

## Data Source Descriptions

Most data on this website comes from surveys. Survey data represent a valuable source of information on prevalence estimates, use and behavior patterns, drug preferences, and emerging trends. Survey data, however, are not without limitations. No single survey exists which covers all populations abusing substances. Substance abuse surveys typically fall into the following categories: 1) household surveys, 2) criminal justice surveys, and 3) school surveys. These surveys can miss segments of the population that have been impacted by substance abuse including the homeless population and school dropouts. The survey data are self-report data and have inherent validity concerns due to respondent dishonesty, forgetfulness, or poor comprehension. Assessments of validity have been mixed. Research suggests that validity concerns are more evident for the criminal justice population and for reporting use of some drugs such as cocaine and heroin that may have an associated stigma. Nevertheless, collection of alcohol and drug use data via surveys provides useful information on large diverse populations that would not otherwise be available. Information on various data sources listed on this website is below.

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## Mapping & Ranking Special Information

In order to best display the data in visual format, years have been aggregated as noted for the Mapping & Ranking section of the website only. To increase the stability of the data, those indicator and county combinations with less than 20 events after aggregation were deleted and will be displayed as “no data”.

Substance Use Treatment Admissions for Any Substance: Rate Per 10,000 Population Ages 12 and Older	Missouri Department of Mental Health, Division of Behavioral Health. Jefferson City, MO.	Rate based on 3 years of data.
Substance Use Treatment Admissions Primarily for Alcohol: Rate Per 10,000 Population Ages 12 and Older		
Substance Use Treatment Admissions Primarily for Marijuana: Rate Per 10,000 Population Ages 12 and Older		
Substance Use Treatment Admissions Primarily for Cocaine: Rate Per 10,000 Population Ages 12 and Older		
Substance Use Treatment Admissions Primarily for Methamphetamine: Rate Per 10,000 Population Ages 12 and Older		
Substance Use Treatment Admissions Primarily for Heroin: Rate Per 10,000 Population Ages 12 and Older		
Substance Use Treatment Admissions Primarily for Prescription Drugs: Rate Per 10,000 Population Ages 12 and Older		
Emergency Room Episodes Mental Illness Principal Diagnosis: Rate Per 10,000 Population	Missouri Department of Health and Senior Services. Jefferson City, MO.	Rate based on 3 years of data.
Emergency Room Episodes Alcohol Related: Rate Per 10,000 Population		
Emergency Room Episodes Drug Related: Rate Per 10,000 Population		
Deaths Due to Smoking: Rate Per 10,000 Population		
Traffic Crashes Involving Alcohol-impaired Drivers: Rate Per Billion Vehicle Miles Traveled	Missouri Department of Public Safety, Missouri State Highway Patrol. Jefferson City, MO.	Rate based on 5 years of data.
Traffic Crashes Involving Drug-impaired Drivers: Rate Per Billion Vehicle Miles Traveled		
Arrests for Driving under the Influence of Alcohol or Drugs (DWI Tracking System): Rate Per 10,000 Population		
Arrests for Possession or Sale/Manufacture of Illicit Drugs: Rate Per 10,000 Population		

School Suspensions Total (3 year): Rate Per 10,000 K-12 Enrollment	Missouri Department of Elementary and Secondary Education. Jefferson City, MO.	Rate based on 3 years of data.
School Suspensions Total (10 year): Rate Per 10,000 K-12 Enrollment		Rate based on 10 years of data.
School Suspensions Involving Alcohol (10 year): Rate Per 10,000 K-12 Enrollment		
School Suspensions Involving Drugs (10 year): Rate Per 10,000 K-12 Enrollment		
School Suspensions Involving Tobacco (10 year): Rate Per 10,000 K-12 Enrollment		
School Suspensions Involving Violence (10 year): Rate Per 10,000 K-12 Enrollment		
School Suspensions Involving Weapons (10 year): Rate Per 10,000 K-12 Enrollment		
School Dropout Rate Grades 9-12 (%)		
Juvenile Court Referrals for Law Violations: Rate Per 10,000 Population Under Age 18	Missouri Department of Social Services and Missouri Office of State Courts Administrator, Jefferson City, MO.	Rate based on 5 years of data.
Juvenile Court Referrals for Law Violations Involving Alcohol: Rate Per 10,000 Population Under Age 18		
Juvenile Court Referrals for Law Violations Involving Illicit Drugs: Rate Per 10,000 Population Under Age 18		
Juvenile Court Referrals for Law Violations Involving Violence: Rate Per 10,000 Population Under Age 18		
Liquor Licenses for On-Premise Alcohol Consumption: Rate Per 10,000 Population	Missouri Department Public Safety, Division of Liquor Control. Jefferson City, MO.	Rate based on 10 years of data.
Liquor Licenses for Carry-out Package Sales: Rate Per 10,000 Population		

## Census

The U.S. Census Bureau conducts a comprehensive decennial population survey every 10 years. The official census count is supplemented with annual population estimates using data from the American Community Survey and other sources to derive mid-year (July 1) estimates. The estimates can be revised in subsequent years. The census data on this website consists of the annual population estimates for the U.S., Missouri, and Missouri counties. Estimates are available in 5-year age groups by gender and race or ethnicity. The categories are mutually exclusive so they sum to the total population estimate and everyone is included in only one category. The categories are Hispanic of Any Race, White or Caucasian (non-Hispanic), Black or African-American (non-Hispanic), American Indian or Alaska Native (non-Hispanic), Asian (non-Hispanic), Hawaiian or Pacific Islander (non-Hispanic), and Two or More Races (non-Hispanic).

More detailed population estimates for the most recent year for Missouri and Missouri counties are available at <http://dmh.mo.gov/ada/countylinks/>. Tables for each county display estimates for Total, Non-Hispanic, and Hispanic. Within those ethnicities are All Races, White or Caucasian, Black or African-American, American Indian or Alaska Native, Asian, Hawaiian or Pacific Islander, and Two or More Races. Within each ethnicity and race group are estimates for Males and Females in 5-year age groups.

Data from both surveys are listed under Census data on this website. Additional data can be found at <http://www.census.gov/>.

## State Agency / Status Report

Multiple state agencies have been collaborating since 1994 to provide data for the Status Report published by the Missouri Department of Mental Health, Division of Behavioral Health. This collaboration has allowed a more comprehensive overview of substance abuse and the associated consequences. Data previously available only in the Status Report can now be found on this website. Data have been provided by the following agencies:

Agency	Data
Missouri Department of Health and Senior Services	Hospital and Emergency Room Episodes HIV, Hepatitis, and Tuberculosis Incidence Births, Deaths, and Injuries
University of Missouri—Columbia, Partners in Prevention Program	Missouri College Health Behavior Survey
Missouri Department of Corrections	Prison Admissions Probation and Parole Openings
Missouri Department of Mental Health	Treatment Admissions for Substance Use Disorders Numbers Served for Mental Disorders
Missouri Department of Public Safety, Division of Alcohol and Tobacco Control	Liquor Licenses for Retail Alcohol Sales
Missouri Department of Public Safety, Missouri State Highway Patrol	Traffic Crashes, Fatalities, and Injuries Impaired Driving Arrests Uniform Crime Reports Methamphetamine Lab Seizures
Missouri Department of Social Services	Out-of-Home Juvenile Placements
Missouri Office of State Courts Administrator	Juvenile Court Referrals Drug Court Services
Missouri Department of Elementary and Secondary Education	School Enrollment and Drop-out Rates School Discipline Reports
Missouri Department of Economic Development	Unemployment Rates

## **Substance Use and Mental Health Disorder Treatment Data**

The links to Substance Use Disorder Treatment and Mental Illness Treatment provide data on publicly-funded services managed by the Missouri Department of Mental Health. Demographic and clinical information on consumers accessing these services is maintained in the Customer Information Management, Outcomes & Reporting (CIMOR) system. Aggregate (summarized) data are provided on numbers of consumers admitted or served during the fiscal year. When fewer than 5 individuals have particular descriptive characteristics, the data are suppressed as indicated by an asterisk (\*) to prevent inadvertent disclosure of personal identifying information.

## National Survey on Drug Use and Health (NSDUH)

- Conducted by: Substance Abuse and Mental Health Services Administration (SAMHSA)
- Established: 1971
- Frequency of Reporting: Annual
- Type of survey: Household
- Mode of survey: Face-to-face interview
- Age groups: Ages 12 or older
- Completed interviews: About 68,000 nationwide and about 900 in Missouri.
- Level of reporting: National but can also obtain state and sub-state planning regions by combining multiple survey years
- Some strengths: NSDUH allows for year-to-year comparisons for national data and a rolling multi-year comparison for state and sub-state data. In addition to substance use data, NSDUH provides data on past year alcohol or illicit drug dependence or abuse.
- Some limitations: NSDUH does not capture or under-reports on the homeless population, hardcore drug users, IV drug users, and institutionalized individuals. Limited drug and demographic data are available at the state level because of the small sample size. NSDUH does not separate out smokeless tobacco and chewing tobacco. Age categories generally limited to 12-17, 18-25, and 26 and older.
- Other notes: NSDUH definitions of binge drinkers and heavy drinkers differ from that of the Behavioral Risk Factor Survey (BRFS) – NSDUH definitions do not depend on gender.
- Website: <http://www.samhsa.gov/data/population-data-nsduh>

As NSDUH is administered by a computer, the survey can be customized to the participant. This means that answers to prior questions can change the format of the wording of the next question. Below are example questions but, while the wording would be similar enough to aggregate the data, these may not be the exact questions seen by the participant. Several of the items are also an aggregation of a scale so no single question applies. Words shown in [brackets] are filled in by the computer to reflect the current situation during the survey administration.

### NSDUH Question Wording Table

NSDUH Indicator Name on Website	Exact Wording of Question in the Survey
Alcohol Dependence in Past Year	Multiple questions
Alcohol Dependence or Abuse in Past Year	Multiple questions
Alcohol or Illicit Drug Dependence or Abuse in Past Year	Multiple questions
Alcohol Use in Past Month	What is your best estimate of the number of days you drank

	alcohol during the past 30 days?
Any Mental Illness in Past Year	Multiple questions
At Least One Major Depressive Episode in Past Year	In the past 12 months, did you have a period of time when you felt [FEELNOUN] for two weeks or longer while also having some of the other problems we asked about?
Binge Alcohol Use in Past Month	During the past 30 days, that is, since [DATE], on how many days did you have 4 or more drinks on the same occasion?
Cigarette Use in Past Month	What is your best estimate of the number of days you smoked part or all of a cigarette during the past 30 days?
Cocaine Use in Past Year	On how many days in the past 12 months did you use cocaine?
First-time Use of Marijuana in Past Year	Did you first use marijuana or hashish in [CURRENT YEAR - 1] or [CURRENT YEAR]?
Illicit Drug Dependence in Past Year	Multiple questions
Illicit Drug Dependence or Abuse in Past Year	Multiple questions
Illicit Drug Use in Past Month	Multiple questions
Illicit Drug Use other than Marijuana in Past Month	Multiple questions
Marijuana Use in Past Month	What is your best estimate of the number of days you used marijuana or hashish during the past 30 days?
Marijuana Use in Past Year	On how many days in the past 12 months did you use marijuana or hashish?
Needing but Not Receiving Treatment for Alcohol Use	Multiple questions
Needing but Not Receiving Treatment for Illicit Drug Use	Multiple questions
Nonmedical Use of Pain Relievers in Past Year	On how many days in the past 12 months did you use any prescription pain reliever that was not prescribed for you or that you took only for the experience or feeling it caused?
Perception of Great Risk of Binge Drinking Once or Twice a Week	How much do people risk harming themselves physically and in other ways when they have five or more drinks of an alcoholic beverage once or twice a week?
Perception of Great Risk of Smoking Marijuana Once a Month	How much do people risk harming themselves physically and in other ways when they smoke marijuana once a month?
Perception of Great Risk of Smoking One or More Packs of Cigarettes Per Day	How much do people risk harming themselves physically and in other ways when they smoke one or more packs of cigarettes per day?
Serious Mental Illness in Past Year	Multiple questions
Serious Psychological Distress in Past Year	Multiple questions
Serious Thoughts of Suicide in Past Year	At any time in the past 12 months, that is from [date] up to and including today, did you seriously think about trying to kill yourself?
Tobacco Product Use in Past Month	Multiple questions



## Missouri Student Survey (MSS)

- Conducted by: Missouri Department of Mental Health (DMH)
- Established: 2000
- Frequency of reporting: Every even numbered year
- Type of survey: School
- Mode of survey: Web-based (as of 2006, pen and paper from 2000-2004)
- Grade levels: Grades 6th through 12th. Grade 9 was required, schools selected at least 1 additional grade.
- Completed interviews: 2006 - ~65,000 2008 - ~115,000 2010 - ~127,000, 2012 - ~94,000, 2014 - ~69,000 (numbers after cleaning)
- Level of reporting: State and county
- Some strengths: MSS is offered to all Missouri public school districts. MSS includes the younger middle school population in addition to the high school population. MSS also captures data on risk and protective factors and antisocial behaviors in addition to substance use patterns.
- Some limitations: Some school districts opt out of the survey. Data is available only every other year. Data is not displayed for counties with only one school district or any population (county, race, etc.) with a count less than 30. However, that data is included in the Missouri totals.
- Other notes: MSS definition of binge drinking is different than that of NSDUH. MSS combines ecstasy with other club drugs which is different than NSDUH.
- Website: <http://dmh.mo.gov/ada/mobhew/index.html>

Data from the Missouri Student Survey is presented from several years to allow for trend analysis. This should be done cautiously however, as both the protocol and the questions have changed from year to year. Question wording comparisons between the years can be found at the link found at the end of this section. All questions are the same between 2006 and 2008. In some cases, the change is minor and should probably not influence the responses. In others, the wording change was probably sufficient to influence the responses. The binge question for example changed from asking about behavior in the last two weeks to behavior in the last month. In cases where the wording change was extreme, or if no similar question was asked in prior years, only the most recent is included in the database. In 2008 schools were allowed the option of moving from active consent (parents have to opt their child into the survey) to passive consent (parents need to opt their child out or the survey will be given). Research has shown that passive consent allows the survey to reach more at risk youth, which would influence the survey results.

In 2010 the survey began to be administered with skip patterns, primarily for the substance use questions. A youth who, for example, said he had never smoked a cigarette in his life would be automatically moved past the remaining questions about cigarette smoking. Prior to this, a youth would see all questions but would have the option to check (again as an example) “I have never smoked cigarettes” as an answer. Problems arose when a youth checked “no” to lifetime use but then in the later questions indicated that he was using the substance. In those circumstances, as part of the data cleaning, answers would be changed to reflect the most specific answer i.e. if they said “no” to the lifetime question but then said they had smoked on 5 days in the last month, the lifetime answer would be changed to “yes”.

Finally, starting with the 2010 Missouri Student Survey report, data was weighted. This means that the data was adjusted to reflect the demographic characteristics of each county, which provides a more accurate representation of the student population. Because this is done after the data is collected, it was possible to go back and also weight the 2006 and 2008 data sets. All Missouri Student Survey data found on this website is weighted so that it can be compared. However, data from this website should not be compared with reports prior to 2010 that have been issued by the Department of Mental Health or data that has been obtained through the Missouri Institute of Mental Health prior to 2010.

Additional information on weighting within the MSS: Because school district participation in the MSS is encouraged but not mandatory, and because districts are not required to survey students in all grade levels, the raw data set does not evenly represent the Missouri public school population as a whole. Therefore statistical adjustments to this sample were made to assure the generalizability of findings across grade levels, gender, ethnicity, and geographic location, and to allow for accurate longitudinal and national comparisons. Specifically, the MSS data set was post-stratified to 2009 census estimates for the state of Missouri (<http://mcdc2.missouri.edu/pub/webrepts/casrh09/mor2county.pdf>). The sample was weighted, adjusting the proportions to more accurately reflect the population in the states' 114 counties and the City of St. Louis. Within each of those counties, the sample was also weighted according to county population estimates of age group (10-15; 15-19), gender (male, female), race (Black, White, Other), and Hispanicity. Weighting followed NSDUH methodology, which grouped youth into the 10-14 and the 15-17 age categories and did not weight by individual grades or ages. Grade distribution thus follows the underlying distribution of the sample obtained.

For wording comparisons between years see <http://dmh.mo.gov/ada/mobhew/> under “Missouri Student Survey (MSS) Reports and Instruments”.