Injuries among Kansas Hispanics

Injury Prevention and Disability Program

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Kansas

Department of Health
and Environment

Health Promotion

Injuries among Kansas Hispanics

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Summary

Hispanics are a younger population than non-Hispanics (NH) White in Kansas and do not share the same characteristics and rates of injuries as compared to NH White and NH African-American. Generally among Hispanics, males had a higher percentage of injury related hospital discharges than females.

To reduce the rate of injury in Hispanics it will be important to develop specific strategies addressing the issue in this younger age group (0-44 years old) which makes up a large proportion of the Hispanic population. Hispanics may face certain barriers such as language, education, and income for accessing prevention efforts but it is important to realize that this is a population subgroup that is growing rapidly.

Introduction

Hispanics are a fast growing minority group in the country and in Kansas. In 2010, the Hispanic population of Kansas reached 300,012 persons, making up 10.5 percent of the total population[i]. These numbers reflect an increase of 59.4 percent compared to the year 2000 when the Hispanic population in Kansas was only comprised of 188,252 persons (2.8% of the population).

This document will examine the main focus areas of the Kansas Injury Prevention and Disability Program: unintentional injuries, suicide, assault, motor vehicle crashes and fall related injuries. Rates among Hispanics will be compared to other race/ethnic groups and give basic distributions of age and gender groups.

Hospital discharges (HD) were chosen for analysis in this report due to their completeness and volume. A hospital discharge is defined as a stay in the hospital lasting longer than 24 hours. Only hospitals who report to the Kansas Hospital Association are included in this report.
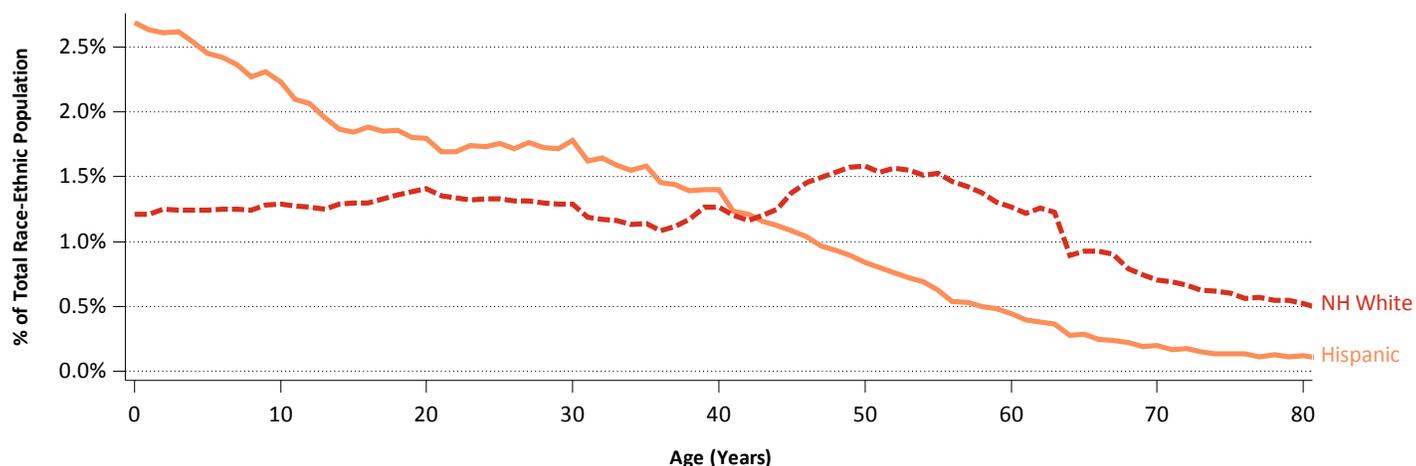
> *Please Note: All of the non federal, short stay community or general hospitals in Kansas do not report their hospital discharge data to Kansas Hospital Association, therefore their databases do not include 100 percent of hospital discharges. In 2010, 127 Kansas Hospitals reported their hospital discharge data to KHA.*

Age Differences

One of the main analyses done in this report is to look at the distribution of age across different race groups. It is important to note that the Hispanic and non-Hispanic (NH) African-American populations are much younger than the NH White population. For example, in 2010, among the entire population of Kansas, 50.0 percent of Kansans were 35 years and younger. But when we look at specific Race/Ethnic group this number changes drastically. Among NH White, 45.9 percent were 35 years and younger, among NH African-American 61.0 percent, NH Asian/Pacific Islander 60.3 percent, and NH Native American 57.8 percent were 35 years old and younger. Among Hispanics, 71.5 percent are 35 years and younger. The figure on the next page shows the different age-distribution of Hispanics and NH White.

**Age Distribution of Race-Ethnic Groups among Kansans 0-80 year olds
Kansas 2010**

Source: 2010 U.S. Census Bureau

To be able to compare rates for these differing populations it is necessary to provide age-adjusted rates, which account for the differences in the age distributions of the population subgroups. For more information on age-adjusted rates, see appendix. Percentages are also provided, which will help policy makers and injury prevention professionals have an understanding of which age groups to focus on to have maximum impact on prevention of injuries.

Race

Race is traditionally looked at in two ways. Race and ethnicity are examined as two separate variables or they can be combined. In this report, race and ethnicity are combined. For more information on how race/ethnic groups are defined, see appendix. The table below describes these two different strategies and the racial and ethnic makeup of Kansas in 2010.

Population of Kansas among different Race and Ethnic Groupings, Kansas 2010

Race Only	Population 2010	% of Total Population	Ethnicity Only	Population 2010	% of Total Population	Race/Ethnic Group	Population 2010	% of Total Population
White	2,538,944	88.99	Non-Hispanic	2,553,076	89.48	NH White	2,266,456	79.44
African-American	195,412	6.85	Hispanic	300,042	10.52	Hispanic	300,042	10.52
Asian/Pacific Islander	78,101	2.74				NH African-American	183,253	6.42
Native American	40,661	1.43				NH Asian/Pacific Islander	74,757	2.62
						NH Native American	28,610	1.00

Source: 2010 U.S. Census Bureau Data

Hispanic Population By Location

Generally the largest Hispanic populations are found in counties with the largest overall populations. One surprise is Ford County whose total population was 17th highest in Kansas but Hispanic population was 5th highest. Ford County is home to Dodge city, which is home to very large meat packing plants.

Communities with larger proportions of Hispanics are in southwest Kansas. Seward County, which is home to the city of Liberal, saddles the Kansas-Oklahoma border and has a population that is more than 50 percent Hispanic. Ford, Finney, Grant and Stanton are all southwestern counties with Hispanic populations greater than 35 percent of the overall population.

Five Counties with Highest Number and Percentage of Hispanics
Kansas 2010

County	Total Population	Hispanic Population	%Hispanics In Total Population	Total Population Rank	Hispanic Population Size Rank
Sedgwick	498,365	64,636	13.0%	2	1
Wyandotte	157,505	41,633	26.4%	4	2
Johnson	544,179	38,949	7.2%	1	3
Shawnee	177,934	19,303	10.8%	3	4
Ford	33,848	17,321	51.2%	17	5

Source: 2010 U.S. Census Bureau

Five Counties with Highest Population Distribution of Hispanics
Kansas 2010

County	Total Population	Hispanic Population	%Hispanics In Total Population	Total Population Rank	Hispanic Population Distribution Rank
Seward	22,952	12,990	56.6%	25	1
Ford	33,848	17,321	51.2%	17	2
Finney	36,776	17,182	46.7%	12	3
Grant	7,829	3,439	43.9%	52	4
Stanton	2,235	828	37.0%	98	5

Source: 2010 U.S. Census Bureau

Interpreting the charts

The chart below will be used throughout this report and may be familiar to you. These bars represent the values for the specific race/ethnic groups. At the end of each bar there is a skinny line with two ends, these ends represent the 95% confidence interval of the rate estimate (see page 16). These bars allow us to make quick statistical comparisons for these groups. Simply, if the lines do not overlap then the two rate estimates differ, or more precisely are significantly (statistically) different.
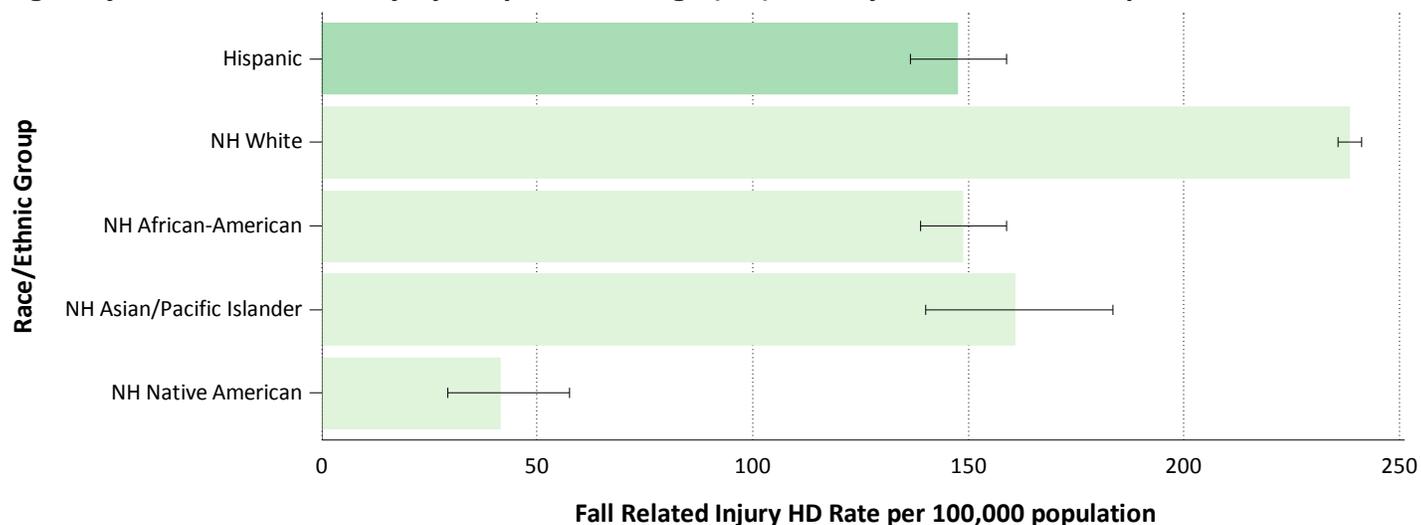
Examples Questions:

Who has the highest age-adjusted rate of fall related HD?

NH White not only have the highest rate estimate but their 95% confidence interval do not overlap with those of any other group. NH White have a significantly higher age-adjusted fall related rate when compared to all other race/ethnic groups.

Are age-adjusted unintentional fall related HD rates different among NH African-Americans and Hispanics?

Looking at the chart below this is not true we can clearly see that the 95% confidence intervals shown at the end of the bars for the two groups overlap each other. Thus, those data are showing that Hispanics do not have significantly different age-adjusted fall related HD rates when compared to NH African-American.

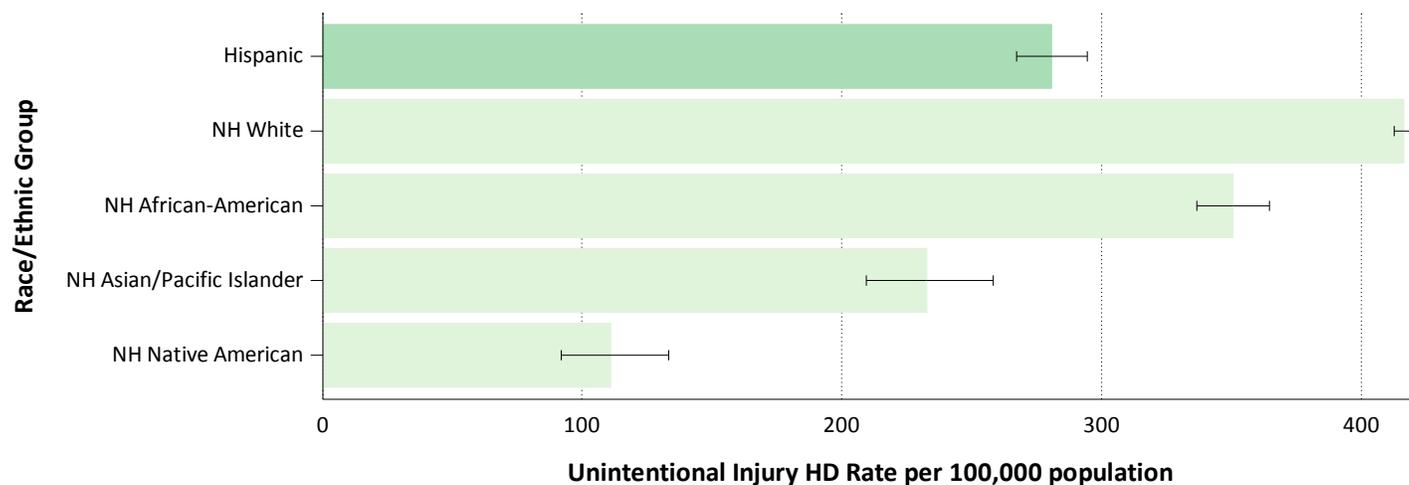**Age-Adjusted Fall Related Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010**

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association.

Unintentional Injury

Unintentional injuries are the most common type of injury in Kansas. Unintentional injuries include falls, poisonings, motor vehicle crashes, and drownings. Most unintentional injury HD are due to falls.

Age-Adjusted Unintentional Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association.

Hispanics had a lower age-adjusted unintentional injury HD rate as compared to NH African-American and NH White. Both NH Asian/Pacific Islander and NH Native American had lower age-adjusted unintentional injury HD rates as compared to Hispanics. All these differences are statistically significant.

Age-Adjusted Unintentional Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010

Race/Ethnic Group	#HD	Percent of All HD	HD Rate	95% CI	Comparison
Hispanic	**2,539**	**3.7%**	**280.8**	**267.5- 294.6**	**Reference Group**
NH White	53,068	77.6%	416.2	412.6- 419.8	Higher
NH African-American	2,680	3.9%	350.3	336.5- 364.6	Higher
NH Asian/Pacific Islander	466	0.7%	232.7	209.4- 258.2	Lower
NH Native American	137	0.2%	110.9	92.1- 133.4	Lower

*Unintentional Injury HD Rate is per 100,000 population. 95% CI (Confidence Interval) are calculated around rate. Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association. Rates were age-adjusted to the U.S. 2000 Standard population using the direct method. See Technical Appendix for details on how rates were calculated.

Among Hispanics, most unintentional injuries HD were among males (65.5%) and those 18-44 years old (44.8%). This differs from NH White who had near equal distribution of males and females and had much fewer persons in the 18-44 age group (17.8%). Among NH White, more than half unintentional injury HD occurred among those 65 years and older (54.9%).

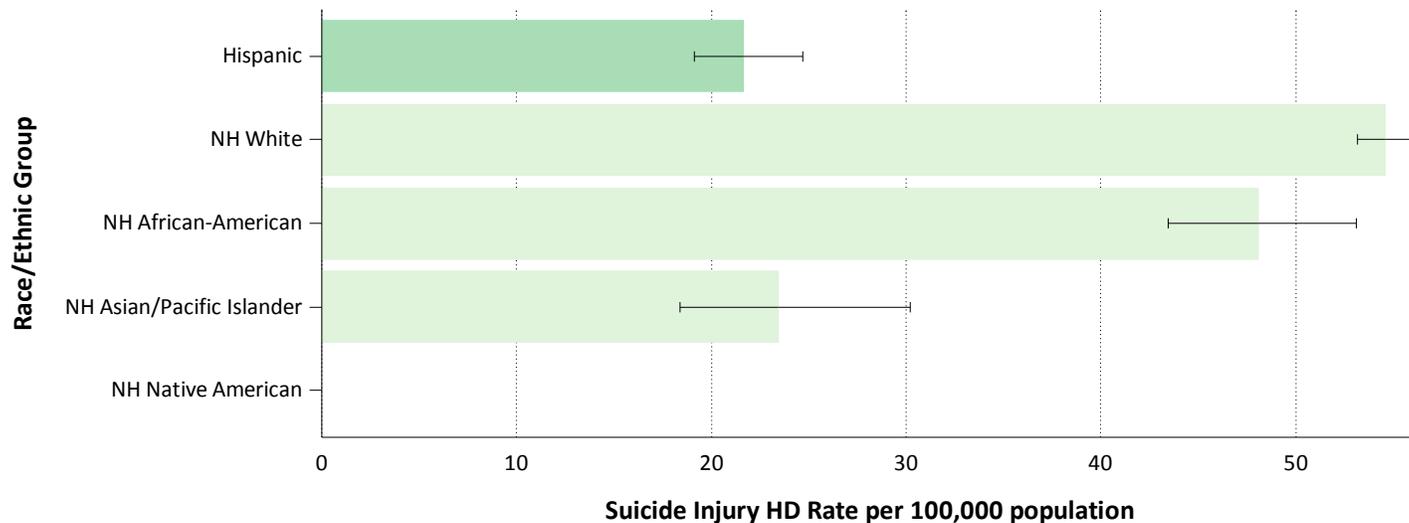**Selected Unintentional Injury Hospital Discharges (HD) by Gender, Age and Race/Ethnic Groups, Kansas 2006-2010**

	#HD	% of all Hispanic Unintentional Injury HD	#HD	% of all NH White Unintentional Injury HD	#HD	% of all NH African-American Unintentional Injury HD
Total HD	**2,539**	**100.0%**	**53,068**	**100.0%**	**2,680**	**100.0%**
Gender						
Male	1,664	65.5%	23,287	43.9%	1,484	55.4%
Female	875	34.5%	29,777	56.1%	1,196	44.6%
Age						
0-17	522	20.6%	4,012	7.6%	454	16.9%
18-44	1,137	44.8%	9,457	17.8%	932	34.8%
45-64	421	16.6%	10,480	19.7%	733	27.4%
65+	459	18.1%	29,119	54.9%	561	20.9%

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association

Suicide

Suicides are injuries that cover self-harm such as poisoning, gun-shot wounds, and suffocation. The most common cause of suicide injury hospital discharges is poisoning.

Age-Adjusted Suicide Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association.

Due to low numbers, NH Native American did not have rates calculated.

Non-Hispanic White and NH African-American have age-adjusted higher suicide HD rates compared to Hispanics, both groups had rates that were two times higher than Hispanics. Hispanics and NH Asian/Pacific Islander did not have significantly different age-adjusted rates.

Age-Adjusted Suicide Hospital Discharge (HD) Rate by Race/Ethnic Groups, Kansas 2006-2010

Race/Ethnic Group	#HD	Percent of All HD	HD Rate	95% CI	Comparison
Hispanic	**298**	**3.7%**	**21.7**	**19.1- 24.7**	**Reference Group**
NH White	5,960	74.8%	54.6	53.2- 56.0	Higher
NH African-American	419	5.3%	48.1	43.5- 53.1	Higher
NH Asian/Pacific Islander	81	1.0%	23.4	18.4- 30.2	No Difference
NH Native American	20	0.3%	.	.	Not Applicable

*Suicide HD Rate is per 100,000 population. 95% CI (Confidence Interval) are calculated around rate. Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association. Rates were age-adjusted to the U.S. 2000 Standard population using the direct method. See Technical Appendix for details on how rates were calculated.

Among the three race/ethnic groups examined, (NH White, Hispanic, NH African-American), suicide HD was more frequent among women than men (55% and above). Nearly twenty one-percent (20.8%) of the suicide HD among Hispanics were seen in those 17 years and younger. The suicide HD frequency among this age group, 0-17 years old, was twice as high as compared to NH White and NH African-American suicide HD (9.7% and 7.9%, respectively).

Selected Suicide Hospital Discharges (HD) by Gender, Age and Race/Ethnic Groups, Kansas 2006-2010
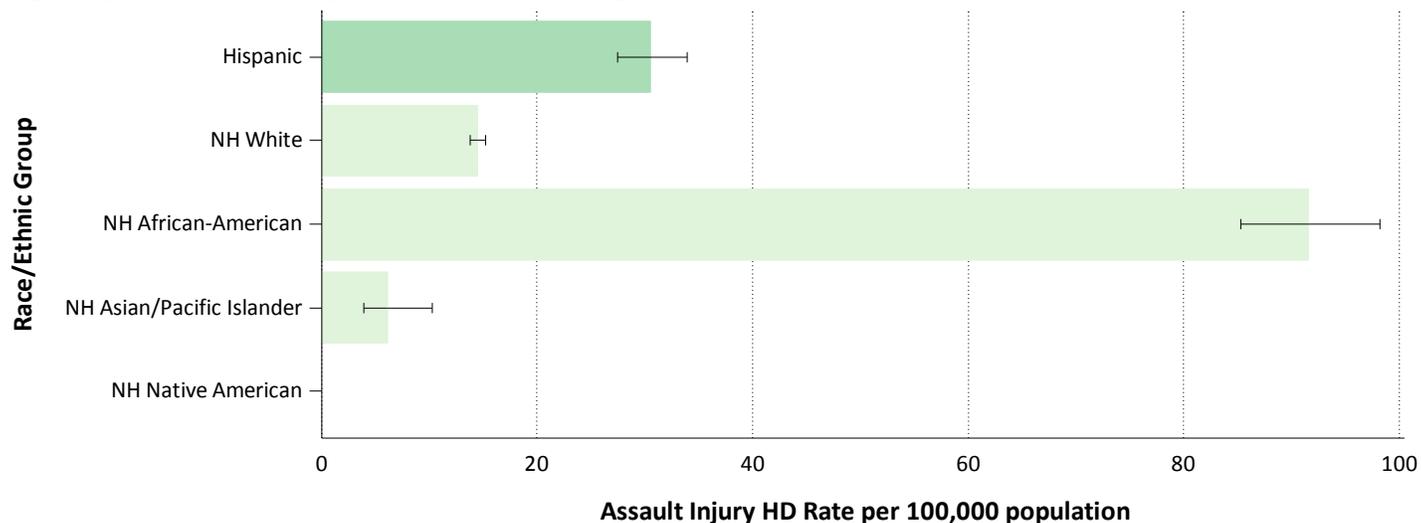
	#HD	% of all Hispanic Suicide Injury HD	#HD	% of all NH White Suicide Injury HD	#HD	% of all NH African-American Suicide Injury HD
Total HD	**298**	**100.0%**	**5,960**	**100.0%**	**419**	**100.0%**
Gender						
Male	125	41.9%	2,456	41.2%	188	44.9%
Female	173	58.1%	3,504	58.8%	231	55.1%
Age						
0-17	62	20.8%	581	9.7%	33	7.9%
18-44	208	69.8%	3,630	60.9%	302	72.1%
45-64	25	8.4%	1,573	26.4%	80	19.1%
65+	3	1.0%	176	3.0%	4	1.0%

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association

Assault

Assault injuries occur when one person purposely harms another person. Assault injuries that lead to death are generally considered homicides. The causes of assault are primarily firearm, struck by/against, and cut/pierce.

Age-Adjusted Assault Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association.

Due to low numbers, NH Native American did not have rates calculated.

Non-Hispanic African-American had an age-adjusted assault HD rate that was three times higher than Hispanics. Non-Hispanic White and NH Asian/Pacific Islander had lower age-adjusted assault HD rate than Hispanics. The NH African-American age-adjusted assault HD rate was 3 times higher than Hispanics. Conversely, the Hispanic age-adjusted rate was 5 times higher than the NH Asian/Pacific Islander age-adjusted rate.

Age-Adjusted Assault Hospital Discharge (HD) Rate by Race/Ethnic Groups, Kansas 2006-2010

Race/Ethnic Group	#HD	Percent of All HD	HD Rate	95% CI	Comparison
Hispanic	**447**	**13.7%**	**30.5**	**27.5- 33.9**	**Reference Group**
NH White	1,589	48.6%	14.5	13.8- 15.2	Lower
NH African-American	843	25.8%	91.5	85.3- 98.2	Higher
NH Asian/Pacific Islander	25	0.8%	6.1	3.9- 10.3	Lower
NH Native American	17	0.5%	.	.	Not Applicable

*Assault Injury HD Rate is per 100,000 population. 95% CI (Confidence Interval) are calculated around rate. Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association. Rates were age-adjusted to the U.S. 2000 Standard population using the direct method. See Technical Appendix for details on how rates were calculated.

Among all three race/ethnic groups assault HD were more frequent among those ages 18-44 years. The frequency of males among assault HD was also higher than females (nearly, 80%+) across all three Race/Ethnic groups.

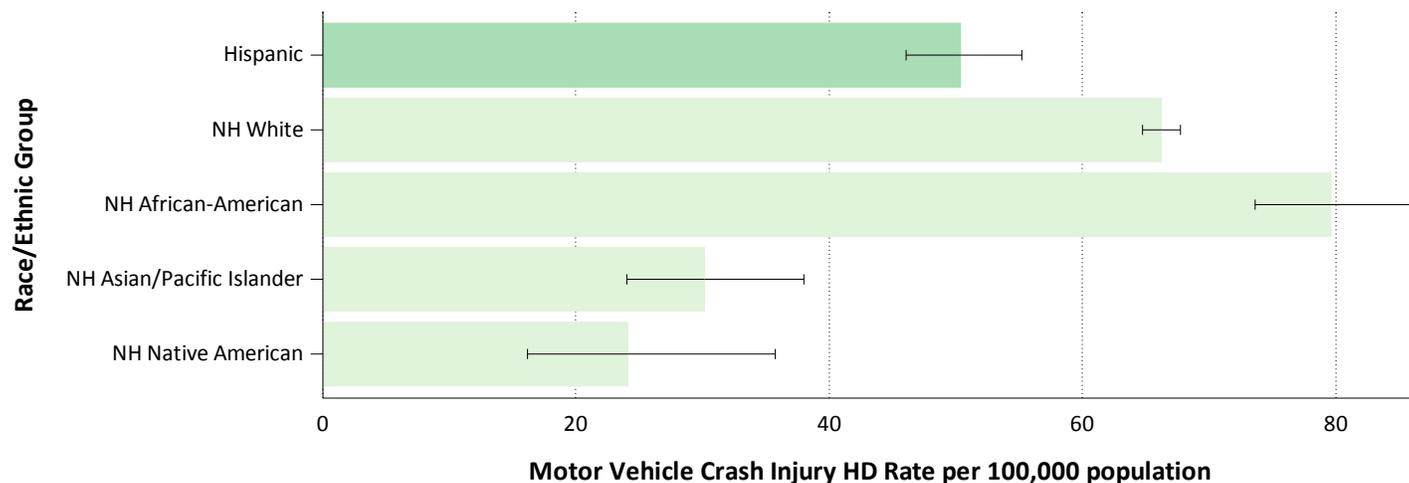**Selected Assault Hospital Discharges (HD) by Gender, Age and Race/Ethnic Groups, Kansas 2006-2010**

	#HD	% of all Hispanic Assault Injury HD	#HD	% of all NH White Assault Injury HD	#HD	% of all NH African-American Assault Injury HD
Total HD	**447**	**100.0%**	**1,589**	**100.0%**	**843**	**100.0%**
Gender						
Male	387	86.6%	1,255	79.0%	698	82.8%
Female	60	13.4%	334	21.0%	144	17.1%
Age						
0-17	101	22.6%	197	12.4%	94	11.2%
18-44	307	68.7%	997	62.7%	593	70.3%
45-64	35	7.8%	350	22.0%	147	17.4%
65+	4	0.9%	45	2.8%	9	1.1%

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association

Motor Vehicle Crashes

Motor vehicle crashes (MVC) are crashes that occur on public roads. In 2010 in Kansas, MVC were the second leading cause of unintentional injury hospital discharge (13.9%). The MVC HD referred to in this section are unintentional, intentional MVC HD such as suicide and assault may have different rates and distributions.

Age-Adjusted Motor Vehicle Crash Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association.

Non-Hispanic White and NH African American had higher age-adjusted rates of motor vehicle crash (MVC) HD compared to Hispanics. Non-Hispanic Asian/Pacific Islander and NH Native American had lower age-adjusted rates of MVC HD compared to Hispanics.

Age-Adjusted Motor Vehicle Crash (MVC) Hospital Discharge (HD) Rate by Race/Ethnic Groups, Kansas 2006-2010

Race/Ethnic Group	#HD	Percent of All HD	HD Rate	95% CI	Comparison
Hispanic	**635**	**6.2%**	**50.4**	**46.1- 55.2**	**Comparison**
NH White	7,628	75.0%	66.2	64.7- 67.8	Higher
NH African-American	693	6.8%	79.7	73.7- 86.1	Higher
NH Asian/Pacific Islander	96	0.9%	30.2	24.1- 38.0	Lower
NH Native American	32	0.3%	24.1	16.1- 35.8	Lower

*Unintentional MVC Injury HD Rate is per 100,000 population. 95% CI (Confidence Interval) are calculated around rate. Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association. Rates were age-adjusted to the U.S. 2000 Standard population using the direct method. See Technical Appendix for details on how rates were calculated.

Among MVC HD, the frequency of males was higher than females, age though varied widely across race/ethnic groups. Across all three race/ethnic groups MVC HD, the frequency of those 18-44 years old was larger compared to the other age groups. There was a much higher frequency of those 18-44 among Hispanic MVC HD (66.6%) compared to NH White MVC HD (46.6%).

Selected Motor Vehicle Crash Hospital Discharges (HD) by Gender, Age and Race/Ethnic Groups, Kansas 2006-2010

	#HD	% of all Hispanic MVC Injury HD	#HD	% of all NH White MVC Injury HD	#HD	% of all NH African-American MVC Injury HD
Total HD	**635**	**100.0%**	**7,628**	**100.0%**	**693**	**100.0%**
Gender						
Male	424	66.8%	4,627	60.7%	435	62.8%
Female	211	33.2%	2,997	39.3%	258	37.2%
Age						
0-17	105	16.5%	896	11.7%	101	14.6%
18-44	423	66.6%	3,557	46.6%	404	58.3%
45-64	86	13.5%	1,969	25.8%	158	22.8%
65+	21	3.3%	1,206	15.8%	30	4.3%

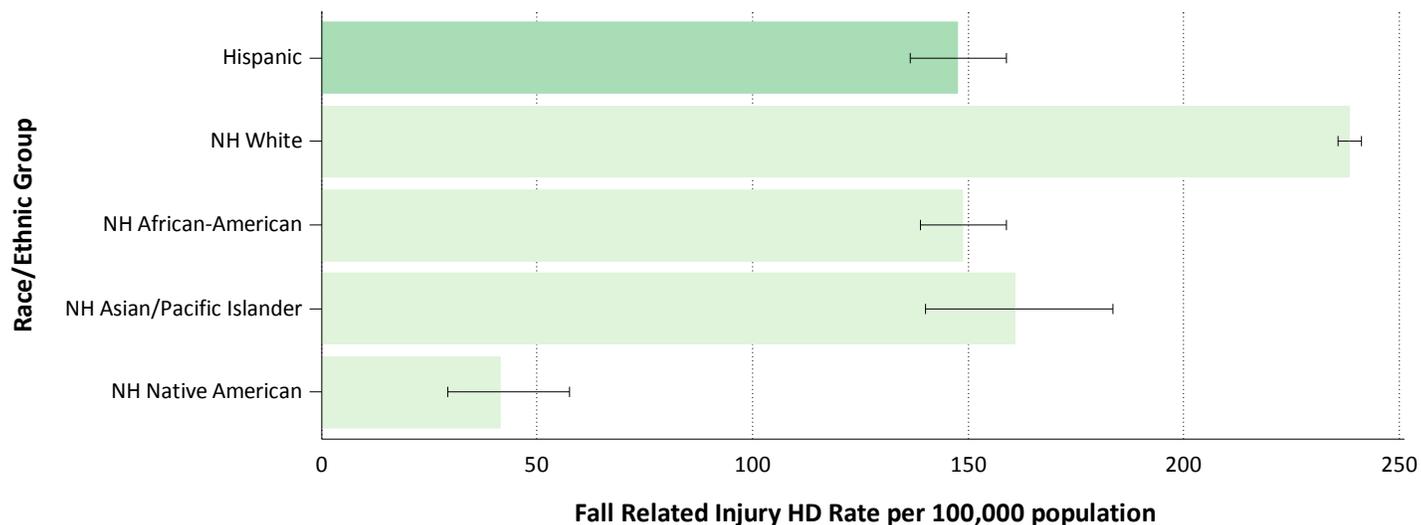Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association

Special Focus: Seatbelt Use

Using the Kansas Behavioral Risk Factor Surveillance System (BRFSS) we are able to describe seat belt use in adults. In 2011, 80.5 percent of Kansas adults 18 years and older always wore a seatbelt. There was no difference between Hispanics, NH White and NH African-American. These differences persisted even after age adjustment.

Falls

Fall related HD are a growing concern in Kansas because of the aging population. Falls in the elderly and young can result in many serious injuries such as traumatic brain injuries and hip fractures, especially in the elderly. Fall related HD referred to in this section are unintentional, intentional fall related HD such as suicide and assault may have different rates and distributions.

Age-Adjusted Fall Related Injury Hospital Discharge (HD) Rate by Race/Ethnic Group, Kansas 2006-2010

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association.

Non-Hispanic White had higher age-adjusted fall related HD rate as compared to Hispanics. Hispanics, NH African-American, and NH Asian/Pacific Islander did not have differing age-adjusted rates of fall related HD. Non-Hispanic Native American had a lower age-adjusted rate of fall related HD compared to Hispanics.

Age-Adjusted Fall Related Hospital Discharge (HD) Rate by Race-Ethnic Groups, Kansas 2006-2010

Race/Ethnic Group	#HD	Percent of All HD	HD Rate	95% CI	Comparison
Hispanic	**966**	**2.4%**	**147.4**	**136.6- 158.9**	**Comparison**
NH White	32,285	79.8%	238.5	235.8- 241.1	Higher
NH African-American	960	2.4%	148.6	138.9- 158.7	No Difference
NH Asian/Pacific Islander	256	0.6%	160.7	140.1- 183.6	No Difference
NH Native American	43	0.1%	41.3	29.1- 57.5	Lower

*Unintentional Fall HD Rate is per 100,000 population. 95% CI (Confidence Interval) are calculated around rate. Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association. Rates were age-adjusted to the U.S. 2000 Standard population using the direct method. See Technical Appendix for details on how rates were calculated.

Among Hispanic fall related HD, the frequency of males was higher than females and only 37.1% occurred in those 65 years and older. Among NH White fall related HD the opposite is true, the frequency of females was higher than males and more than three-quarters occurred in those 65 years and older (75.3%).

Selected Fall Related Hospital Discharges (HD) by Gender, Age and Race/Ethnic Groups, Kansas 2006-2010

	#HD	% of all Hispanic Fall Related Injury HD	#HD	% of all NH White Fall Related Injury HD	#HD	% of all NH African-American Fall Related Injury HD
Total HD	**966**	**100.0%**	**32,285**	**100.0%**	**960**	**100.0%**
Gender						
Male	534	55.3%	10,929	33.9%	439	45.7%
Female	432	44.7%	21,356	66.1%	521	54.3%
Age						
0-17	160	16.6%	988	3.1%	96	10.0%
18-44	260	26.9%	1,980	6.1%	170	17.7%
45-64	188	19.5%	5,003	15.5%	278	29.0%
65+	358	37.1%	24,314	75.3%	416	43.3%

Source: 2006-2010 Kansas Hospital Discharge Database, Kansas Hospital Association

Appendix

Defining Race/Ethnic Groups:

> **Race Definition for Hospital Discharges analysis:** Race was defined by combining race and ethnic group in the hospital discharge database. An individual was defined as Hispanic if they chose Hispanic as their ethnicity, regardless of race. Those who did not choose any ethnicity or chose 'Not Stated' were dropped from analysis. Of those remaining who chose non-Hispanic, the available race group was selected and concatenated with NH (Non-Hispanic). Race groups that were too small or had no population denominator were not included. These race groups include (Multi-Racial, other, missing, unknown or patient refused)

> **Race Definition for Population analysis:** Race/Ethnic population estimates were obtained by combining bridged-race groups with ethnicity. Population estimates were obtained from U.S. Census Bureau. These estimates are midyear (July 1) bridged race post-censal estimates. To be consistent with other KDHE publications, 2002-2011 midyear population estimates produced for each year are used, rather than the most recent year. For 2001, and vintage 2002 population estimates were used. For 2000, census 2000 populations were used.

Age adjusted rates:

Age adjustment is a statistical method for standardizing rates for groups that have different underlying age distributions to be more comparable. Age-adjusted rates should be used to compare Kansas with the United States as a whole, or for comparing two groups, or the same group over time, if the underlying population distribution is different or changes (for example, comparing rates for Hispanics and Non-Hispanics). Age-adjusted rates should be understood as relative indices, not as actual measures of burden, and should not be compared to unadjusted rates.

All age-adjusted rates in this report are computed using the direct method. Briefly, rates are first computed within each age group stratum. The products of each age-specific rate multiplied by the proportion of the 2000 U.S. Standard Population in that age category are summed across the age group strata.

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. 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.

Databases:

The three databases used for the purposes of this document are the hospital discharge database, the emergency department database, and the mortality database. See table below for detailed information on all three databases.

Database	Who's Counted?	Coding System Used	Years Provided In this Report
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-9CM	2006-2010

*Special Focus, Unlinked Data: The records in the Kansas hospital discharge database are not unique. Records are not unique when they are unlinked. For example, someone breaks their arm and goes to the hospital but is then transferred to another hospital 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 to these databases. All of the non federal, short stay community or general hospitals in Kansas do not report their hospital discharge data to Kansas Hospital Association, therefore their databases do not include 100 percent of hospital discharges. In 2010, 127 Kansas Hospitals reported their hospital discharge data to KHA.

References

[i] Ennis, Sharon. *The Hispanic Population: 2010*. Brief. 2010 Census Briefs. U.S. Census, May 2011. http://www.census.gov/prod/cen2010/briefs/c2010br-04.pdf.

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, Massachussets: 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