



National Injury and Violence Prevention Resource Center

Missouri 2013 State Fact Sheet

Unintentional injuries and violence are the leading causes of death, hospitalization, and disability for children ages 1-18. This fact sheet provides a state snapshot of data on the injury-related Maternal and Child Health Block Grant National Performance Measures and Health Status Indicators, with a special focus on disparities based on race, gender, and rural/urban residence. The fact sheet is intended to be a helpful and easy-to-use tool for needs assessments, planning, program development, and presentations.

The Children's Safety Network (CSN) National Injury and Violence Prevention Resource Center, funded by the Maternal and Child Health (MCH) Bureau, works with states to utilize a science-based, public health approach for injury and violence prevention (IVP). CSN is available to provide information and technical assistance on injury surveillance and data; needs assessments; best practices; and the design, implementation, and evaluation of programs to prevent child and adolescent injuries.

Major Causes of Injury Death

Table 1: Leading Causes and Total 5-Year Incidence of Deaths by Age Group, Missouri, 2006-2010

Rank	Age Groups							
	<1	1 - 4	5 - 9		10 - 14	15-19	20-24	
1	Congenital Anomalies 603	Unintentional Injury 171	Unintentional Injury 120		Unintentional Injury 106	Unintentional Injury 810	Unintentional Injury 1,040	
2	Short Gestation 556	Homicide 58	Malignant Neoplasms 52		Malignant Neoplasms 39	Homicide 302	Homicide 356	
3	Unintentional Injury 285	Congenital Anomalies 49	Congenital Anomalies 20		Suicide 38	Suicide 187	Suicide 314	
4	SIDS 199	Malignant Neoplasms 37	Homicide 13		Homicide 26	Malignant Neoplasms 61	Malignant Neoplasms 98	
5	Maternal Pregnancy Comp. 156	Heart Disease 17	Cerebro-vascular Disease 10	Heart Disease 10	Congenital Anomalies 16	Heart Disease 16	Heart Disease 35	Heart Disease 60

Note. **** = indicates that the cell values range from 1-9 and are suppressed for data confidentiality purposes.

Table 2. Leading Causes and Total 5-Year Incidence of Injury Deaths by Age Group, Missouri, 2006-2010

Age Groups							
Rank	<1	1 - 4	5 - 9	10 - 14	15-19	20-24	
1	Suffocation 249	Homicide 58	MV Traffic 52	MV Traffic 58	MV Traffic 581	MV Traffic 592	
2	Homicide 50	MV Traffic 45	Fire/Burn 20	Suicide 38	Homicide 302	Homicide 356	
3	Undetermined Suffocation 11	MV Traffic 11	Fire/Burn 38	Drowning 15	Homicide 26	Suicide 187	Poisoning 317
4	Fire/Burn ****	Drowning 32	Homicide 13	Fire/Burn 13	Poisoning 109	Suicide 314	
5	Natural/ environmental ****	Drowning ****	Suffocation 16	Other land transport ****	Drowning ****	Drowning 46	Drowning 29

Note. All mechanisms of suicide and homicide were combined according to intent. Each listed mechanism is unintentional except those otherwise noted. **** = indicates that the cell values range from 1-9 and are suppressed for data confidentiality purposes.

Major Causes of Hospital-Admitted Injuries

Table 3: Leading Causes and Annual Incidence of Hospital-Admitted Injuries by Age Group, Missouri Residents, 2010

Age Groups						
Rank	<1	1 - 4	5 - 9	10 - 14	15-19	20-24
1	Other Specified, NEC 74	Fall 137	Fall 158	Self-Inflicted 188	Self-Inflicted 763	Self-Inflicted 801
2	Fall 61	Poisoning 106	MV Traffic 77	Fall 167	MV Traffic 514	MV Traffic 670
3	Assault 60	Fire/Burn 69	Other Specified, NEC 73	Struck By/ Against 117	Fall 205	Assault 296
4	Fire/Burn 16	Other Specified, NEC 67	Bites & Stings 59	Other Specified, NEC 113	Assault 197	Fall 262
5	Suffocation 15	Bites & Stings 66	Struck By/ Against 43	MV Traffic 80	Other Specified, NEC 186	Poisoning 199

Note: MV = Motor Vehicle. NEC = Not Elsewhere Classifiable. Source: Children's Safety Network Economics and Data Analysis Resource Center (CSN EDARC), at the Pacific Institute for Research and Evaluation (PIRE), Calverton, MD, January 2013. Incidence based on 2010 data obtained from the Missouri Hospital Industry Data Institute. State Inpatient Data (SID) from the Healthcare Cost and Utilization Project (HCUP) developed by the Agency for Healthcare Research and Quality (AHRQ). These injuries exclude patients who were dead at the time of discharge, readmission cases, transfers (e.g., from another short or long-term care facility, different acute care hospital), medical misadventures, and/or who suffered non-acute injuries. All counts were based on the patients' state of residence.



Table 4: Leading Causes and Total Medical Cost in Thousands (\$1,000) for Hospital-Admitted Injuries by Age Group, Missouri Residents, 2010

Rank	Age Groups					
	<1	1 - 4	5 - 9	10 - 14	15-19	20-24
1	Other Specified, NEC \$2,848	Suffocation \$3,580	MV Traffic \$5,320	Fall \$4,545	MV Traffic \$27,957	MV Traffic \$27,940
2	Assault \$3,318	Fall \$3,004	Fall \$4,027	Transport, other \$3,712	Fall \$6,516	Fall \$8,407
3	Suffocation \$1,493	Struck By/ Against \$1,956	Struck By/ Against \$1,113	Struck By/ Against \$2,787	Assault \$4,358	Assault \$8,194
4	Unspecified \$929	Hot Object/ Substance \$1,871	Transport, other \$875	MV Traffic \$2,770	Struck By/ Against \$4,151	Motorcyclist \$4,425
5	Fall \$785	MV Traffic \$1,797	Bites and stings \$853	Other Specified, NEC \$2,355	Transport, other \$3,928	Self-inflicted \$3,971

Note: MV = Motor Vehicle. NEC = Not Elsewhere Classifiable. Source: Children's Safety Network Economics and Data Analysis Resource Center (CSN EDARC), at Pacific Institute for Research and Evaluation (PIRE), Calverton, MD, January 2013. Incidence based on 2010 data from the state and obtained from the XYZ State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality (AHRQ). Costs presented are medical costs in thousands. These injuries exclude patients who were dead at the time of discharge, readmission cases, transfers (e.g., from another short or long-term care facility, different acute care hospital), medical misadventures, and/or who suffered non-acute injuries. All counts were based on the patients' state of residence.

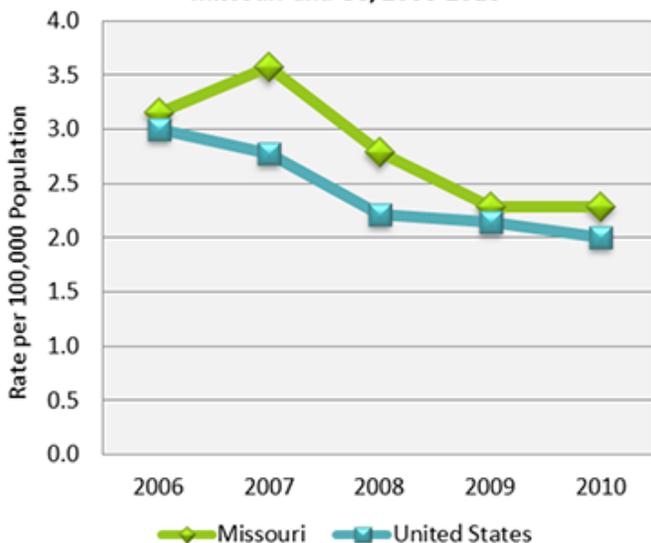
National Performance Measures

The Federal Maternal and Child Health Bureau Block Grant program requires State MCH programs to report on 18 National Performance Measures (NPM), two of which directly address injuries. NPM #10 addresses the rate of deaths to children aged 14 years and younger caused by motor vehicle crashes per 100,000 children. NPM #16 addresses the rate (per 100,000) of suicide deaths among youths aged 15 through 19.

The following figures provide information related to NPMs #10 and #16.

NPM 10: Reducing Unintentional Motor Vehicle Deaths to Children Ages 0-14

Figure 1: Rate of Deaths Caused by Motor Vehicle Crashes, Children Aged 0 through 14, Missouri and US, 2006-2010



Motor vehicle-related deaths remain a major cause of death for children 14 and under. Figure 1 shows the change in the rate of state motor vehicle-related deaths compared to the US rate from 2006-2010. Overall, the rate of death per 100,000 population declined steadily across the US during this period. Figure 2 provides a breakout of the fatalities by type distinguishing motor vehicle occupant deaths (of any vehicle type) from pedestrian and pedal cyclist fatalities. This information allows states to understand which types are responsible for most of the fatalities.

Figure 3 breaks out the fatalities by race and age group. There are considerable differences between races suggesting variations in social norms, safety practices, and the presence of risk factors, including child restraint system (CRS) or safety belt usage, alcohol involved crashes, and the use of helmets. Many factors may affect this variation. Figure 4 provides a breakdown of fatalities by gender and, although there is little variability between males and females for the 10-14 age group,

there is an increasing difference in the 15-24 age group. Figure 4 suggests that the female rate decreased for 20-24 year olds compared with the 15-19 year olds while male fatalities increased for 20-24 year olds.

Figure 2: Percentage Distribution of Motor Vehicle Traffic Fatalities by Type, Children Aged 0 through 14, Missouri, 2006-2010

52% of children ages 0 through 14 involved in a motor vehicle fatality were occupants of the vehicle.

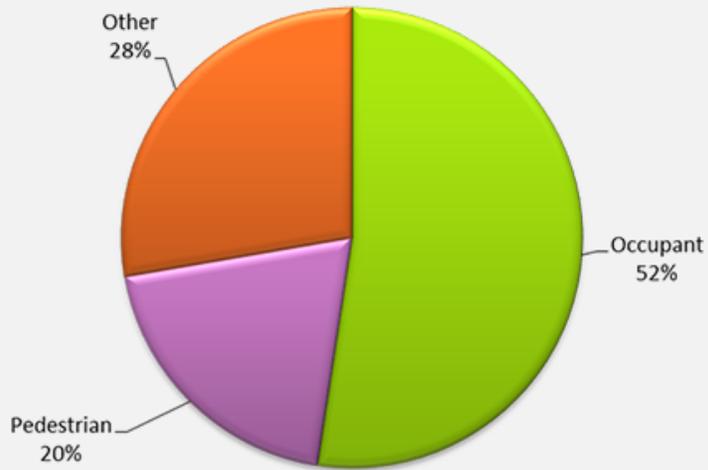


Figure 3: Motor Vehicle Traffic Fatality Rates by Race, Children and Youths Aged 0 through 24, Missouri, 2006-2010

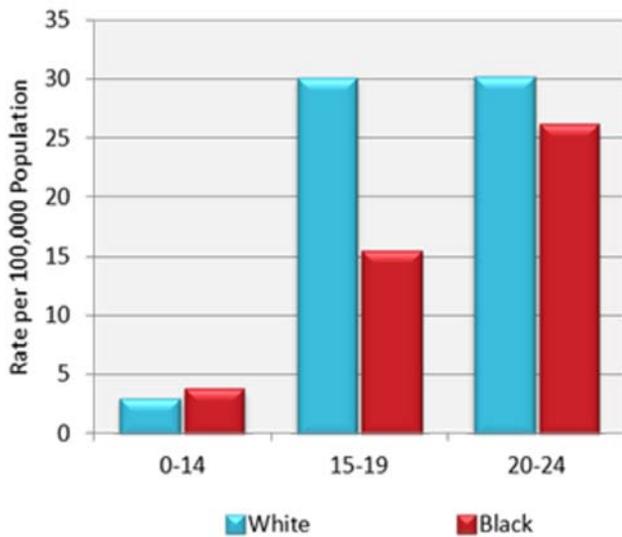
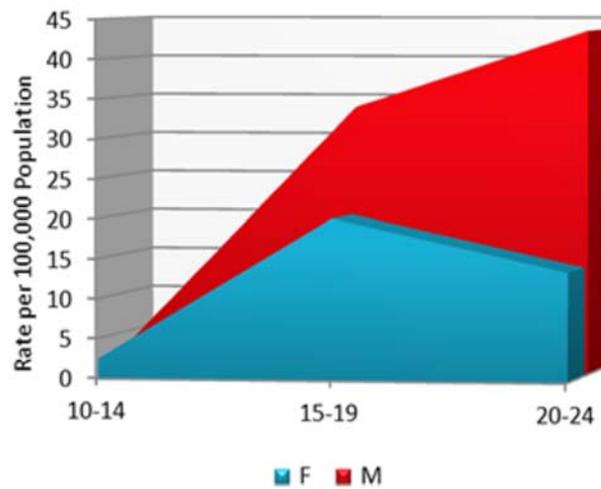


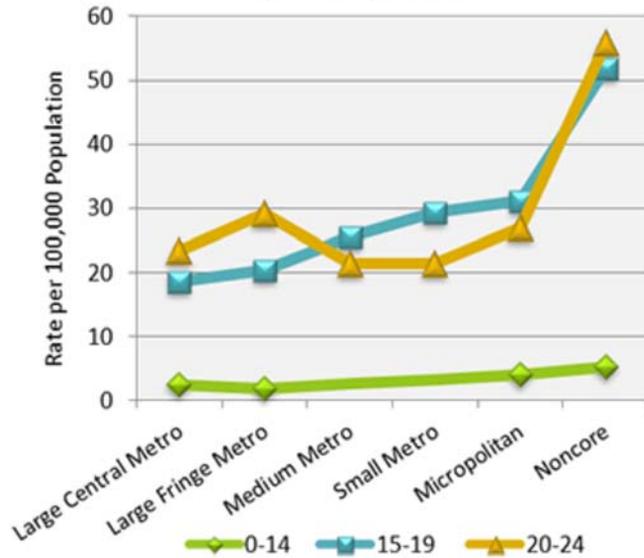
Figure 4: Motor Vehicle Traffic Fatality Rates by Gender, Children and Youths Aged 10 through 24, Missouri, 2006-2010



One way of understanding disparities is to look at the rate of injuries by place of occurrence. To show this, CSN has provided the rates for the 0– 14, 15-19 and 20-24 age groups using the urban-rural classification system developed by the National Center for Health Statistics (NCHS). To show how injury rates vary by level of urbanization, a [table based on the classification system can be found here](#) and defines six levels of urbanization: large central metro, large fringe metro, medium metro, small metro, micropolitan, and noncore. Figure 5 shows how the rate varies by age group by place of occurrence/urban-rural setting. This information allows the state to better understand any disparity that may occur between the different settings. Data are provided only for those areas in which 20 or more deaths occurred.

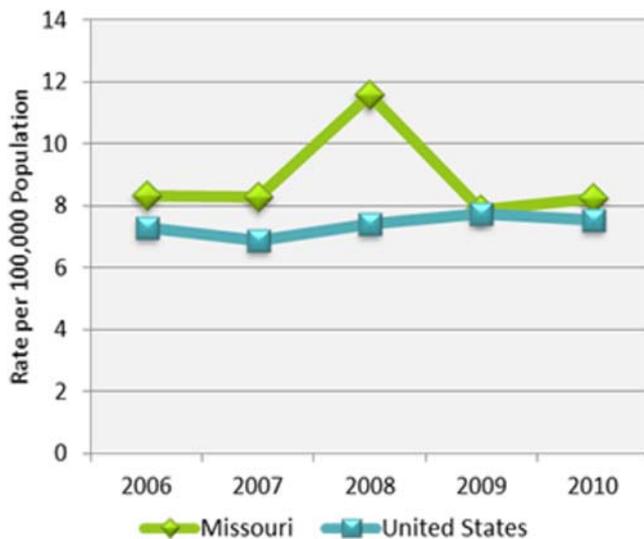
Many of these motor vehicle related deaths can be prevented through the implementation of a broad range of evidence-informed interventions and programs. These data are intended to provide a broad overview of the magnitude of the problem and to highlight possible disparities which may exist by race, gender, and urbanicity.

Figure 5: Motor Vehicle Traffic Fatality Rates by Urbanicity, Children and Youths Aged 0 through 24, Missouri, 2006-2010



NPM 16: Reducing Suicide Deaths Among Teens Ages 15-19

Figure 6: Rate of Suicide Deaths, Youths Aged 15 through 19, Missouri and US, 2006-2010



Suicide is the 4th leading cause of death and the 3rd leading cause of injury-related death among US youth 10-24 years of age. According to the 2011 Youth Risk Behavior Surveillance Survey (YRBSS), 15.8% of students seriously considered attempting suicide and 7.8% of students attempted suicide one or more times in the 12 months prior to the survey. Although progress has been made over the past decade in reducing the rate of completed suicides nationally, this reduction has leveled off in the last few years. The following figures provide state-specific data related to suicide. Figure 6 shows the state rate from 2006-2010 for 15-19 year olds in comparison to the US rate for the same age group and time period. Figure 7 provides information on the means used by the 15-19 year olds for completed suicides. It is important to note that the actual number of suicides is often quite small thus resulting in considerable variation when looking at year to year rates.



Figure 7: Percentage Distribution of Completed Suicides by Means, Youths Aged 15 through 19, Missouri, 2006-2010

51% of youths ages 15 through 19 completed suicide by using a firearm.

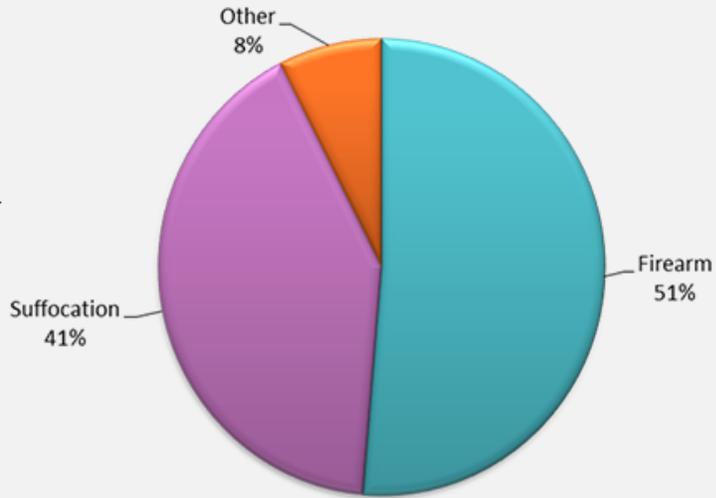


Figure 8: Percentage of High School-Aged Children with Suicide Ideation, Missouri and US, 2003-2011

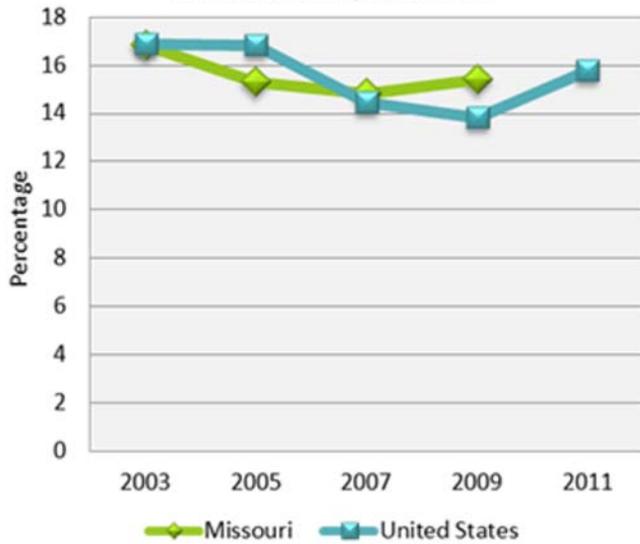


Figure 9: Percentage of High School-Aged Children Treated for Suicide Attempt, Missouri and US, 2003-2011

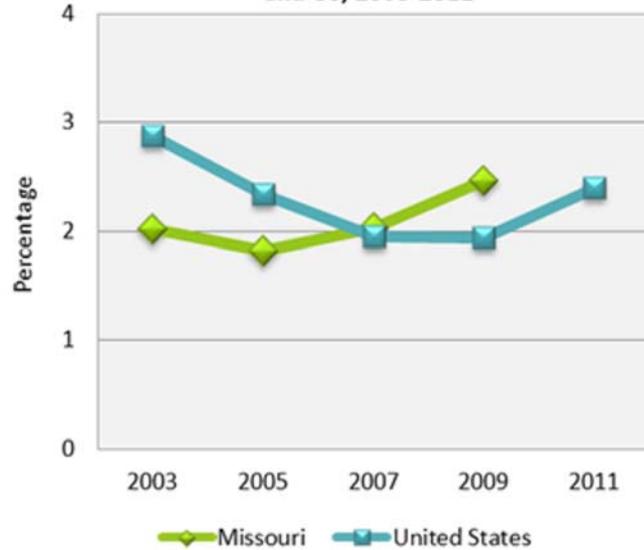


Figure 10: Rate of Completed Suicides by Race, Youths Aged 15 through 24, Missouri, 2006-2010

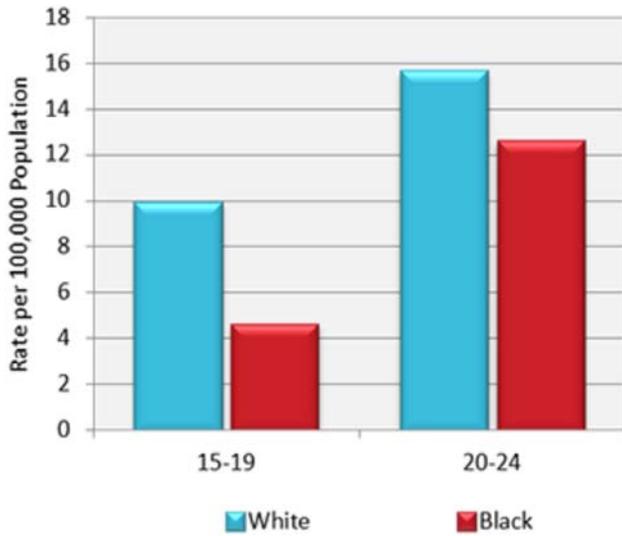
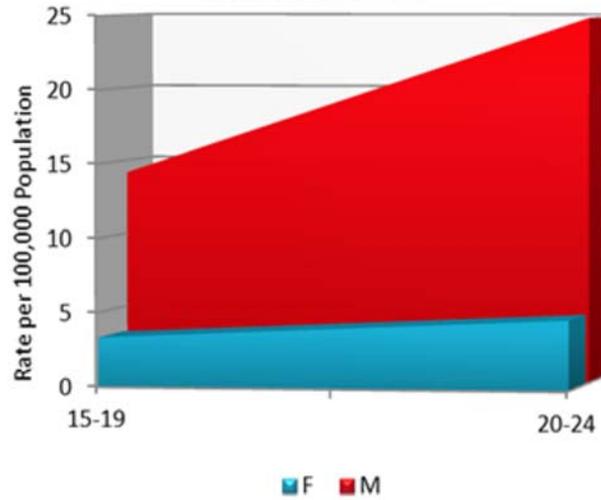


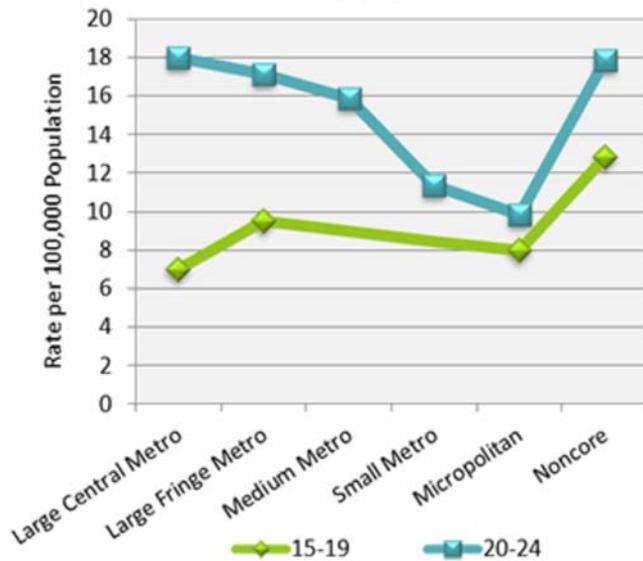
Figure 11: Rate of Completed Suicides by Gender among Youths Aged 15 through 24, Missouri, 2006-2010



The YRBSS provides information about behaviors that contribute to unintentional and intentional violence among youth. Figures 8 and 9 provide information on the percentage of high school students with suicide ideation and the percentage who reported being medically treated for a suicide attempt from 2003-2011, respectively. This information and other information available in the YRBSS can help states understand how behaviors are changing within this age group.

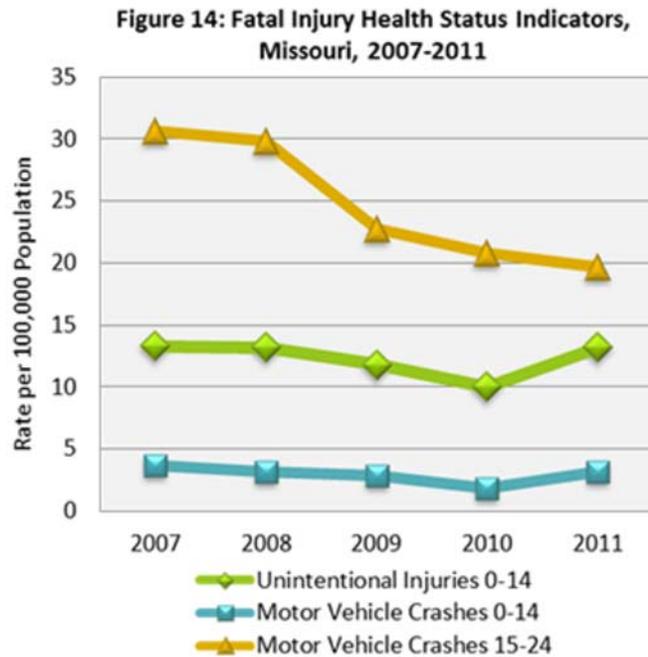
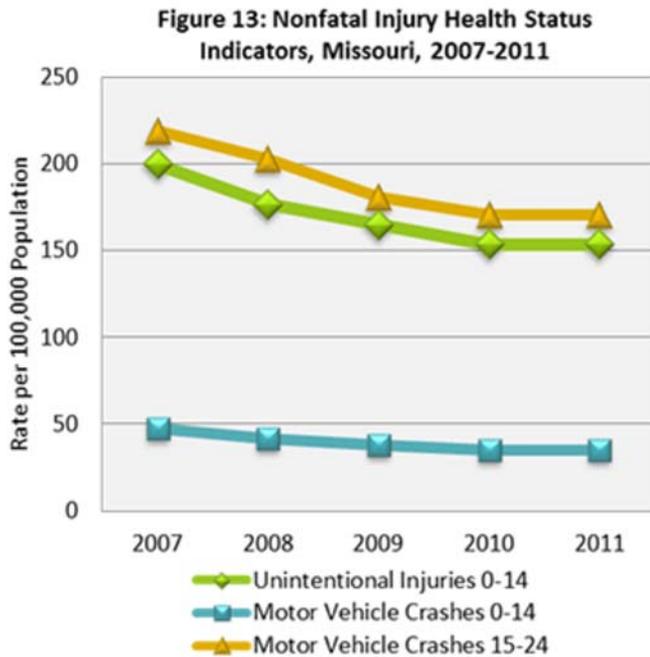
Figure 10 shows how the rate differs by race for 15-19 and 20-24 year olds from 2006-2010. Figure 11 shows the difference by gender for the same age group and time period with the male rate for both age groups exceeding the female rate. Figure 12 looks at the variation in rate by urbanicity for 15-24 year olds with the rate increasing as rurality increases (see definition of urbanicity in Motor Vehicle section). This information provides a better understanding of the magnitude of the problem in different parts of the state, helping the state to identify environmental risk factors and facilitate decision making on where to target its suicide prevention efforts.

Figure 12: Rate of Completed Suicides by Urbanicity, Youth Aged 15 through 24, Missouri, 2006-2010



IVP Health Status Indicators

The Maternal and Child Health Bureau requires every state to report on 12 Health Status Indicators. Six of the indicators are related to IVP. The two figures below reflect the data reported for the IVP Health Status Indicators by the state in their Maternal and Child Health Block Grant Application Form 17, 2012.



State Specific Performance Measures and Priority Needs

Each state develops up to 7 – 10 State Performance Measures and priority needs. The following provides information about the states' selected 2013 injury-related performance measures and priority needs.

Missouri has the following injury-related State Performance Measure:

- Reduce the percentage of women with a recent live birth who reported frequent postpartum depressive symptoms.

Missouri has the following injury-related Priority Needs:

- Improve the mental health status of MCH populations.
- Reduce intentional and unintentional injuries among women, children, and adolescents.

State Contact Information

MCH Director: Melinda Sanders, melinda.sanders@dhss.mo.gov

IVP Program Manager: Praveena Ambati, praveena.ambati@health.mo.gov

PRAMS Coordinator: Venkata.Garikapaty, venkata.garikapaty@dhss.mo.gov

EMSC Contact: Les Jobe, les.jobe@health.mo.gov

CDR Coordinator: Maurine Hill, maurine.r.hill@dss.mo.gov

Adolescent Health Coordinator: Patti Van Tuinen, patti.vantuinen@health.mo.gov

State Fact Sheets Figure & Table Source Data

Table 1 Source: [WISQARS Leading Causes of Death Reports, 2006-2010](#)

Table 2 Source: National Center for Health Statistics, Multiple Cause of Death Data, 2006-2010

Table 3 Source: Children's Safety Network Economics and Data Analysis Resource Center (CSN EDARC), at Pacific Institute for Research and Evaluation (PIRE), Calverton, MD, January 2013.

Table 4 Source: Children's Safety Network Economics and Data Analysis Resource Center (CSN EDARC), at Pacific Institute for Research and Evaluation (PIRE), Calverton, MD, January 2013.

Figure 1 Source: [WISQARS Fatal Injury Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figure 2 Source: [WISQARS Fatal Injury Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figure 3 Source: [WISQARS Injury Mortality Reports, 2006-2010](#)

Figure 4 Source: [WISQARS Fatal Injury Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figure 5 Source: [CDC WONDER Multiple Cause of Death data, 2006-2010 and Urban-Rural Definition Classification System](#)

The classification scheme can be found at: <http://wonder.cdc.gov/wonder/help/CMF/Urbanization-Methodology.html>. 2006 NCHS Urban-Rural Classification Scheme for Counties, by Deborah D. Ingram and Sheila Franco.

Figure 6 Source: [WISQARS Fatal Injury Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figure 7 Source: [WISQARS Fatal Injury Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figures 8 & 9 Source: [Youth Online: High School Youth Risk Behavior Survey \(YRBS\), 2003-2011](#)

Figure 10 Source: [WISQARS Injury Mortality Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figure 11 Source: [WISQARS Fatal Injury Reports, 2006-2010 and WISQARS Injury Mortality Reports, 2003-2007](#)

Figure 12 Source: [CDC WONDER Multiple Cause of Death data, 2006-2010 and Urban-Rural Definition Classification System](#)

Figures 13 & 14 Source: [HRSA, Title V Information System Multi-Year Report](#). Some states may have changed their method of calculation.

About Children's Safety Network

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In this fact sheet CSN provides a cursory review of the injury morbidity and mortality data available for the state. The figures and tables in this fact sheet can help you understand the state's progress in addressing motor vehicle traffic injuries and suicide. To target and address these and other injury issues, it is critical to understand this data. CSN can assist you in conducting detailed data analyses, utilizing surveillance systems, and undertaking needs assessments. For assistance, contact the Children's Safety Network at csninfo@edc.org.

Connect with the Children's Safety Network

43 Foundry Avenue Waltham, MA 02453-8313

CSN's website: <http://www.ChildrensSafetyNetwork.org>

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Need TA? Have Questions? E-mail: csninfo@edc.org

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