Behavioral Health Barometer
Missouri, Volume 4

Indicators as measured through the 2015 National Survey on Drug Use and Health, the National Survey of Substance Abuse Treatment Services, and the Uniform Reporting System
Acknowledgments
This report was prepared for the Substance Abuse and Mental Health Services Administration (SAMHSA) by RTI International under contract No. 283–12–0605 with SAMHSA, U.S. Department of Health and Human Services (HHS).

Public Domain Notice
All material appearing in this report is in the public domain and may be reproduced or copied without permission from SAMHSA. Citation of the source is appreciated. However, this publication may not be reproduced or distributed for a fee without the specific, written authorization of the Office of Communications, SAMHSA, HHS.

Electronic Access and Printed Copies
This publication may be downloaded or ordered at https://store.samhsa.gov. Or call SAMHSA at 1–877–SAMHSA–7 (1–877–726–4727) (English and Español).

Recommended Citation

Originating Office
Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, 5600 Fishers Lane, Rockville, MD 20857.
The Substance Abuse and Mental Health Services Administration (SAMHSA), an operating division within the U.S. Department of Health and Human Services (HHS), is charged with reducing the impact of substance abuse and mental illness on America’s communities. SAMHSA is pursuing this mission at a time of significant change.

*Behavioral Health Barometer: Missouri, Volume 4: Indicators as measured through the 2015 National Survey on Drug Use and Health, the National Survey of Substance Abuse Treatment Services, and the Uniform Reporting System* is one of a series of national and state reports that provide a snapshot of behavioral health in the United States. The report presents a set of substance use and mental health indicators as measured through the National Survey on Drug Use and Health (NSDUH), the National Survey of Substance Abuse Treatment Services (N-SSATS), and the Uniform Reporting System (URS), sponsored by SAMHSA. This array of indicators provides a unique overview of the nation’s behavioral health at a point in time as well as a mechanism for tracking change and trends over time. Because of the partial redesign of the 2015 NSDUH (the source of much of the data included in this report), certain measures included in previous Barometer reports are not included in this report. These measures include any illicit drug use, misuse of prescription drugs, perceived risk from substance use, binge and heavy alcohol use, and substance use treatment among those with a substance use disorder (for more information, please see [https://www.samhsa.gov/data/sites/default/files/NSDUH-TrendBreak-2015.pdf](https://www.samhsa.gov/data/sites/default/files/NSDUH-TrendBreak-2015.pdf)).

The 2015 report includes single-day counts of the number of individuals in substance use treatment from N-SSATS. The Behavioral Health Barometers provide critical information in support of SAMHSA’s mission of reducing the impact of substance abuse and mental illness on America’s communities.

Behavioral Health Barometers for the nation and for all 50 states and the District of Columbia* are published as part of SAMHSA’s larger behavioral health quality improvement approach.

Kana Enomoto, MA, Acting Deputy Assistant Secretary
Substance Abuse and Mental Health Services Administration

---

* N-SSATS collects data throughout the 50 states, the District of Columbia, Puerto Rico, and other U.S. jurisdictions, which include the territory of Guam, the Federated States of Micronesia, the Republic of Palau, Puerto Rico, and the Virgin Islands of the United States.
INTRODUCTION

_Purpose of this Report._ Behavioral Health Barometer: Missouri, Volume 4 provides an annual update on a series of topics that focus on substance use and mental health (collectively referred to as behavioral health) in Missouri and the United States. SAMHSA selected specific topics and indicators in this report to represent a cross-section of the key behavioral health indicators that are assessed in SAMHSA data collections, including NSDUH, N-SSATS, and URS. This report is intended to provide a concise, reader-friendly summary of key behavioral health measures for lay and professional audiences.

_Organization of this Report._ This report is divided into sections based on content areas and age groups. It begins with sections on substance use, mental health, and mental health treatment among youths aged 12 to 17, followed by a section on mental health and mental health service use among adults aged 18 or older. Next are sections on substance use, use disorders, and treatment among youths and adults.

Figure titles are included above all graphics, including callouts for figure notes that are presented on pages 15 and 16. These figure notes include additional information about the measures, populations, and analyses presented in the graphics and text. Definitions of key measures and terms included in the report are presented on page 17.

_Methodological Information._ The NSDUH data included on pages 1, 2, 3, 5, 7, 8, 11, and 12 are state estimates based on a small area estimation (SAE) procedure, a statistical model in which state-level NSDUH data from 2 consecutive survey years are combined with local-area county and census block group/tract-level data from the state. This model-based methodology provides more precise estimates at the state level than those based solely on the sample, particularly for states with smaller sample sizes. The measures on pages 4, 6, and 9 are annual averages based on 5 combined years of NSDUH data because the corresponding small area estimates are unavailable. Statistical tests have been conducted for all statements appearing in the text of the report based on NSDUH data, including (1) statistical tests between the state and the nation as a whole using the SAE procedure to account for the correlation between the state and national estimates, (2) statistical tests between different years of data in the state using the SAE procedure to take into account the correlation across time in the local area predictors used in the models (please see Figure Note 1 on page 15 for more information), and (3) statistical tests between the state and the nation using t-tests on pages with direct estimates based on combined years of NSDUH data. Unless explicitly stated that a difference is not statistically significant, all statements based on NSDUH data that describe differences are significant at the .05 level. Page 10 presents URS data, which are derived from counts of mental health consumers in the public mental health system, and pages 13 and 14 present N-SSATS data, which are derived from counts of people enrolled at substance use treatment facilities. Because these two data sources are derived from counts from all facilities rather than from a sample of facilities, conducting significance tests is not necessary.

Tables that display all data points included in this report, including tests of statistical significance and standard errors, are available on request. To request these tables or to ask any questions regarding how to use or interpret the data included in this report, please contact CBHSQRequest@samhsa.hhs.gov.

In 2014–2015, Missouri's annual average percentage of marijuana use among adolescents aged 12–17 was similar to the corresponding national annual average percentage.

In Missouri, an annual average of about 31,000 adolescents aged 12–17 (6.6% of all adolescents) in 2014–2015 used marijuana in the past month. The annual average percentage in 2014–2015 was not significantly different from the annual average percentage in 2011–2012.


In 2014–2015, Missouri's annual average percentage of cigarette use among adolescents aged 12–17 was higher than the corresponding national annual average percentage.

In Missouri, an annual average of about 33,000 adolescents aged 12–17 (6.9% of all adolescents) in 2014–2015 used cigarettes in the past month. The annual average percentage in 2014–2015 was lower than the annual average percentage in 2011–2012.

Past Month Alcohol Use Among Adolescents Aged 12–17 in Missouri and the United States (Annual Averages, 2011–2012 to 2014–2015)\textsuperscript{1}

In 2014–2015, Missouri's annual average percentage of alcohol use among adolescents aged 12–17 was similar to the corresponding national annual average percentage.

In Missouri, an annual average of about 46,000 adolescents aged 12–17 (9.8% of all adolescents) in 2014–2015 used alcohol in the past month. The annual average percentage in 2014–2015 was lower than the annual average percentage in 2011–2012.

Among adolescents aged 12–17 in Missouri from 2011 to 2015, an annual average of 10.8% initiated alcohol use (i.e., used it for the first time) in the past year, an annual average of 4.9% initiated marijuana use in the past year, and an annual average of 4.8% initiated cigarette use in the past year.

Past Year Major Depressive Episode (MDE) Among Adolescents Aged 12–17 in Missouri and the United States (Annual Averages, 2011–2012 to 2014–2015)\textsuperscript{1,3}

In 2014–2015, Missouri’s annual average percentage of major depressive episode (MDE) among adolescents aged 12–17 was similar to the corresponding national annual average percentage.

In Missouri, an annual average of about 54,000 adolescents aged 12–17 (11.5\% of all adolescents) in 2014–2015 had experienced an MDE in the past year. The annual average percentage in 2014–2015 was higher than the annual average percentage in 2011–2012.

Past Year Treatment for Depression Among Adolescents Aged 12–17 with Major Depressive Episode (MDE) in Missouri (Annual Average, 2011–2015)\textsuperscript{2,4}

From 2011 to 2015, Missouri’s annual average percentage of past year treatment for depression among adolescents aged 12–17 with past year MDE was similar to the corresponding national annual average percentage (38.9%).

In Missouri, an annual average of about 19,000 adolescents aged 12–17 with past year MDE (42.7% of all adolescents with past year MDE) from 2011 to 2015 received treatment for their depression in the past year.

Past Year Serious Thoughts of Suicide Among Adults Aged 18 or Older in Missouri and the United States (Annual Averages, 2011–2012 to 2014–2015)\textsuperscript{1,5}

In 2014–2015, Missouri’s annual average percentage of adults aged 18 or older with past year serious thoughts of suicide was similar to the corresponding national annual average percentage.

In Missouri, an annual average of about 179,000 adults aged 18 or older (3.9% of all adults) in 2014–2015 had serious thoughts of suicide in the past year. The annual average percentage in 2014–2015 was not significantly different from the annual average percentage in 2011–2012.

In Missouri, an annual average of about 214,000 adults aged 18 or older (4.7% of all adults) in 2014–2015 had SMI in the past year. The annual average percentage in 2014–2015 was not significantly different from the annual average percentage in 2011–2012.

Past Year Mental Health Service Use Among Adults Aged 18 or Older with Any Mental Illness (AMI) in Missouri (Annual Average, 2011–2015)²,⁷

From 2011 to 2015, Missouri’s annual average of past year mental health service use among adults aged 18 or older with any mental illness (AMI) was similar to the corresponding national annual average percentage (42.9%).

In Missouri, an annual average of about 396,000 adults aged 18 or older with AMI (48.1% of all adults with AMI) from 2011 to 2015 received mental health services in the past year.

Adult Mental Health Consumers Served in the Public Mental Health System in Missouri, by Age Group and Employment Status (2015)³

Among adults served in Missouri's public mental health system in 2015, 54.9% of those aged 18–20, 71.1% of those aged 21–64, and 94.9% of those aged 65 or older were not in the labor force.

Mental Health Consumers in Missouri and the United States Reporting Improved Functioning from Treatment Received in the Public Mental Health System (2015)

In 2015, 15,852 children and adolescents (aged 17 or younger) were served in Missouri’s public mental health system. The annual average percentage of children and adolescents (aged 17 or younger) reporting improved functioning from treatment received in the public mental health system was lower in Missouri than in the nation as a whole. The annual average percentage for adults (aged 18 or older) was lower in Missouri than in the nation as a whole.
Past Year Heroin Use Among Individuals Aged 12 or Older in Missouri and the United States (Annual Averages, 2013–2014, 2014–2015)\textsuperscript{1,9}

In 2014–2015, Missouri’s annual average percentage of past year heroin use among individuals aged 12 or older was similar to the corresponding national annual average percentage.

In Missouri, an annual average of about 12,000 individuals aged 12 or older (0.24% of all individuals in this age group) in 2014–2015 had used heroin in the past year. The annual average percentage in 2014–2015 was not significantly different from the annual average percentage in 2013–2014.

Past Year Alcohol Use Disorder Among Individuals Aged 12 or Older in Missouri and the United States (Annual Averages, 2011–2012 to 2014–2015)¹

In 2014–2015, Missouri’s annual average percentage of past year alcohol use disorder among individuals aged 12 or older was similar to the corresponding national annual average percentage.

In Missouri, an annual average of about 310,000 individuals aged 12 or older (6.1% of all individuals in this age group) in 2014–2015 had an alcohol use disorder in the past year. The annual average percentage in 2014–2015 was not significantly different from the annual average percentage in 2011–2012.


In a single-day count in 2015, 25,015 individuals in Missouri were enrolled in substance use treatment—an increase from 21,455 individuals in 2011.


Among individuals in Missouri enrolled in substance use treatment in a single-day count in 2015, 31.4% were in treatment for a drug problem only, 17.9% were in treatment for an alcohol problem only, and 50.7% were in treatment for both drug and alcohol problems.
Number of Individuals Enrolled in Opioid Treatment Programs in Missouri Receiving Methadone: Single-Day Counts (2011–2013, 2015)\textsuperscript{12}

In a single-day count in 2015, 3,083 individuals in Missouri were receiving methadone in opioid treatment programs as part of their substance use treatment—an increase from 2,668 individuals in 2011.


Number of Individuals Enrolled in Treatment at Substance Use Treatment Facilities in Missouri Receiving Buprenorphine: Single-Day Counts (2011–2013, 2015)\textsuperscript{12,13}

In a single-day count in 2015, 1,155 individuals in Missouri were receiving buprenorphine as part of their substance use treatment—an increase from 622 individuals in 2011.

State estimates on this page are based on a small area estimation procedure in which state-level National Survey on Drug Use and Health (NSDUH) data from 2 consecutive survey years are combined with local-area county and census block group/tract-level data from the state. This model-based methodology provides more precise estimates at the state level than those based solely on the sample, particularly for states with smaller sample sizes.

- Statistical tests between the state and the nation as a whole using small area estimates account for the correlation between the state and national estimates. For additional information on how these tests are conducted, please see https://www.samhsa.gov/data/sites/default/files/NSDUHsaePvalue2015A/NSDUHsaePvalueDocs2015.htm.

- Statistical tests between different years of data in the state using small area estimates take into account the correlation across time in the local area predictors used in the models, and these tests are conducted differently if the years being compared include overlapping years (e.g., 2013–2014 vs. 2014–2015) or years that do not overlap (e.g., 2010–2011 vs. 2014–2015).
  - For more information on how these tests are conducted when comparing overlapping years, please see https://www.samhsa.gov/data/sites/default/files/NSDUHsaeShortTermCHG2015/NSDUHsaeShortTermCHG2015.htm.
  - For more information on how these tests are conducted when comparing years that do not overlap, please see https://www.samhsa.gov/data/sites/default/files/NSDUHsaeLongTermCHG2015/NSDUHsaeLongTermCHG2015.htm.

2 Estimates are annual averages based on combined 2011–2015 NSDUH data or combined 2009–2015 NSDUH data where indicated. These estimates are based solely on the sample, unlike estimates based on the small area estimation procedure as stated above.

3 Respondents with unknown past year major depressive episode (MDE) data were excluded.

4 Respondents with unknown past year MDE or unknown treatment data were excluded.

5 Estimates were based only on responses to suicide items in the NSDUH Mental Health module. Respondents with unknown suicide information were excluded.

6 Estimates of serious mental illness (SMI) and any mental illness (AMI) presented in this publication may differ from estimates in other publications as a result of revisions made to the NSDUH mental illness estimation models in 2012. Other NSDUH mental health measures presented were not affected. The 2013, 2014, and 2015 Barometer reports include the revised SMI and AMI estimates. For further information, see Revised Estimates of Mental Illness from the National Survey on Drug Use and Health, which is available on the SAMHSA Web site at https://www.samhsa.gov/data/sites/default/files/NSDUH148/NSDUH148/sr148-mental-illness-estimates.pdf.
Respondents were not to include treatment for drug or alcohol use. Respondents with unknown service use information were excluded. Estimates were based only on responses to items in the NSDUH Adult Mental Health Service Utilization module.

Not in labor force is defined as those who did not have a job and who were not looking for a job. Examples could include those who were students, retired, disabled, or not working due to family responsibilities. Note that mental health consumers aged 65 or older are not included because they are of retirement age.

State estimates of past year heroin use based on a small area estimation procedure are not available prior to 2013–2014.

Single-day counts reflect the number of individuals who were enrolled in substance use treatment on March 31, 2011; March 30, 2012; March 29, 2013; and March 31, 2015. Single-day counts of the number of individuals enrolled in substance use treatment were not included in the 2014 National Survey of Substance Abuse Treatment Services (N-SSATS).

Enrollees whose substances were unknown were excluded.

These counts reflect only individuals who were receiving these specific medication-assisted therapies as part of their opioid treatment in specialty substance abuse treatment programs; they do not include counts of individuals who were receiving other types of treatment (including those who received MAT from private physicians) for their opioid addiction on the reference dates.

Physicians who obtain specialized training per the Drug Addiction Treatment Act of 2000 (DATA 2000) may prescribe buprenorphine to treat opioid addiction. Some physicians are in private, office-based practices; others are affiliated with substance abuse treatment facilities or programs and may prescribe buprenorphine to clients at those facilities. Additionally, opioid treatment programs (OTPs) may also prescribe and/or dispense buprenorphine. The buprenorphine single-day counts include only those clients who received/were prescribed buprenorphine by physicians affiliated with substance abuse treatment facilities; they do not include clients from private practice physicians.
**Alcohol use disorder** is defined using diagnostic criteria specified within the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which include such symptoms as withdrawal, tolerance, use in dangerous situations, trouble with the law, and interference with major obligations at work, school, or home during the past year. For details, see American Psychiatric Association (1994).

**Any mental illness (AMI)** among adults aged 18 or older is defined as currently or at any time in the past year having had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet DSM-IV criteria. Adults who had a diagnosable mental, behavioral, or emotional disorder in the past year, regardless of their level of functional impairment, were defined as having AMI.

**Major depressive episode (MDE)** is defined as in the DSM-IV, which specifies a period of at least 2 weeks in the past year when an individual experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms.

**Mental health service use** is defined in NSDUH for adults aged 18 or older as receiving treatment or counseling for any problem with emotions, nerves, or mental health in the 12 months before the interview in any inpatient or outpatient setting, or the use of prescription medication for treatment of any mental or emotional condition that was not caused by the use of alcohol or drugs.

**Number of individuals enrolled in substance use treatment** refers to the number of clients in treatment at alcohol and drug abuse facilities (public and private) throughout the 50 states, the District of Columbia, and other U.S. jurisdictions.

**Serious mental illness (SMI)** is defined in NSDUH as adults aged 18 or older who currently or at any time in the past year have had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified in the DSM-IV and has resulted in serious functional impairment, which substantially interferes with or limits one or more major life activities. SMI estimates are based on a predictive model applied to NSDUH data and are not direct measures of diagnostic status. The estimation of SMI covers any mental disorders that result in serious impairment in functioning such as major depression, schizophrenia, and bipolar disorders. However, NSDUH data cannot be used to estimate the prevalence of specific mental disorders in adults. For details on the methodology, see Section B.4.4 in Appendix B of the 2014 *National Survey on Drug Use and Health: Methodological Summary and Definitions* (https://www.samhsa.gov/data/sites/default/files/NSDUH-MethodSummDefs2014/NSDUH-MethodSummDefs2014.htm). It should be noted that SAMHSA has recently updated the definition of SMI for use in mental health block grants to include mental disorders as specified in the DSM-5.

**Treatment for depression** is defined as seeing or talking to a medical doctor or other professional or using prescription medication for depression in the past year.

The National Survey on Drug Use and Health (NSDUH) is an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). NSDUH is the primary source of information on the use of illicit drugs, alcohol, and tobacco in the U.S. civilian, noninstitutionalized population aged 12 years or older and includes mental health issues and mental health service utilization for adolescents aged 12–17 and adults aged 18 or older. Conducted by the federal government since 1971, NSDUH collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence. The data used in this report are based on information obtained from approximately 67,500 individuals aged 12 or older per year in the United States. Additional information about NSDUH is available at [https://www.samhsa.gov/data/population-data-nsduh](https://www.samhsa.gov/data/population-data-nsduh).

The National Survey of Substance Abuse Treatment Services (N-SSATS) is an annual census designed to collect information from all public and private treatment facilities in the United States that provide substance abuse treatment. The objectives of N-SSATS are to collect multipurpose data that can be used to assist SAMHSA and state and local governments in assessing the nature and extent of services provided and in forecasting treatment resource requirements, to update SAMHSA’s Inventory of Behavioral Health Services, to analyze general treatment services trends, and to generate the Behavioral Health Treatment Services Locator ([https://findtreatment.samhsa.gov/](https://findtreatment.samhsa.gov/)). Additional information about N-SSATS is available at [https://www.samhsa.gov/data/substance-abuse-facilities-data-nssats](https://www.samhsa.gov/data/substance-abuse-facilities-data-nssats).

The Uniform Reporting System (URS) is a SAMHSA data reporting system that collects aggregate data that describe the characteristics of individuals served by the State Mental Health Agency, which is primarily responsible for the provision and facilitation of publicly funded mental health and support services to children and adults with mental illnesses. The data are for a given 12-month period and include treatment setting and service types, performance and outcome measures, and indicators that support the use of the state’s Community Mental Health Services Block Grant. This reporting system utilizes a standardized reporting of state mental health data.