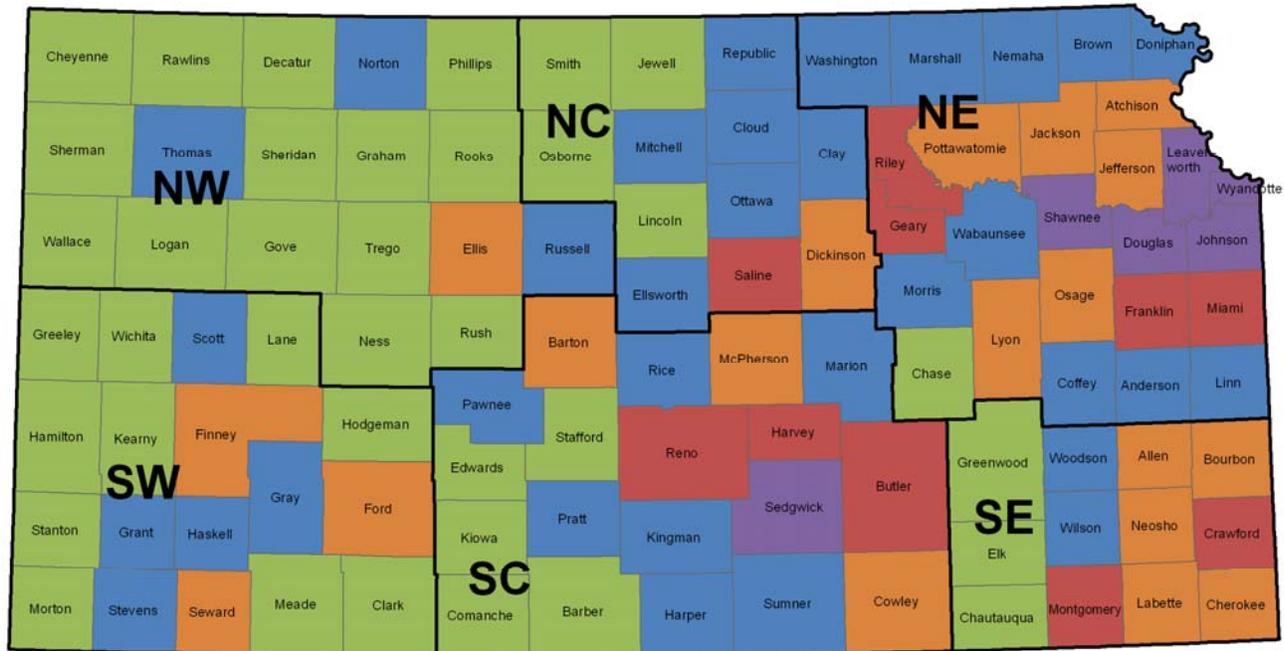
Table DD2. Population of Kansas Children by Population Density, Kansas 2009

Population Density	All Persons Per Square Mile	Children 0-14	
		years old Count	% of Children 0-14 years old
Frontier	0.0-5.9	21,342	3.6%
Rural	6.0-19.9	49,972	8.5%
DSR	20.0-39.9	94,289	16.0%
Semi-Urban	40.0-149.9	89,295	15.2%
Urban	150.0+	333,625	56.7%
Total		588,523	100.0%

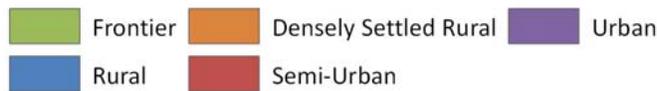
Source: 2009 U.S. Census Bureau Data

Referring to 2009 Census data, the majority of Kansas children 0-14 years old resided in Urban communities (57 percent) (Table DD2). Only 12.1 percent of children resided in Frontier and Rural communities (Table DD2).

Kansas Population Density 2009



Legend



Created September 2011

Source: Kansas Department of Health and Environment,
Bureau of Health Promotion Injury Prevention & Disability

Disclaimer:

The purpose of this map is to show the population density of Kansas counties. This map product is provided without representation or implied or expressed warranty of accuracy for any uses beyond those expressed. The originating agencies are not responsible for publication or use of this product for purposes other than those expressed. This product may be corrected or updated as necessary without prior notification.

Table DD3. Population of Children 0-14 years old in Kansas by Trauma Region, Kansas 2009

Trauma Region	County	Population 0-14 years old	% of Population 0-14 years old
Northcentral	Clay	1,690	6.99%
	Cloud	1,599	6.62%
	Dickinson	3,776	15.62%
	Ellsworth	905	3.74%
	Jewell	417	1.73%
	Lincoln	561	2.32%
	Mitchell	1,083	4.48%
	Osborne	612	2.53%
	Ottawa	1,216	5.03%
	Republic	717	2.97%
	Saline	11,042	45.68%
	Smith	552	2.28%
	Total	24,170	100.00%
Northeast	County	Population 0-14 years old	% of Population 0-14 years old
	Anderson	1,668	0.57%
	Atchison	3,309	1.13%
	Brown	2,054	0.70%
	Chase	560	0.19%
	Coffey	1,666	0.57%
	Doniphan	1,323	0.45%
	Douglas	17,464	5.95%
	Franklin	5,547	1.89%
	Geary	7,153	2.44%
	Jackson	2,964	1.01%
	Jefferson	3,386	1.15%
	Johnson	115,833	39.48%
	Leavenworth	15,646	5.33%
	Linn	1,791	0.61%
	Lyon	6,387	2.18%
	Marshall	1,923	0.66%
	Miami	6,762	2.30%
	Morris	1,046	0.36%
	Nemaha	2,110	0.72%
	Osage	3,172	1.08%
	Pottawatomie	4,604	1.57%
	Riley	11,649	3.97%
	Shawnee	36,198	12.34%
	Wabaunsee	1,393	0.47%
	Washington	1,051	0.36%
	Wyandotte	36,726	12.52%
	Total	293,385	100.00%

Table DD3. Population of Children 0-14 years old in Kansas by Trauma Region, Kansas 2009

Northwest	County	Population 0-14	% of Population 0-14
		years old	years old
	Cheyenne	419	2.68%
	Decatur	423	2.70%
	Ellis	4,678	29.88%
	Gove	458	2.93%
	Graham	364	2.32%
	Logan	449	2.87%
	Ness	492	3.14%
	Norton	843	5.38%
	Phillips	930	5.94%
	Rawlins	338	2.16%
	Rooks	928	5.93%
	Rush	508	3.24%
	Russell	1,158	7.40%
	Sheridan	465	2.97%
	Sherman	1,067	6.81%
	Thomas	1,375	8.78%
	Trego	491	3.14%
	Wallace	272	1.74%
	Total	15,658	100.00%
Southcentral	County	Population 0-14	% of Population 0-14
		years old	years old
	Barber	808	0.45%
	Barton	5,569	3.09%
	Butler	13,836	7.69%
	Comanche	341	0.19%
	Cowley	6,809	3.78%
	Edwards	616	0.34%
	Harper	1,087	0.60%
	Harvey	7,045	3.91%
	Kingman	1,392	0.77%
	Kiowa	405	0.23%
	Marion	2,125	1.18%
	McPherson	5,397	3.00%
	Pawnee	1,110	0.62%
	Pratt	1,792	1.00%
	Reno	12,332	6.85%
	Rice	1,924	1.07%
	Sedgwick	111,758	62.09%
	Stafford	794	0.44%
	Sumner	4,851	2.70%
	Total	179,991	100.00%

Table DD3. Population of Children 0-14 years old in Kansas by Trauma Region, Kansas 2009

Southeast	County	Population 0-14	% of Population 0-14
		years old	years old
	Allen	2,497	6.98%
	Bourbon	3,107	8.69%
	Chautauqua	591	1.65%
	Cherokee	4,185	11.70%
	Crawford	7,203	20.14%
	Elk	504	1.41%
	Greenwood	1,213	3.39%
	Labette	4,255	11.90%
	Montgomery	6,726	18.81%
	Neosho	3,182	8.90%
	Wilson	1,810	5.06%
	Woodson	485	1.36%
	Total	35,758	100.00%
<hr/>			
Southwest	County	Population 0-14	% of Population 0-14
		years old	years old
	Clark	404	1.02%
	Finney	11,371	29.76%
	Ford	8,954	22.63%
	Grant	1,924	4.86%
	Gray	1,546	3.91%
	Greeley	254	0.64%
	Hamilton	600	1.52%
	Haskell	1,050	2.65%
	Hodgeman	377	0.95%
	Kearny	1,029	2.60%
	Lane	311	0.79%
	Meade	1,034	2.61%
	Morton	767	1.94%
	Scott	968	2.45%
	Seward	6,687	16.90%
	Stanton	513	1.30%
	Stevens	1,297	3.28%
	Wichita	475	1.20%
	Total	39,561	100.00%

Source: 2009 U.S. Census Bureau Data

Table DD3 is showing 2009 population data for children 0-14 years old for all Kansas counties. The counties that are in bold have the largest population of children 0-14 years old for that region.

RACE

Table DD4. Racial Makeup of Children 0-14 years old by Trauma Region, Kansas 2009

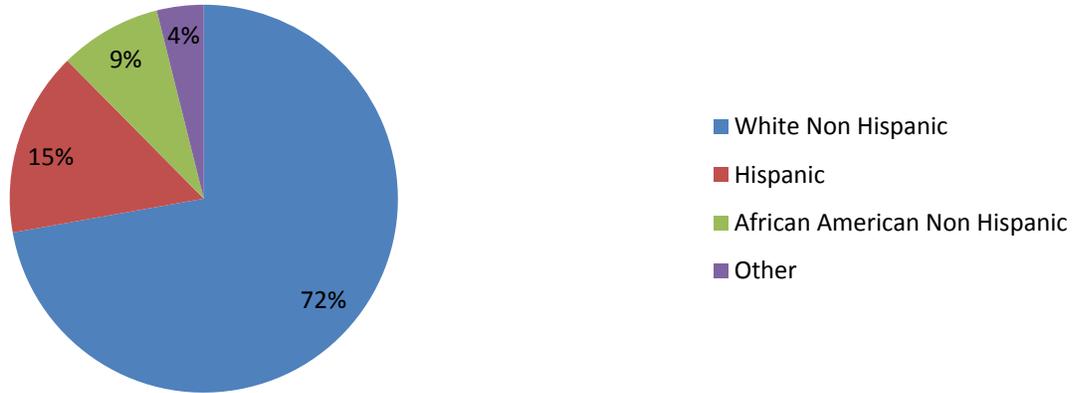
Trauma Region	Race Group	Population 0-14 years old	% of Population 0-14 years old by Trauma Region
Northcentral	White Non-Hispanic	20,500	84.8%
	Hispanic	2,199	9.1%
	African American Non-Hispanic	1,020	4.2%
	Other	451	1.9%
	Total	24,170	100.0%
Northeast	White Non-Hispanic	214,168	73.0%
	Hispanic	36,809	12.5%
	African American Non-Hispanic	29,693	10.1%
	Other	12,715	4.4%
	Total	293,385	100.0%
Northwest	White Non-Hispanic	14,231	90.9%
	Hispanic	1,001	6.4%
	African American Non-Hispanic	286	1.8%
	Other	140	0.9%
	Total	15,658	100.0%
Southcentral	White Non-Hispanic	129,232	71.8%
	Hispanic	26,646	14.8%
	African American Non-Hispanic	16,418	9.1%
	Other	7,695	4.3%
	Total	179,991	100.0%
Southeast	White Non-Hispanic	30,862	86.3%
	African American Non-Hispanic	1,906	5.3%
	Hispanic	1,855	5.2%
	Other	1,135	3.2%
	Total	35,758	100.0%
Southwest	Hispanic	21,859	55.3%
	White Non-Hispanic	16,209	41.0%
	African American Non-Hispanic	810	2.1%
	Other	683	1.7%
	Total	39,561	100.0%
Kansas Overall	White Non-Hispanic	425,202	72.2%
	Hispanic	90,369	15.4%
	African American Non-Hispanic	50,133	8.5%
	Other	22,819	3.9%
	Total	588,523	100.0%

Source: 2009 U.S. Census Bureau

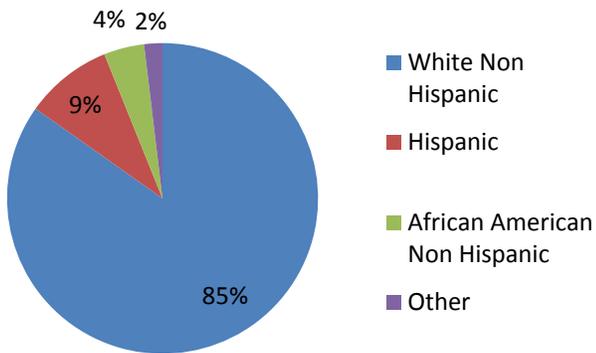
Note: Other race includes: Native American Non-Hispanic, Asian or Pacific Islander Non-Hispanic

Figure DD1. Racial Make-Up of Children 0-14 years old in Kansas by Trauma Region, Kansas 2009

Kansas Overall



Northcentral



Northeast

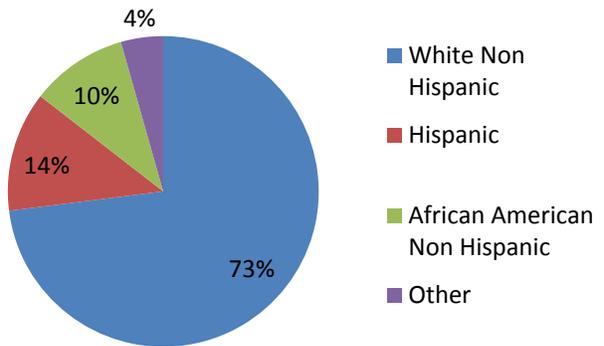
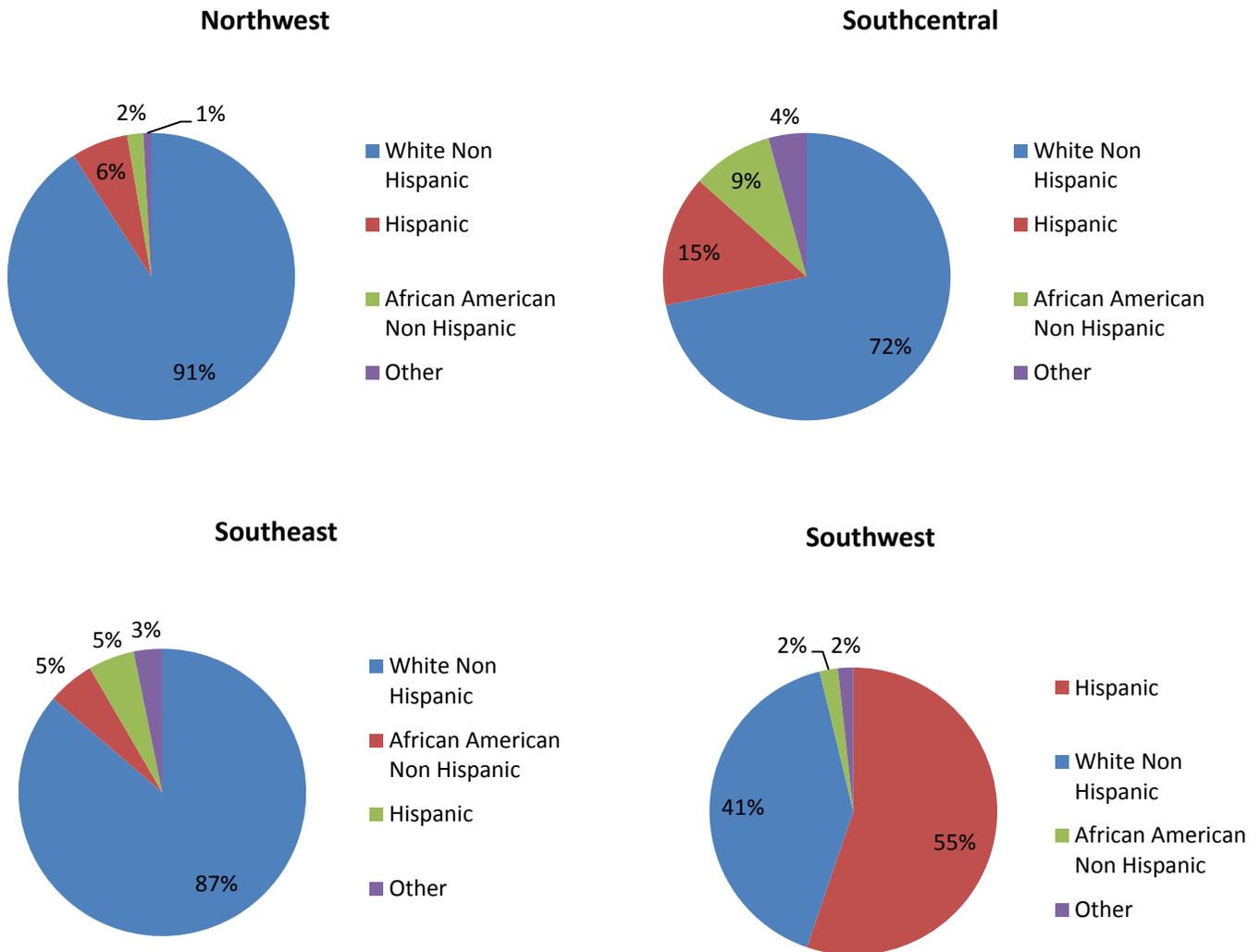


Figure DD1. Racial Make-Up of Children 0-14 years old in Kansas by Trauma Region, Kansas 2009



Source: 2009 U.S. Census Bureau

Note: Other race includes: Native American Non-Hispanic, Asian or Pacific Islander Non-Hispanic

The overall racial makeup of children 0-14 years old in Kansas is fairly consistent across all regions (Table DD4, Figure DD1). A majority of the children living in Kansas in 2009 were White (72%, n=425,202); the second highest racial group were Hispanics (15%, n=90,369). Most of the regions in Kansas had the same racial makeup for children, predominately White with Hispanics being the largest minority race group. The one exception is the Southwest Region in which half of all children ages 14 years and younger were Hispanic (55%, n=21,859).

Table DD5. Racial Makeup of Children 0-14 years old by Population Density, Kansas 2009

Population Density	Race	Population 0-14 years old	% of Population 0-14 years old by Population Density
Frontier	White Non-Hispanic	18,012	84.4%
	Hispanic	2,846	13.3%
	African American Non-Hispanic	271	1.3%
	Other	213	1.0%
	Total	21,342	100.0%
Rural	White Non-Hispanic	43,233	86.5%
	Hispanic	4,815	9.6%
	African American Non-Hispanic	1,149	2.3%
	Other	775	1.6%
	Total	49,972	100%
Densely Settled-Rural	White Non-Hispanic	64,716	68.6%
	Hispanic	24,211	25.7%
	African American Non-Hispanic	3,198	3.4%
	Other	2,164	2.3%
	Total	94,289	100%
Semi-Urban	White Non-Hispanic	72,479	81.2%
	Hispanic	8,452	9.5%
	African American Non-Hispanic	5,943	6.7%
	Other	2,421	2.7%
	Total	89,295	100%
Urban	White Non-Hispanic	226,762	68.0%
	Hispanic	50,045	15.0%
	African American Non-Hispanic	39,572	11.9%
	Other	17,246	5.2%
	Total	333,625	100%
Kansas Overall	White Non-Hispanic	425,202	72.2%
	Hispanic	90,369	15.4%
	African American Non-Hispanic	50,133	8.5%
	Other	22,819	3.9%
	Total	588,523	100.0%

Source: 2009 U.S. Census Bureau

Note: Other race includes: Native American Non-Hispanic, Asian or Pacific Islander Non-Hispanic

When looking at the racial makeup of different population densities most show similar racial distributions in children as compared to the state among children ages 0-14 years old in 2009 (Table DD5). Densely settled rural communities had the highest percentage of Hispanic children (26%, n=24,211). Urban communities were still predominantly White but had much higher proportions of Hispanic and African American Non-Hispanic children.

ECONOMIC MAKEUP

Table DD6. Percentage of Children (18 years old and younger) and Adults Living in Poverty by Trauma Region, Kansas 2009

Trauma Region	% Living in Poverty All Ages	% Living in Poverty Under 18 years old
Northcentral	12.1%	17.3%
Northeast	12.8%	15.7%
Northwest	12.5%	15.8%
Southcentral	12.9%	17.4%
Southeast	17.8%	25.7%
Southwest	13.6%	19.2%
Kansas Overall	13.2%	17.1%

2009 U.S. Census Bureau¹

According to the US Census² overall 17.1% of all children (18 years and younger) in Kansas were living in poverty in 2009 (Table DD6). Most of the regions have 15% to 19% of children living in poverty with the exception of the Southeast Trauma Region where roughly one quarter of the children (25.7%) were living in poverty. The Southeast Trauma Region also has the highest rate of poverty among all ages, 17.8%.

Table DD7. Percentage of Children (18 years old and younger) and Adults living in Poverty by Population Density, Kansas 2009

Population Density	% Living in Poverty All Ages	% Living in Poverty Under 18 years old
Frontier	13.0%	18.8%
Densely-Settled Rural	14.1%	19.3%
Rural	12.0%	16.9%
Semi-Urban	14.7%	17.4%
Urban	12.7%	16.3%
Kansas Overall	13.2%	17.1%

2009 U.S. Census Bureau¹

The overall rate of poverty in Kansas was 13.2% for all ages in 2009 (Table DD7). When looking at population density regions, the highest prevalence of poverty among children was seen in those living in densely-settled rural communities (19.3%).

² About saipe.s. census bureau. (n.d.). Retrieved from <http://www.census.gov/did/www/saipe/about/index.html>

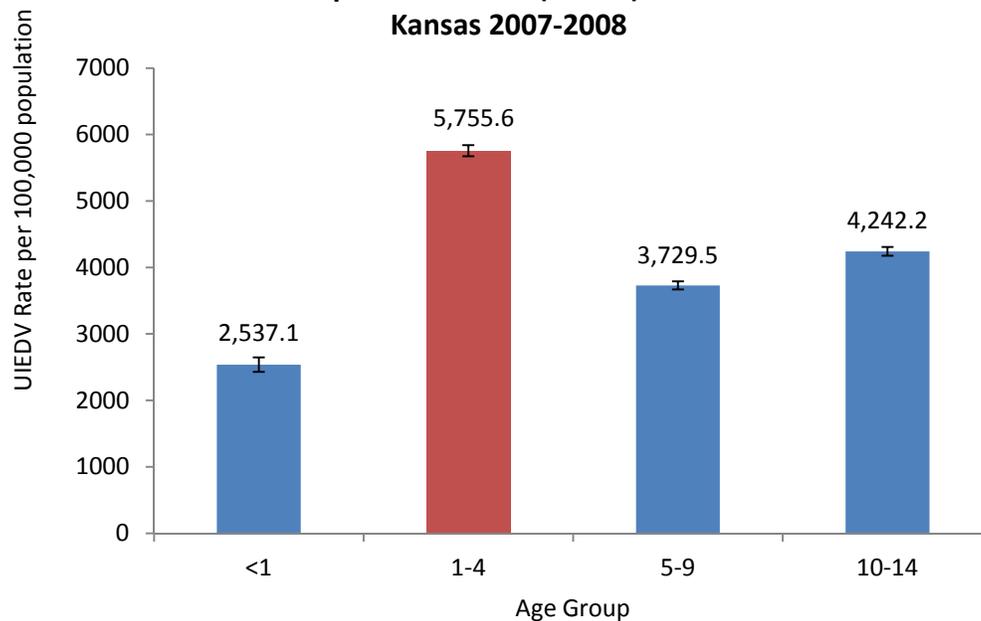
Emergency Department Visits

Quick Facts:

- From 2007-2008 there were 50,525 unintentional injury emergency department visits (UIEDV) among children ages 0-14 years old. 58% of all UIEDV were male (n=29,433) and 42% were female (n=21,087).
- Highest UIEDV rate was in children ages one to four years old.
- Falls are the leading cause of UIEDV.
- Traumatic Brain Injury (TBI) UIEDV rate was highest in children under the age of one.

BY AGE

**Figure ED1. Age-Specific Unintentional Injury Emergency Department Visit (UIEDV) Rates
Kansas 2007-2008**



**Table ED1. Age-Specific Unintentional Injury Emergency Department Visits (UIEDV) Rates
Kansas 2007-2008**

Age Group (Years)	# UIEDV	Population Size 0-14 years old 2007-2008	UIEDV Rate*	Lower 95% CI	Upper 95% CI
<1	2,102	82,851	2,537.1	2,428.6	2,645.5
1-4	18,177	315,816	5,755.6	5,671.9	5,839.2
5-9	14,274	382,737	3,729.5	3,668.3	3,790.6
10-14	15,972	376,501	4,242.2	4,176.4	4,308.0
0-14	50,525	1,157,905	4,363.5	4,325.4	4,401.5

Source: 2007-2008 Emergency Department Database, Kansas Hospital Association. 2007-2008 U.S. Census Bureau.

*Rate per 100,000 population

Unintentional injury emergency department visit rates were highest in children between the ages of one and four years (5,755.6 UIEDV visits per 100,000 population, 95% CI: 5,671.9-5,839.2) from 2007 to 2008, (Figure ED1 and Table ED1). The lowest rate was among children under the age of one year (2,537.1 UIEDV visits per 100,000 population, 95% CI: 2,428.6-2,645.5).

**Table ED2. Age-Specific Top Five Causes of Unintentional Injury Emergency Department Visits (UIEDV)
Kansas 2007-2008**

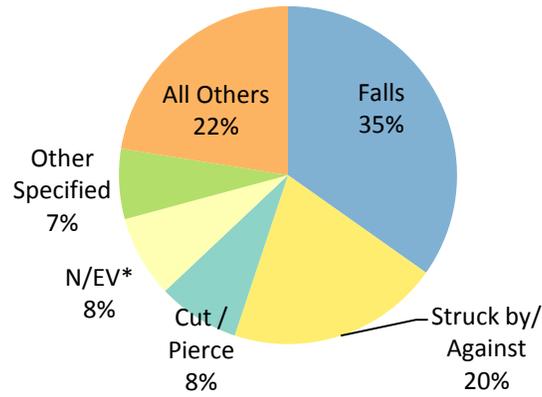
Age Group (Years)	Cause	# of UIEDV	% Total UIEDV by Age Group
<1	Falls	951	45%
	Struck By/Against	249	12%
	Other Specified	170	8%
	Natural / Environmental	134	6%
	Fire / Burn	116	6%
	All Other	482	23%
	Total	2,102	100%
1-4	Falls	7,094	39%
	Struck by/Against	2,811	15%
	Natural / Environmental	1,845	10%
	Other Specified	1,564	9%
	Cut / Pierce	1,091	6%
	All Other	3,772	21%
	Total	18,177	100%
5-9	Falls	4,986	35%
	Struck by/Against	2,986	21%
	Cut / Pierce	1,326	9%
	Natural / Environmental	1,230	9%
	Other Specified	984	7%
	All Other	2,762	19%
	Total	14,274	100%
10-14	Falls	4,552	29%
	Struck by / Against	4,211	26%
	Overexertion	1,581	10%
	Cut / Pierce	1,482	9%
	Natural / Environmental	749	5%
	Other Pedal Cyclist	681	4%
	All Other	2,716	17%
	Total	15,972	100%
0-14	Falls	17,583	35%
	Struck by/Against	10,257	20%
	Cut / Pierce	3,974	8%
	Natural / Environmental	3,958	8%
	Other Specified	3,392	7%
	All Other	11,361	22%
	Total	50,525	100%

Source: 2007-2008 Emergency Department Database, Kansas Hospital Association.

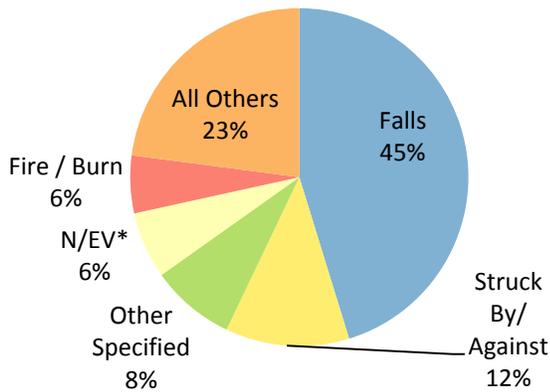
Falls were the leading cause of UIEDV visits among children ages 0-14 years old from 2007 to 2008 (35%, n=17,583). Struck by/Against was the second leading cause of UIEDV visits (20%, n=10,257) (Table ED2 and Figure ED2).

**Figure ED2. Age-Specific Top 5 Causes of Unintentional Injury Emergency Department Visits
Kansas 2007-2008**

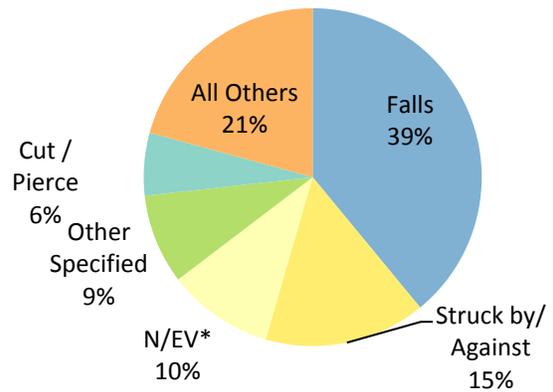
0-14 years old



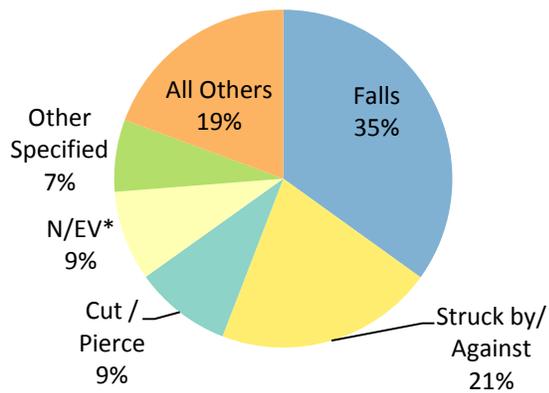
<1 years old



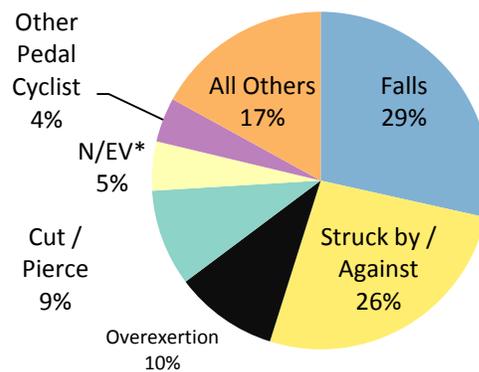
1-4 years old



5-9 years old



10-14



*N/EV: Natural/Environmental

Source: 2007-2008 Emergency Department Database, Kansas Hospital Association.

TRAUMATIC BRAIN INJURY

Figure ED3. Age-Specific Traumatic Brain Injury (TBI) Related Unintentional Injury Emergency Department Visit (UIEDV) Rates, Kansas 2007-2008

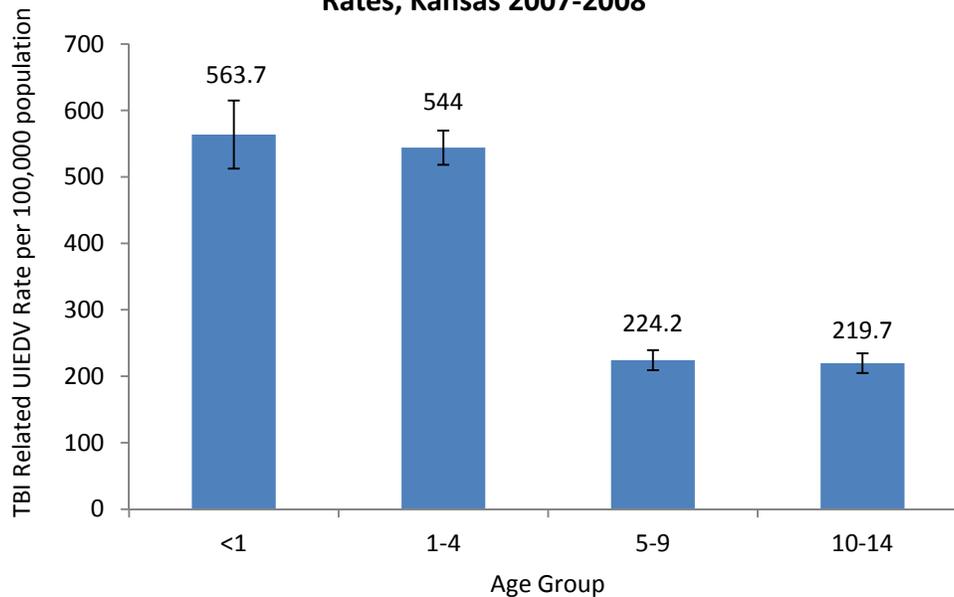


Table ED3. Age-Specific Traumatic Brain Injury (TBI) Related Unintentional Injury Emergency Department Visit (UIEDV) Rates, Kansas 2007-2008

Age Group (Years)	# TBI Related UIEDV	Population Size 0-14 years old 2007-2008	TBI Related UIEDV Rate*	Lower 95% CI	Upper 95% CI
<1	467	82,851	563.7	512.5	614.8
1-4	1,718	315,816	544.0	518.3	569.7
5-9	858	382,737	224.2	209.2	239.2
10-14	827	376,501	219.7	204.7	234.6
0-14	3,870	1,157,905	334.2	323.7	344.8

*Rate per 100,000 population

Source: 2007-2008 Emergency Department Database, Kansas Hospital Association. 2007-2008 U.S. Census Bureau.

TBI related UIEDV rates were much higher among younger children from 2007 to 2008 (Figure ED3 and Table ED3). Children under the age of one year (563.7 TBI related UIEDV visit per 100,000 population, 95% CI: 512.5-614.8) and children between the ages of one and four years (544.0 TBI related UIEDV per 100,000 population, 95% CI: 518.3-569.7) had statistically higher rates than those between the ages five to nine years (224.2 TBI related UIEDV per 100,000 population, 95% CI: 209.2-239.2) and ten to fourteen years (219.7 TBI related UIEDV per 100,000 population, 95% CI: 204.7-234.6).

Table ED4. Unintentional Injury Emergency Department Visits (UIEDV) Cause with the Highest Prevalence of Traumatic Brain Injury (TBI), Kansas 2007-2008

Cause	# UIEDV		Total # UIEDV	% UIEDV
	W/ TBI	W/O TBI		W/TBI
Falls	2,291	15,292	17,583	13%
Struck By/Against	1,079	9,178	10,257	11%
Motor Vehicle Crash	154	1,366	1,520	10%
Other Transportation	67	633	700	10%
Other Pedal Cyclist	134	1,332	1,466	9%
All Other	145	18,854	18,999	1%
Total	3,870	46,655	50,525	8%

*For more information on Other Transportation see appendix xiii.

Source: 2007-2008 Emergency Department Database, Kansas Hospital Association.

From 2007 to 2008 among children 0-14 years old, 8% of all UIEDV in Kansas involved a TBI. The cause with the highest prevalence of TBI was falls in which 13% of all UIEDV included a TBI (Table ED4).

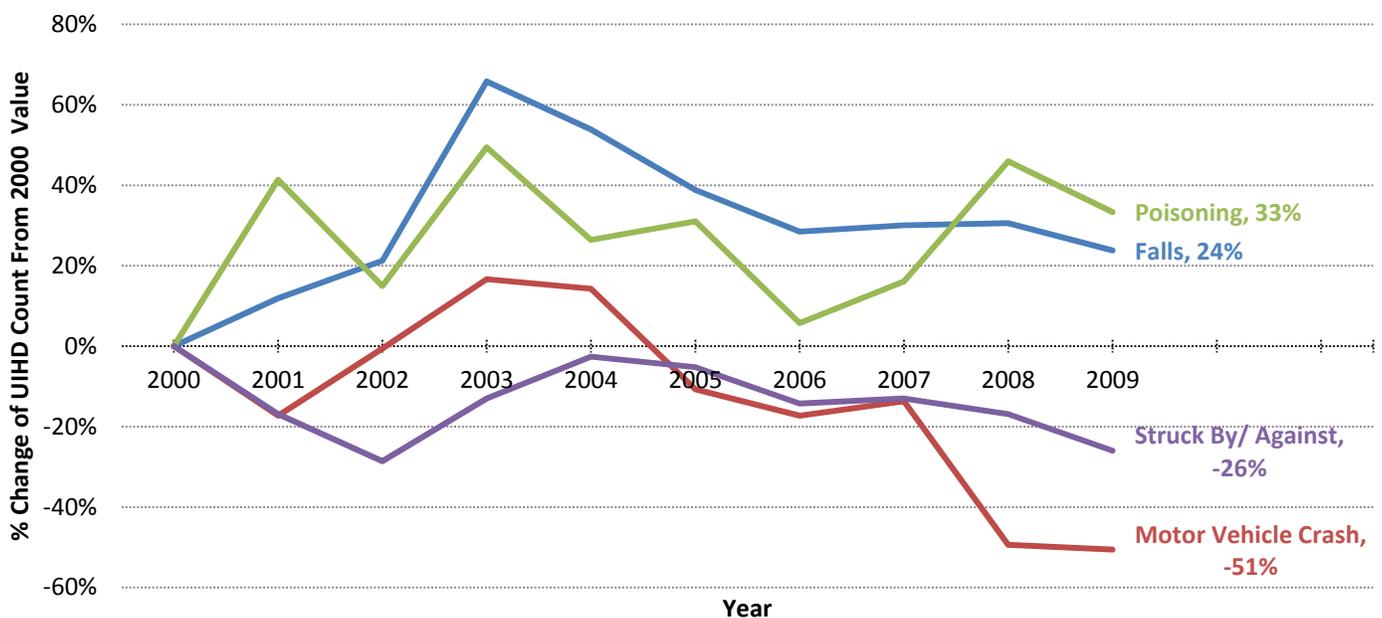
HOSPITAL DISCHARGES

Quick Facts:

- From 2005 to 2009
 - There were 4,290 unintentional injury hospital discharges (UIHD) among children 0-14 years old. 62% of all UIHD were males (n=2,680) and 38% (n=1,596) were females.
 - Younger age children (under age one year and ages one to four years) are more likely to have unintentional injury hospital discharges (UIHD) compared to older groups.
 - Falls are the leading cause of UIHD.

TRENDS

Figure HD1. Ten Year Trends of the Top Four Causes of Unintentional Injury Hospital Discharge (UIHD) Among Children 0-14, Kansas 2000-2009



Source: 2000-2009 Hospital Discharge Database, Kansas Hospital Association.

- Between 2000 and 2009
 - There was a 51% decrease in the number of motor vehicle crash UIHD, from 168 discharges in 2000 to 83 discharges in 2009 among children 0-14 years old, (Figure HD1).
 - There was a 33% increase in poisoning UIHD, from 87 discharges in 2000 to 116 discharges in 2009.
 - Discharges due to struck by/against dropped by 26% from 77 struck by/against UIHD in 2000 to 57 discharges in 2009.
 - Discharges due to falls had an erratic trend peaking in 2003 and moving downward but still being 24% higher in 2009 compared to 2000 with 193 fall UIHD in 2000 and 239 discharges in 2009.

BY AGE

Figure HD2. Age-Specific Unintentional Injury Hospital Discharge (UIHD) Rates, Kansas 2005-2009

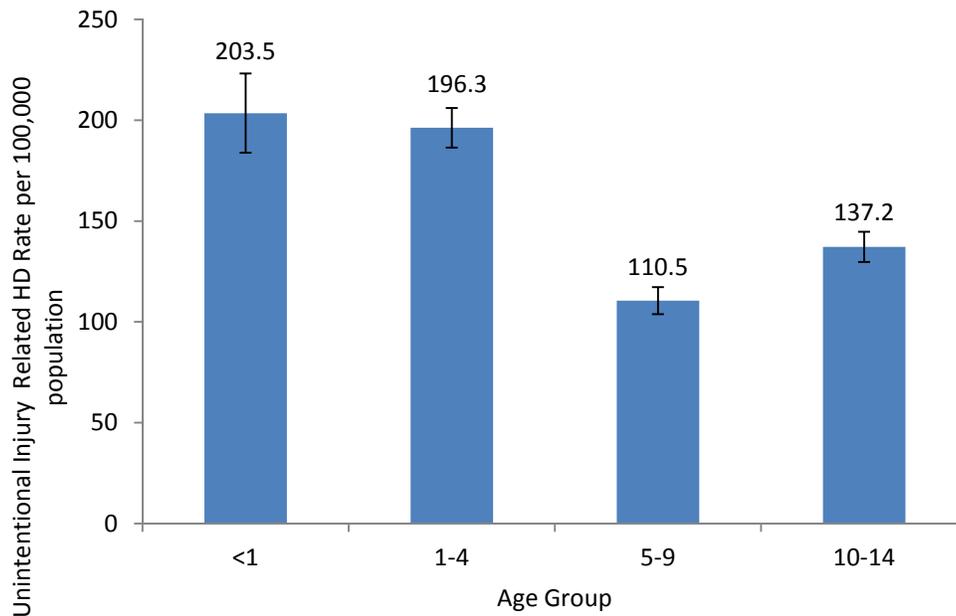


Table HD1. Age-Specific Unintentional Injury Hospital Discharge (UIHD) Rates, Kansas 2005-2009

Age Group (Years)	# UIHD	Population Size 0-14 years old 2005-2009	UIHD Rate*	Lower 95% CI	Upper 95% CI
<1	412	202,412	203.5	183.9	223.2
1-4	1,538	783,689	196.3	186.4	206.1
5-9	1,045	946,016	110.5	103.8	117.2
10-14	1,295	943,747	137.2	129.7	144.7
0-14	4,290	2,875,864	149.2	144.7	153.6

*Rate per 100,000 population

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau.

Among children 0-14 years old, from 2005 to 2009, the age group with highest rate of UIHD was children under the age of one year (203.5 UIHDs per 100,000 population, 95% CI: 183.9-223.2) and children between the ages of one and four years (196.3 UIHDs per 100,000 population, 95% CI: 186.4-206.1), Figure HD2 and Table HD1. Both of these groups had statistically significant higher rates than those in the five to nine age group (110.5 UIHD per 100,000 population, 95% CI: 103.8-117.2) and those in the ten to fourteen age group (137.2 UIHD per 100,000 population, 95% CI: 129.7-144.7).

**Table HD2. Age-Specific Top Five Causes of Unintentional Injury Hospital Discharges (UIHD)
Kansas 2005-2009**

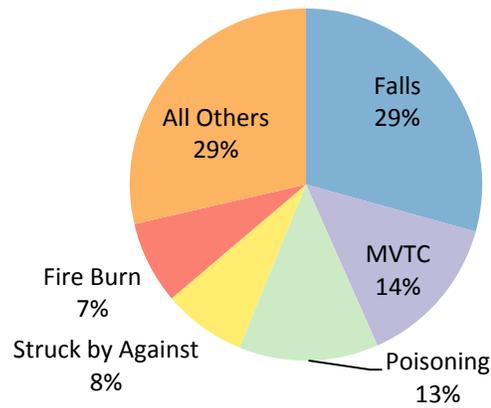
Age Group (Years)	Cause	# of UIHD	% of total UIHD by Age Group
<1	Falls	139	34%
	Fire/Burn	45	11%
	Poisoning	43	10%
	Not Specified	37	9%
	Other Specified	37	9%
	All Other	111	27%
	Total	412	100%
1-4	Poisoning	420	27%
	Falls	413	27%
	Fire/Burn	184	12%
	Motor Vehicle Crash	112	7%
	Other Specified	81	5%
	All Other	328	22%
	Total	1,538	100%
5-9	Falls	347	33%
	Motor Vehicle Crash	200	19%
	Other Transport	86	8%
	Struck By Against	74	7%
	Natural/Environmental	73	7%
	All Other	265	25%
	Total	1,045	100%
10-14	Falls	359	28%
	Motor Vehicle Crash	268	21%
	Other Transport	159	12%
	Struck by Against	153	12%
	Other Pedal Cyclist	71	5%
	All Other	285	22%
	Total	1,295	100%
0-14	Falls	1,258	29%
	Motor Vehicle Crash	602	14%
	Poisoning	550	13%
	Struck by Against	327	8%
	Fire Burn	326	8%
	All Other	1,227	28%
	Total	4,290	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

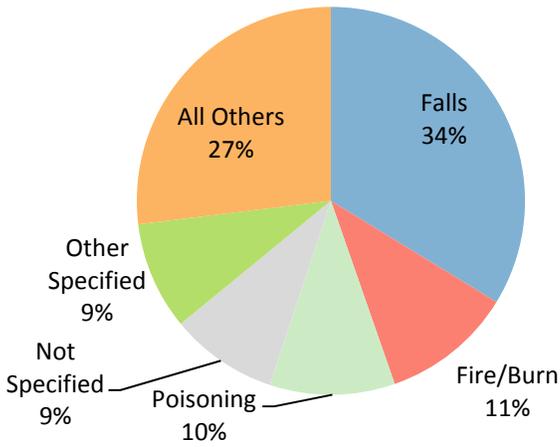
Different age groups show a variation of UIHD causes. Among children ages 0-14 years old from 2005 to 2009 the most common cause of UIHD was falls (29%, n=1,258), (Table HD2 and Figure HD3). For children under the age of one year, fire/burn (11%, n=45) was the second leading cause of UIHD. Falls was the leading cause of UIHD for all age groups except those one to four years old. Poisoning was the leading cause of UIHD for those ages one to four years (27%, n=420).

Figure HD3. Age-Specific Top Five Causes of Unintentional Injury Hospital Discharges Kansas 2005–2009

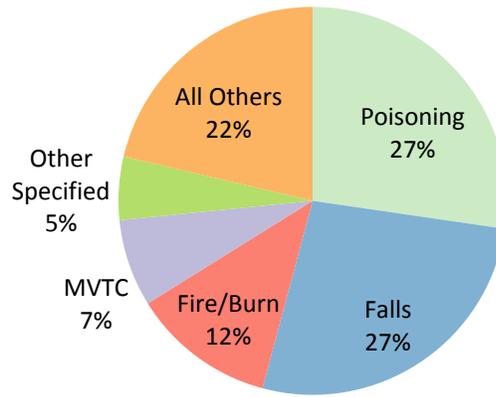
0-14 years old



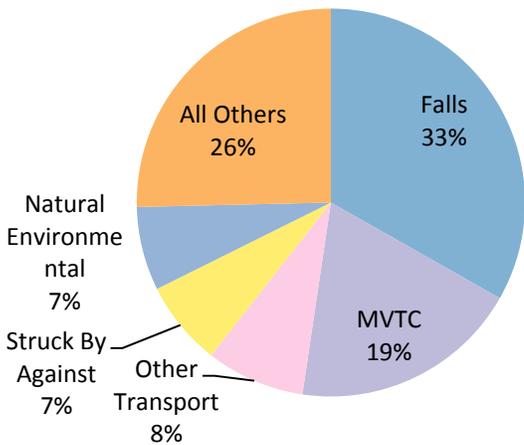
<1 years old



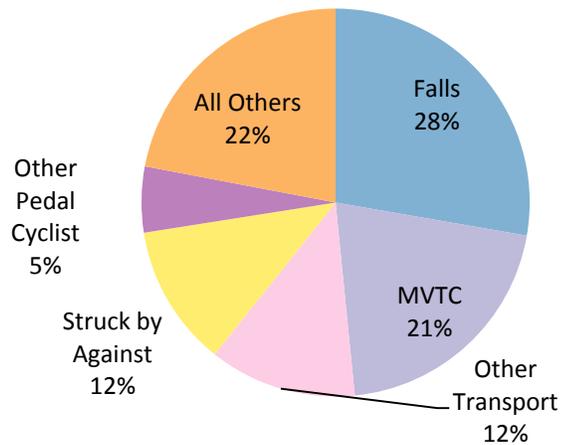
1-4 years old



5-9 years old



10-14 years old



*N/EV: Natural/Environmental

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

BY TRAUMA REGION

Figure HD4. Unintentional Injury Hospital Discharge (UIHD) Rates By Trauma Region among Children 0-14, Kansas 2005-2009

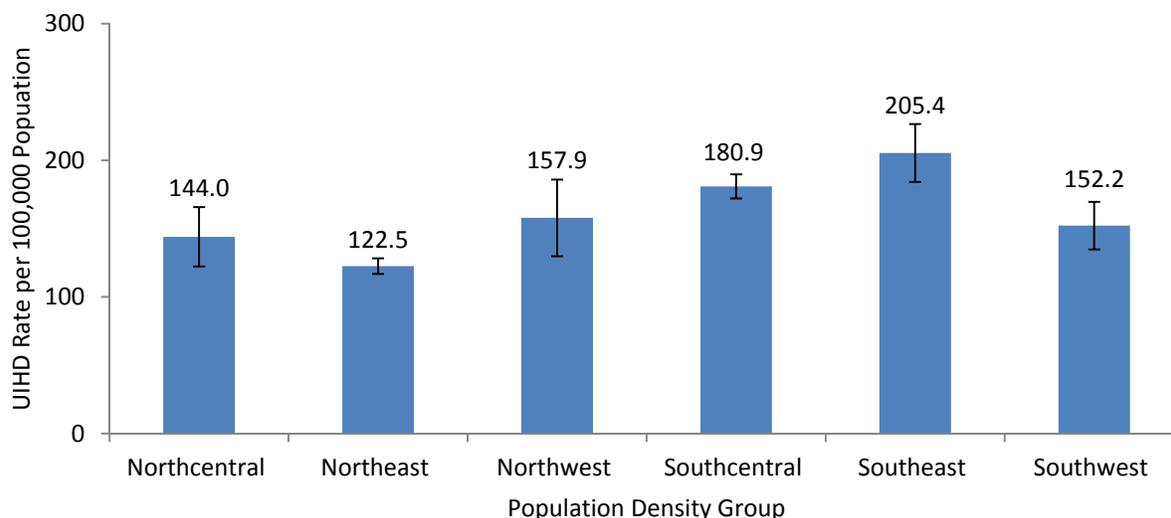


Table HD3. Unintentional Injury Hospital Discharge (UIHD) Rates by Trauma Region Among Children 0-14 years old, Kansas 2005-2009

Trauma Region	# UIHD	Population Size 0-14 years old 2005-2009	% of Total UIHD	UIHD Rate*	Lower 95% CI	Upper 95% CI
Northcentral	169	117,336	4%	144.0	122.3	165.7
Northeast	1,760	1,436,591	41%	122.5	116.8	128.2
Northwest	122	77,288	3%	157.9	129.8	185.9
Southcentral	1,583	875,093	37%	180.9	172.0	189.8
Southeast	361	175,721	8%	205.4	184.2	226.6
Southwest	295	193,835	7%	152.2	134.8	169.6
Total	4,290	2,875,864	100%	149.2	144.7	153.6

*Per 100,000 population

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau

From 2005 to 2009, children 0-14 years old living in the Southeast Trauma Region had the highest rate of UIHD in the state of Kansas (205.4 UIHD per 100,000 population, 95% CI: 184.2-226.6), (Figure HD4 and Table HD3). The lowest rates of UIHD were in the Northeast Trauma Region (122.5 UIHDs per 100,000 population, 95% CI: 116.8-128.2).

From 2005 to 2009, most regions had a very similar proportion of injuries among children ages 0-14 years old (Table HD4). The one region that does stand out is the Southeast Trauma Region, which has nearly the same number of motor vehicle crash discharges (19%, n=69), fall discharges (19%, n=68) and poisoning (18%, n=66). The Southeast Trauma Region also has the highest discharge rate for overall unintentional injury (Table HD3).

Table HD4. Top Five Causes of Unintentional Injury Hospital Discharges (UIHD) by Trauma Region Among Children 0-14 years old, Kansas 2005-2009

Trauma Region	Cause	# of UIHD	% of total UIHD by Trauma Region
Northcentral	Falls	47	28%
	Motor Vehicle Crash	29	17%
	Poisoning	22	13%
	Struck By Against	15	9%
	Other Transportation	13	8%
	All Other	43	25%
	Total	169	100%
Northeast	Falls	508	29%
	Motor Vehicle Crash	235	13%
	Fire/Burn	194	11%
	Poisoning	193	11%
	Struck By Against	136	8%
	All Other	494	28%
	Total	1,760	100%
Northwest	Falls	42	34%
	Motor Vehicle Crash	24	20%
	Struck By Against	11	9%
	Other Specified	8	7%
	Fire/Burn	7	6%
	Poisoning	7	6%
	All Other	23	19%
	Total	122	100%
Southcentral	Falls	508	32%
	Poisoning	237	15%
	Motor Vehicle Crash	204	13%
	Struck By Against	116	7%
	Other Transport	96	6%
	All Other	422	27%
	Total	1,583	100%
Southeast	Falls	69	19%
	Motor Vehicle Crash	68	19%
	Poisoning	66	18%
	Other Transport	30	8%
	Natural / Environmental	27	7%
	All Other	101	28%
	Total	361	100%

Southwest	Falls	84	28%
	Motor Vehicle Crash	42	14%
	Fire / Burn	29	10%
	Poisoning	25	8%
	Natural / Environmental	23	8%
	Other Transport	23	8%
	Struck By Against	23	8%
	All Other	46	16%
	Total	295	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

BY POPULATION DENSITY

Figure HD5. Unintentional Injury Hospital Discharge (UIHD) Rates By Population Density among Children 0-14, Kansas 2005-2009

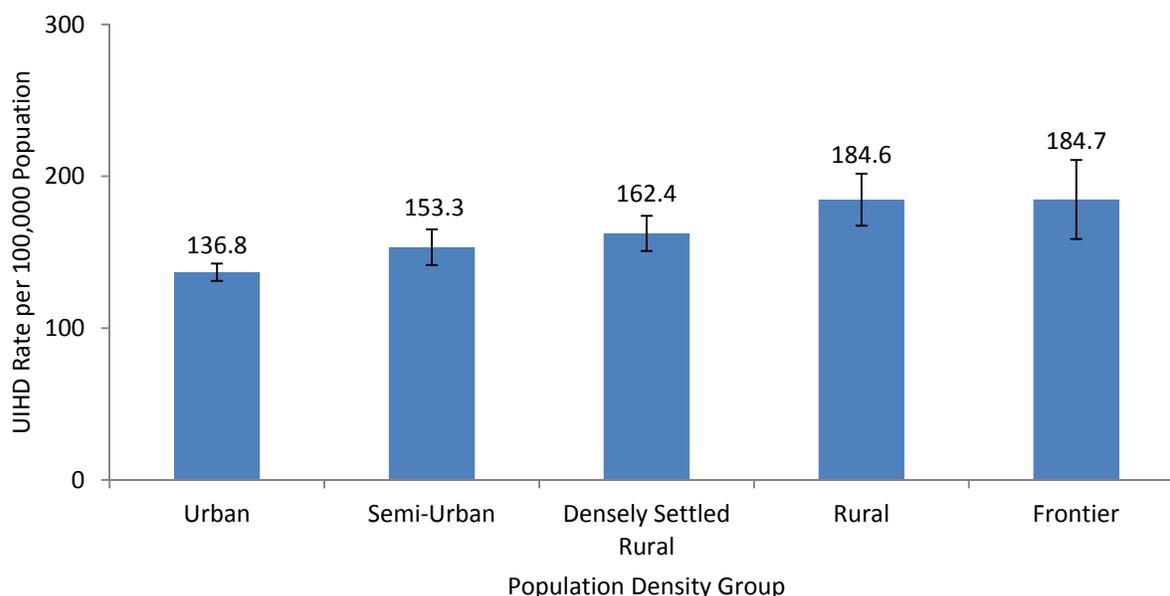


Table HD5. Unintentional Injury Hospital Discharge (UIHD) Rates by Population Density Among Children 0-14 years old , Kansas 2005-2009

Population Density Group	# of UIHD	Population Size 0-14 years old 2005-2009	% of Total UIHD	UIHD Rate*	Lower 95% CI	Upper 95% CI
Urban	2,234	1,633,184	52%	136.8	131.1	142.5
Semi-Urban	661	431,241	15%	153.3	141.6	165.0
Densely Settled Rural	755	464,799	18%	162.4	150.8	174.0
Rural	446	241,585	10%	184.6	167.5	201.7
Frontier	194	105,055	5%	184.7	158.7	210.7
Total	4,290	2,875,864	100%	149.2	144.7	153.6

*Per 100,000 population

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau

From 2005 to 2009, children ages 0-14 years old living in Urban areas had lower discharge rates for unintentional injury (136.8 UIHD per 100,000 population, 95% CI: 131.1-142.5) compared to those living in Frontier areas (184.7 UIHD per 100,000 population, 95% CI: 158.7-210.7), Figure HD5 and Table HD5. Frontier and Rural groups have very similar rates, while Urban and Semi-Urban have similar rates.

Table HD6. Top Five Causes of Unintentional Injury Hospital Discharges (UIHD) by Population Density Group Among Children 0-14 years old, Kansas 2005-2009

Population Density Group	Cause	# of UIHD	% of Total UIHD by Population Density
Frontier	Falls	48	25%
	Motor Vehicle Crash	35	18%
	Struck by/Against	20	10%
	Other Transportation	16	8%
	Poisoning	16	8%
	All Others	59	30%
	Total	194	100%
Rural	Falls	112	25%
	Motor Vehicle Crash	75	17%
	Poisoning	52	12%
	Other Transportation	47	11%
	Natural/Environmental	32	7%
	All Others	128	29%
	Total	446	100%
Densely Settled Rural	Falls	191	25%
	Motor Vehicle Crash	112	15%
	Poisoning	98	13%
	Struck by/Against	62	8%
	Other Transportation	61	8%
	All Others	231	31%
	Total	755	100%
Semi-Urban	Falls	188	28%
	Motor Vehicle Crash	103	16%
	Poisoning	97	15%
	Struck by/Against	51	8%
	Other Transportation	47	7%
	All Others	175	27%
	Total	661	100%
Urban	Falls	719	32%
	Motor Vehicle Crash	287	13%
	Poisoning	277	12%
	Fire/Burn	189	8%
	Struck by/Against	168	8%
	All Others	594	27%
	Total	2,234	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

From 2005 to 2009, the leading cause of UIHD among children 0-14 years old was falls across all population density regions. Urban (8%, n=189) was the only population density group to have fire/burn in the top five causes of UIHD (Table HD6).

Table HD7. Top Causes of Unintentional Injury Hospital Discharges (UIHD) by Population Density Group Among Children Under the Age of One, Kansas 2005-2009

Population Density Group	Cause	# of UIHD	% of Total UIHD by Population Density
Frontier*	Total	9	100%
Rural*	Falls	14	34%
	Suffocation	7	17%
	All Others	20	49%
	Total	41	100%
Densely Settled Rural	Falls	16	27%
	Fire/Burn	8	13%
	Poisoning	7	12%
	Natural/Environmental	6	10%
	Motor Vehicle Crash	5	8%
	Other Specified	5	8%
	All Others	13	22%
	Total	60	100%
Semi-Urban	Falls	26	39%
	Poisoning	8	12%
	Motor Vehicle Crash	6	9%
	Fire/Burn	5	8%
	Other Specified	5	8%
	Suffocation	5	8%
	All Others	11	17%
	Total	66	100%
Urban	Falls	79	33%
	Fire/Burn	30	13%
	Not Specified	29	12%
	Poisoning	24	10%
	Other Specified	20	8%
	All Others	54	23%
	Total	236	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

*Due to low counts (<5) some cause data for these population densities have been grouped into Total for Frontier and All Others for Rural

From 2005 to 2009, fall injury was the leading cause of UIHD among all population density groups shown for children under age one year (Table HD7). Fire/Burn UIHD were high for both Urban (13%, n=30) and Densely Settled Rural communities (13%, n=8).

Table HD8. Top Causes of Unintentional Injury Hospital Discharges (UIHD) by Population Density Group Among Children 1-4 years old, Kansas 2005-2009

Population Density Group	Cause	# of UIHD	% of Total UIHD by Population Density
Frontier*	Poisoning	13	27%
	Falls	9	19%
	Fire/Burn	8	17%
	All Others	18	37%
	Total	48	100%
Rural	Poisoning	40	30%
	Falls	34	25%
	Fire/Burn	14	10%
	Other Specified	10	7%
	Motor Vehicle Crash	8	6%
	All Others	29	21%
	Total	135	100%
Densely Settled Rural	Poisoning	77	29%
	Falls	53	20%
	Fire/Burn	33	12%
	Motor Vehicle Crash	24	9%
	Natural/Environmental	21	8%
	All Others	57	22%
	Total	265	100%
Semi-Urban	Poisoning	70	29%
	Falls	64	27%
	Fire/Burn	30	12%
	Motor Vehicle Crash	21	9%
	Struck By/Against	13	5%
	All Others	43	18%
	Total	241	100%
Urban	Falls	253	30%
	Poisoning	220	26%
	Fire/Burn	99	12%
	Motor Vehicle Crash	56	7%
	Other Specified	44	5%
	All Others	177	21%
	Total	849	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

*Due to low counts (<5) some cause data for Frontier have been grouped into All Others

From 2005 to 2009, poisoning was the leading cause of UIHD among children 1-4 across all population groups, except in urban region where fall injury was the leading cause for UIHD (Table HD8).

Table HD9. Top Causes of Unintentional Injury Hospital Discharges (UIHD) by Population Density Group Among Children 5-9 years old, Kansas 2005-2009

Population Density Group	Cause	# of UIHD	% of Total UIHD by Population Density
Frontier*	Falls	11	24%
	Motor Vehicle Crash	11	24%
	Other Transportation	6	13%
	All Others	17	38%
	Total	45	100%
Rural	Falls	28	28%
	Motor Vehicle Crash	18	18%
	Other Transportation	16	16%
	Natural/Environmental	13	13%
	Poisoning	7	7%
	All Others	19	19%
Total	101	100%	
Densely Settled Rural	Falls	63	31%
	Motor Vehicle Crash	46	22%
	Struck By/Against	21	10%
	Other Transportation	17	8%
	Natural/Environmental	16	8%
	All Others	43	21%
Total	206	100%	
Semi-Urban	Falls	47	33%
	Motor Vehicle Crash	30	21%
	Other Transportation	13	9%
	Natural/Environmental	12	8%
	Poisoning	9	6%
	All Others	32	22%
Total	143	100%	
Urban	Falls	198	36%
	Motor Vehicle Crash	95	17%
	Fire/Burn	43	8%
	Struck by/Against	41	7%
	Other Transportation	34	6%
	All Others	139	25%
	Total	550	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

*Due to low counts (<5) some cause data Frontier has been grouped into All Others for Frontier

From 2005 to 2009, falls were the leading cause of UIHD among children ages five to nine years old (Table HD9). "Other transportation" ranked in the top five causes of UIHD for three population density groups; Frontier, Rural, and Semi-Urban (appendix viii).

Table HD10. Top Causes of Unintentional Injury Hospital Discharges (UIHD) by Population Density Group Among Children 10-14 years old, Kansas 2005-2009

Population Density Group	Cause	# of UIHD	% of Total UIHD by Population Density
Frontier	Falls	24	26%
	Motor Vehicle Crash	19	21%
	Struck By/Against	14	15%
	Other Transportation	10	11%
	Natural/Environmental	6	7%
	All Others	19	21%
	Total	92	100%
Rural	Motor Vehicle Crash	47	28%
	Falls	36	21%
	Other Transportation	29	17%
	Struck By/Against	13	8%
	Natural/Environmental	11	7%
	All Others	33	20%
	Total	169	100%
Densely Settled Rural	Falls	59	26%
	Other Transportation	41	18%
	Motor Vehicle Crash	37	17%
	Struck By/Against	20	9%
	Other Pedal Cyclist	13	6%
	All Others	54	24%
	Total	224	100%
Semi-Urban	Falls	51	24%
	Motor Vehicle Crash	46	22%
	Other Transportation	30	14%
	Struck By/Against	29	14%
	Natural/Environmental	10	5%
	Other Pedal Cyclist	10	5%
	Poisoning	10	5%
	All Others	25	12%
Total	211	100%	
Urban	Falls	189	32%
	Motor Vehicle Crash	119	20%
	Struck By/Against	77	13%
	Other Transportation	49	8%
	Other Pedal Cyclist	40	7%
	All Others	125	21%
	Total	599	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

From 2005 to 2009, fall injuries was the leading cause of UIHD among four of the five population density groups for children ages 10-14 years old (Table HD10). "Other Transportation" UIHD, was the second leading cause of injury in densely settled rural communities (18, n=41), narrowly surpassing motor vehicle crashes.

Table HD11. Top Causes of Unintentional Injury Hospital Discharges (UIHD) by Major Metro Area Among Children 0-14 years old, Kansas 2005-2009

Major Metro Area	Cause	# of UIHD	% of Total UIHD by Major Metro Area
Douglas County Population 0-14 years old in 2009: 17,464	Falls	21	26%
	Fire/Burn	10	12%
	Poisoning	8	10%
	Motor Vehicle Crash	7	9%
	Struck By/Against	7	9%
	All Others	29	35%
	Total	82	100%
Johnson County Population 0-14 years old in 2009: 115,833	Falls	193	33%
	Fire/Burn	65	11%
	Struck By/Against	60	10%
	Poisoning	55	9%
	Motor Vehicle Crash	50	9%
	All Others	159	27%
	Total	582	100%
Leavenworth County Population 0-14 years old in 2009: 15,646	Falls	27	29%
	Motor Vehicle Crash	19	20%
	Fire/Burn	12	13%
	Natural/Environmental	7	7%
	Poisoning	6	6%
	Struck by/Against	6	6%
	All Others	17	18%
Total	94	100%	
Sedgwick County Population 0-14 years old in 2009: 111,758	Falls	325	34%
	Poisoning	149	16%
	Motor Vehicle Crash	119	12%
	Struck By/Against	63	7%
	Other Transportation	43	5%
	All Others	255	27%
	Total	954	100%
Shawnee County Population 0-14 years old in 2009: 36,198	Falls	73	36%
	Poisoning	31	15%
	Fire/Burn	22	11%
	Motor Vehicle Crash	22	11%
	Struck By/Against	17	8%
	All Others	37	18%
	Total	202	100%
Wyandotte County Population 0-14 years old in 2009: 36,726	Falls	80	25%
	Motor Vehicle Crash	60	19%
	Fire/Burn	38	12%
	Poisoning	38	12%
	Natural/Environmental	23	7%
	All Others	81	25%
	Total	320	100%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau.

In 2009, major metro areas include the five counties with the largest child populations of 0-14 year olds. Hospital discharges for fire/burn injury was prevalent as one of the top five causes within all of these major metro areas except Sedgwick County (Table HD11). By comparison, for the entire state the prevalence of Fire/Burn is only 8%.

Table HD12. Unintentional Injury Hospital Discharges (UIHD) Rates By County Among Children 0-14 years old*, Kansas 2005-2009

County Name	# of UIHDs	Population Size	UIHD Rate**	Lower 95% CI	Upper 95% CI
		0-14 years old 2005-2009			
Atchison	34	16,407	207.2	143.5	289.6
Barton	38	26,785	141.9	100.4	194.7
Bourbon	46	14,940	307.9	225.4	410.7
Butler	115	64,127	179.3	146.6	212.1
Cherokee	40	20,824	192.1	137.2	261.6
Cowley	73	34,132	213.9	167.6	268.9
Crawford	81	35,726	226.7	180.1	281.8
Dickinson	23	17,544	131.1	83.1	196.7
Douglas	82	86,859	94.4	75.1	117.2
Ellis	46	22,991	200.1	146.5	266.9
Finney	80	55,816	143.3	113.7	178.4
Ford	59	44,572	132.4	100.8	170.7
Franklin	51	27,129	188.0	140.0	247.2
Geary***	26	35,054	74.2	48.5	108.7
Harvey	56	33,059	169.4	128.0	220.0
Jackson	25	13,994	178.6	115.6	263.7
Johnson	582	563,035	103.4	95.0	111.8
Labette	43	20,983	204.9	148.3	276.0
Leavenworth	94	75,150	125.1	101.1	153.1
Lyon	41	34,839	117.7	84.5	159.7
Marion	25	10,566	236.6	153.1	349.3
McPherson	44	26,174	168.1	122.1	225.7
Miami	56	32,003	175.0	132.2	227.2
Montgomery	45	32,882	136.9	99.8	183.1
Neosho	31	15,370	201.7	137.0	286.3
Osage	27	15,574	173.4	114.2	252.2
Pottawatomie	25	21,693	115.2	74.6	170.1
Reno	100	59,910	166.9	134.2	199.6
Rice	23	9,330	246.5	156.3	369.9
Riley***	55	55,893	98.4	74.1	128.1
Saline	76	55,458	137.0	108.0	171.5
Sedgwick	954	546,442	174.6	163.5	185.7
Seward	44	32,886	133.8	97.2	179.6
Shawnee	202	176,618	114.4	98.6	130.1
Sumner	65	24,084	269.9	208.3	344.0
Wilson	20	8,875	225.4	137.7	348.0
Wyandotte	320	185,080	172.9	154.0	191.8

*Counties with less than 20 Unintentional Injury Hospital Discharges from 2005-2009 are excluded due to unstable rates

**Per 100,000 Population

***For low rate caveats see appendix ii

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau

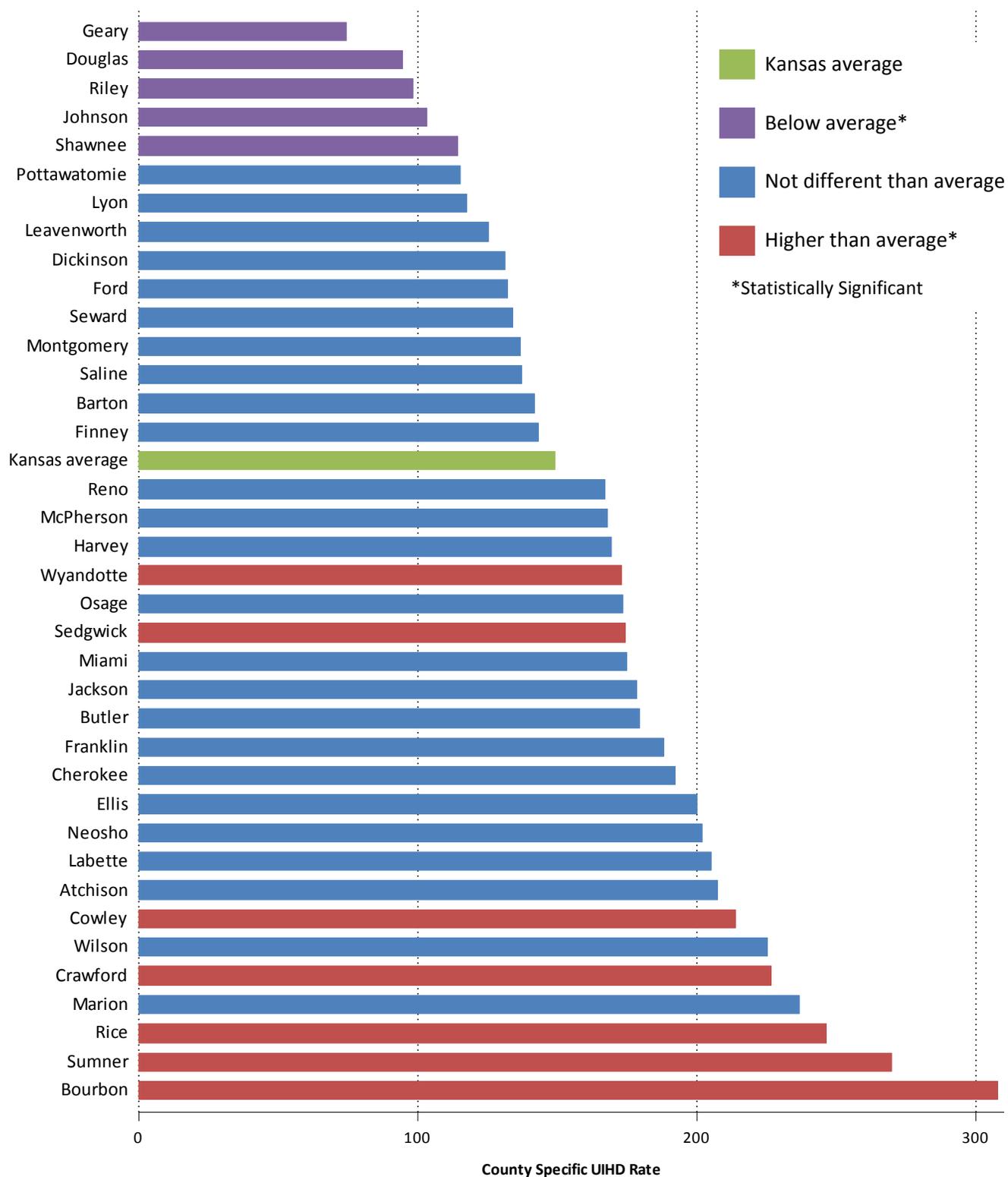
Bourbon County has the highest rate of UIHD of all counties (307.9 UIHD per 100,000, 95% CI: 225.4-410.7) that had qualifying numbers to calculate rates among children 0-14 years old from 2005 to 2009, (Table HD12). Geary and Riley County had the lowest rates (74.2 UIHDs per 100,000 and 98.4 UIHDs per 100,000, respectively).

It is important to remember the role of confidence intervals when comparing counties. Figure HD6 shows that even though a county may have a much higher rate than Kansas average it may not be statistically different. For more information on confidence intervals please see appendix iii. The counties in purple are all significantly lower. Overall, most counties in Kansas are very close to the state average with five counties having rates that are statistically lower (Geary, Riley, Douglas, Johnson, Shawnee)* and seven counties having rates that are statistically higher (Sedgwick, Cowley, Crawford, Rice, Sumner, Bourbon, Wyandotte) than the state rate.

When reviewing county level data it is important to recognize that although there are variations between counties, the purpose in presenting these data is not to compare but rather to help understand the burden of the problem in their populations. The counties, themselves, vary in a number of ways, including in their demographic characteristics (e.g., age distribution), social, economic and cultural characteristics, as well as external stressors (e.g., economic downturn, job loss, poverty), and other factors.

*For caveats about these low rates please see appendix ii

Figure HD6. County Specific Unintentional Injury Hospital Discharge (UIHD) Rates Among Children 0-14 years old, Kansas 2005-2009



Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau.
 Note: Not all counties are shown due to numbers being too low to calculate reliable rates.

TRAUMATIC BRAIN INJURY

Figure HD7. Age-Specific Traumatic Brain Injury Related Unintentional Injury Hospital Discharge (UIHD) Rates Kansas 2005-2009

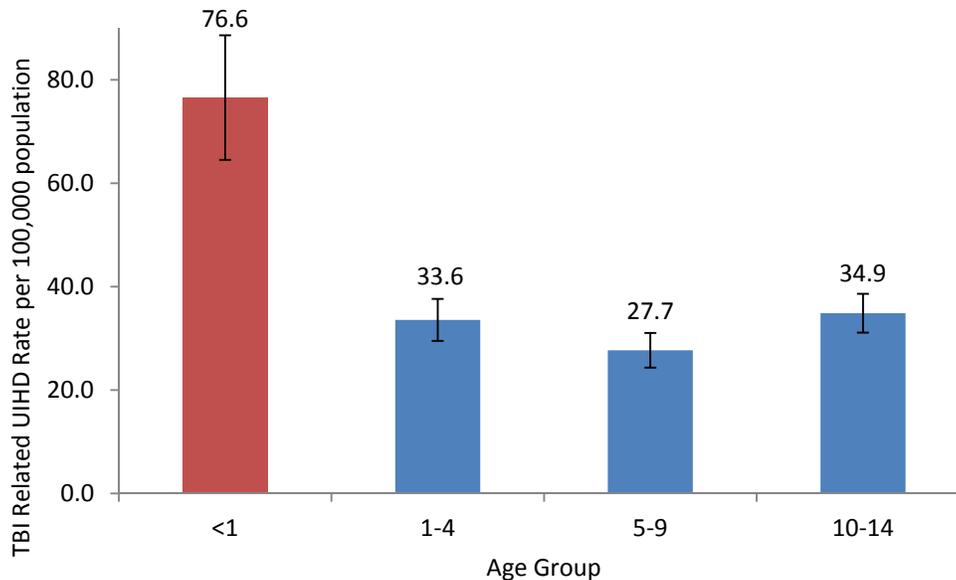


Table HD13. Age-Specific Traumatic Brain Injury Related Unintentional Injury Hospital Discharge (UIHD) Rates Kansas 2005-2009

Age Group (Years)	TBI Related UIHD	Population Size 0-14 years old 2005-2009	TBI Related UIHD Rate*	Lower 95% CI	Upper 95% CI
<1	155	202,412	76.6	64.5	88.6
1-4	263	783,689	33.6	29.5	37.6
5-9	262	946,016	27.7	24.3	31.0
10-14	329	943,747	34.9	31.1	38.6
0-14	1,009	2,875,864	35.1	32.9	37.2

*Rate per 100,000 population

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association. 2005-2009 U.S. Census Bureau.

From 2005 to 2009, children under the age of one year had the highest rate of TBI related UIHD (76.6 TBI related UIHDs per 100,000, 95% CI: 64.5-88.6) Table HD13 and Figure HD7. Children under age one had a rate that was significantly higher than all three other age groups.

Table HD14. Unintentional Injury Hospital Discharge (UIHD) Causes with Highest Prevalence of Traumatic Brain Injury (TBI)

Cause	# of UIHD W/ TBI	# of UIHD W/O TBI	Total # of UIHD	% of UIHD W/TBI
Motor Vehicle Crash	270	332	602	45%
Struck By/Against	119	208	327	36%
Falls	423	835	1,258	34%
Other Transportation	88	174	262	34%
Other Pedal Cyclist	44	89	133	33%
All Other	65	1,643	1,708	4%
Total	1,009	3,281	4,290	24%

Source: 2005-2009 Hospital Discharge Database, Kansas Hospital Association.

From 2005 to 2009, the cause of UIHD with the highest prevalence of TBI was motor vehicle crash (45% of MVC UIHD had a TBI, n=270/602) among children 0-14 years old (Table HD14). Out of all UIHD, nearly a quarter had a TBI (24%, 1,009/4,290).

MORTALITY

Mortality data was grouped in 10 years (2000-2009) to have sufficient sample for examination of mortality due to different injuries among children ages 0-14 years.

Quick Facts:

- From 2000 to 2009
 - There were 629 unintentional injury deaths (UID) in children 0-14 years old. 61% of these deaths occurred in males (n=389) while 38% occurred in females (n=240).
 - The leading cause of UID was motor vehicle crashes in children 0-14 years old (38%, n=340).
 - Children living in Northeast Trauma Region of Kansas were the least likely to suffer an UID, while children living in Southwest Trauma Region were the most likely to suffer a UID, among children 0-14 years old.
 - Children 0-14 years living in Frontier communities in Kansas were the most likely to suffer a UID while children living in Urban communities were the least likely to suffer a UID.

BY AGE

Figure MD1. Age-Specific Unintentional Injury Death (UID) Rate, Kansas 2000-2009

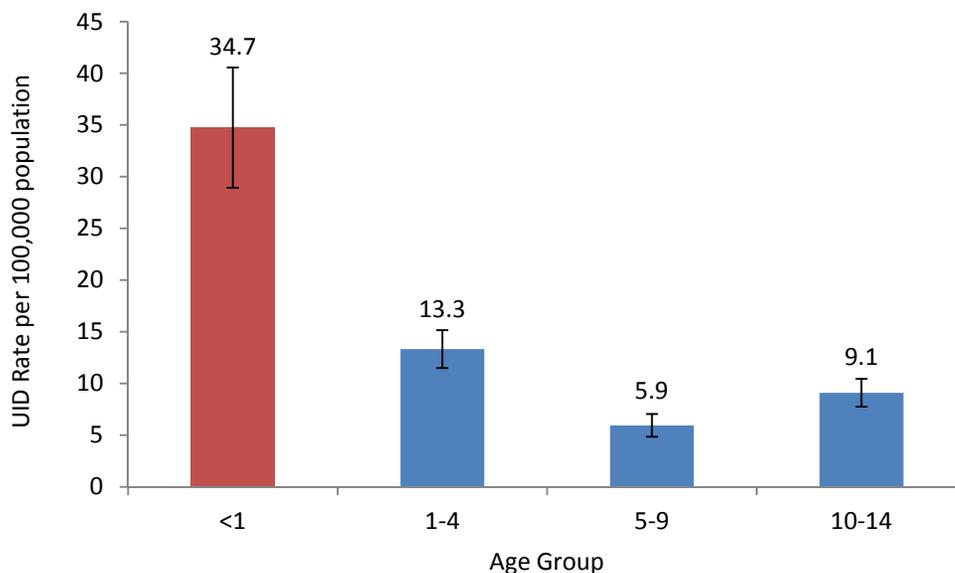


Table MD1. Age-Specific Unintentional Injury Death Rate, Kansas 2000-2009

Age	# UID	Population Size 0-14 2000-2009	UID Rate*	Lower 95% CI	Upper 95% CI
<1	137	394,259	34.7	28.9	40.6
1-4	204	1,531,221	13.3	11.5	15.2
5-9	112	1,885,725	5.9	4.8	7.0
10-14	176	1,935,247	9.1	7.8	10.4
0-14	629	5,746,452	10.9	10.1	11.8

*Per 100,000 Population

Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. 2000-2009 U.S. Census Bureau

From 2000 to 2009, children under the age of one year were the most likely to suffer a UID (34.7 UID per 100,000 population, 95% CI: 28.9-40.6) compared to older age groups among children (Table MD1 and Figure MD1).

Table MD2. Age-Specific Top Five Causes of Unintentional Injury Deaths (UID), Kansas 2000-2009

Age Group (Years)	Cause	# of UID	% of Total UID by Age
<1	Suffocation	78	57%
	Motor Vehicle Crash	15	11%
	Drowning	11	8%
	Fall	8	6%
	Other specified, classifiable	7	5%
	All Other	18	13%
	Total	137	100%
1-4	Motor Vehicle Crash	55	27%
	Drowning	48	24%
	Fire/Hot Object or Substance	34	17%
	Suffocation	19	9%
	Pedestrian	11	5%
	All Other	37	18%
	Total	204	100%
5-9	Motor Vehicle Crash	53	47%
	Fire/Hot object or substance	16	14%
	Drowning	9	8%
	Suffocation	7	6%
	Other Land Transport	7	6%
	All Other	20	18%
	Total	112	100%
10-14	Motor Vehicle Crash	117	66%
	Fire/Hot Object or Substance	10	6%
	Drowning	8	5%
	Other Land Transport	7	4%
	Suffocation	7	4%
	All Other	27	15%
	Total	176	100%
0-14	Motor Vehicle Crash	240	38%
	Suffocation	113	18%
	Drowning	73	12%
	Fire/Hot Object or Substance	64	10%
	Pedestrian	20	3%
	All Other	119	19%
	Total	629	100%

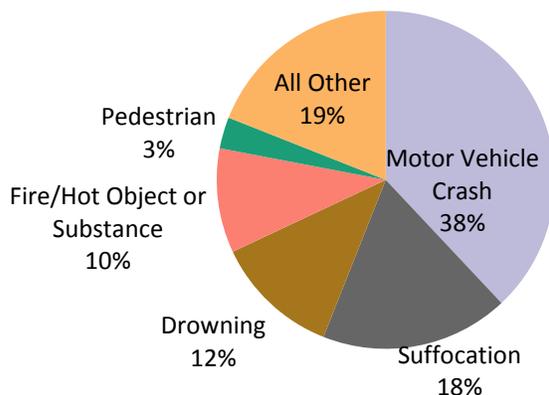
Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE

From 2000 to 2009, motor vehicle crashes were the leading cause of death in children 0-14 years old (Table MD2 and Figure MD2). More than half of all UID of children under age one year were attributed to suffocation (57%, n=78). Suffocation deaths are most often attributed to unsafe sleep environments³. Drowning was the third leading cause of UID among children 0-14 years old and was within the top three causes of death for all age groups.

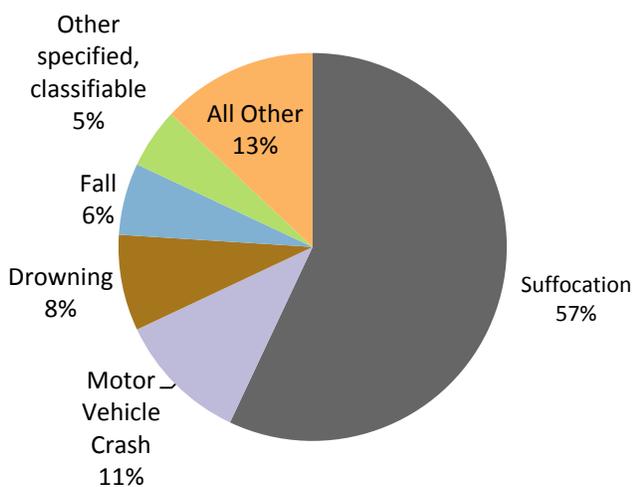
³ CDC Online Newsroom - Press Release: October 19, 2011. (2011, October 19). *CDC Online Newsroom: October 19, 2011*. Retrieved January 6, 2012, from http://www.cdc.gov/media/releases/2011/p1019_infantsleep_recs.html

Figure MD2. Age-Specific Causes of Unintentional Injury Deaths (UID) Kansas 2000–2009

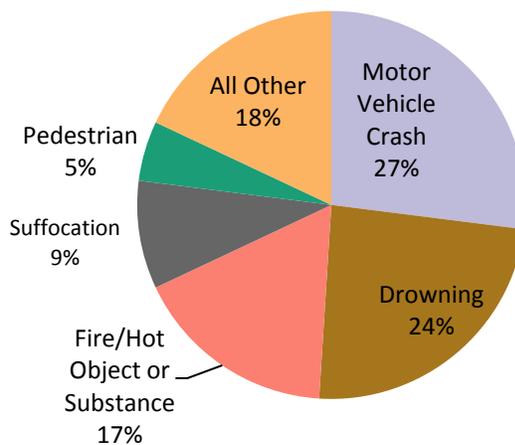
0-14 years old



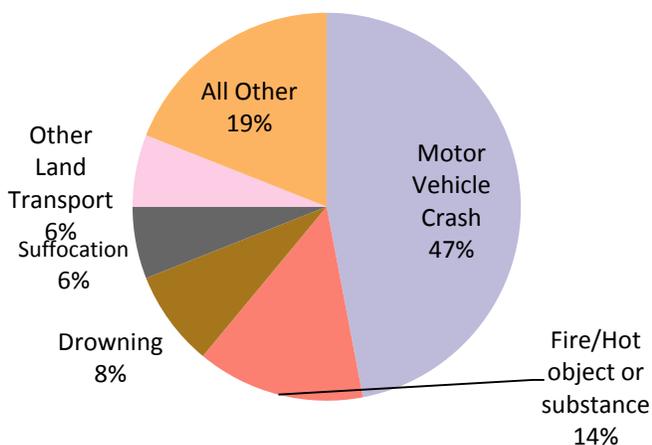
<1 years old



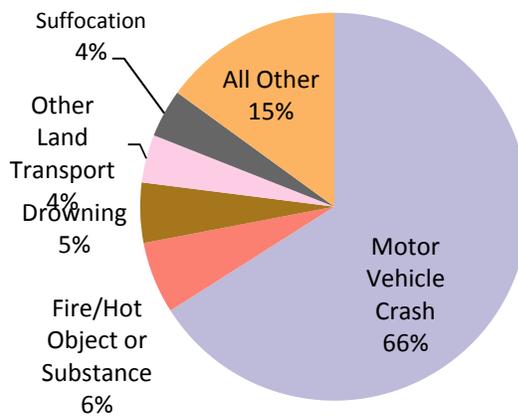
1-4 years old



5-9 years old



10-14 years old



Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE

BY TRAUMA REGION

Figure MD3. Unintentional Injury Death (UID) Rates By Trauma Region Among Children 0-14 years old, Kansas 2000-2009

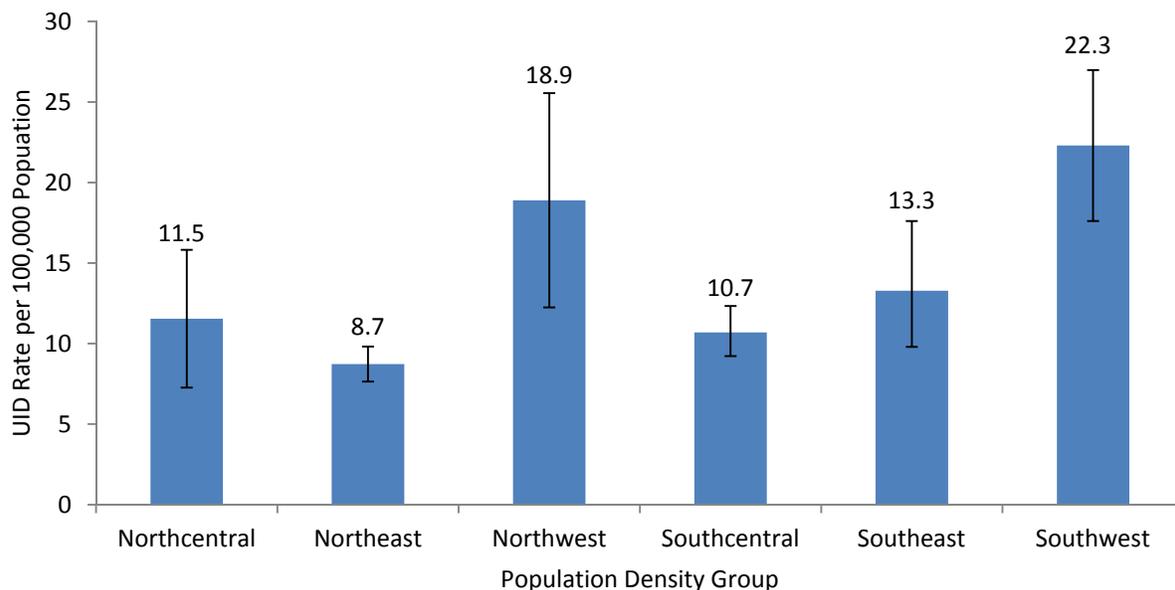


Table MD3. Unintentional Injury Death (UID) Rates by Trauma Region Among Children 0-14 years old Kansas 2000-2009

Trauma Region	# of UID	Population Size 0-14 years old 2000-2009	% of Total UID	UID Rate*	Lower 95% CI	Upper 95% CI
Northcentral	28	242,551	4%	11.5	7.3	15.8
Northeast	247	2,830,112	49%	8.7	7.6	9.8
Northwest	31	164,070	3%	18.9	12.2	25.5
Southcentral	188	1,758,091	31%	10.7	9.2	12.3
Southeast	48	361,454	6%	13.3	9.8	17.6
Southwest	87	390,174	7%	22.3	17.6	27.0
Total	629	5,746,452	100%	10.9	10.1	11.8

*Per 100,000 population.

Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. 2000-2009 U.S. Census Bureau

From 2000 to 2009, the Southwest Trauma Region of Kansas had the highest UID rate among children 0-14 years (22.3 UID per 100,000 population, 95% CI: 17.6-27.0) as shown in Table MD3 and Figure MD3. Whereas the Northeast Trauma Region had the lowest UID rate (8.7 UID per 100,000 population, 95% CI: 7.6-9.8). The Southwest Trauma Region consists of Frontier and Rural areas which may affect injury outcomes such as deaths due to the amount of time it takes to reach a health care facility or definitive care.

BY POPULATION DENSITY

Figure MD4. Unintentional Injury Death (UID) Rates By Population Density Among Children 0-14 years old, Kansas 2000-2009

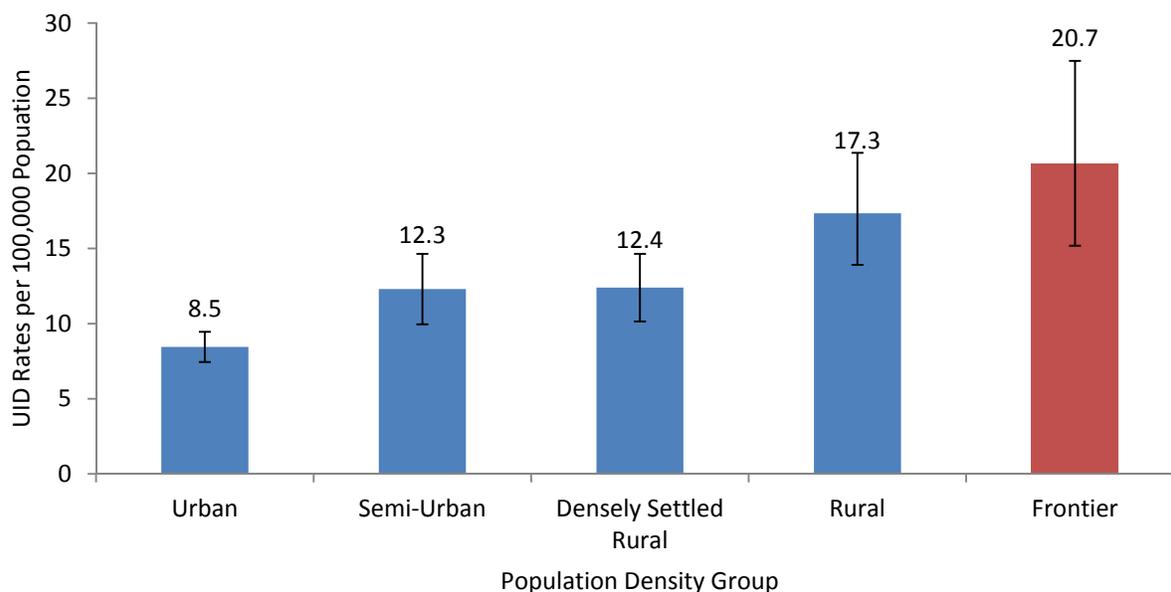


Table MD4. Unintentional Injury Death (UID) Rates by Population Density Among Children 0-14 years old Kansas 2000-2009

Population Density	# of UID	Population Size 0-14 years old 2000-2009	% of Total UID	UID Rate*	Lower 95% CI	Upper 95% CI
Urban	271	3,206,008	43%	8.5	7.4	9.5
Semi-Urban	106	861,839	17%	12.3	10.0	14.6
Densely Settled Rural	117	943,846	19%	12.4	10.1	14.6
Rural	88	507,386	14%	17.3	13.9	21.4
Frontier	47	227,373	7%	20.7	15.2	27.5
Total	629	5,746,452	100%	10.9	10.1	11.8

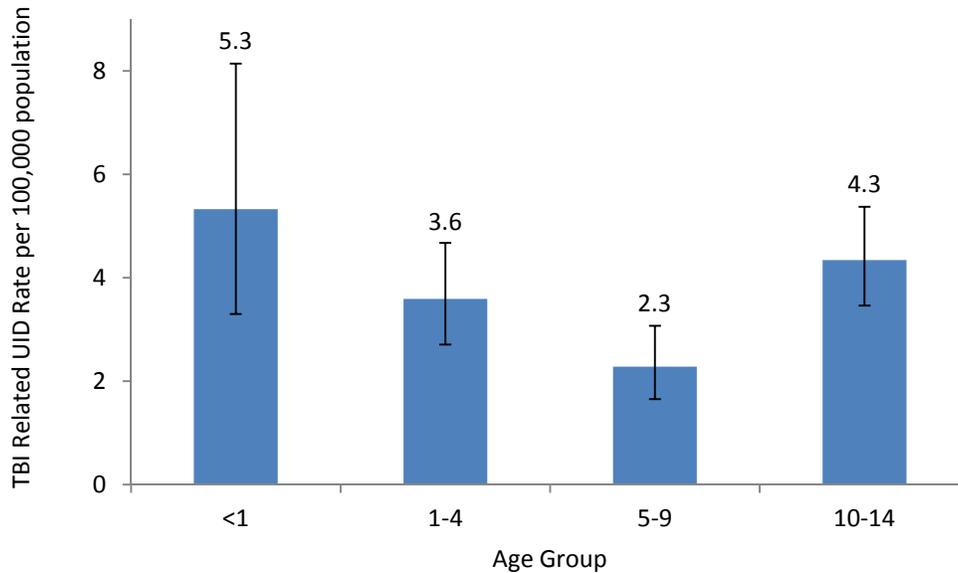
*Per 100,000 population

Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. 2000-2009 U.S. Census Bureau.

From 2000 to 2009, Frontier communities had highest UID rate among children 0-14 years (20.7 UID per 100,000 population, 95% CI: 15.2-27.5) compared to Urban communities (8.5 UID per 100,000 population, 95% CI: 7.4-9.5). There were no statistically significant differences between rates for Semi-urban, Densely-Settled Rural and Rural communities.

TRAUMATIC BRAIN INJURY

**Figure MD5. Age-Specific Traumatic Brain Injury (TBI) Related Unintentional Injury Death (UID) Rates
Kansas 2000-2009**



**Table MD5. Age-Specific Traumatic Brain Injury (TBI) Related Unintentional Injury Death (UID)
Kansas 2000-2009**

Age (Years)	# of TBI Related UID	Population Size 0-14 years old 2000-2009	TBI Related UID Rate*	Lower 95% CI	Upper 95% CI
<1	21	394,259	5.3	3.3	8.1
1-4	55	1,531,221	3.6	2.7	4.7
5-9	43	1,885,725	2.3	1.7	3.1
10-14	84	1,935,247	4.3	3.5	5.4
0-14	203	5,746,452	3.5	3.0	4.0

*Per 100,000 population

Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. 2000-2009 U.S. Census Bureau.

From 2000 to 2009, TBI related UID rate (4.3 TBI related UID per 100,000 population, 95% CI: 3.5-5.4) was higher among children ages 10-14 years as compared to those who were between the ages of five and nine years (2.3 TBI related UID per 100,000 population, 95% CI: 1.7-3.1) as shown in Table MD5 and Figure MD5.

Table MD6. Unintentional Injury Death (UID) Cause with Highest Prevalence of Traumatic Brain Injury (TBI) Among Children 0-14 years old , Kansas 2000-2009

Cause*	# Deaths W/ TBI	#Deaths W/O TBI	Total Deaths	% Deaths W/ TBI
Pedestrian, other	5	15	20	75%
Motor vehicle traffic	95	145	240	60%
Other land transport	9	8	17	47%
Fall	9	7	16	44%
All Others	308	28	336	8%
Total	426	203	629	32%

*For causes in which the # of deaths with or without TBI was lower than five were added to All Others
Source: 2000-2009 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE

From 2000 to 2009, 32% of all unintentional injury deaths among children 0-14 years old involved a traumatic brain injury. Seventy-Five percent of these children who suffered a pedestrian UID had a TBI (n=5/20), Table MD6. Sixty percent of all children who died of a motor vehicle crash had a TBI (n=95/240). Safety measures such as correct car seat use or proper seat belt use and use of helmets while biking or participating in other wheeled sports can reduce the risk of TBI dramatically.

Analysis Notes:

Throughout this report you will find various statistical measures. The following are short descriptions of each type of measure. All data were analyzed using SAS 9.2.

Databases:

The three databases used for the purposes of this document are the hospital discharge database, the emergency department database, and the mortality database. Please see appendix ix for detailed information.

Counts:

Counts are the actual number of events that occur. Counts can give you an idea of the size and scope of an issue. Larger communities though will have much larger counts than small communities based on the population size. To compare communities it is best to use rates. Not all counts are provided; counts below five are not given in this report for confidentiality and protection of individual identity.

Percentages:

Percentages are used in this report to describe the proportion of certain characteristics of an injury, such as age, cause, and traumatic brain injuries.

Rates:

Age-Specific rates are calculated by dividing the number of events by the population in that specific age group. By using rates, two differently sized communities/regions can be compared to each other. Note that rates in which the number of events is below 20 are not calculated as rates calculated for numbers less than 20 are inaccurate and scientifically unreliable.

Age-specific rates are calculated by dividing the number of events by the population of children in Kansas ages 0-14 years old or by Kansas subpopulation of interest. Population denominators are taken from estimates produced by the U.S. Census Bureau. To be consistent with other KHDE publications, 2000-2009 midyear population estimates produced for each year are used, rather than using the most recent estimate. For example, a 2005 rate will be based on the Kansas population estimate published in 2005 (2005 vintage), rather than using the most recent 2005 population estimate (2009 vintage). For 2001, the 2002 vintage estimates were used. For 2000, the census 2000 populations were used.

Cause Coding:

Causes are determined by using an injury matrix that is recommended by Safe States Alliance. This is a system that uses the diagnosis code (ED data and HD data) and underlying cause (Mortality Database) to give a cause and intent to an injury. This report only looks at unintentional injury deaths among children 0-14 years old. Further information on the coding and the matrix can be found in the appendix.

Data are selected and coded for hospital discharges according to the *Consensus Recommendations for Using Hospital Discharge Data for Injury Surveillance* from the Safe States Alliance. This method codes injuries based on e-codes using the injury matrix provided by the CDC (appendix v). Data for emergency department is similar to hospital discharge but closely follows the selection method from *State Injury Indicators: Instructions for Preparing 2005 Data* from the Centers for Disease Control and Prevention. Mortality Data is coded using the ICD-10 injury matrix provided by the CDC (appendix vii). This is similar to the method described in *Instructions for Preparing 2005 Data* but uses a different coding scheme.

Possible Explanations for Low Rates:

Low rates in Geary and Riley County may be due to the fact there are a very high number of military families living in this area. Military families are more likely to use military hospitals (federal) for care than community hospitals thus excluding these cases from our analysis and potentially decreasing the injury rates in these areas.

Another possible consideration of this data is proximity of Northeast counties to Children's Mercy Hospital in Kansas City, Missouri. Due to its location many children in the Northeast Kansas counties may receive care from this hospital and are not recorded in the Kansas hospital discharge database. Children's Mercy is a leading caregiver for children in the Midwest. Children from Kansas, Nebraska, Missouri, and Iowa receive care there. This affects all children in Kansas but we believe especially children in Northeast Kansas.

Confidence Intervals:

Confidence Intervals are a range around an estimate that shows how precise a measurement is. By comparing confidence intervals you can make a quick statistical comparison of two estimates.

Confidence intervals around rates are calculated using the methods described in the *Technical Appendix* from *Vital Statistics of United States 1999 Mortality* from National Center for Health Statistics (NCHS). This method uses a normal distribution for confidence intervals of events of 100 or more and poisson distribution for events below 100. The method used to calculate confidence intervals for death rates is used for calculation of confidence intervals for hospital discharge and emergency department visit rates.

Interpreting Confidence Intervals:

In public health we try to make comparisons between two groups such as, was Group A healthier than Group B. Group A and B can be anything from counties and towns to races and age groups. We can measure being healthier by looking at smoking status, physical activity, and seat belt use. Confidence intervals are one of the tools we can use to tell if two groups are actually different.

In this report many numbers and rates are provided. The rates and numbers in this report are estimates of the true rate and numbers in the community. In a perfect world we would be able to obtain true value for a question like "how many children went to the emergency department due to snake bites last year?" but many things can happen that make this impossible such as missing information, lost records, and miscoding. These things add random error to an estimate. Although these numbers are the most accurate we can provide there is room for random error in any estimate.

We must account for random error before we can say that two groups are different. One way to measure random error is to estimate a confidence interval.

What is a confidence interval?

The confidence interval is a range (interval) around our estimate that says this range has "a 95% probability of covering the true value". The size of a confidence interval can be affected by two things; the size of the sample and the variance (the variability of a sample). If the variance is unchanging by increasing the size of a sample it makes the confidence interval smaller. Therefore if two samples have the same variance the sample with the larger size will always have a smaller confidence interval. A sample refers to whatever groups you are comparing. In this report our samples are counties, age groups, and population density regions.

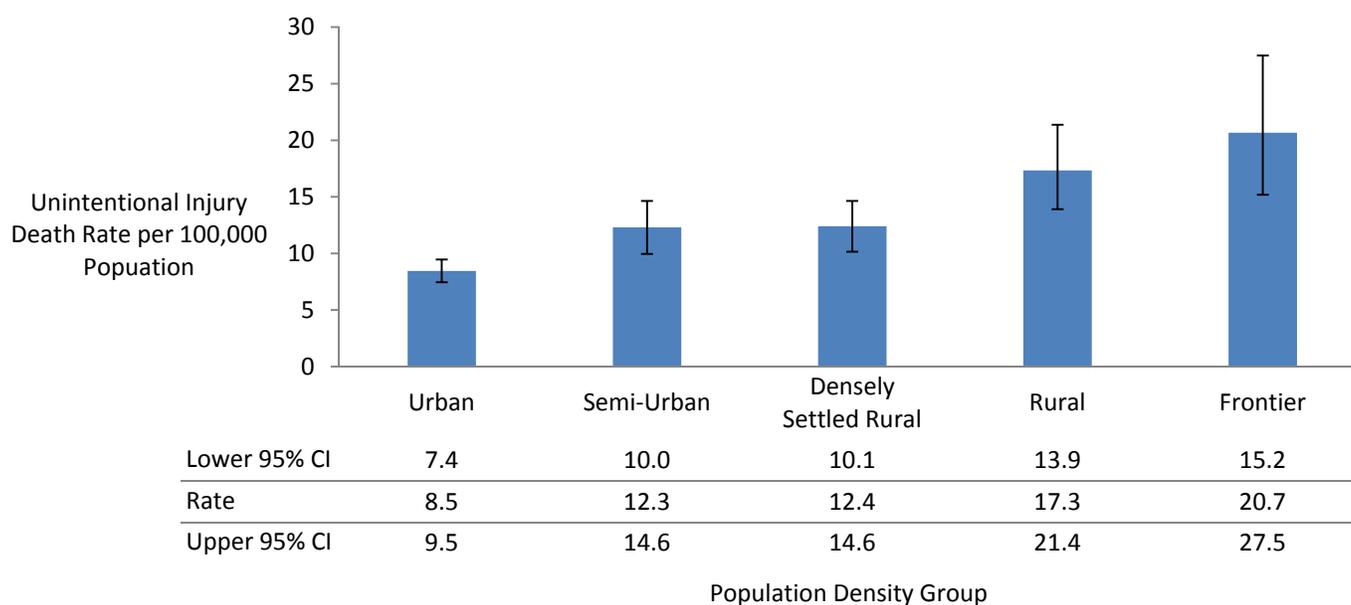
How do I interpret a confidence interval?

Two scenarios are provided as examples using the chart on the next page. This chart (EX1) shows the rate of unintentional injury deaths of population density groups and the confidence interval of those rates. The line at the top of the blue bar is the visual representation of the confidence interval, the top of the line is the highest value of the confidence interval (upper limit) and the bottom of the line is the lowest value of the confidence interval (lower limit).

Sample size affects the size of the confidence interval. Frontier communities which have a smaller population have a large confidence interval and urban communities who have a much larger population and a correspondingly smaller confidence interval.

When confidence intervals around estimates of rates for two groups overlap that means that there is a chance that both groups have the same exact value of the rate. If this is true then we say that they are not statistically different. When two confidence intervals around estimates of rates for two groups do not overlap, they cannot share the same value of rate, so they are statistically different.

EX1. Unintentional Injury Death Rate By Population Density Among Children 0-14, Kansas 2000-2009



Scenario 1

From 2000-2009, was the rate of unintentional injury death in Frontier communities higher than in Urban communities?

We can compare these groups by chart or table. Looking at the chart you can see that there is a large gap between the two confidence intervals and that they don't overlap. Looking at the table you see that the confidence interval (7.4-9.5) around the unintentional injury death (UID) rate for the Urban communities does

not overlap that for Frontier communities (15.2-27.5). So these two groups have a statistically significant difference in the UID rate. Frontier communities have a higher unintentional injury death rate than Urban.

Scenario 2

From 2000-2009, was the rate of unintentional injury death in Semi-Urban communities higher than in Densely Settled Rural Communities?

Again we can look at the chart or table. Looking at the chart the confidence intervals around the UID rate overlap. If we did not have labels it would almost be impossible to tell the two groups apart. Looking at the table the intervals are nearly exact. The Semi-urban interval is (10.0-14.6) and Densely Settled Rural is (10.1-14.6). Since the confidence intervals around the UID rate for Semi-Urban and Densely Settled Rural communities overlap we can safely say that there is no statistically significant difference among UID rate or rates are similar. Semi-Urban does not have a higher rate than Densely-Settled Rural and vice versa.

A Word of Caution:

The confidence interval is a good measure of statistical significance but not that same as a statistical test. Sometimes two groups will have overlapping confidence intervals but have a statistically significant difference nonetheless. In most situations this statistical test is not necessary but extra analysis can be done if requested or needed.

Information for interpreting confidence Intervals was adapted from:

Aschengrau, A., & Seage III, G. (2008). *Essentials of epidemiology in public health*. (2 ed., pp. 307-341). Sudbury, Massachusetts: Jones and Bartlett Publishers.

Guidelines for using confidence intervals for public health assessment. (2002, January 8). Retrieved from http://www.doh.wa.gov/data/guidelines/worddocs/CI_guidelines.pdf

External Cause of Injury Mortality Matrix for ICD-9

Unintentional Cause	ICD-9 E-Code
All injury	E800-E869, E880-E929
Cut/pierce	E920.0-.9
Drowning/submersion	E830.0-.9, E832.0-.9, E910.0-.9
Fall	E880.0-E886.9, E888
Fire/burn	E890.0-E899, E924.0-.9
Fire/flame	E890.0-E899
Hot object/substance	E924.0-.9
Firearm	E922.0-.3,.8, .9
Machinery	E919 (.0-.9)
Motor vehicle traffic	E810-E819 (.0-.9)
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-E845.9
Natural/environmental	E900.0-E909, E928.0-.2
Bites and stings	E905.0-.6,.9, E906.0-.4,.5,.9
Overexertion*	E927.0-.4,.8-.9
Poisoning	E850.0-E869.9
Struck by, against	E916-E917.9
Suffocation	E911-E913.9
Other specified and classifiable*	E846-E848, E914-E915, E918, E921.0-.9, E922.4,.5 , E923.0-.9, E925.0-E926.9, E928(.3-.7) , E929.0-.5
Other specified, not elsewhere classifiable	E928.8, E929.8
Unspecified	E887, E928.9, E929.9

Adapted from CDC Table⁴

*Codes in bold are for morbidity coding only.

⁴ Cdc-code groupings - wisqars - injury. (2011, August 23). Retrieved from http://www.cdc.gov/injury/wisqars/ecode_matrix.html

External Cause of Injury Mortality Matrix for ICD-10

Unintentional Mechanism	ICD-10 Codes
All injury	V01-X59 , Y85-Y86
Cut/pierce	W25-W29, W45
Drowning	W65-W74
Fall	W00-W19
Fire/ hot object or substance	X00-X19
Fire/flame	X00-X09
Hot object/substance	X10-X19
Firearm	W32-W34
Machinery	W24, W30-W31
All Transport	V01-V99
Motor Vehicle Traffic	
Occupant	V30-V39 (.4-.9), V40-V49 (.4-.9), V50-V59 (.4-.9), V60-V69 (.4-.9), V70-V79 (.4-.9), V83-V86 (.0-.3)
Motorcyclist	V20-V28 (.3-.9), V29 (.4-.9)
Pedal cyclist	V12-V14 (.3-.9) , V19 (.4-.6)
Pedestrian	V02-V04 (.1, .9) V09.2
Other	V80 (.3-.5), V81.1, V82.1
Unspecified	V87(.0-.8), V89.2
Pedal cyclist, other	V10-V11, V12-V14 (.0-.2) , V15-V18, V19 (.0-.3, .8, .9)
Pedestrian, other	V01, V02-V04 (.0), V05, V06, V09 (.0,.1,.3,.9)
Other land transport	V20-V28 (.0-.2), V29 (.0-.3) , V30-V39 (.0-.3), V40-V49 (.0-.3), V50-V59 (.0-.3), V60-V69 (.0-.3), V70-V79 (.0-.3), V80 (.0-.2, .6-.9), V81-V82 (.0,.2-.9), V83-V86 (.4-.9), V87.9, V88 (.0-.9), V89 (.0, .1 .3, .9)
Other Transport	V90-V99
Natural /environmental	W42, W43, W53-W64 , W92-W99, X20-X39, X51-X57
Overexertion	X50
Poisoning	X40-X49
Struck by or against	W20-W22, W50-W52
Suffocation	W75-W84
Other specified, classifiable	W23, W35-W41, W44 , W49 W85-W91, Y85
Other specified, Not Elsewhere Classifiable	X58, Y86
Unspecified	X59

Adapted from CDC Table⁵

⁵ Fingerhut, L. (2002, December 10). *External cause of injury mortality matrix for icd-10*. Retrieved from http://www.cdc.gov/nchs/data/ice/icd10_transcode.pdf

ICD-9 Detailed Causes: (Emergency Department Visits and Hospital Discharges)

ICD-9 Causes	Selected Exact Mechanisms⁶
Cut / Pierce	<ul style="list-style-type: none"> · Accident caused by other specified cutting and piercing instrument or object · Accident caused by knives, swords, and daggers · Accident caused by unspecified cutting and piercing instrument or object · Accident caused by other hand tools or implements · Accident caused by powered household appliances and implements
Falls	<ul style="list-style-type: none"> · Other accidental fall from one level to another · Accidental fall from playground equipment · Fall from other slipping, tripping, or stumbling · Unspecified fall · Accidental fall from bed
Fire/Burn	<ul style="list-style-type: none"> · Accident caused by hot liquids and vapors including steam · Accident caused by other hot substance or object · Accident caused by hot (boiling) tap water · Ignition of highly inflammable material · Accident caused by controlled fire not in building or structure
Motor Vehicle Crash	<p>All crashes occurred in traffic (roads)</p> <ul style="list-style-type: none"> · Other Motor Vehicle (MV) crash with unmoving motor vehicle injuring driver of motor vehicle other than motorcyclist · MV crash with pedestrian injuring the pedestrian · MV crash due to loss of control, without collision on the highway injuring the passenger in the motor vehicle other than a motorcyclist · MV traffic accident with non-motor transport vehicle injuring the pedal cyclist
Natural/Environmental	<ul style="list-style-type: none"> · Dog bite · Other specified injury caused by animal · Bite of venomous arthropod (spider) · Accident due to abandonment or neglect of infant and helpless person · Bite of non-venomous arthropod (spider)
Poisoning	<ul style="list-style-type: none"> · Accidental poisoning by agents primarily affecting cardiovascular system (heart, blood, and blood vessels) · Accidental poisoning by other specified tranquilizers · Accidental poisoning by antidepressants · Accidental poisoning by anticonvulsant and anti-Parkinsonism drugs
Other Pedal Cyclist	<ul style="list-style-type: none"> · Pedal cyclist accident injuring the pedal cyclist
Other Pedestrian	<ul style="list-style-type: none"> · Other motor vehicle non-traffic accident of other and unspecified nature injuring the other specified person <ul style="list-style-type: none"> · CO poisoning, jumping/falling/pushed by a car, hit by object thrown from a car
Other Transport	<ul style="list-style-type: none"> · Non-traffic accidents involving other off-road motor vehicle (i.e. All Terrain Vehicle) injuring the driver other than a motorcycle · Accident involving animal being ridden injuring the rider of the animal · Non-traffic accident involving other off-road motor vehicle injuring the motorcyclist · Non-traffic accident involving other off-road motor vehicle injuring the passenger in the motor vehicle other than a motorcycle · Non traffic accident involving other off-road motor vehicle injuring a unspecified person

⁶ (2005). *2006 coder's desk reference*. (3 ed.). Ingenix.

Other Specified

- Foreign body accidentally entering other orifice (ear, urinary system, reproductive organs, and stomach and intestine)
 - Caught accidentally between objects
 - Accident caused by air gun
 - Accident caused by fireworks
 - Accidents involving other vehicles, not elsewhere classifiable
-

Struck By/Against

- Other accident caused by striking against or being struck by accidentally by objects or persons
- Striking against or struck accidentally by objects or persons in sports
- Struck by falling object
- Strike against or struck accidentally by other object in sports with subsequent fall
- Strike against or struck accidentally by other stationary object without subsequent fall

Special Focus: Other Transport



Other transport injuries are mentioned frequently in this document. Other transport injuries are made up of accidents that occur off of a public highway. All terrain vehicles (ATVs) make up a significant proportion of these injuries. From 2005-2009 there was 545 other transport unintentional hospital discharges among those 0-14 years old. Using methodology from the University of West Virginia⁷ it is predicted that 47% (n=545) of all other transport injuries were ATV accidents. 20% of these injuries (n=106) were due to an animal being ridden.

ICD-10 Detailed Causes (Deaths)

ICD-10 Causes

Selected Exact Mechanisms⁸

Falls	<ul style="list-style-type: none">· Unspecified fall
Fire/Burn	<ul style="list-style-type: none">· Exposure to uncontrolled fire in building or structure
Motor Vehicle Crash	<p>Other Motor Vehicle (MV) crash with unmoving motor vehicle injuring driver of motor vehicle other</p> <ul style="list-style-type: none">· Car occupant injured in collision with car, pick-up truck or van, injuring passenger· Car occupant injured in non-collision transport accident, injuring passenger· Pedestrian injured in collision with car, pick-up truck or van in a traffic accident· Car occupant injured in collision with fixed or stationary object, injuring passenger· Car occupant injured in collision with heavy transport vehicle or bus, injuring passenger
Suffocation	<ul style="list-style-type: none">· Accidental suffocation and strangulation in bed· Other accidental hanging and strangulation· Inhalation and ingestion of other objects causing obstruction of respiratory tract
Drowning	<ul style="list-style-type: none">· Drowning and submersion while in swimming pool· Unspecified drowning and submersion· Drowning and submersion while in bath-tub· Drowning and submersion while in natural water
Pedestrian	<ul style="list-style-type: none">· Pedestrian injured in collision with car, pick-up truck or van, non-traffic
Other land transport	<ul style="list-style-type: none">· Driver of all-terrain or other off-road vehicle injured in non-traffic accident

⁷ Jim Helmkamp. (2007, October). Death and injury from ATV and bicycle crashes: A 5-year comparison of national prevalence and cost estimates among children and adults. Retrieved from <http://www.atvsafetynet.org/helmkamp.pdf>

⁸ *Icd-10 version:2010*. (n.d.). Retrieved from <http://apps.who.int/classifications/icd10/browse/2010/en>

Database Information

Database	Who's Counted?	Coding System Used	Years Provided In this Report	How to use:
Emergency Department Database* Kansas Hospital Association**	A person who is admitted for less than 24 hours to a non-federal, short stay community or general hospital who is reporting emergency department visits to Kansas Hospital Association.	ICD-9	2007-2008	At this time ED data can only be provided statewide. This database provides a good view of less serious injuries in Kansas.
Hospital Discharge Database* Kansas Hospital Association**	A person who is admitted for at least 24 hours to a non-federal, short stay community or general hospital who is reporting hospital discharge data to Kansas Hospital Association.	ICD-9	2005-2009	This database is most commonly referred to in this report due to its size and completeness. The HD database provides information for communities and regions and more in depth analysis of serious injuries.
Mortality Database Kansas Department of Health and Environment	Any persons who dies in the state of Kansas, and also Kansans who die outside of the state.	ICD-10	2000-2010	Although this database is the most complete, the numbers of deaths in Kansas are often too low to report (less than five). This database provides a look at fatal injuries at a state and region level.

***Special Focus, Unlinked Data:**

The records in the Kansas emergency department and hospital discharge database are not unique. Records are not unique when they are unlinked. Suppose someone breaks their arm and goes to the emergency department but is then transferred to another emergency department due to a complication. In a linked system this one event can be tied together and counted as one event but with an unlinked system these are counted as two separate events. Serious injuries can inflate the counts if the person is transferred more than once. This is why we refer to events as hospital discharges (not unique).

** Federal and specialty hospitals in Kansas do not report their discharges and emergency department visits to these databases.