

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, 2008-2012

Age Groups						
Rank	<1	1 - 4	5 - 9	10 - 14	15-19	20-24
1	Congenital Anomalies 572	Unintentional Injury 159	Unintentional Injury 100	Unintentional Injury 100	Unintentional Injury 660	Unintentional Injury 979
2	Short Gestation 482	Homicide 74	Malignant Neoplasms 37	Malignant Neoplasms 48	Homicide 289	Suicide 346
3	Unintentional Injury 317	Congenital Anomalies 48	Congenital Anomalies 21	Suicide 31	Suicide 196	Homicide 345
4	SIDS 157	Malignant Neoplasms 39	Homicide 11	Homicide 25	Malignant Neoplasms 52	Malignant Neoplasms 94
5	Maternal Pregnancy Comp. 128	Heart Disease 20	Influenza & Pneumonia ****	Chronic Low. Respiratory Disease ****	Heart Disease 18	Heart Disease 27
				Heart Disease 18	Heart Disease 27	Heart Disease 71

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, 2008-2012

Age Groups							
Rank	<1	1 - 4	5 - 9		10 - 14	15-19	20-24
1	Suffocation 279	Homicide 74	MVT 41		MVT 51	MVT 461	MVT 524
2	Homicide 47	MVT 40	Fire/Burn 15		Suicide 31	Homicide 289	Suicide 346
3	MVT 12	Drowning 29	Drowning 14		Homicide 25	Suicide 196	Homicide 345
4	Fire/Burn 11	Fire/Burn 27	Homicide 11		Fire/Burn 10	Poisoning 96	Poisoning 327
5	Undetermined Suffocation ****	Suffocation 14	Natural/ Environmental ****	Suffo- cation ****	Drowning ****	Drowning 38	Drowning 27

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

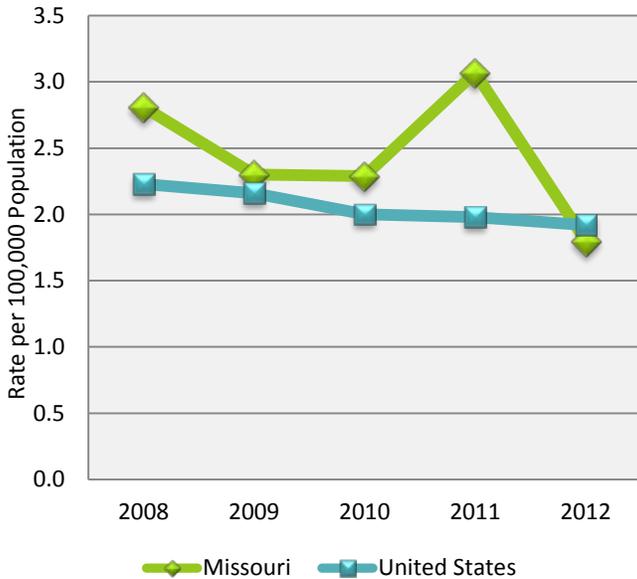
These results are preliminary

Table 3: Leading Causes and Annual Incidence of Hospital-Admitted Injuries by Age Group, Missouri Residents, 2011

Rank	Age Groups					
	<1	1 - 4	5 - 9	10 - 14	15-19	20-24
1	Other Specified, NEC 86	Fall 130	Fall 127	Self-Inflicted 206	Self-Inflicted 837	Self-Inflicted 940
2	Assault 70	Other Specified, NEC 78	Other Specified, NEC 67	Fall 149	MVT 485	MVT 617
3	Fall 60	Poisoning 75	Bites & Stings 61	Struck By/ Against 101	Assault 212	Assault 293
4	Fire/Burn 18	Fire/Burn 67	MVT 57	Other Specified, NEC 98	Fall 171	Fall 263
5	Suffocation 14	Bites & Stings 50	Struck By/ Against 47	MVT 93	Other Specified, NEC 159	Poisoning 211

Note: MVT = Motor Vehicle Traffic. NEC = Not Elsewhere Classifiable. Each listed mechanism is unintentional except those otherwise noted. *Source:* Children's Safety Network Economics and Data Analysis Resource Center (CSN EDARC), at Pacific Institute for Research and Evaluation (PIRE), Calverton, MD, January 2014. Incidence based on 2011 data from the state and obtained from the Missouri State Inpatient Databases (SID), Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality (AHRQ), and the Missouri Hospital Industry Data Institute (Jefferson City, MO). 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.

Figure 1: Motor Vehicle Traffic Fatality Rate among Children Aged 0 through 14, Missouri and U.S., 2008-2012



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 2008-2012. 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 among Children Aged 0 through 14, Missouri, 2008-2012

36%

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

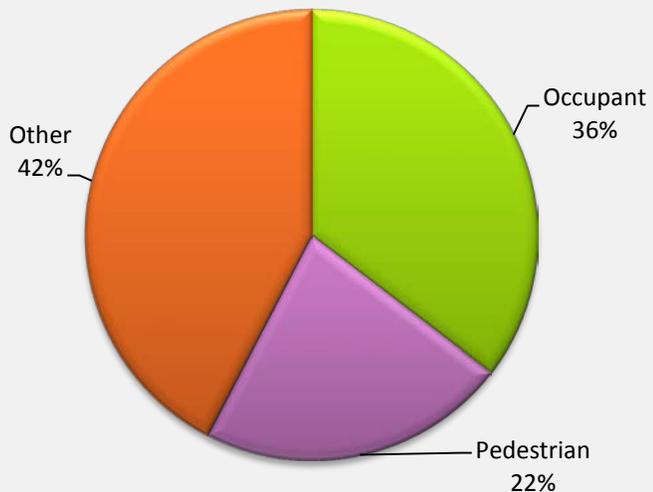


Figure 3: Motor Vehicle Traffic Fatality Rate by Race among Children and Youths Aged 0 through 24, Missouri, 2008-2012

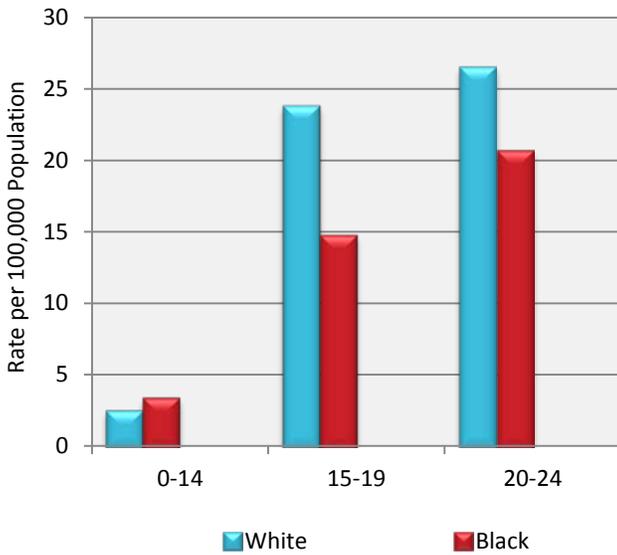


Figure 4: Motor Vehicle Traffic Fatality Rate by Gender among Children and Youths Aged 10 through 24 for Missouri, 2008-2012

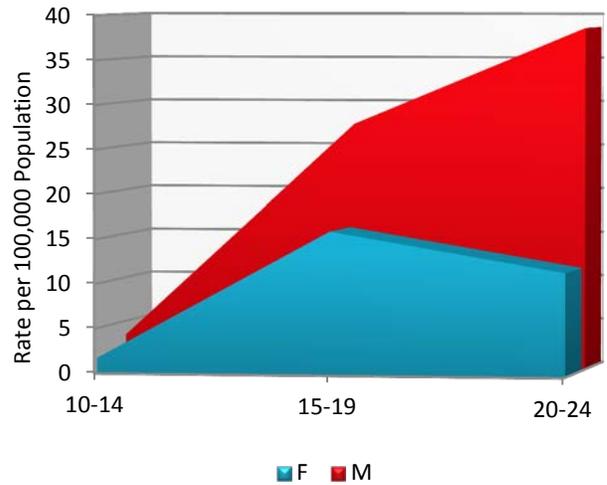
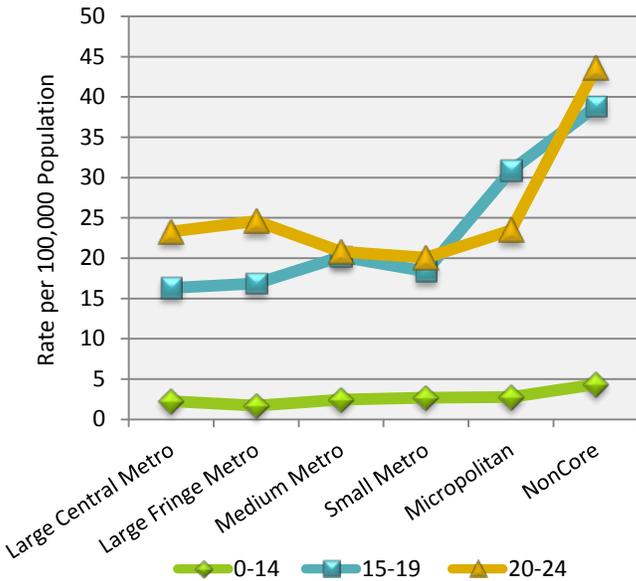


Figure 5: Motor Vehicle Traffic Fatality Rate by Urbanicity among Children and Youths Aged 0 through 24, Missouri, 2008-2012

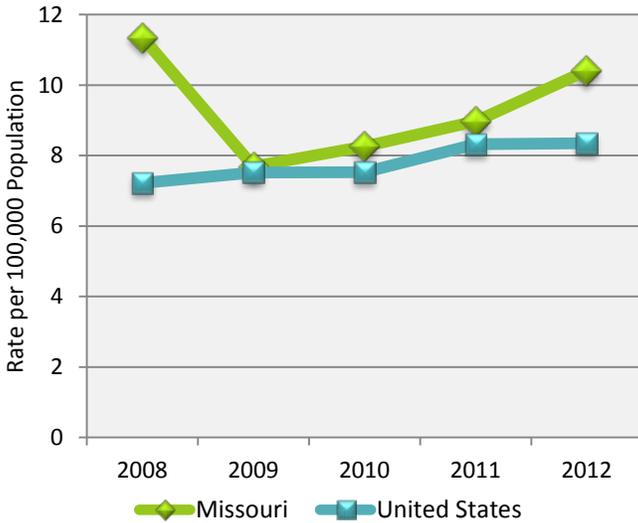


One way of understanding disparities is to look at the rate of injuries by place of occurrence. To show this, CSN has provided the rates for the 0– 14, 15-19 and 20-24 age groups using the urban-rural classification system developed by the National Center for Health Statistics (NCHS). To show how injury 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.

Suicide Deaths for Youths 15-19 Years of Age

Figure 6: Suicide Death Rate among Youths Aged 15 through 19, Missouri and U.S., 2008-2012



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 (YRBS), 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 2008-2012 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 among Youths Aged 15 through 19, Missouri, 2008-2012

50%

of youth aged 15 through 19 completed suicide by using a firearm.

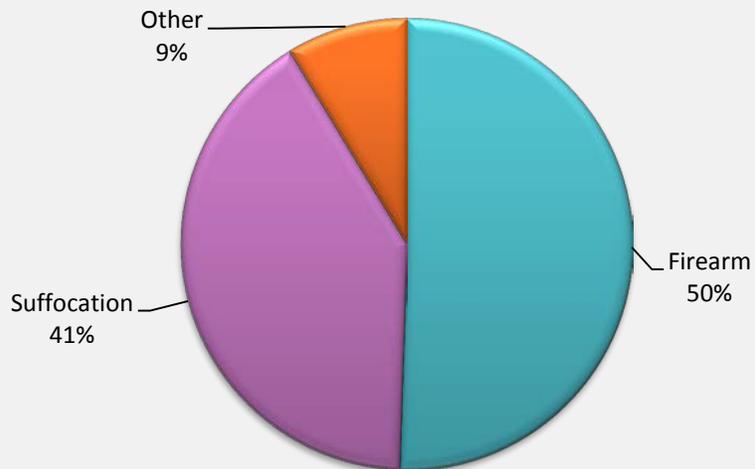


Figure 8: Percentage of High School-Aged Children with Suicide Ideation, Missouri and US, 2005-2013

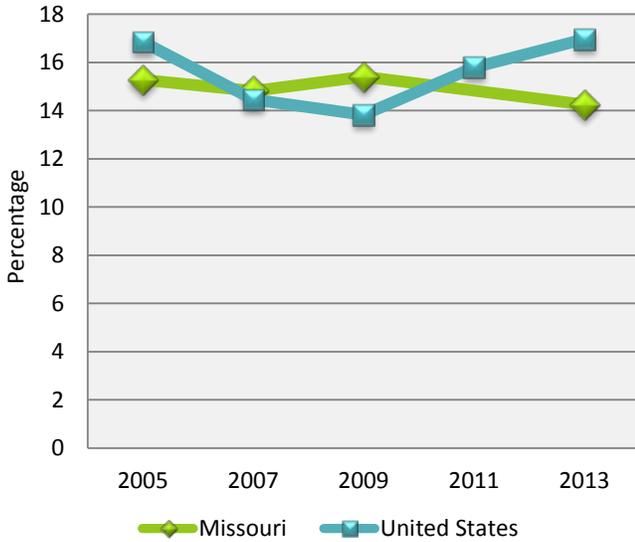


Figure 9: Percentage of High School-Aged Children Treated for Suicide Attempt, Missouri and US, 2005-2013

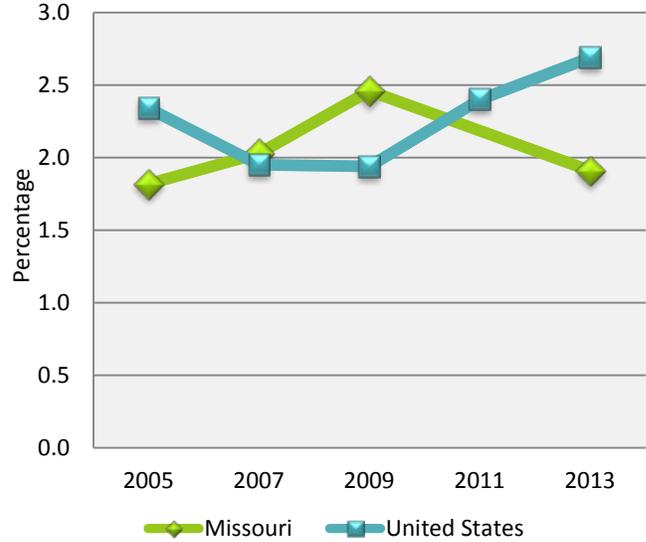


Figure 10: Completed Suicide Rate by Race among Youths Aged 15 through 24, Missouri, 2008-2012

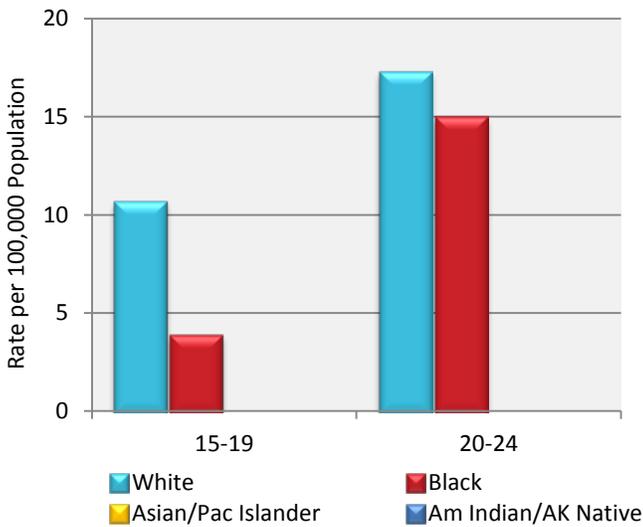


Figure 11: Completed Suicide Rate by Gender among Youths Aged 15 through 24, Missouri, 2008-2012

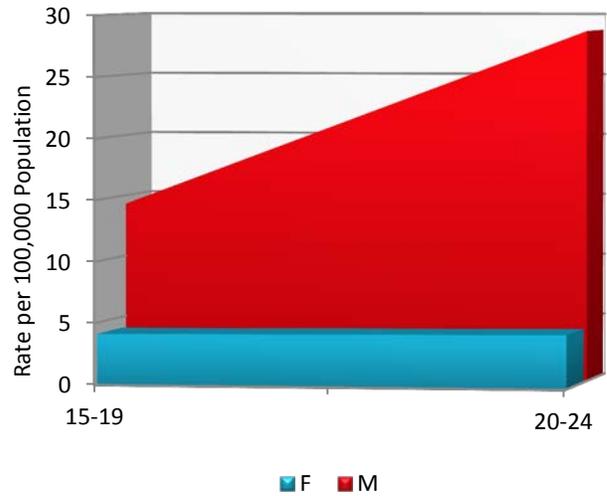
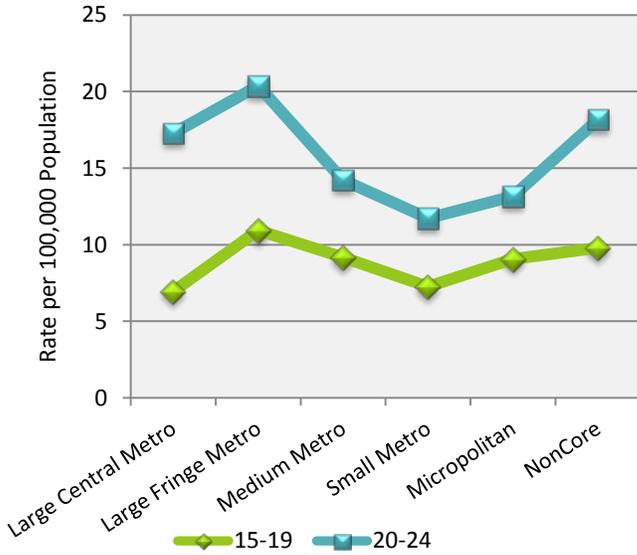


Figure 12: Completed Suicide Rate by Urbanicity among Youths Aged 15 through 24, Missouri, 2008-2012

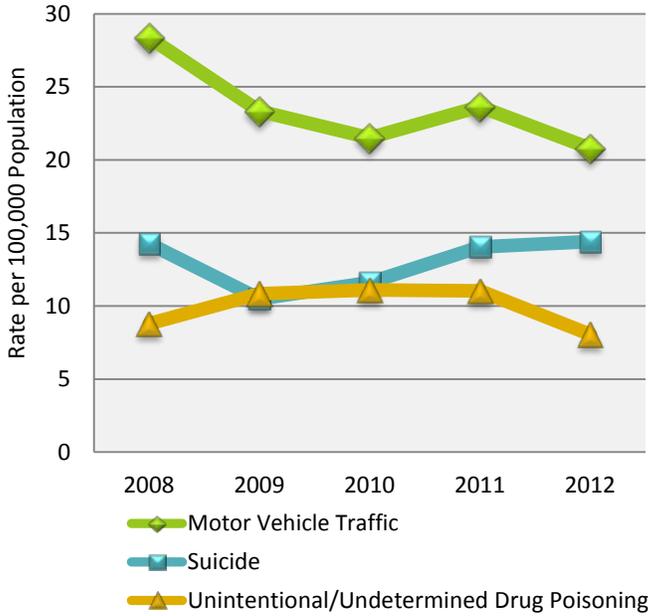


The YRBS provides information about behaviors that contribute to unintentional and intentional violence among youth. Figures 8 and 9 provide information on the percentage of high school students with suicide ideation and the percentage who reported being medically treated for a suicide attempt from 2005-2013, respectively. This information and other information available in the YRBS 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 2008-2012. 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.

Unintentional and Undetermined Drug Poisoning Deaths for Youths 15 -24 Years of Age

Figure 13: MVT, Suicide and Drug Poisoning Fatality Rates among Youths Aged 15 through 24, Missouri, 2008-2012



Poisoning is the 3rd leading cause of injury-related death among US youth ages 20-24 and the 5th leading cause of injury-related death among US youth ages 15-19. Drug overdose death rates among all ages in the US have more than tripled since 1990 and have never been higher. (1) Poisoning can be intentional or unintentional; poisoning cases reported here include prescription medications, illicit drugs and other, unspecified drugs. According to the national survey *Monitoring the Future*, in 2013 15 percent of high school seniors used a prescription drug non-medically in the past year. (2) Every day in the U.S., an average of 2,000 teenagers use prescription drugs for the first time without a doctor’s guidance. Youth who abuse prescription medications are also more likely to report use of other drugs. (3) Many teens falsely believe that because prescription medicines are prescribed by a physician, are inexpensive, and are widely available that they are safer than illicit drugs.

Figure 13 provides state-specific fatality rates for motor vehicle traffic, suicide, and drug poisoning for youth aged 15 through 24 for the period 2008-2012. Figure 14 provides data on the rate of unintentional and undetermined drug overdoses in the state

compared to the national rate. Figure 15 shows the percentage distribution of fatal unintentional and undetermined drug poisoning by drug type for the period 2008-2012.

Figure 14: Fatal Unintentional and Undetermined Drug Poisoning Rate among Youths Aged 15 through 24, Missouri and U.S., 2008-2012

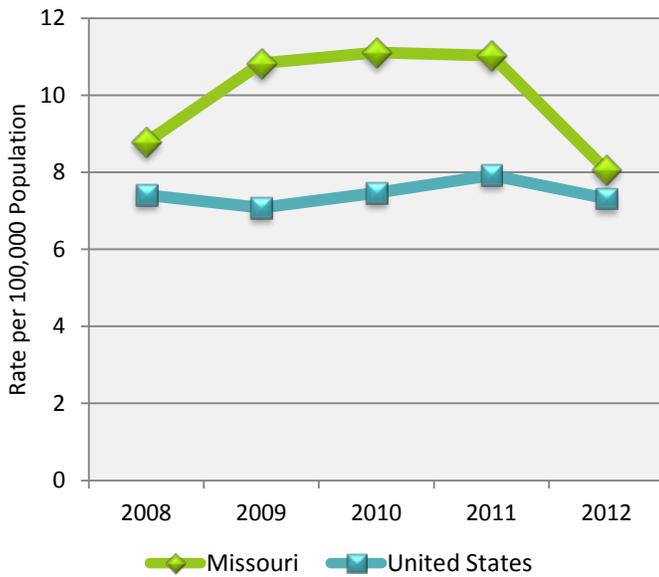


Figure 15: Percentage Distribution of Fatal Unintentional and Undetermined Drug Poisoning by Drug Type among Youths Aged 15 through 24, Missouri, 2008-2012

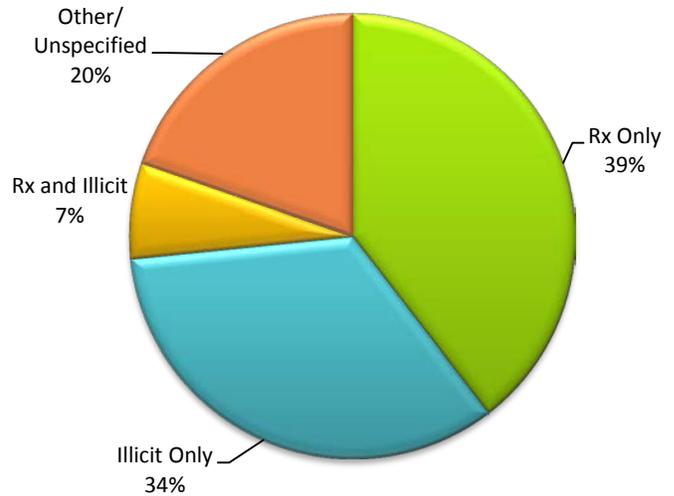


Figure 16: Fatal Unintentional and Undetermined Drug Poisoning Rate by Race among Youths Aged 15 through 24, Missouri, 2008-2012

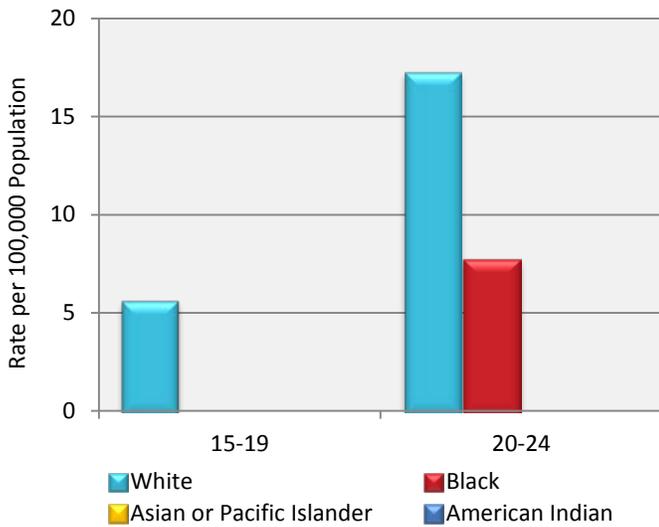


Figure 17: Fatal Unintentional and Undetermined Drug Poisonings Rate by Gender among Youths Aged 15 through 24, Missouri, 2008-2012

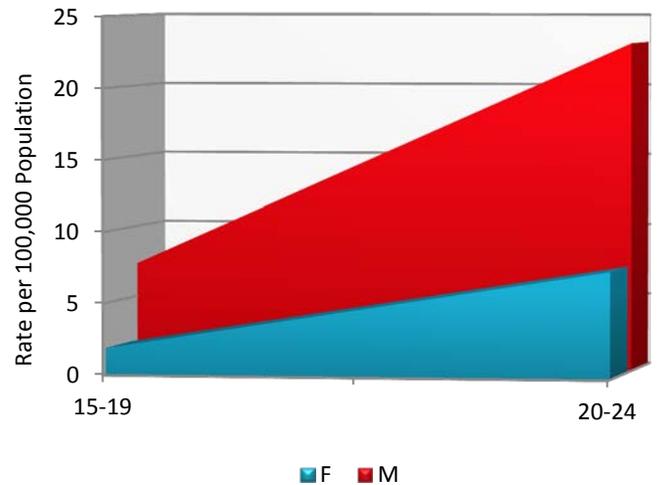


Figure 18: Fatal Unintentional and Undetermined Drug Poisonings Rate by Urbanicity among Youths Aged 15 through 24, Missouri, 2008-2012

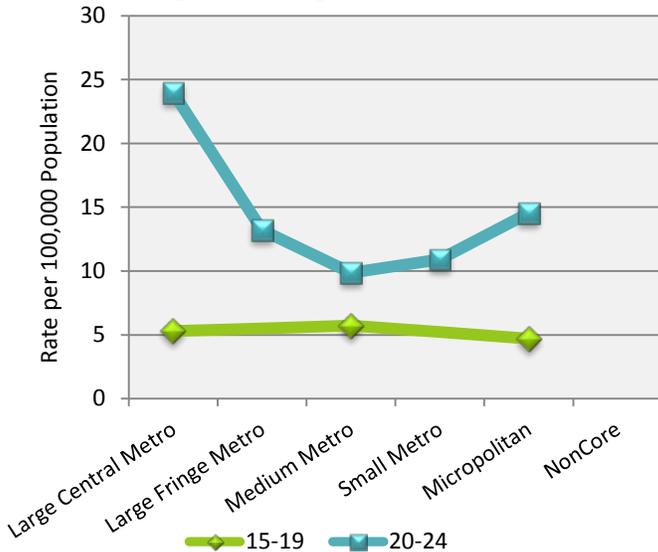


Figure 16 describes the rates of unintentional and undetermined drug poisoning by race for 15-19 and 20-24 year olds from 2008-2012. Although patterns among ages 15-19 and 20-24 vary nationally and among the states, the highest rates of these drug poisoning fatalities most often occur among Whites and Native American. Figure 17 shows the difference by gender for the same age groups and time period and here the male rate for both age groups is usually higher; for ages 20-24 the male rate is generally more than twice the female rate. Figure 18 presents variation in rate of unintentional and undetermined drug poisoning by urbanicity for 15-24 year olds. Unlike suicide and motor vehicle crashes fatality rates, urbanicity alone does not present a consistent pattern in the rate of fatal unintentional and undetermined drug poisonings. Risks associated with gender and race appear to be the target for prevention efforts related to unintentional and undetermined drug poisoning among youths age 15-25 years.

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 on TVIS for the current application year.

Figure 19: Nonfatal Injury Health Status Indicators, Missouri, 2009-2013

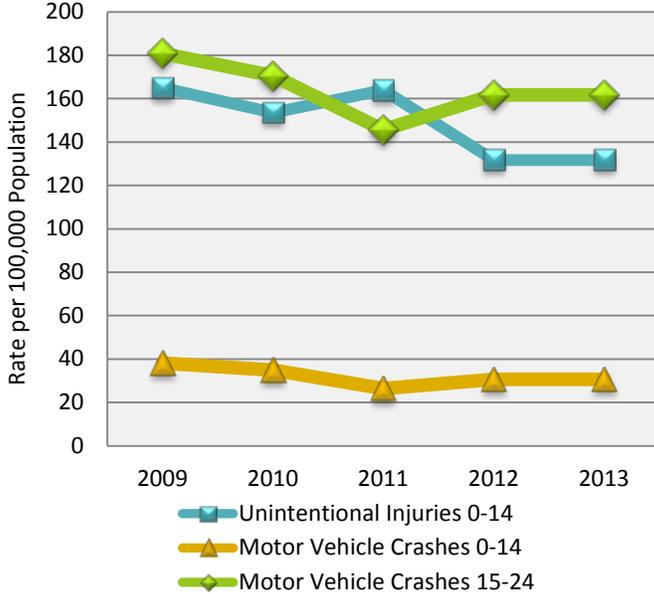
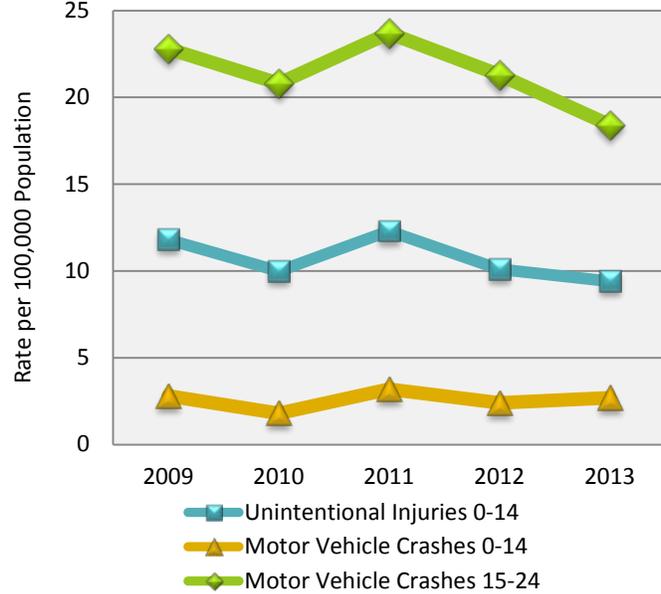


Figure 20: Fatal Injury Health Status Indicators, Missouri, 2009-2013



State Specific Performance Measures and Priority Needs

Each state develops up to 10 State Performance Measures and Priority Needs. The following provides information about the states' selected 2015 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.

Citations and Sources

Drug Poisoning Section, 1: Centers for Disease Control and Prevention. Vital Signs: Overdoses of Prescription Opioid Pain Relievers-United States, 199-2008. MMWR 2011; 60: 1-6.

Drug Poisoning Section, 2: Monitoring the Future (sponsored by National Institute on Drug Abuse at The National Institutes of Health) www.monitoringthefuture.org/pubs/monographs/mtf-overview2013.pdf

Drug Poisoning Section, 3: NIDA Drug Facts. www.Teens.drugabuse.gov/drug-facts/prescription-drugs

Table 1 Source: [WISQARS Leading Causes of Death Reports, 2008-2012](#)

Table 2 Source: National Center for Health Statistics, Multiple Cause of Death Data, 2008-2012

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.

Figure 1 Source: [WISQARS Fatal Injury Reports, 2008-2012](#)

Figure 2 Source: [WISQARS Fatal Injury Reports, 2008-2012](#)

Figure 3 Source: [WISQARS Injury Mortality Reports, 2008-2012](#)

Figure 4 Source: [WISQARS Fatal Injury Reports, 2008-2012](#)

Figure 5 Source: [CDC WONDER Multiple Cause of Death data, 2008-2012 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, 2008-2012](#)

Figure 7 Source: [WISQARS Fatal Injury Reports, 2008-2012](#)

Figures 8 & 9 Source: [Youth Online: High School Youth Risk Behavior Survey \(YRBS\), 2005-2013](#)

Figure 10 Source: [WISQARS Injury Mortality Reports, 2008-2012](#)

Figure 11 Source: [WISQARS Fatal Injury Reports, 2008-2012](#)

Figure 12 Source: [CDC WONDER Multiple Cause of Death data, 2008-2012 and Urban-Rural Definition Classification System](#)

Figures 13 & 14 Source: National Center for Health Statistics, Multiple Cause-of-Death Data, 2008-2012. U.S. Census Bureau, Population Division (2012). Intercensal Estimates of the Resident Population by Single Year of Age and Sex for States and the United States (ST-EST00INT-AGESEX): April 1, 2000 to July 1, 2010.

Figure 15 Source: National Center for Health Statistics, Multiple Cause-of-Death Data, 2008-2012.

Figure 16 Source: [WISQARS Injury Mortality Reports, 2008-2012](#)

Figure 17 Source: [WISQARS Fatal Injury Reports, 2008-2012](#)

Figure 18 Source: [CDC WONDER Multiple Cause of Death data, 2008-2012 Urban-Rural Definition Classification System](#)

Figures 19 & 20 Source: HRSA, Title V Information System Multi-Year Report. Some states may have changed their method of calculation.

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