MO Behavioral Health Epidemiology Workgroup (MO-BHEW)

Missouri State Epidemiological Profile
May 2013

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Executive Summary

The State Epidemiological Profile provides an overview of the current data on substance abuse and mental health (where available) across the state, including subpopulation data where possible. In addition it discusses some of the Risk and Protective Factor data that is available for the state. The profile ends with a discussion of what data gaps still need to be addressed and provides some final conclusions as to the condition of the state.

For the last 16 years, the Department of Mental Health has produced an annual Status Report with data on alcohol and drug use across the state. This report includes data from national surveys as well as some local data where available. This historical data collection, in combination with the indicators listed in the guidance document, led to the choice of indicators covered in this report.

Alcohol and tobacco are the two most commonly drugs used in Missouri. Binge drinking seems to be common among young (under 25) drinkers, raising concerns about risky drinking and the associated consequences. Tobacco consumption related mortality rates are consistently higher than the national average; however, usage rates for cigarettes are declining. When examining the risk and protective factors, alcohol also tends to be the drug that is seen both as the most acceptable and, along with tobacco, the easiest to obtain.

While illicit drugs are not as commonly used, the consequences of their use in Missouri tend to be higher than the national average. Risk and Protective Factor data indicate that over a fourth of all youth surveyed do not find marijuana smoking to be a risky behavior, over a third thought it would be at least sort of easy to obtain and a majority of youth think that a person smoking marijuana would not be likely to be caught by the police.

Those 18-25 and those who are male tend to be the ones with the highest use rates across all drugs.

When examining the three mental health variables that have nationally comparable numbers, both (depression and suicide) are a larger problem in the state than is average for the nation. 1.25% of the state's population was served by CPS in the last year.

Key Substance Abuse Measures

The key substance abuse measures include information on both the consumption and consequences of alcohol, tobacco and illicit drugs.

- In 2010-11, 15.0% in the 12-17 age group reported drinking in the last month. This compares to 60.8% of 18-25 year olds and 52.4% in the 26+ age group.

- In 2010-11, 8.5% of the 12-17 age group reported binge drinking in the last month. This compares to 37.8% of the 18-25 year olds and 21.9% in the 26+ age group.

- Missouri has been lower than the national average for rate of deaths due to cirrhosis (chronic liver disease) for the last decade.

- Missouri has been higher than the national average for rate of deaths due to suicide for the last decade. Homicide rates have been higher than the national average for most of the last decade as well.

- In 2010-11, 11.6% of those in the 12-17 age group reported smoking cigarettes in the past month. This compares to 38.3% of 18-25 year olds and 27.0% in the 26+ age group. All age groups have decreased their use over the last decade.

- 19.4% of all Missourians 18 and older reported using smoking cigarettes daily in the past month. This is a number that is above the national average.

- Missouri has been higher than the national average for rate of deaths due to tobacco use (lung cancer, Chronic Obstructive Pulmonary Disease (COPD) and Emphysema, and Cardiovascular and Ischemic Cerebrovascular Disease) for the last decade.

- In 2010-11, 7.3% of those in the 12-17 age group reported smoking marijuana in the last month. This compares to 18.3% of 18-25 year olds and 3.8% in the 26+ age group. Rates for both the 12-17 year olds and the 18-25 year olds have increased slightly over the past few years.

- In 2010-11, 3.9% in the 12-17 age group reported using illicit drugs, other than marijuana, compared to 7.1% of 18-25 year olds and 1.9% in the 26+ age group.

- Missouri has been lower than the national average for rate of deaths due to drug related behaviors for the last decade.

- Missouri has been higher than the national average for rate of deaths related to drug related overdose / poisonings for the last several years. This number is also climbing for both Missouri and the US, although US numbers appear to have leveled off.

- In 2010-11, 4.7% of those in the 12-17 age group reported dependence or abuse of an illicit drug in the past year. This compares to 8.5% of 18-25 year olds and 1.6% in the 26+ age group.

Key Risk / Protective Factors aka Intervening Variables

The key risk and protective factors defined by Hawkins and Catalano's Risk and Protective Factor Model. This model suggests a variety of risk factors and several more additional protective factors that contribute to youth's drinking behavior and has been adapted to apply to other problem behaviors as well (drugs, violence, etc.). Data was taken from the Missouri Student Survey. As the survey is only given in even number years, there was no new data available for this report.

- Most youth surveyed had no friends who used cigarettes, marijuana or other illegal drugs. A majority of youth, however, did have at least one friend who drank alcohol.

- Most youth believe that alcohol and drug use poses a moderate or great risk to them. However, over a fourth of all youth believe that alcohol and marijuana use is only slightly risky at best.

- Most youth did not believe that the police would catch a substance user in their neighborhood. This is fairly consistent across all drugs.

- Most youth thought that cigarettes and alcohol were either "very easy" or "sort of easy" to obtain. While youth thought that marijuana and other illegal drugs were more difficult, over a third still thought marijuana was at least sort of easy to obtain. Approximately a fifth of all youth thought even other illegal drugs would be sort of easy to obtain. Interestingly, less than 1 out of 3 youth thought that prescription drugs would be "very easy" or "sort of easy" to obtain.

- Most youth thought that it was very wrong to use cigarettes, marijuana and other illegal drugs. Youth were most likely to accept alcohol use.

- Most youth thought that their parents would think they were very wrong to use all of the substances asked about. However, again youth saw alcohol as the least "wrong" drug when considering their parents perception.

- Most youth did not report rebellious attitudes. However, almost half of the youth strongly agreed or agreed that fighting back is acceptable if one is provoked.

- The majority of youth had positive things to say about their school environment. The areas where youth showed the most negative attitudes were the school notifying their parents of their achievements and the teachers praising the students directly.

Key Mental Health Indicators

There is limited mental health data available through the national surveys but what is available indicates that Missouri is higher than the national average. There were no significant differences in this data when compared to last year.

- Missourians reported slightly higher than national average for having at least one major depressive episode in the last year.

- Missouri has been higher than the national average for rate of deaths due to suicide for the last decade.

Introduction

Missouri is located in the Midwest, containing the mean population center of the nation.[1] The geography of the state is largely rural although over half of the population clusters around two metropolitan areas.

Slightly over six million people make Missouri their home making it the 18th most populated state. 23.5% of the population is under 18 years old, 62.3% are between 19-64 and 14.2% are senior citizens. The population is primarily white (84.0%) with African Americans making up the second largest group (11.7%). Hispanics are a small group (3.7%) but growing. Less than 4% of the population is foreign born and approximately 6% of the households speak a language other than English when at home.

13.8% of the adult population do not have a high school diploma while only 25.0% have graduated from college. 13.2% of the households fall below the poverty level. The median household income is $47,202. 8.4% of the adult population has served in the armed forces.[2]

The Missouri Department of Mental Health (DMH), Division of Behavioral Health (DBH) is the state authority responsible for developing and implementing a statewide response addressing substance abuse problems impacting Missouri families and communities. Through collaborative efforts, DBH works with other state and local agencies to ensure that the response is comprehensive and appropriate. In the fall 2010, DBH submitted a request for a subcontract through Synectics to the Center for Substance Abuse Prevention (CSAP), a part of the Substance Abuse and Mental Health Services Administration (SAMHSA), to increase the epidemiological capacity of the state. The grant was funded and the State Epidemiological Outcomes Workgroup (SEOW) was formed.

The SEOW contains members from DBH and other state agencies such as Health and Senior Services, Social Services, Highway Patrol, State Courts Administrator and Elementary and Secondary Education. There are also several members from Missouri's higher education entities. The goals of the group are to use population-based behavioral health data to guide and improve policymaking, program development, and outcomes monitoring and to facilitate interagency and community collaboration for the collection, analysis, interpretation, and utilization of mental health and substance abuse related data. One of the products of the SEOW is a State Epidemiological Profile.

The State Epidemiological Profile will provide an overview of the current data on substance abuse and mental health (where available) across the state, including subpopulation data where

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[1] http://www.census.gov/geo/reference/pdfs/cenpop2010/centerpop_geographic2010.pdf

[2] http://quickfacts.census.gov/qfd/states/29000.html

possible. In addition it will discuss some of the Risk and Protective Factor data that is available for the state. The profile will end with a discussion of what data gaps still need to be addressed and provide some final conclusions as to the condition of the state. The first Profile was completed Spring 2011. This Profile provides updated data where available.

Data Sources, Indicators and Selection Criteria

Data Sources

Table 1: Data Sources

Name of Survey	Frequency of Reporting	Mode of Data Collection	Group Surveyed	Level Data Reported
Behavioral Risk Factor Surveillance System (BRFSS)	Annual	Telephone interview	Ages 18 or older	National, state, and Missouri Department of Health and Senior Services planning regions
National Survey on Drug Use and Health (NSDUH)	Annual	Face-to-face interview	Ages 12 or older	National but can also obtain state and sub-state planning regions by combining multiple survey years
Missouri Student Survey (MSS)	Every even numbered year	Web-based at school	Grades 6th - 12th but emphasis on 9th grade	State and county
Youth Risk Behavior Survey (YRBS)	Every odd-numbered year	Paper questionnaire at school	9th through 12th	National and State
National Vital Statistics System Mortality (NVSS-M)	Annual	Death certificate data	Population level	National and State – see Appendix A for more information

Additional State Level Data Sources:

Data Subject: **Maternal drinking during pregnancy**

Data Source: Missouri Department of Health & Senior Services

Report Name: Missouri Vital Statistics

Report Frequency: Annual

Record Source: Birth certificates

Recording Method: Check box

Data Strengths: Birth certificate data is collected for every live birth. Missouri has reciprocal reporting arrangements with most other states, so out-of-state births to Missouri residents are included. Beginning in 1989, medical condition information on birth records is collected using check boxes rather than the previous open-ended questions. The use of check boxes increased reporting of medical risk factors by 50 percent in 1989 compared to 1988.

Data Limitations: Drinking during pregnancy is substantially under-reported in the birth records. In 2007 and 2008, the Missouri Pregnancy Risk Assessment Monitoring System (PRAMS), administered a mailed stratified random sample survey to mothers of Missouri newborns. The survey found that 5.8 percent of mothers acknowledged drinking alcohol in the last three months of their pregnancies. The 95% confidence interval for that estimate is 4.6%-6.9%. Due to likely under-reporting on the survey, the actual drinking rate is probably higher than the survey estimate. During the same two-year period, birth records indicated 484 births in 2007 and 416 in 2008 involved maternal drinking during their pregnancies--a two-year total of 900 among 162,825 live births and a rate of only 0.55 percent. Thus, the actual rate of maternal drinking during pregnancy is probably at least 10 times the rate reported in the birth records.

Data Subject: **Maternal smoking during pregnancy**

Data Source: Missouri Department of Health & Senior Services

Report Name: Missouri Vital Statistics

Report Frequency: Annual

Record Source: Birth certificates

Recording Method: Check box

Data Strengths: Birth certificate data is collected for every live birth. Missouri has reciprocal reporting arrangements with most other states, so out-of-state births to Missouri residents are included. Beginning in 1989, medical condition information on birth records is collected using check boxes rather than the previous open-ended questions. The use of check boxes increased reporting of medical risk factors by 50 percent in 1989 compared to 1988.

Data Limitations: Smoking during pregnancy is under-reported in the birth records. In 2007 and 2008, the Missouri Pregnancy Risk Assessment Monitoring System (PRAMS), administered a mailed stratified random sample survey to mothers of Missouri newborns. The survey found that 20.1 percent of mothers acknowledged smoking in the last three months of their pregnancies. The 95% confidence interval for that estimate is 18.2%-22.0%. During the same two-year period,

birth records indicated 14,533 births in 2007 and 14,211 in 2008 involved maternal smoking during their pregnancies--a two-year total of 28,744 among 162,825 live births and a rate of 17.65 percent. Thus, the actual rate of maternal smoking during pregnancy is probably higher than the rate reported in the birth records.

Data Subject: **Juvenile court out-of-home placements of children due to parental substance use / abuse (categorized according to parental alcohol use, drug use, or alcohol and drug use).**

Data Source: Missouri Department of Social Services
Report Name: Unpublished report
Report Frequency: Provided annually to recipient requesting agency
Record Source: Statewide Automated Child Welfare Integrated System (SACWIS)
Recording Method: Information requested but not available as of the date the report is to be submitted.

Data Subject: **Alcohol-involved traffic crashes (categorized as fatal, non-fatal, and non-injury crashes) and injuries (categorized as fatalities and non-fatal injuries)**

Data Source: Missouri Department of Public Safety, State Highway Patrol, Statistical Analysis Center
Report Name: Unpublished report
Report Frequency: Provided annually to recipient requesting agency
Record Source: Missouri Uniform Accident Report
Recording Method: Check box
Data Strengths: Uniform Accident Report has a check box for alcohol as a probable contributing circumstance, based on the judgment of the investigating officer. There are check boxes for alcohol involvement for drivers and passengers. Data have been collected for many years. Data can be amended if Blood Alcohol Content (BAC) testing later indicates the offer was incorrect in their initial assessment; this is most often done in electronic records (approximately 1/3 of all reports are electronic).
Data Limitations: The check box system is not based on an objective method or a specific BAC threshold to determine whether alcohol contributed to the crash. The classification of alcohol involvement is different than the .01+ percent BAC criteria used by the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS).

Data Selection

For the last 16 years, DBH (formerly ADA) has produced an annual Status Report with data on alcohol and drug use across the state. This report includes data from national surveys as well as some local data where available. This historical data collection, in combination with the indicators listed in the guidance document, led to the choice of indicators covered. NSDUH was

chosen as the primary data source (where available) over BRFSS due to its historical use in Missouri. However, when BRFSS data is used, data by gender is included as that is not available in NSDUH.

Similarly, Missouri State Highway Patrol (MSHP) data were used instead of NHTSA. Traditionally, these were used as MSHP only reports those known to have alcohol involvement while NHTSA attempts to estimate the percentage that were alcohol related from the pool of unknown.

Where State Epidemiological Data System (SEDS) data were not available, local sources were used to provide some information on the indictor, although they may not be as valid or reliable.

Key Substance Abuse Measures

Alcohol Consumption

Drinking Rates

- In 2010-11, 15.0% in the 12-17 age group reported drinking in the last month. This compares to 60.8% of 18-25 year olds and 52.4% in the 26+ age group.

- 50.0% of all Missourians 12 and older reported using alcohol in the past month. This is a number that has remained relatively steady over the last decade and is similar to the national average.

- Those in the 18-25 year old age group are most likely to have reported drinking in the past month. Use rates for all three groups have remained mostly stable over the last few years.

Figure 1: Estimated Past-Month Alcohol Use (%): U.S. and Missouri Ages 12 and Older, 2002-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
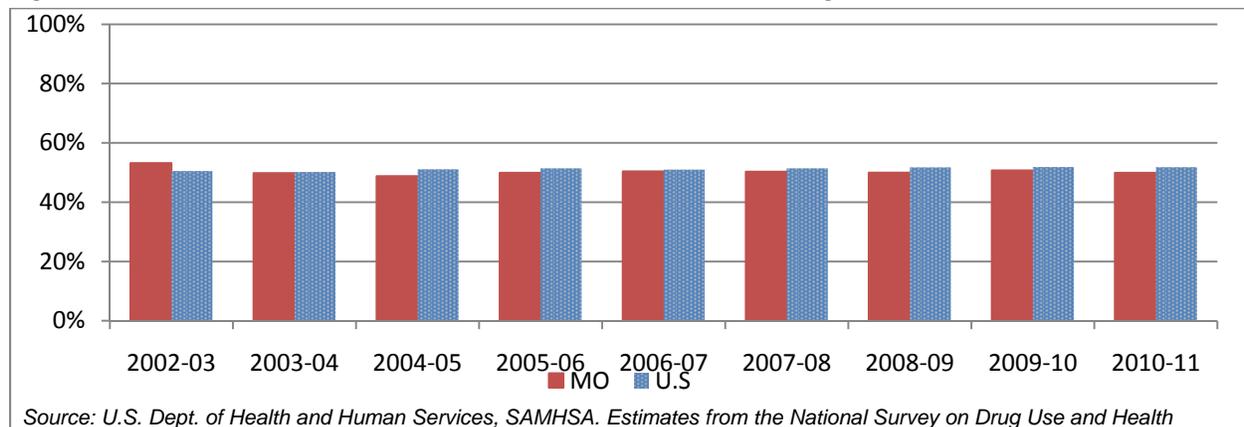
Figure 2: Estimated Past-Month Alcohol Use (%): In Missouri by Age Group, 2002-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
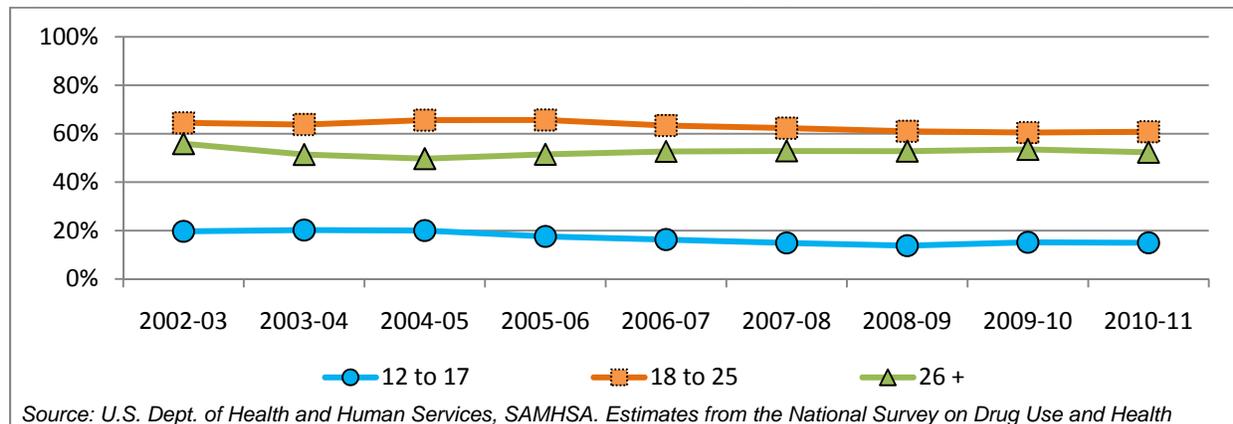
Age of First Use

- A fifth (20.4%) of all students currently in high school report having their first drink of alcohol before the age of 13. This percentage has been decreasing over the last decade and remains slightly behind the U.S average.

- Males consistently report a higher percentage of drinking before age 13 than do females. In 2009 the male percentage was 25.8% compared to 14.7% for females.

- Missouri data for 2011 was not available as of the publication of this report.

Figure 3: % Students in 9-12 Grades Reporting First Use of Alcohol Before Age 13, U.S. and Missouri, 1999-2011

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
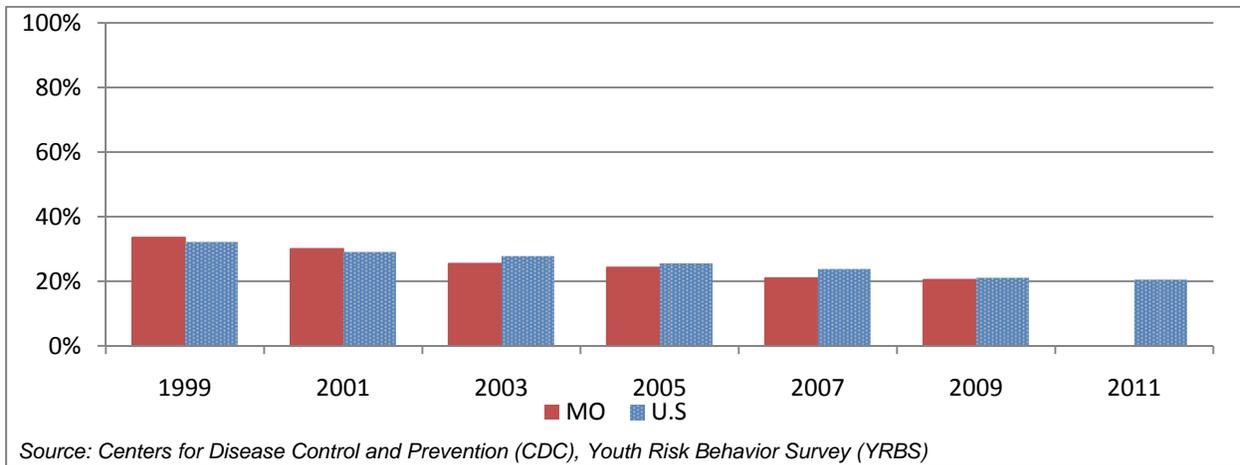
Figure 4: % Students in 9-12 Grades Reporting First Use of Alcohol Before Age 13, By Gender, 1999-2009

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
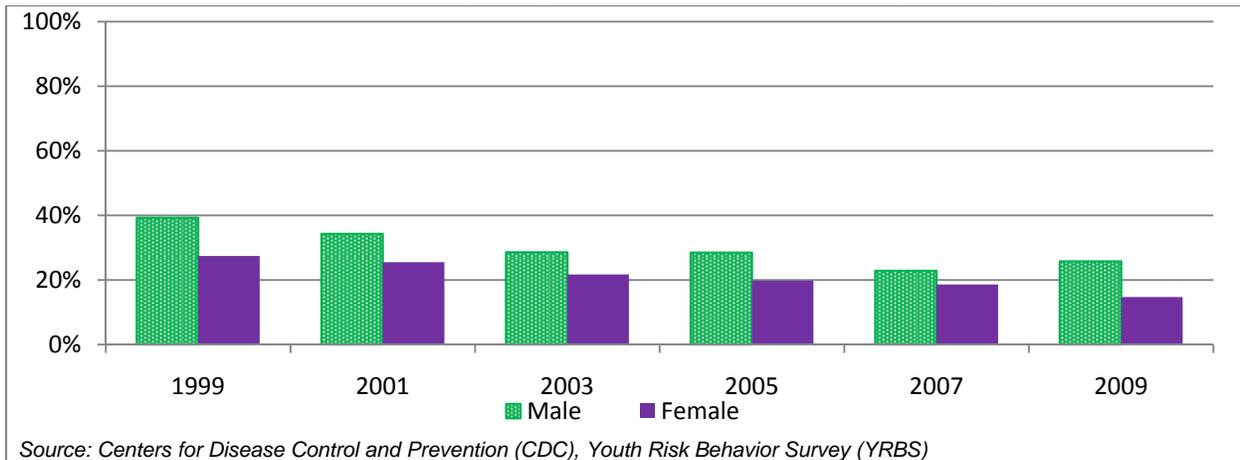
Per Capita Ethanol Consumption

- Per Capita data should be interpreted cautiously – it may not be sensitive in identifying areas where a high prevalence of heavy use are also seen with high rates of abstinence.

- The overall pattern of per capita ethanol consumption for Missouri is similar to that of the nation as a whole.

- Beer has the highest consumption rate for the state.

Figure 5: Per capita ethanol consumption for Missouri, ages 14 and older (in gallons)

Source: U.S. National Institutes of Health, NIAAA. Estimates of Per capita alcohol consumption, based on alcohol sales data
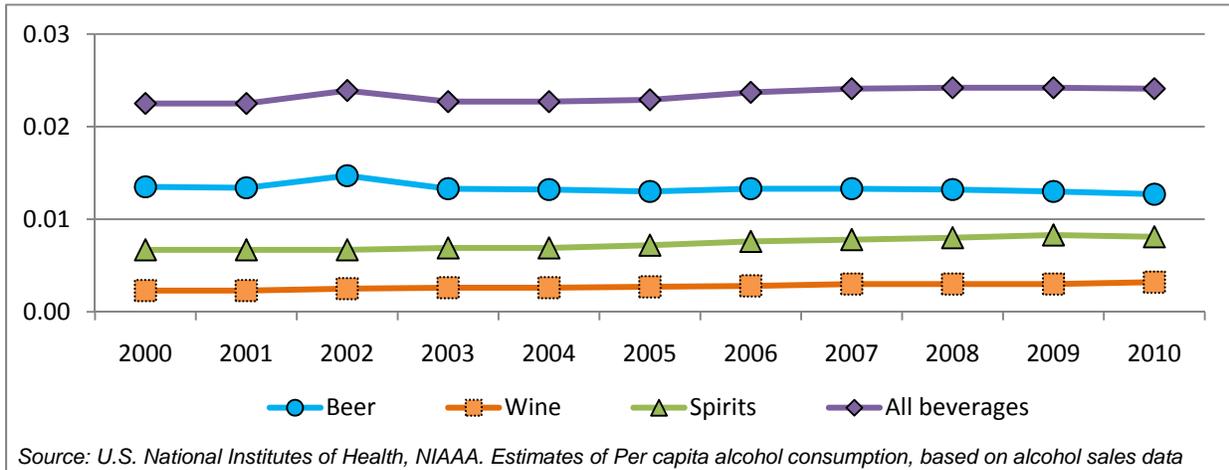
Figure 6: Per capita ethanol consumption for United States, ages 14 and older (in gallons)

Source: U.S. National Institutes of Health, NIAAA. Estimates of Per capita alcohol consumption, based on alcohol sales data
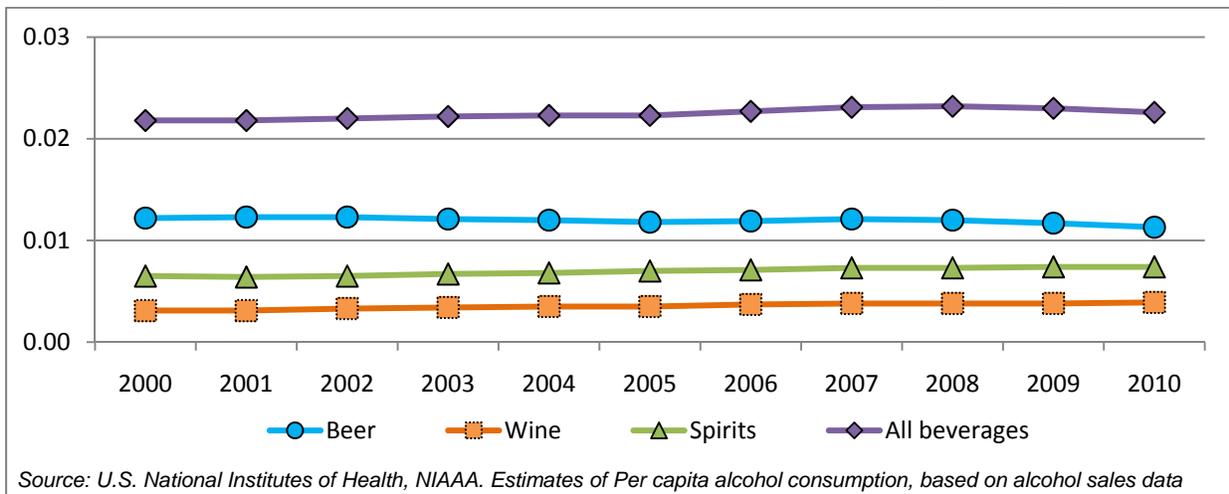
Binge Drinking

- In 2010-11, 8.5% of the 12-17 age group reported binge drinking in the last month. This compares to 37.8% of the 18-25 year olds and 21.9% in the 26+ age group.

- 22.7% of Missourians 12 and older reported binge drinking in the past month. This is the same as the national average (22.9%).

- As seen with overall drinking rates, those in the 18-25 year old age group are also most likely to have reported binge drinking in the past month. However, this number has started to decrease in the last few years. There is also a small decrease in the 12-17 year olds over the last decade.

Figure 7: Estimated Past-Month Binge Drinking (%): U.S. and Missouri Ages 12 and Older, 2002-2009

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
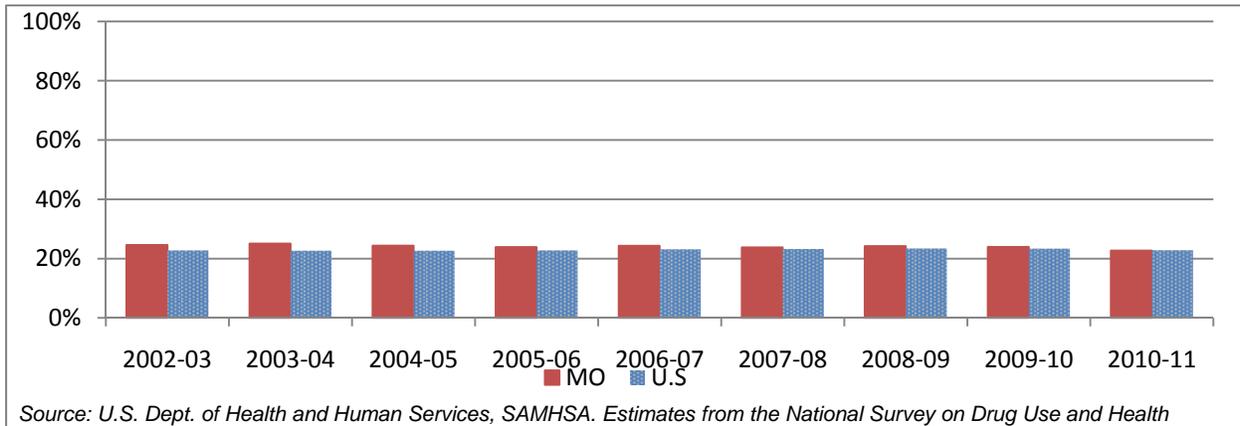
Figure 8: Estimated Past-Month Binge Drinking (%): In Missouri by Age Group, 2002-2009

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
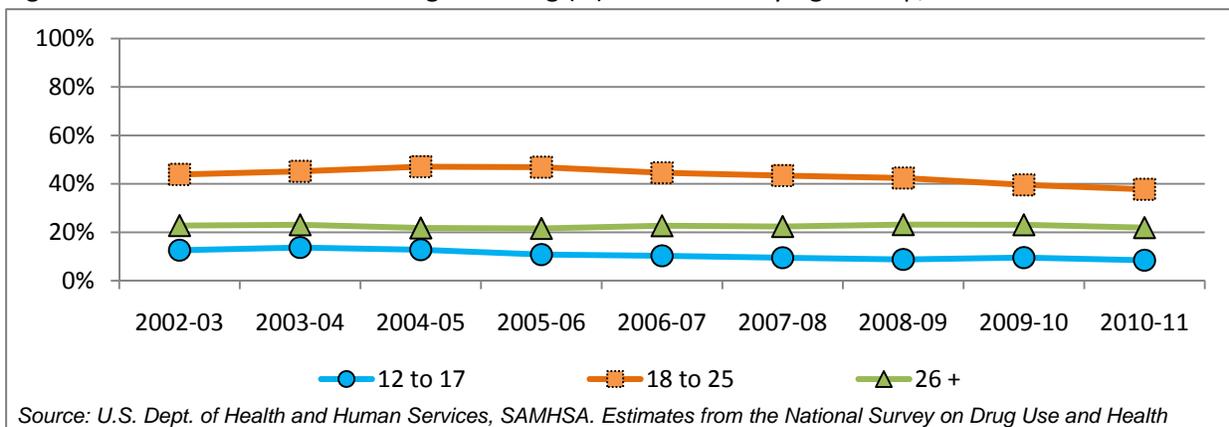
- When comparing the percentage of people who reported any drinking to those who reported binge drinking, it becomes clear that binge drinking is a concern, especially in the younger age groups. Of those under 25 who reported drinking in the last 30 days, over half of them engaged in at least one session of binge drinking.

Table 2: Comparison of 30 Day and Binge Drinking in Missouri, 2010-11 Data

Age Group	% of Sample Reporting 30 day Use	% of Sample Reporting Binging in the last 30 days
12-17	15.0%	8.5%
18-25	60.8%	37.8%
26+	52.4%	21.9%

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health.

Drinking and Pregnancy

- PRAMS data is not available for Missouri.

- Data from Missouri's Department of Health and Senior Services indicates that there is a somewhat downward trend of mothers drinking during pregnancy.

- While Missouri's data should not be compared directly to PRAMS due to differences in methodology, the Center for Disease Control reports that the national number of women drinking while pregnant has not changed substantially over time.[3]

Figure 9: % Missouri Resident Births in Which Mother Reported Drinking, 2000-2009

Source: Missouri Department of Health and Senior Services, Bureau of Health Informatics. Missouri Vital Statistics.

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[3] http://www.cdc.gov/Features/dsAlcoholChildbearingAgeWomen/
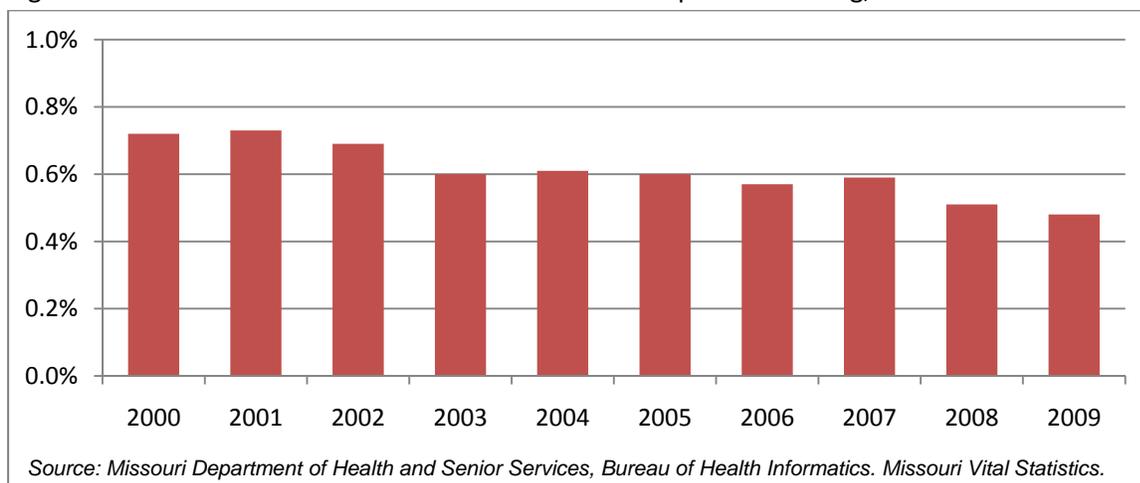
Drinking and Driving

- 2.1% of Missourians reported driving after drinking "perhaps too much" in 2008. This is similar to the national averages for the year.

- Men consistently reported a higher percentage of driving after drinking than woman.

Figure 10: % of Missourians 18+ Reporting Driving After Drinking "perhaps too much", 1999-2010

Source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)
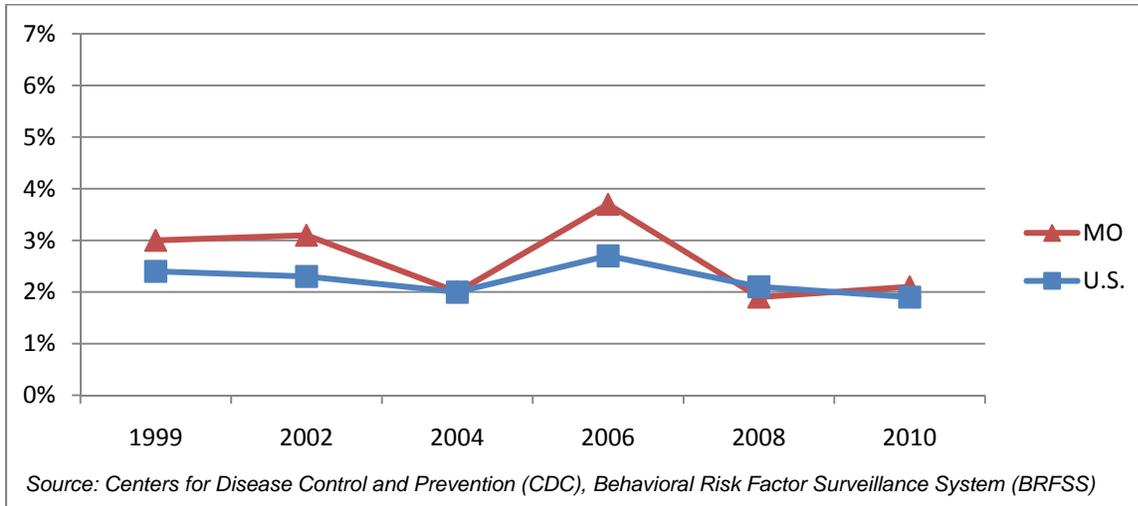
Figure 11: % of Missourians 18+ Reporting Driving After Drinking "perhaps too much", By Gender, 1999-2010

Source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)
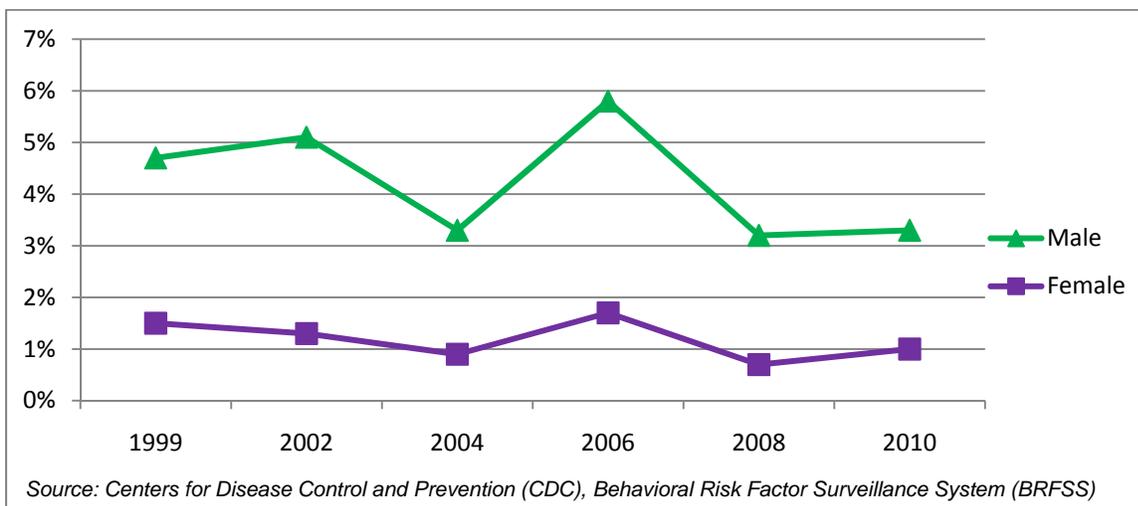
Alcohol Consequences

Traffic Crashes

- Total traffic crashes in Missouri are on the decline, falling from 194,995 in 1998 to 142,963 in 2010.

- The percentage of crashes that were caused by alcohol impaired drivers or pedestrians have remained somewhat stable over the last decade.

- The percentage of crashes that were caused by alcohol impaired drivers or pedestrians and resulted in fatalities or injuries have remained mostly stable over the last decade.

Figure 12: % of Missouri Highway Safety Burden Caused by Alcohol Impaired Drivers or Pedestrians, 2000-2010

Source: Missouri Dept of Public Safety, Missouri State Highway Patrol, Statistical Analysis Center. Annual Tabulation
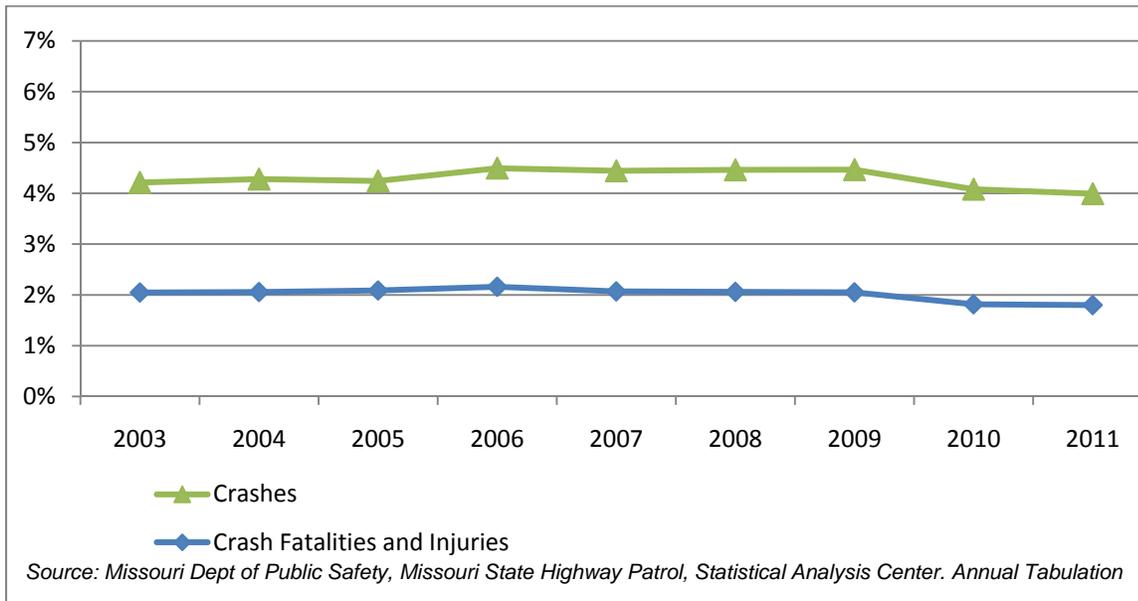
Children Out of Home Placements

- The rate of children having out of home placements due to parental alcohol or drug and alcohol use has remained relatively consistent over the last few years.

Figure 13: % of Children Out of Home Placements Due to Parental Alcohol or Drug & Alcohol Use
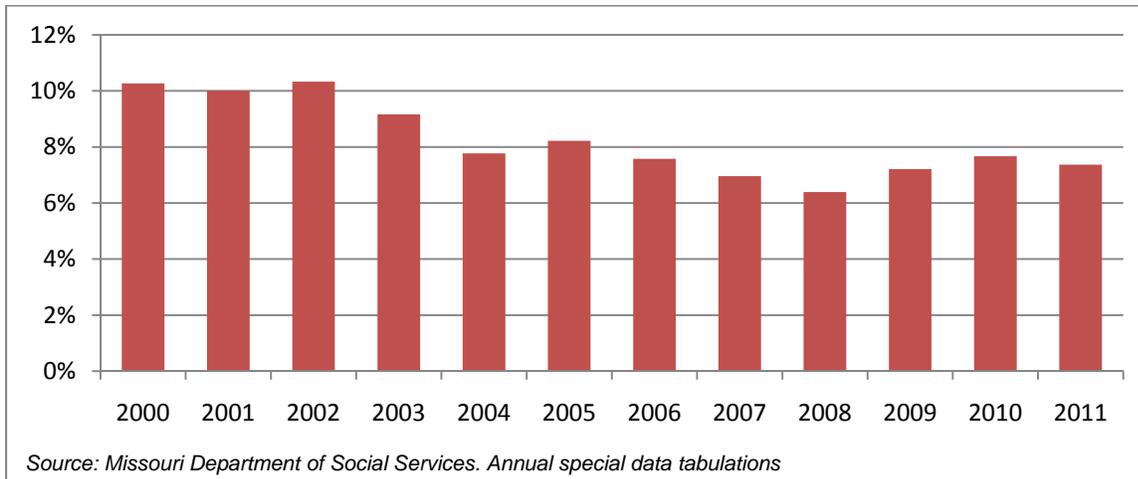
Source: Missouri Department of Social Services. Annual special data tabulations

Mortality Rates

- Missouri has been lower than the national average for rate of deaths due to cirrhosis (chronic liver disease) for the last decade.

- Missouri has been higher than the national average for rate of deaths due to suicide for the last decade. Homicide rates have been higher than the national average for most of the last decade as well.

Figure 14: Rate of All Cirrhosis Deaths per 100,000 Population: U.S. and Missouri, 1998-2010

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
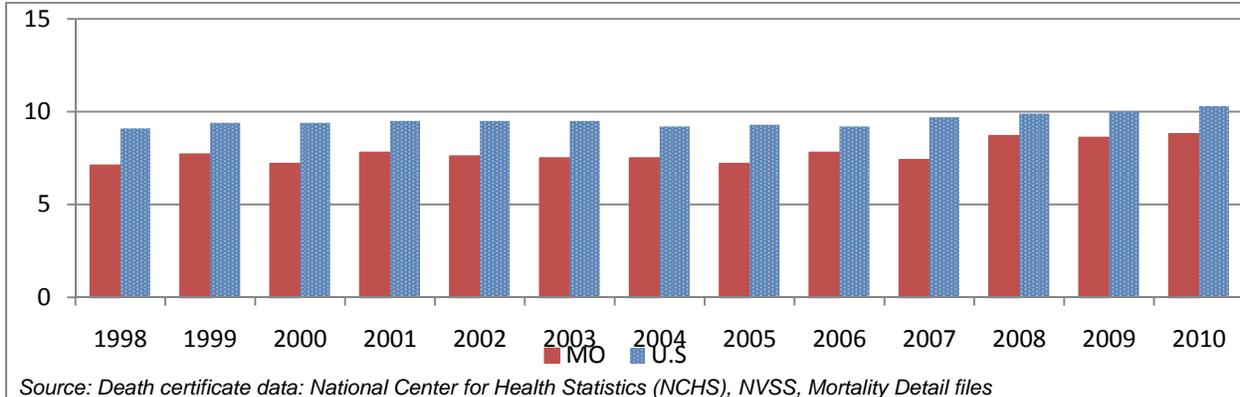
Figure 15: Rate of Suicides per 100,000 Population: U.S. and Missouri, 1998-2010

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
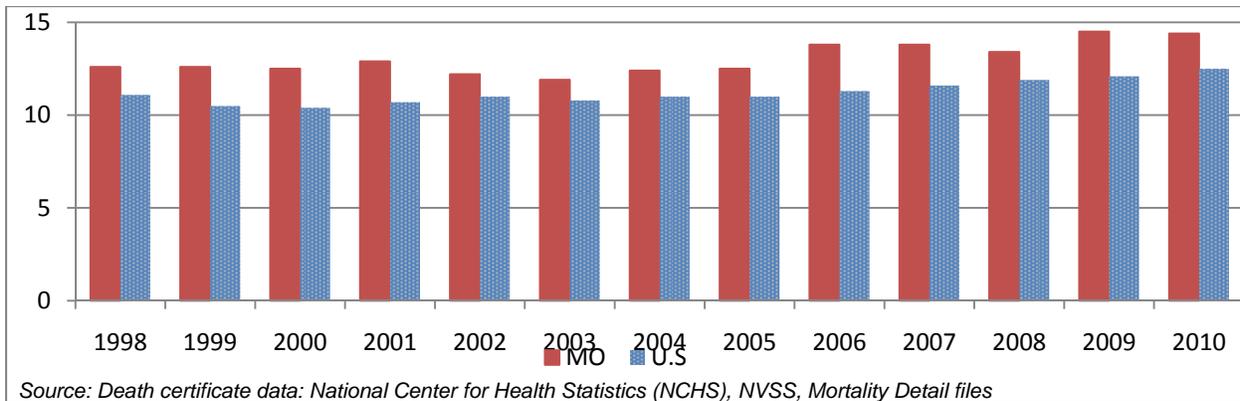
Figure 16: Rate of Homicides per 100,000 Population: U.S. and Missouri, 1998-2010

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
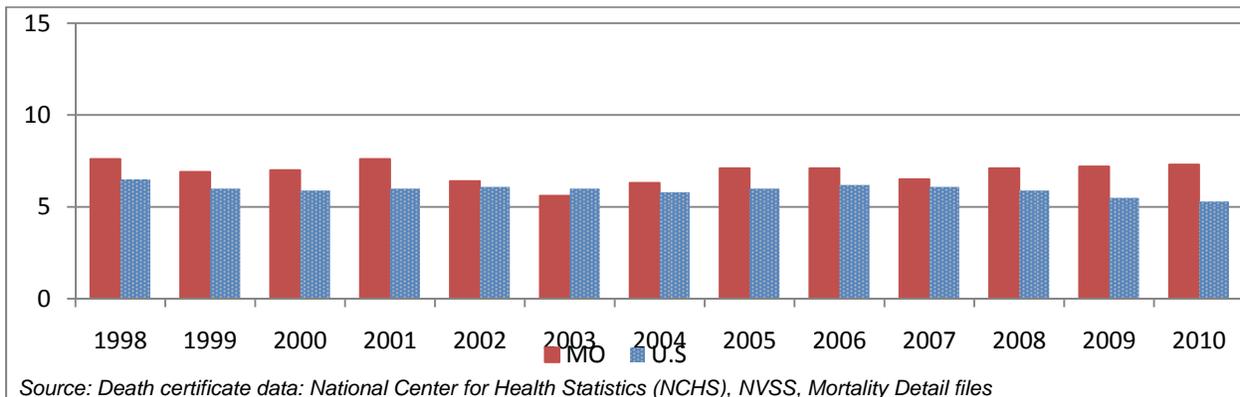
Tobacco

Tobacco Rates

- In 2010-11, 11.6% of those in the 12-17 age group reported smoking cigarettes in the past month. This compares to 38.3% of 18-25 year olds and 27.0% in the 26+ age group.

- 27.0% of all Missourians 12 and older reported smoking cigarettes in the past month. This is a number that has decreased slightly over the last decade although it remains well above the national average (22.5%).

- Those in the 18-25 year old age group are most likely to have reported smoking in the past month.

- All age groups have decreased their use over the last decade.

Figure 17: Estimated Past-Month Cigarette Use (%): U.S. and Missouri Ages 12 and Older, 2002-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
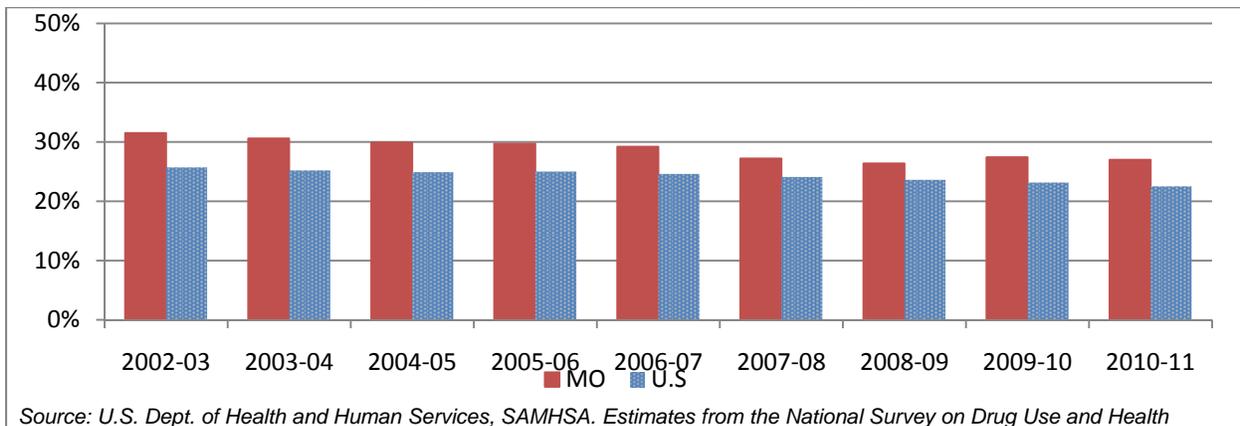
Figure 18: Estimated Past-Month Cigarette Use (%) in Missouri, By Age Group, 2002-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
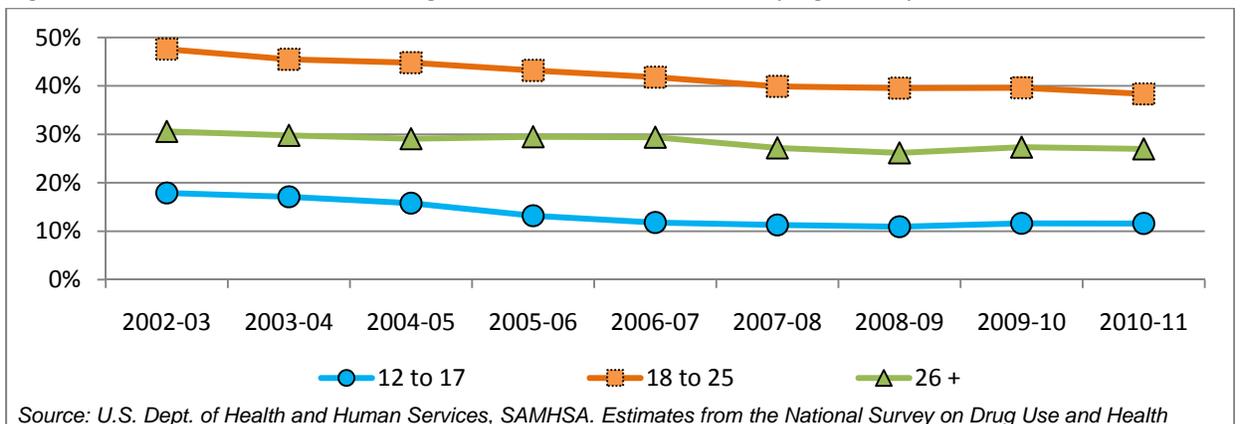
- Males are much more likely to report using smokeless tobacco in the last month than females are.

Figure 19: Estimated Past-Month Smokeless Tobacco Use (%) in Missouri, By Gender, 1999-2009

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
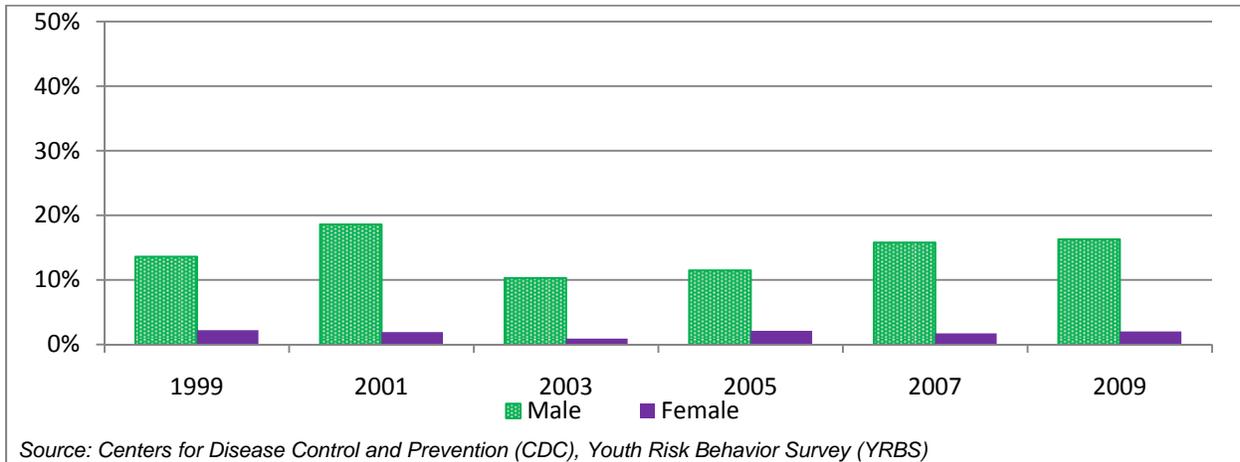
Daily Use

- 19.4% of all Missourians 18 and older reported using smoking cigarettes daily in the past month. This is a number that is above the national average.

- Males were more likely than females to report daily smoking.

Figure 20: Estimated Daily Cigarette Use (%): U.S. and Missouri Ages 18 and Older, 2002-2011

Source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)
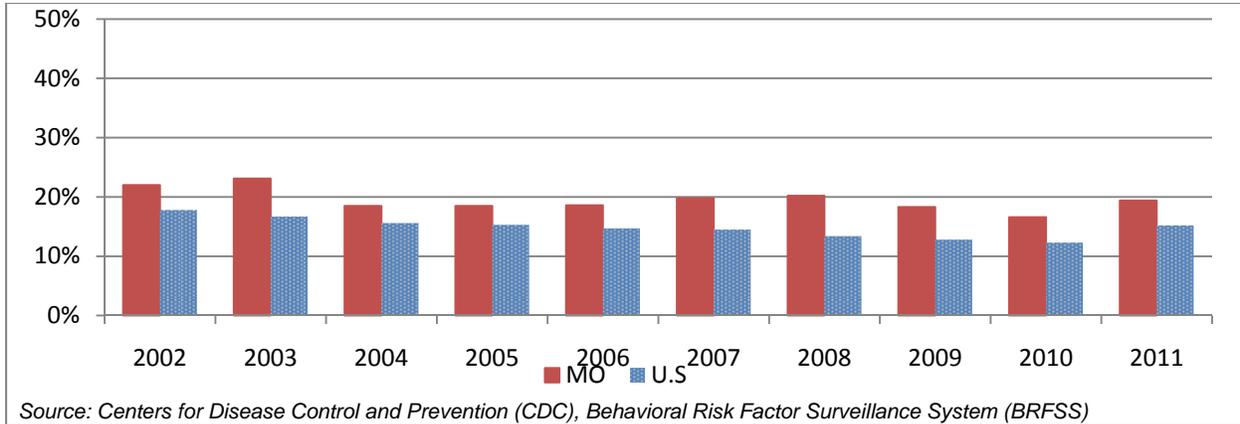
Figure 21: Estimated Daily Cigarette Use (%) in Missouri Ages 18 and Older, By Gender, 2002-2011

Source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)
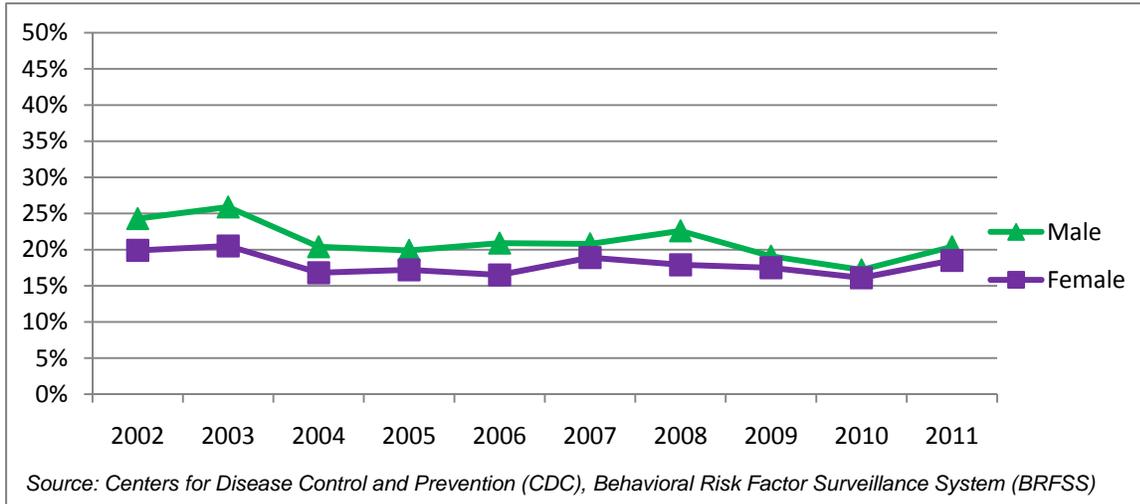
- When looking at high school students only, Missouri fell slightly below national average in 2009. While one data point is not sufficient to determine a trend, this number should be followed closely.

- Missouri data for 2011 was not available as of the publication of this report.

Figure 22: % of Students in 9-12 Grade Reporting Smoking Cigarettes on 20 or More Days within the Past 30 Days: U.S and Missouri, 1999-2011

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
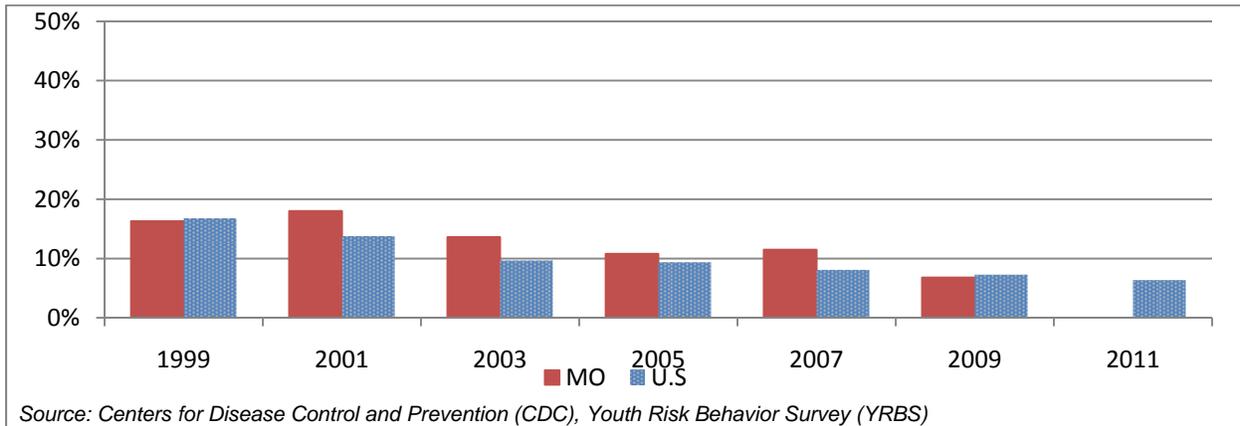
Age of First Use

- Approximately 10% of all students currently in high school report using tobacco before the age of 13. This percentage has been decreasing over the last decade and has been slightly below the U.S average for the last several years.

- Males typically report a higher percentage of tobacco use before age 13 than do females. In 2009, the male percentage was 10.9% compared to 8.7% for females.

Figure 23: % Students in 9-12 Grades Reporting First Use of Tobacco Before Age 13, U.S. and Missouri, 1999-2011

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
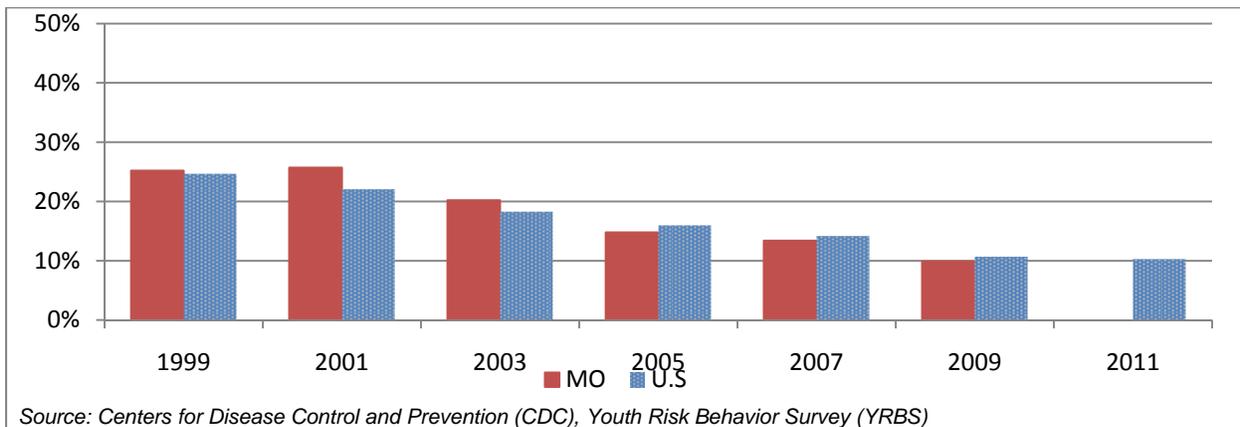
Figure 24: % Students in 9-12 Grades Reporting First Use of Cigarettes Before Age 13, By Gender, 1999-2009

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
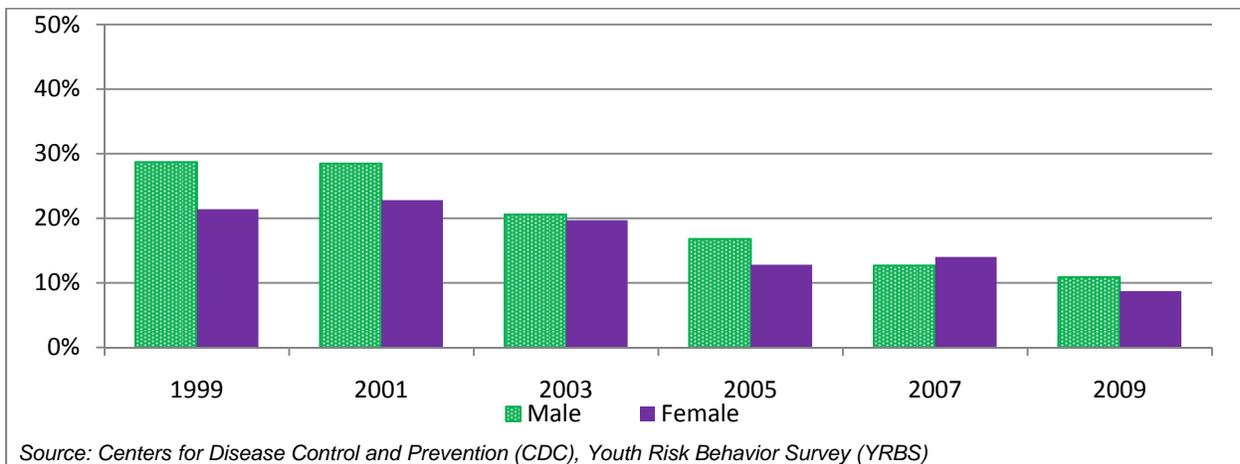
Per Capita Cigarette Consumption

- Per Capita data should be interpreted cautiously – it may not be sensitive in identifying areas where a high prevalence of heavy use are also seen with high rates of abstinence.

- Cigarettes sold per capita seem to indicate higher smoking rates in rural areas than in the major cities, although this number is declining.

- Smoking cigarettes seems to be more prevalent in the Kansas City metro area than in the St. Louis City metro area. This trend may not continue however, as the Kansas City area has declined in the last year while the St. Louis area has increased its sales.

Figure 25: Packs of Cigarettes Per Capita Sold in Missouri Based on Cigarette Tax Revenues: Fiscal Years 2001-2011
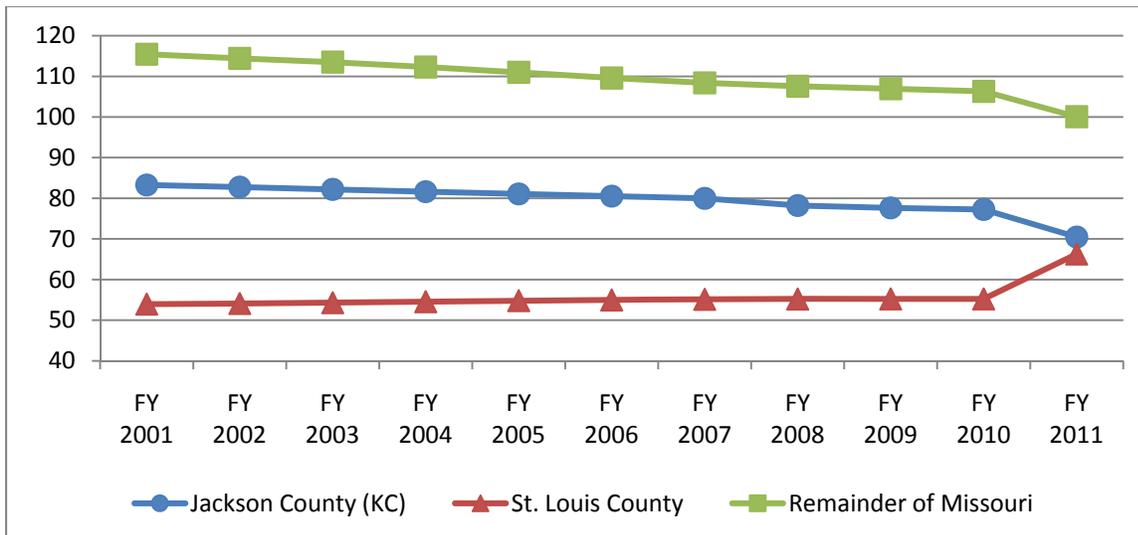
Source: Missouri Department of Revenue. Annual revenue reports. Total cigarette sales estimates are based on the cigarette tax portion of tobacco tax receipts. Breakouts for Jackson County and St. Louis County are based on supplemental county cigarette tax receipts.

Smoking and Pregnancy

- PRAMS data is not available for Missouri.

- Missouri DHSS data shows a sharp drop in the previous three years in the number of births in which women smoked while pregnant.

- Looking at women in Missouri, women with more education were less likely to smoke while pregnant. Women also peak in the rates of smoking while pregnant in their late teens and early 20s. White women are most likely to smoke while pregnant.

Figure 26: Missouri Resident Births in Which Mother Reported Smoking, 2000-2009

Source: Missouri Department of Health and Senior Services, Bureau of Health Informatics. Missouri Vital Statistics.
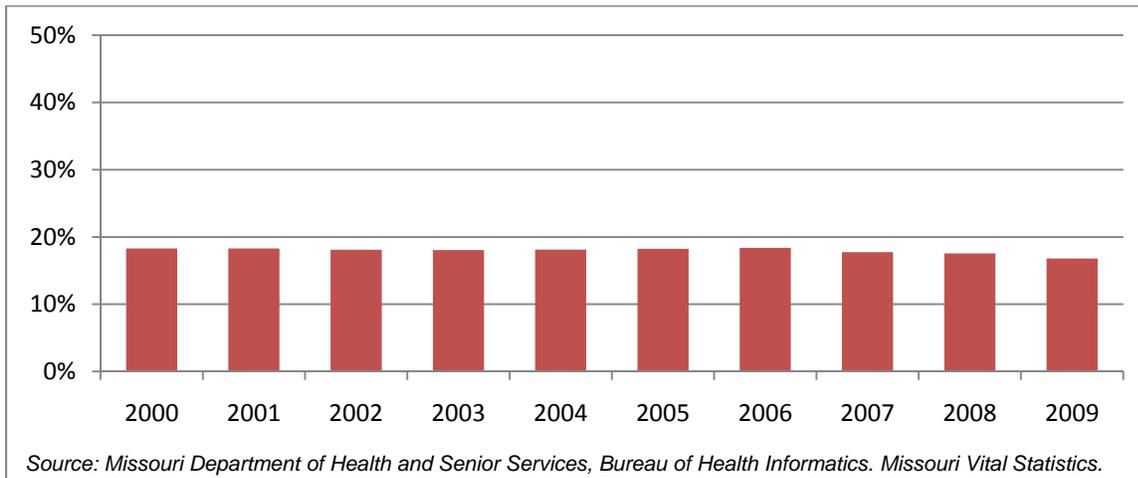
Table 3: Rate Per 100 Women who Smoked while Pregnant by Age, 2009

Age	Smoked during Pregnancy
10-14	2.7
15-17	15.8
18-19	23.4
20-24	24.0
25-29	15.7
30-34	10.2
35-39	9.5
40 plus	9.2

Source: Missouri Department of Health and Senior Services, Bureau of Health Informatics. Missouri Vital Statistics

Table 4: Rate Per 100 Women who Smoked while Pregnant by Race / Ethnicity, 2009

Age	Smoked during Pregnancy
White	18.2
Black / African American	12.6
Hispanic	4.7

Source: Missouri Department of Health and Senior Services, Bureau of Health Informatics. Missouri Vital Statistics

Table 5: Rate Per 100 Women who Smoked while Pregnant by Education Level, 2009

Years of Education	Smoked during Pregnancy
Less than 12 years of education	35.0
12 years of education	23.1
13-15	12.9
16 or more	2.2
Unknown	18.3

Source: Missouri Department of Health and Senior Services, Bureau of Health Informatics. Missouri Vital Statistics

Tobacco Consequences

Mortality Rates

- Missouri has been higher than the national average for rate of deaths due to tobacco use (lung cancer, Chronic Obstructive Pulmonary Disease (COPD) and Emphysema, and Cardiovascular and Ischemic Cerebrovascular Disease) for the last decade.

Figure 27: Rate of Deaths from Lung Cancer per 100,000 Population: U.S. and MO, 1998-2010

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
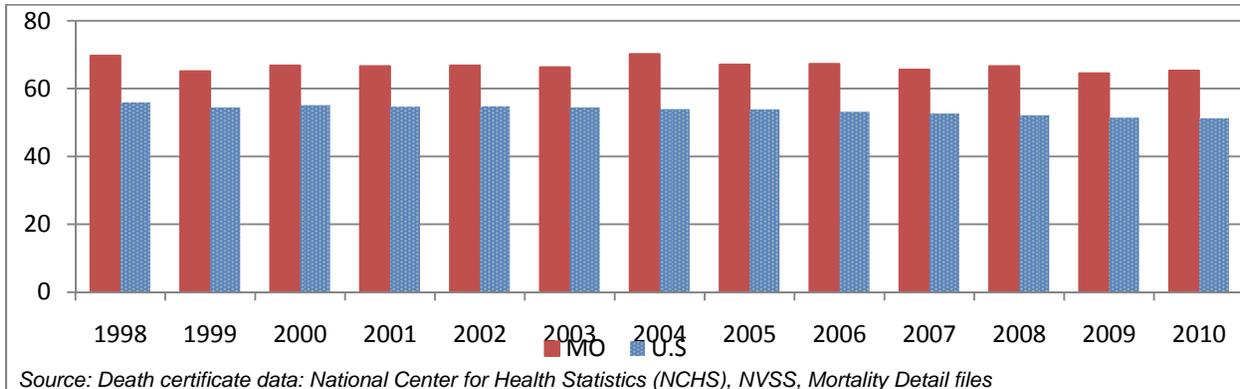
Figure 28: Rate of Deaths from COPD and Emphysema per 1000 Population: U.S. and MO, 1998-2010

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
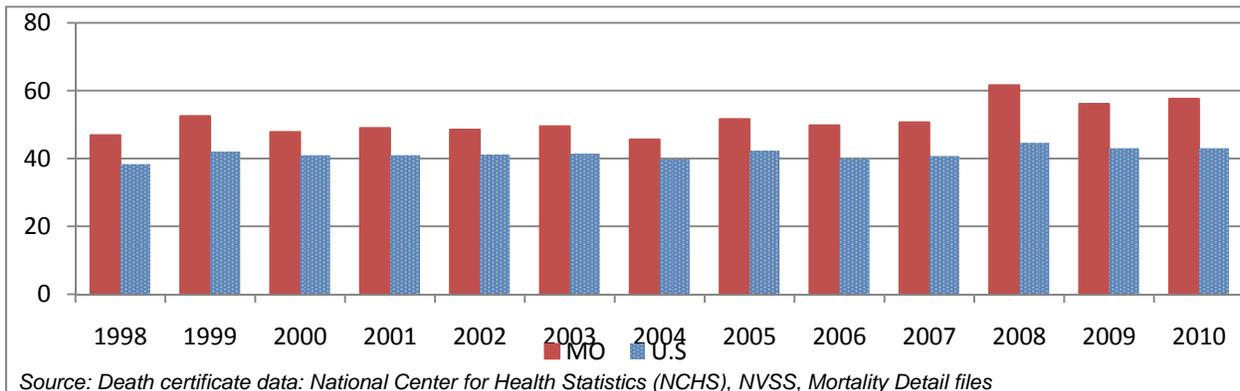
Figure 29: Rate of Deaths from Cardiovascular and Ischemic Cerebrovascular Disease per 100,000 Population: U.S. and MO, 1998-2007. **NOTE: Scale has changed from prior two figures.**

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
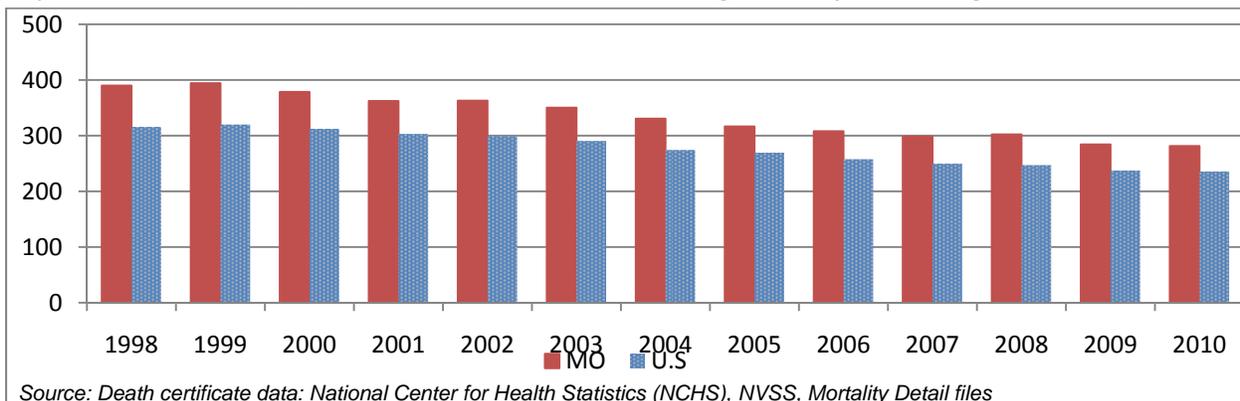
Illicit Drugs

Marijuana

- In 2010-11, 7.3% of those in the 12-17 age group reported smoking marijuana in the last month. This compares to 18.3% of 18-25 year olds and 3.8% in the 26+ age group.

- 6.0% of all Missourians 12 and older reported using marijuana in the past month. This is a number that has remained relatively steady over the past few years and is slightly below the national average (6.9%).

- Those in the 18-25 year old age group are most likely to have used marijuana in the past month. Rates for both the 12-17 year olds and the 18-25 year olds have increased slightly over the past few years.

Figure 30: Estimated Past-Month Marijuana Use (%): U.S. and Missouri Ages 12 and Older, 2002-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
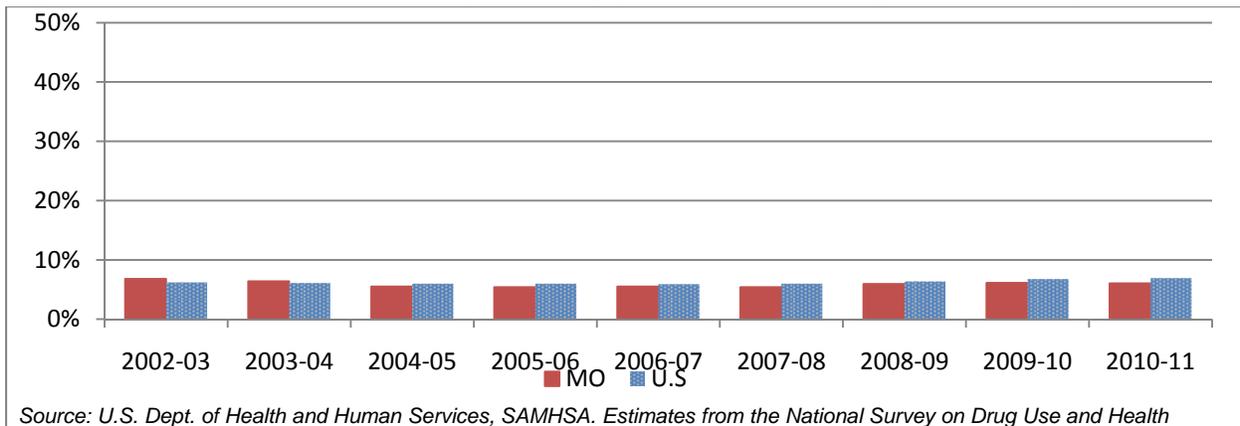
Figure 31: Estimated Past-Month Marijuana Use (%): In Missouri by Age Group, 2002-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
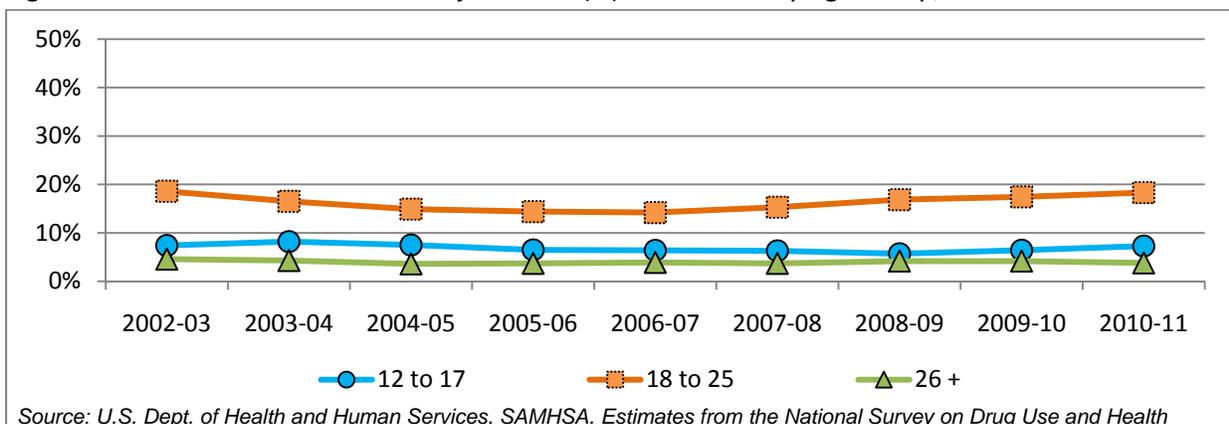
- Males were more likely than females to report smoking marijuana prior to age 13.

Figure 32: % Students in 9-12 Grades Reporting First Use of Marijuana Before Age 13, By Gender, 1999-2009

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
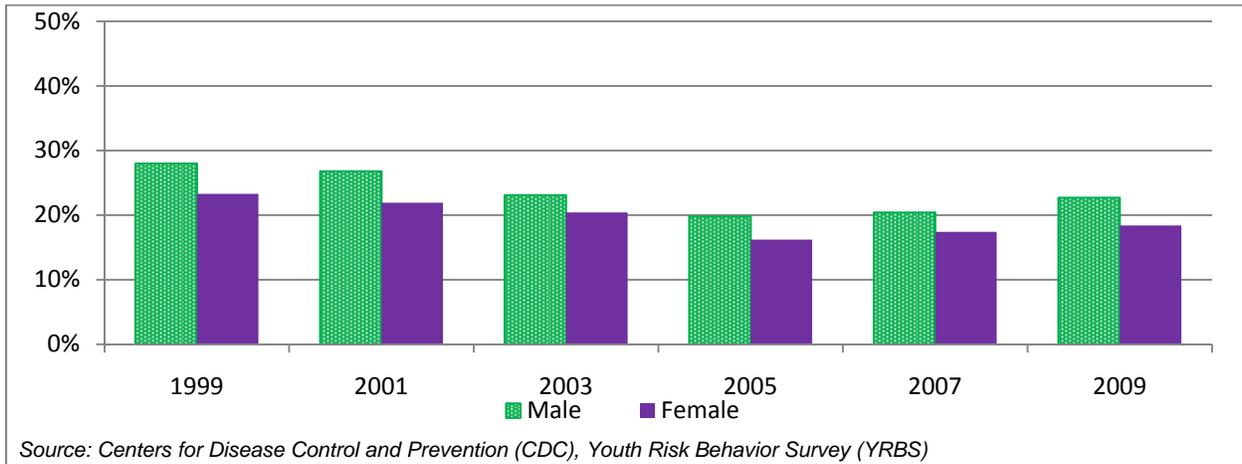
Other Illicit Drugs

- "Other illicit drugs" is defined as an illegal drug other than marijuana, or an abusable product that can be obtained legally.

- In 2010-11, 3.9% in the 12-17 age group reported using illicit drugs, other than marijuana, compared to 7.1% of 18-25 year olds and 1.9% in the 26+ age group.

- 2.8% of all Missourians 12 and older reported using illicit drugs, other than marijuana, in the past month. This is a number that has remained mostly stable over the last decade.

- Those in the 18-25 year old age group are most likely to have reported using illicit drugs in the past month.

Figure 33: Estimated Past-Month Other Illicit Drug Use (%): U.S. and Missouri Ages 12 and Older, 2002-2009

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
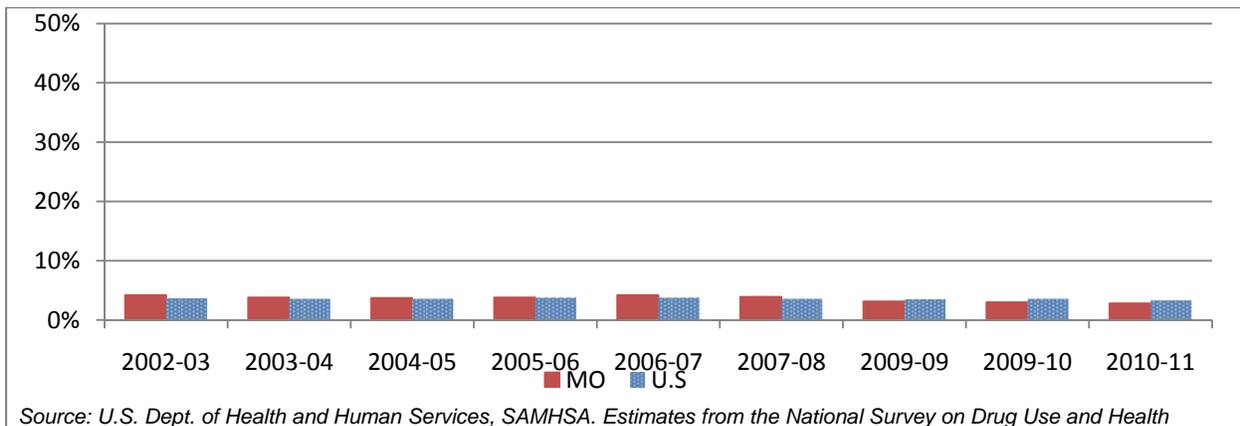
Figure 34: Estimated Past-Month Other Illicit Drug Use (%): In Missouri by Age Group, 2002-2009

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
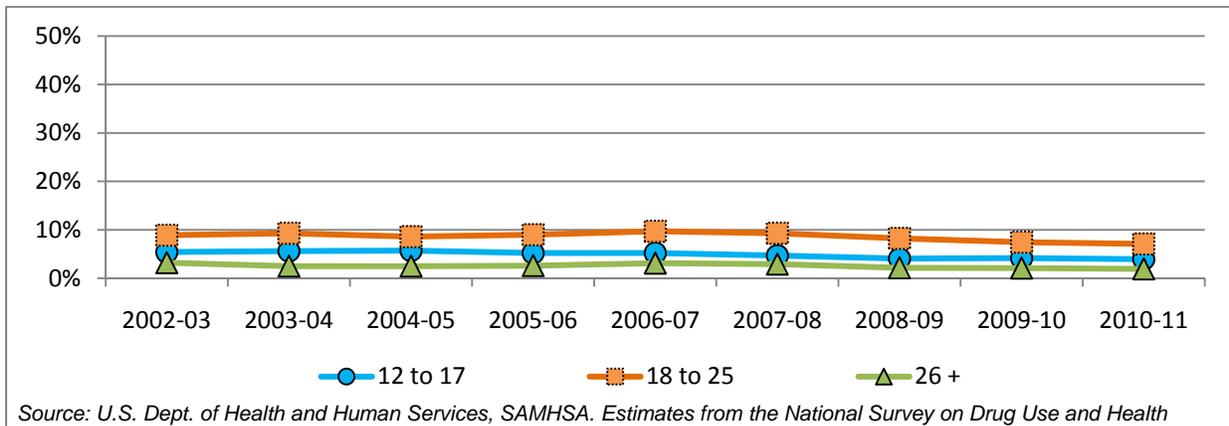
- Looking at high school students only, heroin was the illicit drug least likely to be used at any point in a student's life while inhalants were most likely to have been used.

- Males were most likely to have used all of the illicit drugs with the exception of inhalants. Females, in more recent years, were more likely to have used inhalants at some point in their life.

- Missouri data for 2011 was not available as of the publication of this report.

Figure 35: % Students in 9-12 Grade Reporting they Ever Used of Cocaine in their Lifetime, U.S. and Missouri, 1999-2011

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
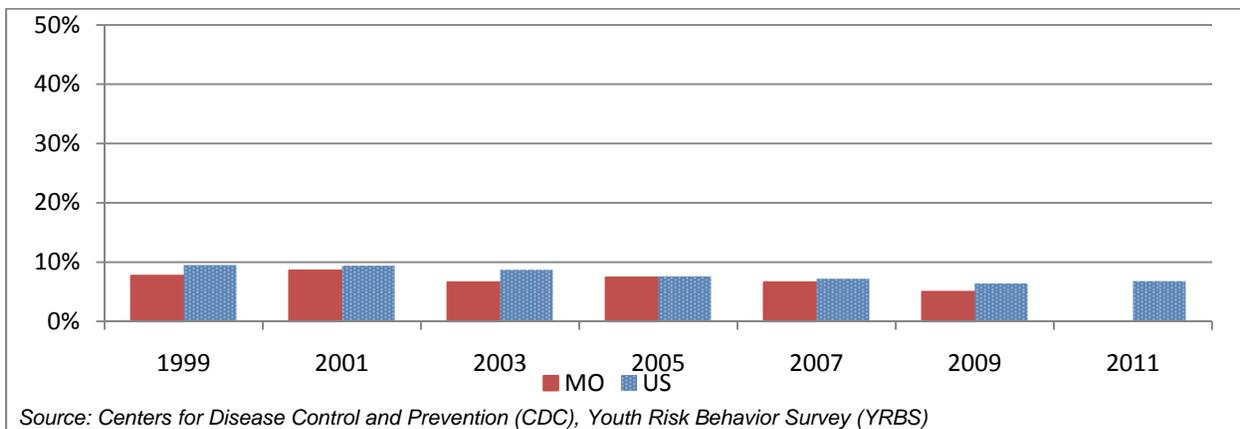
Figure 36: % Students in 9-12 Grades Reporting they Ever Used of Cocaine in their Lifetime, By Gender, 1999-2009

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
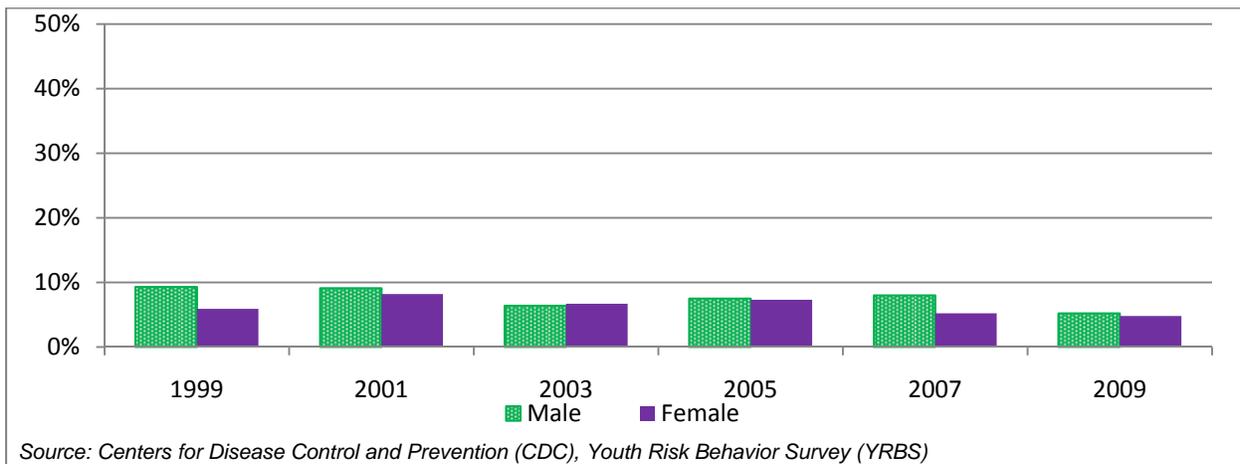
Figure 37: % Students in 9-12 Grade Reporting they Ever Used of Heroin in their Lifetime, U.S. and Missouri, 1999-2011
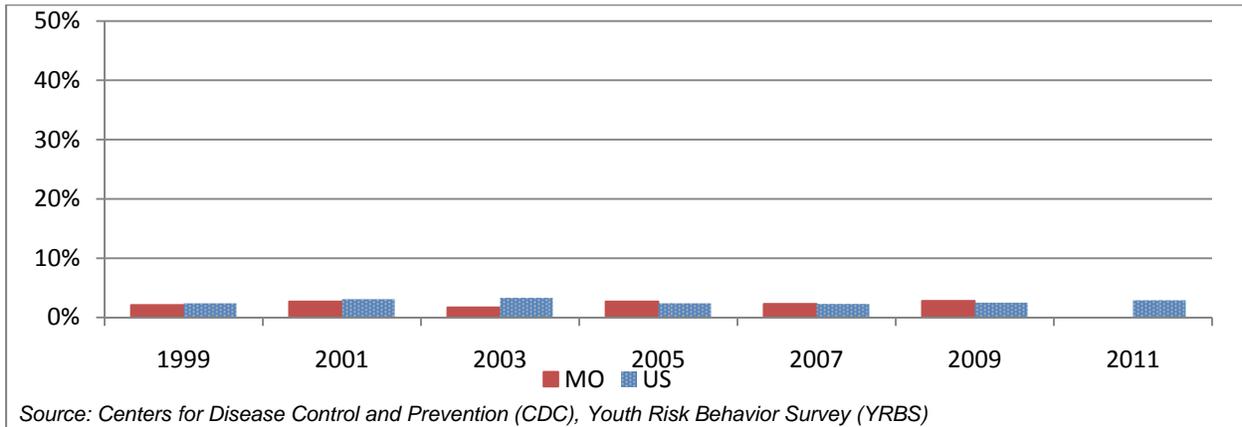
Figure 38: % Students in 9-12 Grades Reporting they Ever Used of Heroin in their Lifetime, By Gender, 1999-2009
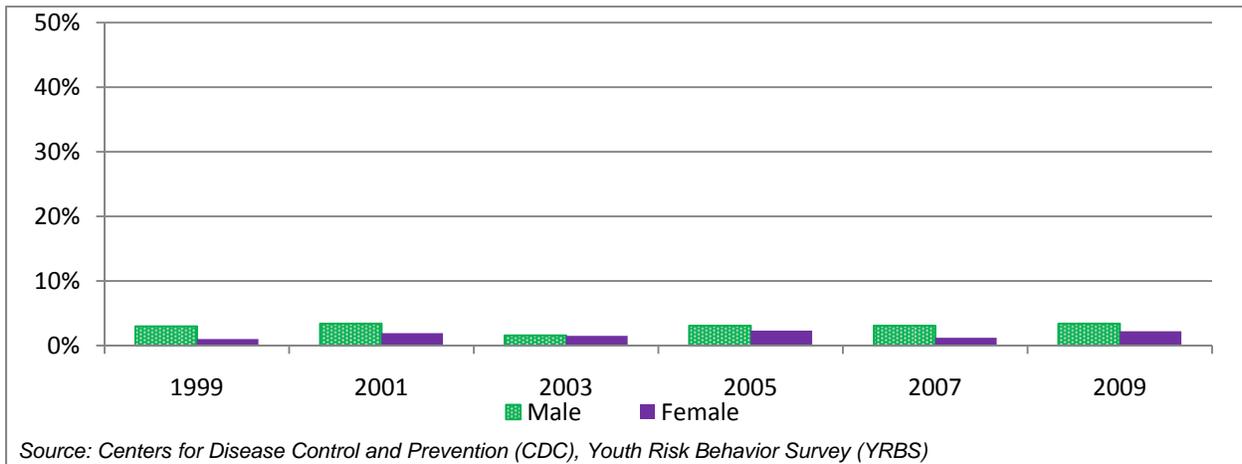
Figure 39: % Students in 9-12 Grade Reporting they Ever Used of Inhalants in their Lifetime, U.S. and Missouri, 1999-2011
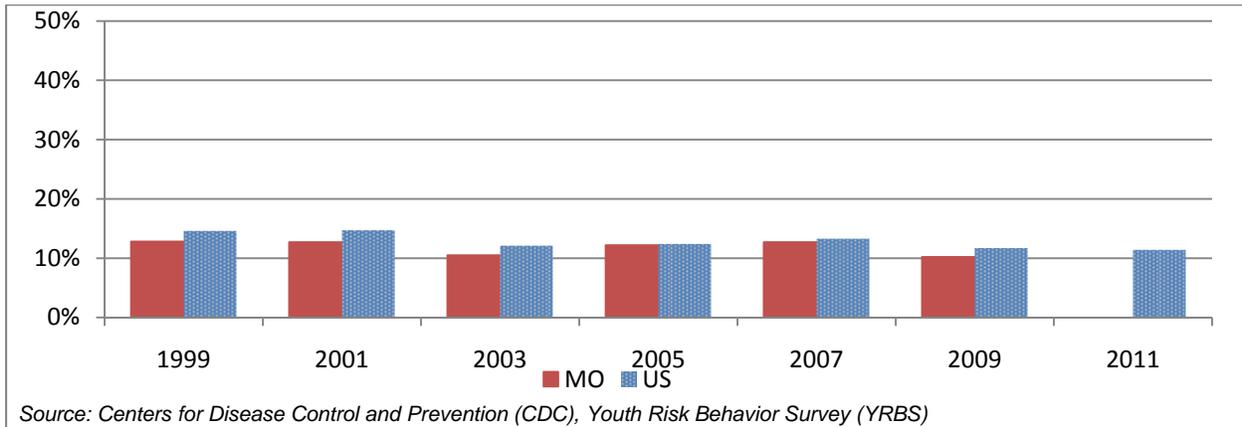
Figure 40: % Students in 9-12 Grades Reporting they Ever Used of Inhalants in their Lifetime, By Gender, 1999-2009
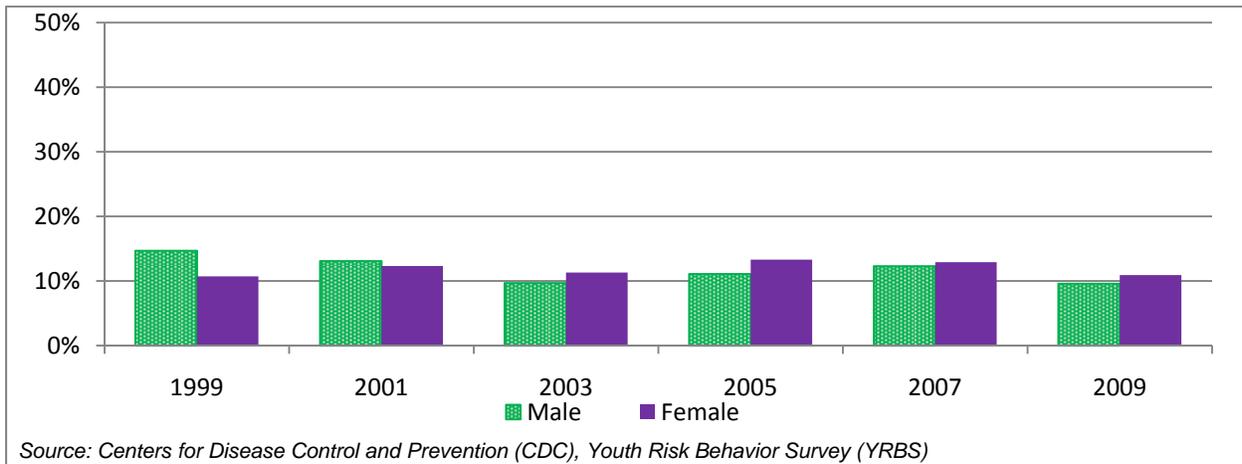
Figure 41: % Students in 9-12 Grade Reporting they Ever Used of Methamphetamine in their Lifetime, U.S. and Missouri, 1999-2011
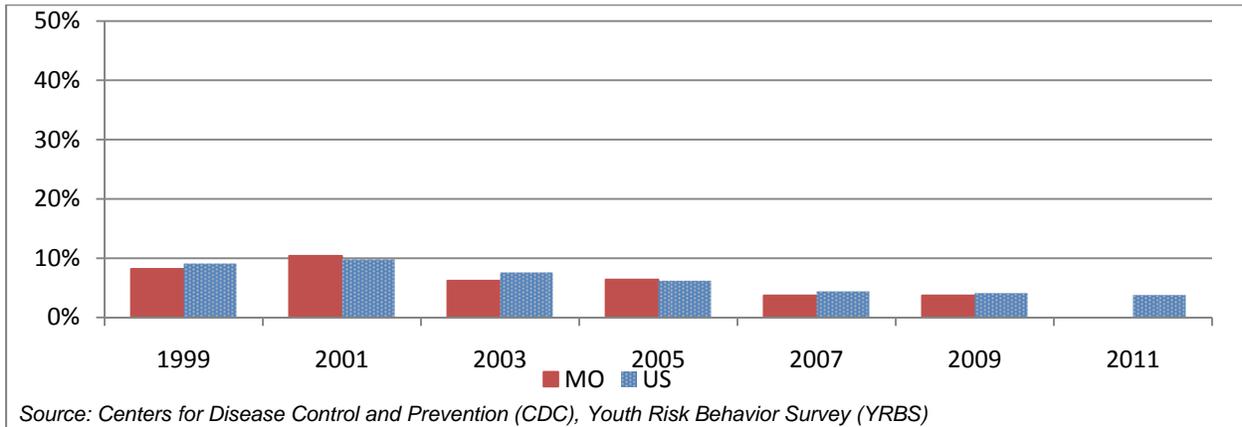
Figure 42: % Students in 9-12 Grades Reporting they Ever Used of Methamphetamine in their Lifetime, By Gender, 1999-2009
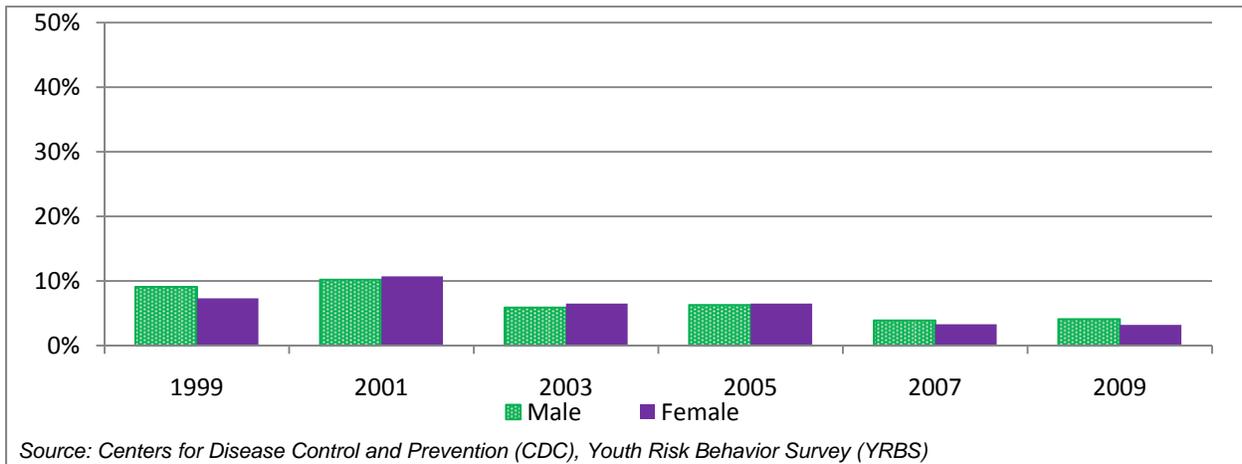
Figure 43: % Students in 9-12 Grade Reporting they Ever Used of Ecstasy in their Lifetime, U.S. and Missouri, 1999-2011. Note: Data for 1999 and 2001 not available

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
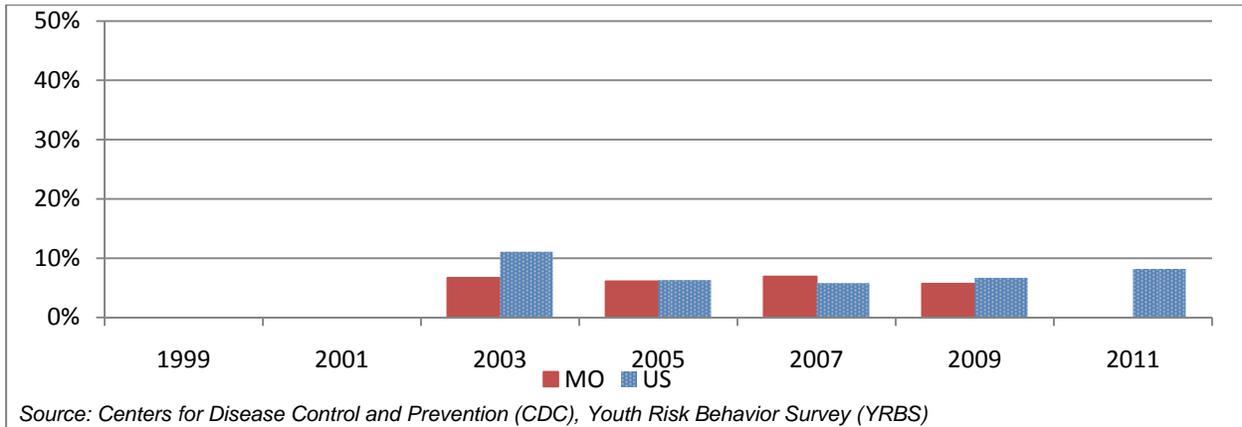
Figure 44: % Students in 9-12 Grades Reporting they Ever Used of Ecstasy in their Lifetime, By Gender, 1999-2009. Note: Data for 1999 and 2001 not available

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
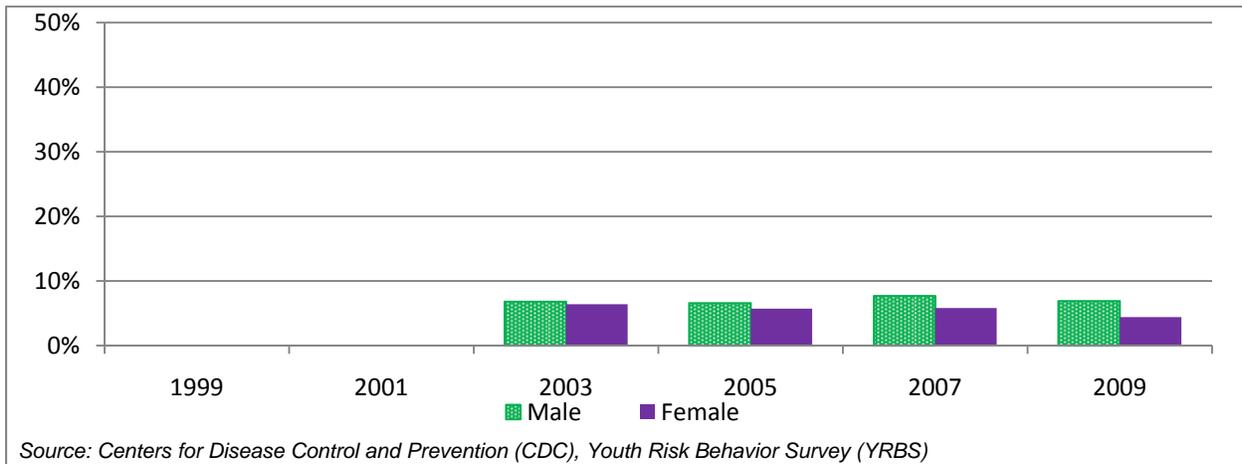
Figure 45: % Students in 9-12 Grade Reporting they Ever Used of Steroids in their Lifetime, U.S. and Missouri, 1999-2011.

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
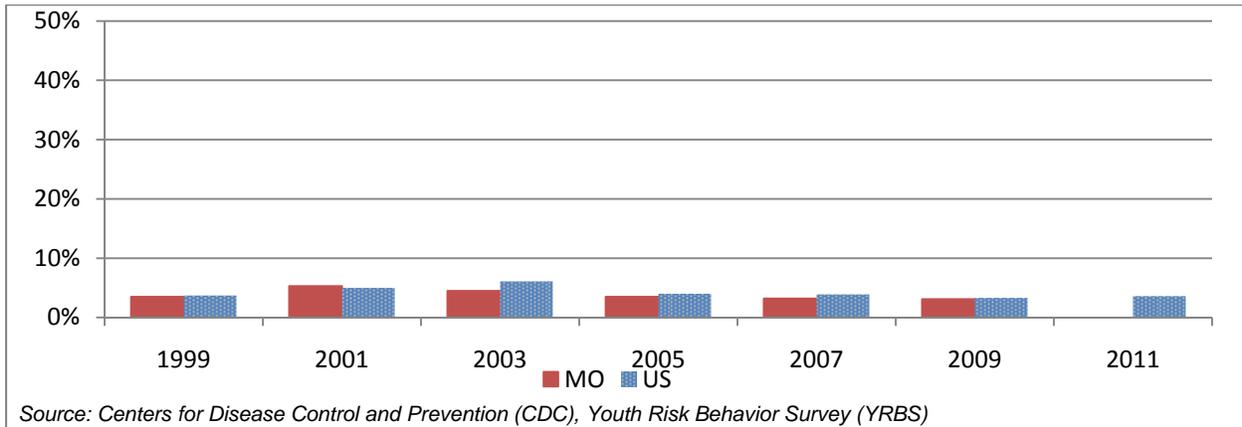
Figure 46: % Students in 9-12 Grades Reporting they Ever Used of Steroids in their Lifetime, By Gender, 1999-2009.

Source: Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Survey (YRBS)
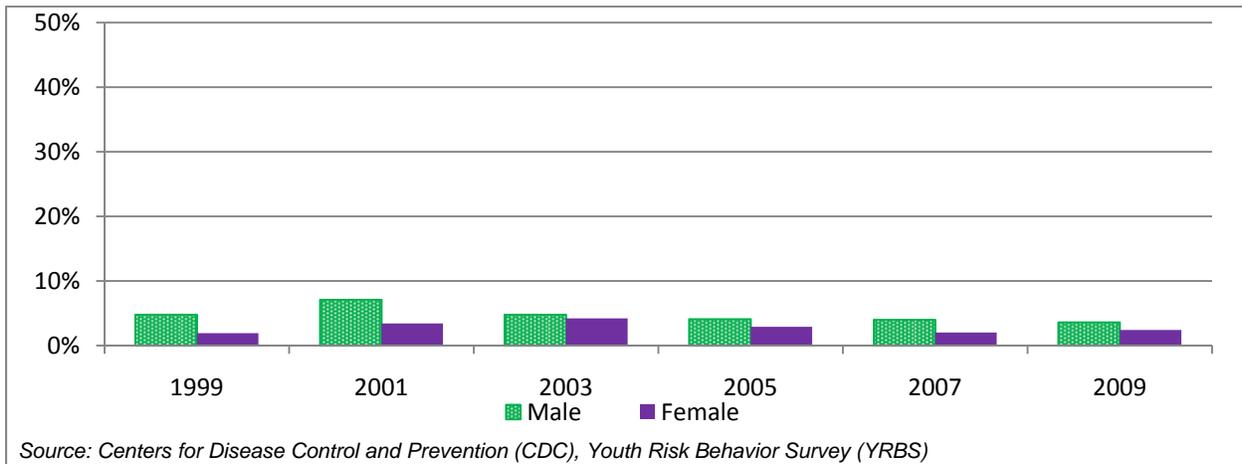
Illicit Drug Consequences

Illicit Drug-Related Mortality

- Missouri has been lower than the national average for rate of deaths due to drug related behaviors for the last decade.

- Missouri has been higher than the national average for rate of deaths related to drug related overdose / poisonings for the last several years. This number is also climbing for both Missouri and the US, although US numbers appear to have leveled off.

- Note: due to revised data sources, the numbers are slightly different than reported in previous years. However, the pattern and conclusions drawn remains consistent.

Figure 47: Number of deaths from drug related behavior per 1000 population: U.S. and Missouri, 1998-2010

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
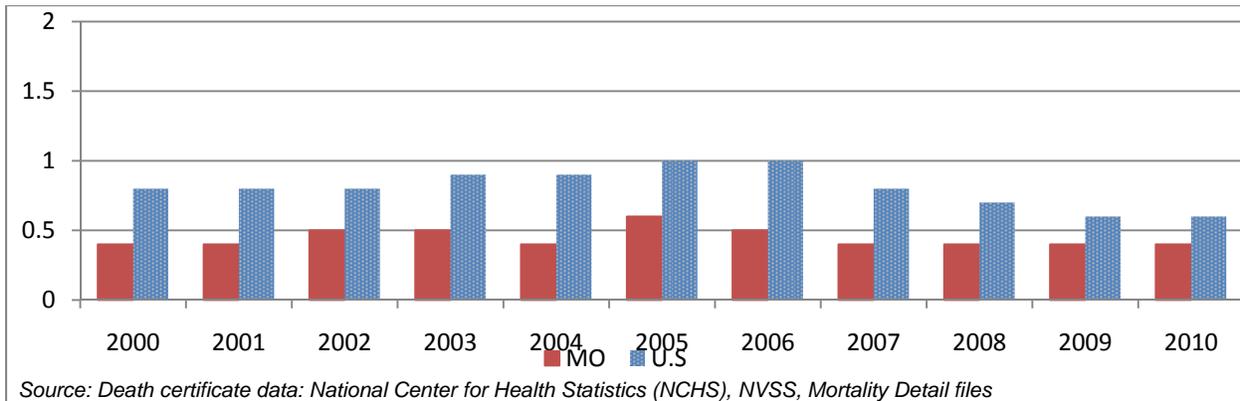
Figure 48: Number of deaths from drug related overdose/poisonings per 1000 population: U.S. and Missouri, 1998-2007. **NOTE: Scale has changed from the above graph**

Source: Death certificate data: National Center for Health Statistics (NCHS), NVSS, Mortality Detail files
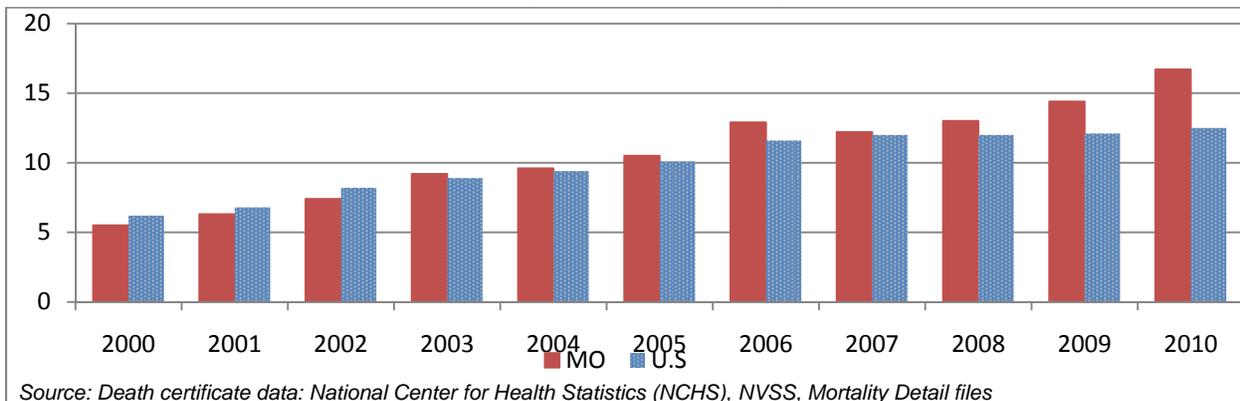
Crime

- Missouri has been higher than the national average for number of property crimes for the last decade.

Figure 49: Number of property crimes (larceny, burglary, motor vehicle theft) reports to police per 100,000 population, 1999-2010. **Note: Rate now per 100k, previous reports per 1k**

Source: U.S. Department of Justice, Federal Bureau of Investigation, Uniform Crime Reporting (UCR) Program
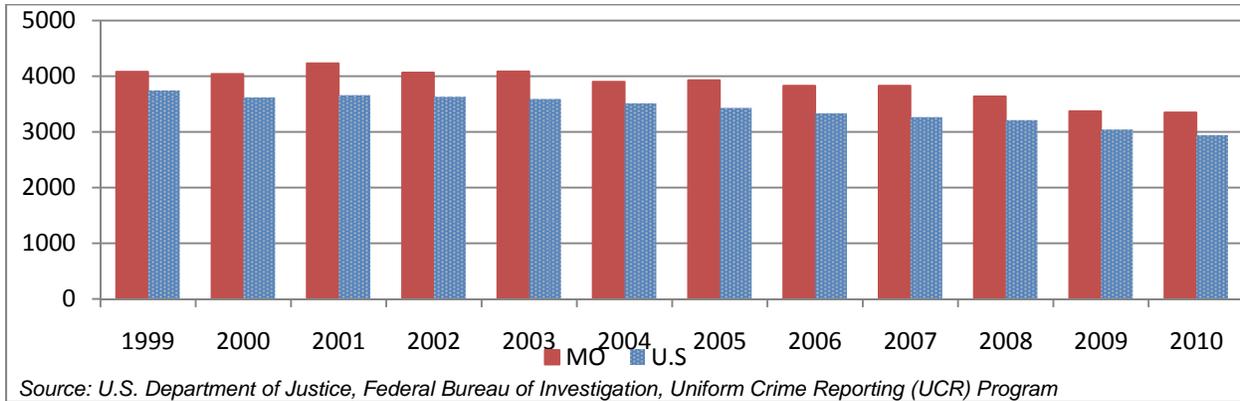
Illicit Drug Dependence or Abuse

- In 2010-11, 4.7% of those in the 12-17 age group reported dependence or abuse of an illicit drug in the past year. This compares to 8.5% of 18-25 year olds and 1.6% in the 26+ age group.

- 2.8% of Missourians 12 and older reported dependence on or abuse of any illicit drug. This is a number that has remained relatively steady over the past few years and is approximately equal to the national average.

- Those in the 18-25 year old age group are most likely to be dependent on or abusing illicit drugs.

Figure 50: % of Persons Aged 12 or Older Reporting Dependence on or Abuse of Any Illicit Drug in the Past Year: U.S. and Missouri Ages 12 and Older, 2002-2009

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
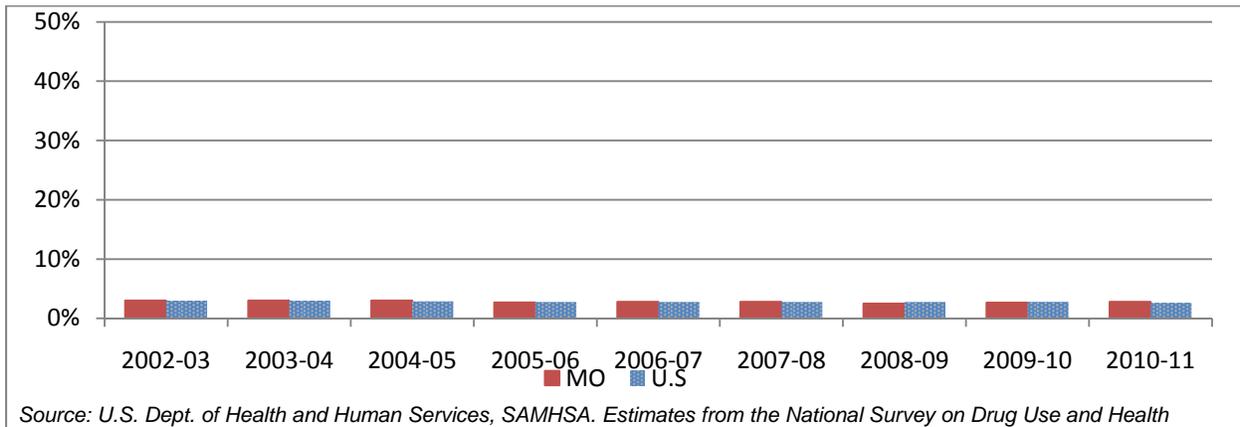
Figure 51: % of Persons Aged 12 or Older Reporting Dependence on or Abuse of Any Illicit Drug in the Past Year: In Missouri by Age Group, 2002-2009

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
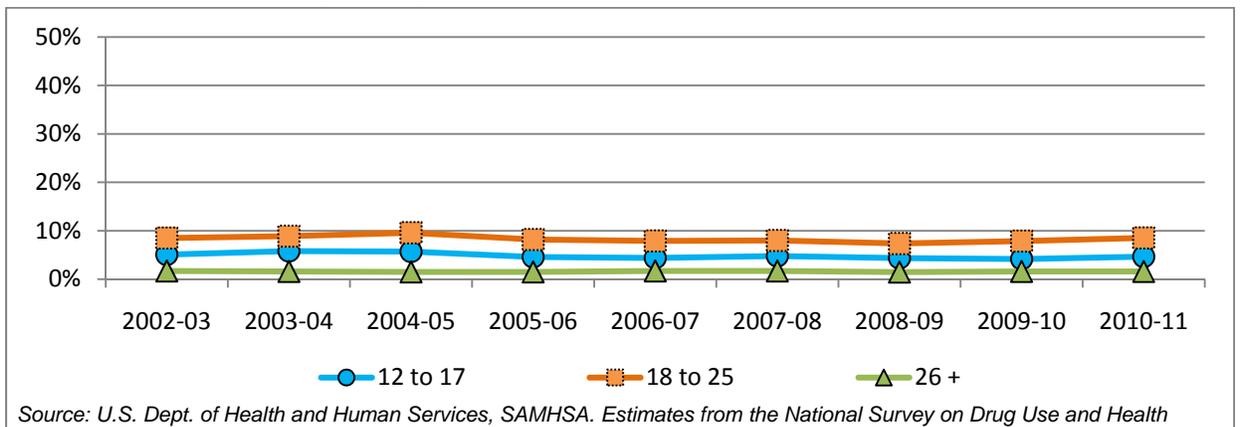
Key Risk / Protective Factors aka Intervening Variables

During the Strategic Prevention Framework State Incentive Grant (SPF SIG) and continuing into the Partnerships for Success Grant, Missouri coalitions were encouraged to use the Hawkins and Catalano Model of Risk and Protective Factors in their strategic planning process. This model suggests a variety of risk factors and several more additional protective factors that contribute to youth's drinking behavior and has been adapted to apply to other problem behaviors as well (drugs, violence, etc.). They were to use this model to decide what intervening variables might be at the root of the priority issue in their community, gather data on those intervening variables and then use data based decision making to determine which variables would be addressed under the grant. In order to continue building upon what communities learned in these efforts, Missouri will continue to define Risk and Protective Factors according to the Hawkins and Catalano Model.

The only data source currently available in Missouri for these factors is the Missouri Student Survey. This section borrows heavily from the 2012 Missouri Student Survey Report[4]. Data is collected in the Spring of even number years.

Peer Engagement in the Problem Behavior

- Most youth surveyed had no friends who used cigarettes, marijuana or other illegal drugs. A majority of youth, however, did have at least one friend who drank alcohol.

- The large amount of youth who report having four or more friends engaging in substance use indicates that, if somebody is using, it is probably common among their social group.

Table 6: % of Youth who have Friends that Use Substances

	0 friends	1 friend	2 friends	3 friends	4 + friends
Cigarettes	57.1%	11.8%	9.7%	4.6%	16.0%
Alcohol	48.4%	10.3%	9.6%	5.6%	26.1%
Marijuana	63.5%	8.7%	6.6%	3.7%	17.4%
Other Illegal Drugs	85.4%	6.3%	3.4%	1.3%	3.7%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

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[4] Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report:
6th – 12th grades; weighted for county, age group, gender, race, and Hispanicity; N ~ 98,000

Perception of Harm

- Most youth believe that alcohol and drug use poses a moderate or great risk to them.

- However, over a fourth of all youth believe that alcohol and marijuana use is only slightly risky at best.

Table 7: Youths' Perception of Risk of Harm from Using Substances

	No Risk at All	Slight Risk	Moderate Risk	Great Risk
Cigarettes	4.8%	13.7%	31.2%	50.3%
Alcohol	5.1%	24.4%	36.2%	34.3%
Marijuana	12.1%	15.9%	19.2%	52.9%
Over the Counter Drugs[1]	4.2%	14.6%	32.5%	48.8%
Prescription Drugs[1]	4.0%	9.9%	24.7%	61.5%
Other Illegal Drugs[2]	3.3%	3.6%	9.8%	83.3%

[1] Defined as "prescription drugs that have not been prescribed to them by a doctor" and "over the counter drugs when they are not sick", added to the MSS in 2012.
[2] The question states, "any other illegal drugs such as cocaine, LSD (acid), methamphetamine (meth.), or club drugs (ecstasy, roofies)".
Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

- Most youth did not believe that the police would catch a substance user in their neighborhood. This is fairly consistent across all drugs.

Table 8: % of Youth who Think The Police would Catch Substance Users in their Neighborhood

	No!	no	yes	Yes!
Cigarettes	26.9%	46.9%	18.9%	7.3%
Alcohol	24.2%	45.9%	22.0%	7.9%
Marijuana	20.0%	37.9%	27.4%	14.6%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

Availability

- Most youth thought that cigarettes and alcohol were either "very easy" or "sort of easy" to obtain.

- While youth thought that remaining substances were more difficult, over a third still thought marijuana was at least sort of easy to obtain. Approximately a fifth of all youth thought even other illegal drugs would be sort of easy to obtain.

- Interestingly, less than 1 out of 3 youth thought that prescription drugs would be "very easy" or "sort of easy" to obtain.

Table 9: Youths' Perception of Substance Availability

	Very Easy	Sort of Easy	Sort of Hard	Very Hard
Cigarettes	29.6%	22.0%	15.9%	32.4%
Alcohol	31.3%	24.9%	16.5%	27.4%
Marijuana	21.4%	15.9%	14.4%	18.4%
Over the Counter Drugs	33.1%	20.6%	17.3%	28.9%
Prescription Drugs	14.5%	16.2%	22.2%	47.1%
Other Illegal Drugs	7.0%	10.0%	17.7%	65.3%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

Perception of 'wrongness'

- Most youth thought that it was "very wrong" to all substances with the exception of alcohol.

- Youth were most likely to accept alcohol use.

Table 10: Youths' Perception of Wrongfulness of Substance Use

	Not wrong at all	A little bit wrong	Wrong	Very wrong
Cigarettes	7.4%	11.2%	18.0%	63.4%
Alcohol	14.1%	24.0%	20.8%	41.1%
Marijuana	9.4%	9.7%	12.4%	68.4%
Over the Counter Drugs	3.6%	7.9%	20.1%	68.4%
Prescription Drugs	3.5%	6.2%	15.8%	74.4%
Other Illegal Drugs	2.1%	2.7%	7.6%	87.6%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

Parental attitudes

- Most youth thought that their parents would think they were very wrong to use all of the substances asked about.

- However, again youth saw alcohol as the least "wrong" drug when considering their parents perception.

Table 11: Youths' Perception of Parental Perception of Wrongfulness of Substance Use

	Not wrong at all	A little bit wrong	Wrong	Very wrong
Cigarettes	2.6%	5.8%	14.0%	77.5%
Alcohol	5.1%	15.2%	21.9%	59.7%
Marijuana	2.6%	3.9	8.9%	84.5%
Over the Counter Drugs	1.7%	2.6%	11.6%	84.0%
Prescription Drugs	1.9%	3.1%	10.5%	84.5%
Other Illegal Drugs	1.2%	0.9%	4.7%	93.2%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

Rebellious attitudes

- Most youth did not report rebellious attitudes.

- However, almost half of the youth strongly agreed or agreed that fighting back is acceptable if one is provoked.

Table 12: Extent of Rebellious Attitudes

	Strongly disagree	Disagree	Agree	Strongly Agree
I ignore rules that get in my way.	30.4%	47.3%	18.3%	3.9%
It is all right to beat up people if they start the fight.	24.4%	27.0%	28.3%	20.4%
It is important to be honest with your parents, even if they become upset or you get punished.	4.7%	10.2%	45.8%	39.3%
I do the opposite of what people tell me, just to get them mad.	37.4%	47.5%	12.2%	2.9%
I think it is okay to take something without asking if you can get away with it.	56.0%	37.1%	5.2%	1.7%
I think sometimes it is okay to cheat at school.	40.1%	37.4%	18.7%	3.8%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

School bonding

- The majority of youth had positive things to say about their school environment.

- The areas where youth showed the most negative attitudes were the school notifying their parents of their achievements and the teachers praising the students directly.

Table 13: Perceptions and Attitudes toward School by Youth

	Strongly disagree	Disagree	Agree	Strongly Agree
My teacher(s) notice(s) when I am doing a good job and let me know about it.	7.4%	23.5%	57.3%	11.8%
The school lets my parents know when I have done something well.	19.0%	41.6%	32.5%	6.9%
My teachers praise me when I work hard in school.	11.0%	33.0%	46.4%	9.6%
In my school, rules are enforced fairly.	11.6%	24.9%	51.6%	12.0%
In my school, students of all races and ethnic groups are treated equally.	7.7%	16.7%	48.7%	26.9%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

Key Mental Health Indicators

National Comparison

- Missourians reported slightly higher than national average for having at least one major depressive episode in the last year.

- Missourians do not show a lot of variability in depressive episodes between the age categories. However, the wide range of the 26+ group may be obscuring other peaks that occur later in life.

Figure 52: % of Adults Having at Least One Major Depressive Episode in Past Year: U.S. and Missouri (18+), 2004-2011

Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health
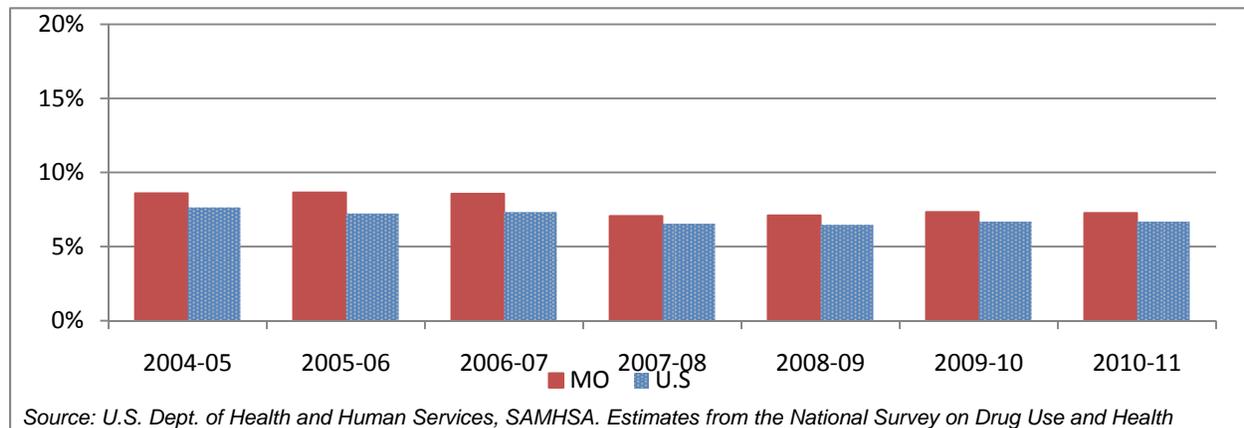
Figure 53: % of Persons Having at Least One Major Depressive Episode in Past Year: by Age Group, 2004-2011
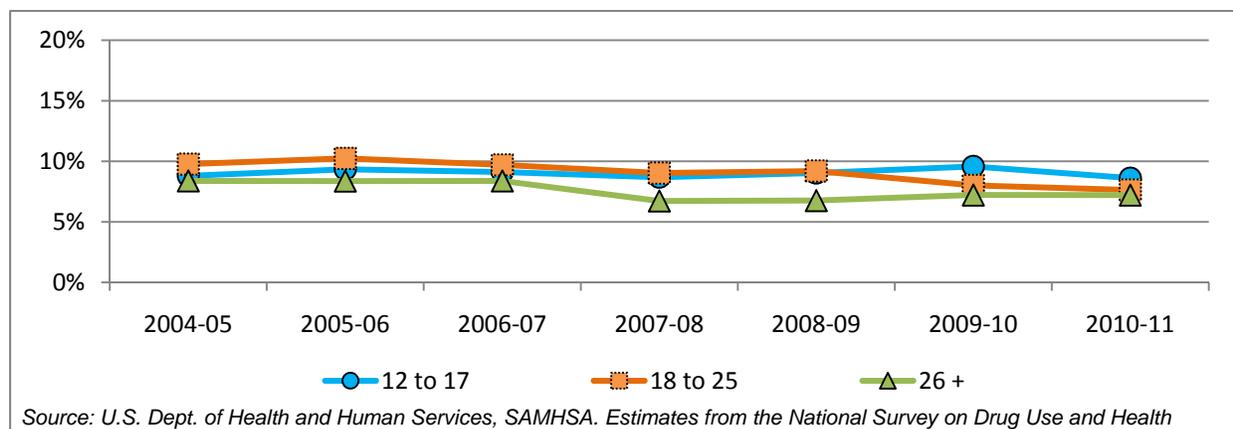
Source: U.S. Dept. of Health and Human Services, SAMHSA. Estimates from the National Survey on Drug Use and Health

- Missouri has been higher than the national average for rate of deaths due to suicide for the last decade.

Figure 54: Rate of Suicides per 100,000 Population: U.S. and Missouri, 1998-2010
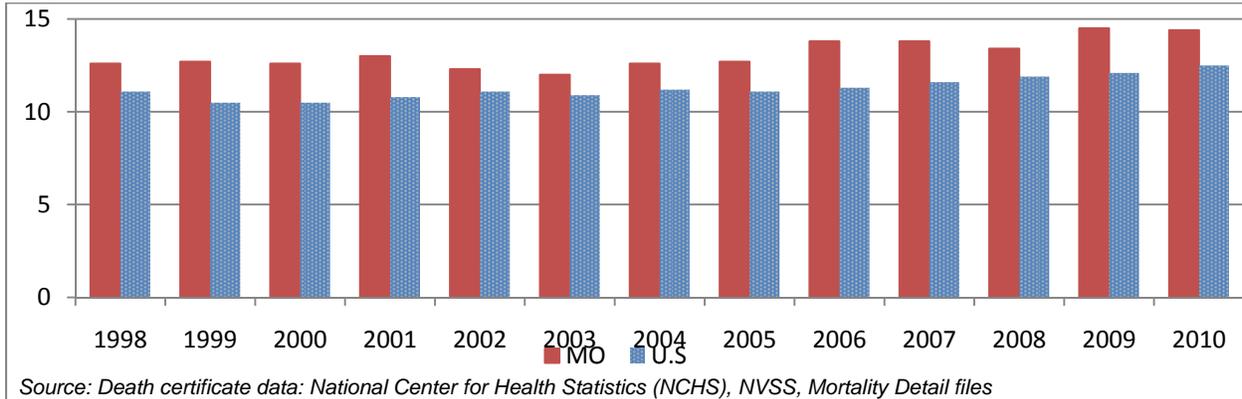
Missouri Youth

According to the Missouri Student Survey[5]:

- 18.5% said they were sad in the last month "often" or "always"

- 11.0% said they felt hopeless about their future "often" or "always"

- 17.0 % said they felt like not eating or eating more than usual while 20.0% slept more or less than usual "often" or "always"

- 11.9% of youth surveyed reported that they considered suicide in the last year

- 8.7% made a plan to commit suicide

Table 14: Number of Suicide Attempts in the Past Year (12 months)

	0 times	1 time	2 or 3 times	4 or 5 times	6 or more times
How many times did you actually attempt suicide?	94.5%	3.1%	1.4%	0.4%	0.7%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

- Self-harm is defined as attempting to harm oneself on purpose in a deliberative, but not suicidal, way. While the majority of youth did not report any attempt sat self-harm in their lifetime, 13.1% reported one or more incidents. The most common method of self-harm was "cut, scratched or hit myself on purpose".

Table 15: Percent of Students Reporting Lifetime Types of Self-Harm

	Yes	No
Cut, scratched or hit myself on purpose to hurt myself	11.0%	89.0%
Swallowed more medicine than a doctor told me to take to hurt myself	2.2%	87.8%
Used drugs or alcohol to hurt myself	2.3%	87.7%
Swallowed something on purpose that was not food, drink or medicine in order to hurt myself	0.7%	99.3%
Other	3.5%	96.5%

Source: Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report.

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[5] Depue, S, Breejen, K, Evans, C & Sale, E (2012) Missouri Student Survey Report:
6th – 12th grades; weighted for county, age group, gender, race, and Hispanicity; N =~98,000

Treatment Data

- Of the known diagnoses, Comprehensive Psychiatric Services (CPS) treats mood (affective) disorders most commonly followed by anxiety disorders and psychotic disorders.

Table 16: Diagnoses of Clients Served by Comprehensive Psychiatric Services, 2008-2011

Diagnosis Category	FY2008	FY2009	FY2010	FY2011
Adjustment Disorder	2,957	3,007	2,674	2,826
Anxiety Disorder	11,867	13,325	15,459	17,381
Dementia	276	249	284	199
Developmental Disorder	727	767	827	884
Impulse Control Disorder	8,220	7,964	8,889	9,976
Mood Disorder	30,921	33,012	35,387	38,273
Personality Disorder	7,038	7,341	7,079	6,758
Psychotic Disorder	11,584	12,439	13,021	13,602
Sexual Disorder	171	175	176	160
Other Diagnosis	4,562	4,538	4,599	4,500
Diagnosis Unknown	20,965	21.232	16,016	8,161
Total Numbers Served	72,993	82,838	104,411	102,720

Source: Division of Comprehensive Psychiatric Services -- Clinical Data.
NOTE: The total number of diagnoses is larger than the number served because some individuals had more than one type of disorder.

- CPS serves approximately equal number of males and females. The majority of clients are Caucasian, followed by African American. This distribution is similar to that of the state's population.[6]

- Most clients are referred by themselves, family or a friend. [8]

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[6] Division of Comprehensive Psychiatric Services -- Clinical Data

- As Missourians age out of childhood, the numbers served by CPS increase. This peaks for the first time at the 18-24 age group before dropping down again through the early 30s.

- Missourians in their mid to late 40s are most commonly served by CPS.

Figure 55: Number of Clients Served by Comprehensive Psychiatric Services, by Age Group, 2008-2010
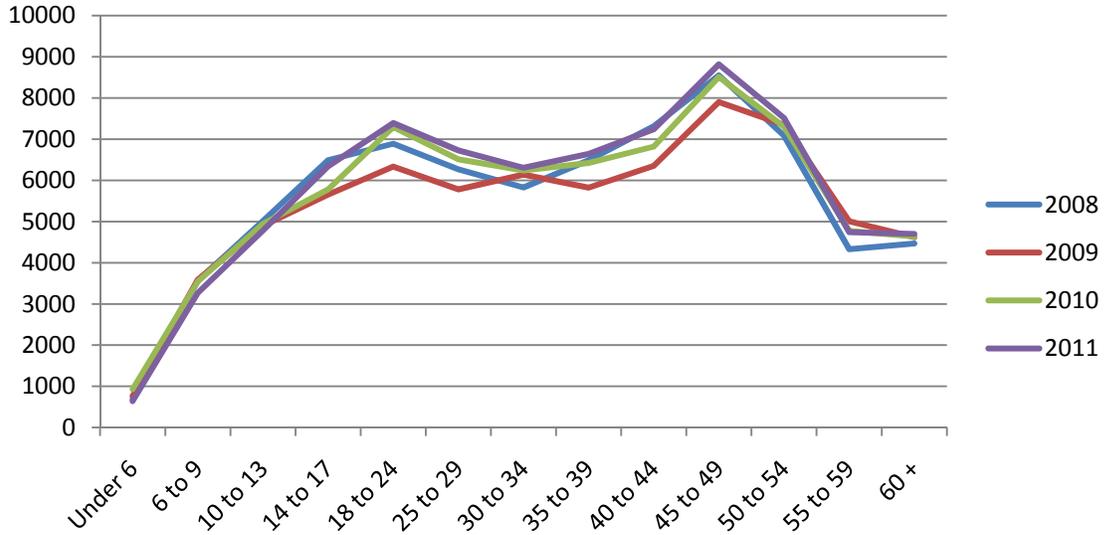
Source: Division of Comprehensive Psychiatric Services -- Clinical Data.

- Hospital admissions for affective disorders show highest rates in the southeast and lowest rates in the north east and central parts of the state.

Figure 56: Inpatient Hospitalizations for Mental Disorders Rates per 10,000: Residents of Missouri, Aggregate data 2010
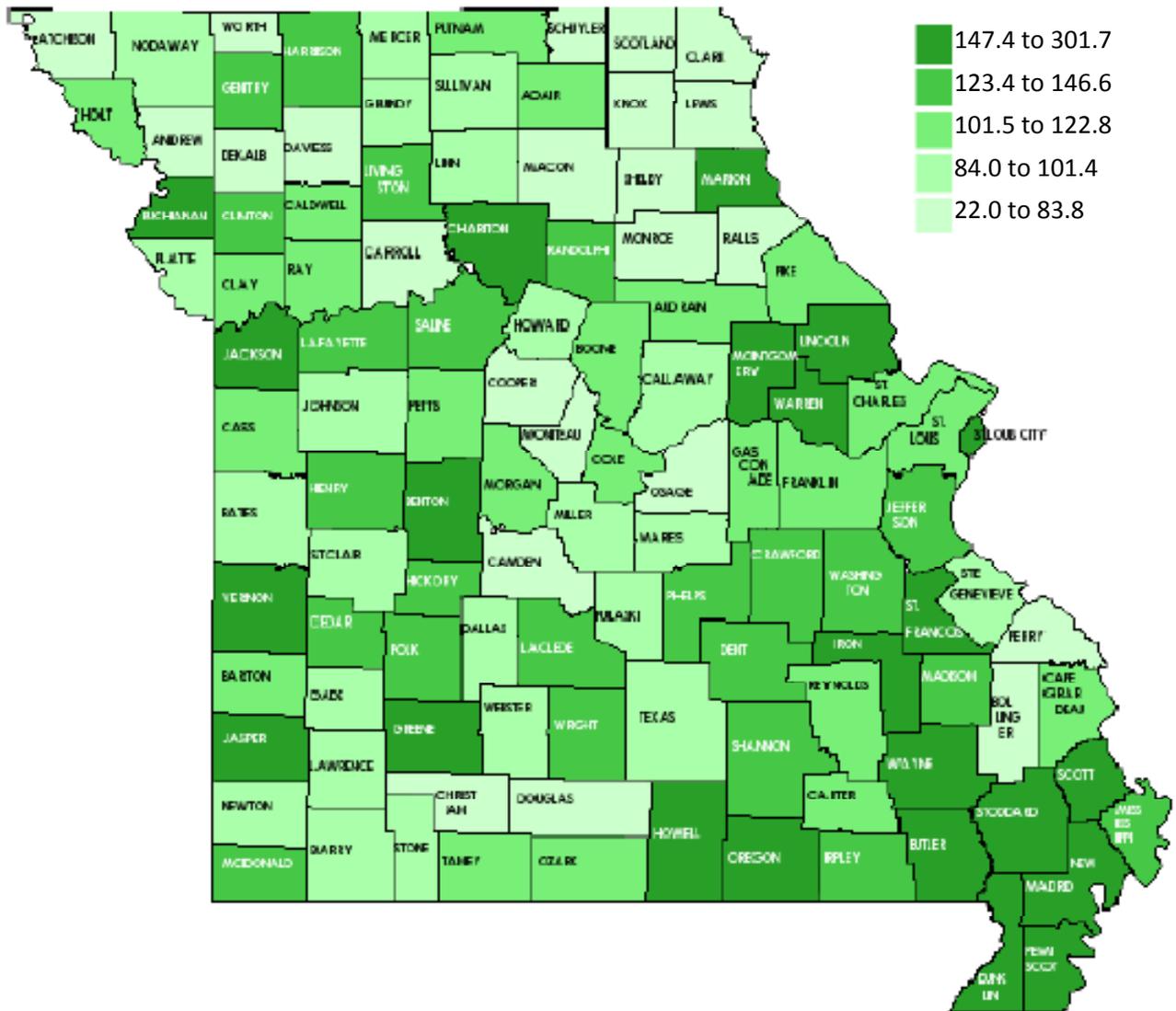
Data Limitations and Gaps

This report attempts to provide an overview of the state of Missouri's behavioral health data. However, due to limitations in the data available and resources to write the report, there are gaps that remain.

Both the risk and protective factor and the more in depth mental health data lack high quality, nationally comparable data sources. Local data was used to explore these variables in order to have some indication of their current status in Missouri. However, while some inferences can be made with local data, they should be interpreted cautiously. Methodological issues may cause some variability with the data that is not a true reflection of population. In addition, not having comparable numbers from other states or the national level leaves us without a way to determine the relative magnitude of the issues in the state.

Another concern is that, by using the risk and protective factors as defined by the Hawkins and Catalano Model, we are only able to examine middle and high school students and then with only a single data source. This does provide a starting point; however, further efforts will have to be made to determine which risk and protective factors play a role in influencing the behavioral health of people across the lifespan.

Data on consequences is available for the state level from the national data set and is included in this report. However, this should be expanded to include data indicating the cost to the state for each variable as that can be helpful in working with legislators and other groups. Cost data was indicated as a primary need by those working in the communities, when asked on the Data Needs Assessment Survey. A Technical Assistance request was made and staff are currently in the process of working with the TA providers to obtain this data.

The subpopulation data that would be most helpful at this point is that of the 18-21 and 21-25 year old age groups. Data shows that this age group is part of the heaviest users for alcohol, tobacco and other drugs. Those in the 18-21 are not yet legally allowed to drink which raises additional concerns for this group to access available resources. While there is some data available on usage rates from the national surveys, there is no information there on risk and protective factors, where the young people are accessing the substances or other information which could be used to target interventions to this high risk group.

Additional subpopulation data would also be helpful. While some subpopulation data is available from the national surveys, their small sample sizes make it difficult to drill down to determine target population. Larger sample sizes would make it possible to tease apart interactions – for example how urban male use differs from rural male use.

Conclusions

Alcohol and tobacco are the two most commonly drugs used in Missouri. Binge drinking seems to be common among young (under 25) drinkers, raising concerns about risky drinking and the associated consequences. Tobacco consumption related mortality rates are consistently higher than the national average; however, usage rates for cigarettes are declining. When examining the risk and protective factors, alcohol also tends to be the drug that is seen both as the most acceptable and, along with tobacco, the easiest to obtain.

While illicit drugs are not as commonly used, the consequences of their use in Missouri tend to be higher than the national average. Risk and Protective Factor data indicate that over a fourth of all youth surveyed do not find marijuana smoking to be a risky behavior, over a third thought it would be at least sort of easy to obtain and a majority of youth think that a person smoking marijuana would not be likely to be caught by the police.

Those 18-25 and those who are male tend to be the ones with the highest use rates across all drugs.

When examining the three mental health variables that have nationally comparable numbers, both (depression and suicide) are a larger problem in the state than is average for the nation. 1.25% of the state's population was served by CPS in the last year.

Appendix A

Note that the following ICD-10 codes were used to define the mortality categories. Data can be queried at http://wonder.cdc.gov/ucd-icd10.html.

Cardiovascular and Ischemic Cerebrovascular Disease	I20–I25 and I60-69, I00-I09, I11, I13, I26-I51(exclude I32, I39, I41)
Chronic Liver Disease & Cirrhosis	K70, K73-K74
COPD And Emphysema	J43-J44
Drug Related Behavior	F11- F16, F18-F19, F55 and G62
Drug Related Poisoning	X40-X44, X46, X60-X64, X66, Y10-Y14 and Y16
Homicide	X85-Y09 and Y87.1
Lung Cancer	C34
Suicide	X60-X84 and Y87.0

Appendix B

Table of Figures

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