

Introduction and Highlights

Scroll down to view these pages:

A-01. Report Cover

A-02. Title Page

A-03. Foreword

A-04. Contributors

A-05. Data Highlights



Status Report on Missouri's Substance Use and Mental Health



Mental Illness
Disorders

Substance Use
Disorders

2021

Missouri Department of Mental Health
Division of Behavioral Health

STATUS REPORT ON MISSOURI'S SUBSTANCE USE AND MENTAL HEALTH

TWENTY-SEVENTH EDITION — 2021

Randall Smith, M.P.A., M.Ed.

Kateryna Kalugina

Renee Rothermich, M.A.

Patricia Norton, M.P.H.

Valerie Huhn Director, Missouri Department of Mental Health

Nora Bock Director, Division of Behavioral Health

Jason Jones Director of Research and Statistics

MISSOURI DEPARTMENT OF MENTAL HEALTH

Division of Behavioral Health

1706 East Elm Street; P.O. Box 687

Jefferson City, MO 65102

573-751-9499

Website: <https://dmh.mo.gov>



CONTRIBUTORS

The Missouri Department of Mental Health would like to thank the following individuals and agencies for providing data and assistance for this 27th edition of the Status Report:

Carol Bontempo, Missouri Department of Health and Senior Services
Darin Chilcutt, Missouri Department of Revenue
Susan Depue, Missouri Institute of Mental Health
Dong Ding, University of Missouri—Columbia
Chelsea Fife, Missouri Department of Health and Senior Services
Venkata Garikpaty, Missouri Department of Health and Senior Services
Leighton Garrett, Missouri Department of Health and Senior Services
TaNea Green, Missouri Office of State Courts Administrator
Kayleigh Greenwood, University of Missouri—Columbia
Kacy Hall, Missouri Office of State Courts Administrator
Amanda Horvath, Missouri Office of State Courts Administrator
Andrew Hunter, Missouri Department of Health and Senior Services
Kateryna Kalugina, Missouri Department of Mental Health
Ravneet Kaur, Missouri Institute of Mental Health
Katie Long, Missouri Department of Health and Senior Services
Robert MacKenzie, Missouri State Highway Patrol
Angela McKee, Missouri Department of Health and Senior Services
Richard Morrissey, Missouri Office of State Courts Administrator
Mary Mosley, Missouri Department of Health and Senior Services
Patricia Norton, Missouri Department of Mental Health
Adi Reuveny, University of Missouri—Columbia
Renee Rothermich, Missouri Department of Mental Health
Randall Smith, Missouri Department of Mental Health
Julie Starr, Missouri Department of Social Services
DeWayne Sprenger, Missouri Department of Public Safety
Justin Thomas, Missouri Department of Corrections
Tanner Turley, Missouri Department of Health and Senior Services
Eva Vanenny, Missouri Department of Elementary and Secondary Education
Rebecca Veit, Missouri Department of Social Services
Blake Wenzel, Missouri Office of State Courts Administrator
Shimin Zhuang, Missouri Department of Social Services

DATA HIGHLIGHTS

NATIONAL SURVEY ON DRUG USE AND HEALTH

Estimates from the National Survey on Drug Use and Health (NSDUH)¹ indicate the following numbers of Missouri residents experienced these mental health issues during the year preceding the survey:

- **Any mental illness, adults: 1,056,000 (22.7% of Missouri population ages 18+)**
 - 195,000 ages 18-25
 - 861,000 ages 26+
- **Serious mental illness, adults: 258,000 (5.6% of Missouri population ages 18+)**
 - 57,000 ages 18-25
 - 201,000 ages 26+
- **Major depressive episode, adolescents:**
 - 72,000 ages 12-17 (15.5% of Missouri population ages 12-17)
- **Major depressive episode, adults: 408,000 (8.8% of Missouri population ages 18+)**
 - 97,000 ages 18-25
 - 310,000 ages 26+
- **Serious thoughts of suicide, adults: 235,000 (5.1% of Missouri population ages 18+)**
 - 83,000 ages 18-25
 - 152,000 ages 26+
- **Suicide attempt, adults: 34,000 (0.7% of Missouri population ages 18+)**
 - 13,000 ages 18-25
 - 21,000 ages 26+
- **Substance use disorder: 377,000 (7.4% of Missouri population ages 12+)**
 - 19,000 ages 12-17
 - 88,000 ages 18-25
 - 271,000 ages 26+
- **Alcohol use disorder: 267,000 (5.2% of Missouri population ages 12+)**
 - 8,000 ages 12-17
 - 59,000 ages 18-25
 - 199,000 ages 26+
- **Pain reliever use disorder: 25,000 (0.5% of Missouri population ages 12+)**
 - 2,000 ages 12-17
 - 4,000 ages 18-25
 - 19,000 ages 26+
- **Illicit drug use disorder: 146,000 (2.9% of Missouri population ages 12+)**
 - 15,000 ages 12-17
 - 46,000 ages 18-25
 - 85,000 ages 26+

¹ The percentages and population estimates presented are annual averages using combined data from the 2018 and 2019 National Survey on Drug Use and Health (NSDUH), Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services.

Estimates from the NSDUH indicate the following numbers of Missouri adolescents and adults used these substances during the month preceding the survey:

- **Past-month alcohol use: 2,533,000 (49.5% of Missouri population ages 12+)**
 - 43,000 ages 12-17
 - 338,000 ages 18-25
 - 2,151,000 ages 26+
- **Past-month binge alcohol use: 1,231,000 (24.1% of Missouri population ages 12+)**
 - 23,000 ages 12-17
 - 215,000 ages 18-25
 - 993,000 ages 26+
- **Past-month tobacco use: 1,237,000 (24.2% of Missouri population ages 12+)**
 - 24,000 ages 12-17
 - 173,000 ages 18-25
 - 1,041,000 ages 26+
- **Past-month cigarette use: 1,009,000 (19.7% of Missouri population ages 12+)**
 - 16,000 ages 12-17
 - 138,000 ages 18-25
 - 855,000 ages 26+
- **Past-month any illicit drug use: 543,000 (10.6% of Missouri population ages 12+)**
 - 35,000 ages 12-17
 - 143,000 ages 18-25
 - 365,000 ages 26+
- **Past-month marijuana use: 460,000 (9.0% of Missouri population ages 12+)**
 - 27,000 ages 12-17
 - 130,000 ages 18-25
 - 302,000 ages 26+
- **Past-month any illicit drug except marijuana: 151,000 (3.0% of Missouri population ages 12+)**
 - 11,000 ages 12-17
 - 34,000 ages 18-25
 - 105,000 ages 26+

Estimates from the NSDUH indicate the following numbers of Missouri adolescents and adults used these substances during the year preceding the survey:

- **Past-year marijuana use: 763,000 (14.9% of Missouri population ages 12+)**
 - 53,000 ages 12-17
 - 204,000 ages 18-25
 - 506,000 ages 26+
- **Past-year first use of marijuana: 65,000 (2.3% of Missouri population ages 12+)**
 - 22,000 ages 12-17
 - 32,000 ages 18-25
 - 11,000 ages 26+

- **Past-year pain reliever misuse: 189,000 (3.7% of Missouri population ages 12+)**
 - 13,000 ages 12-17
 - 37,000 ages 18-25
 - 139,000 ages 26+
- **Past-year cocaine use: 68,000 (1.3% of Missouri population ages 12+)**
 - 2,000 ages 12-17
 - 26,000 ages 18-25
 - 40,000 ages 26+
- **Past-year methamphetamine use: 46,000 (0.9% of Missouri population ages 12+)**
 - 1,000 ages 12-17
 - 7,000 ages 18-25
 - 37,000 ages 26+
- **Past-year heroin use: 14,000 (0.28% of the Missouri population ages 12+)**
 - <500 ages 12-17
 - 3,000 ages 18-25
 - 11,000 ages 26+

Estimates from the NSDUH indicate the following numbers of Missouri residents needed--but did not receive--specialized treatment services for the following disorders during the year before the survey:

- **Substance use disorder: 348,000 (6.8% of Missouri population ages 12+)**
 - 18,000 ages 12-17
 - 85,000 ages 18-25
 - 246,000 ages 26+
- **Alcohol use disorder: 256,000 (5.0% of Missouri population ages 12+)**
 - 8,000 ages 12-17
 - 56,000 ages 18-25
 - 192,000 ages 26+
- **Illicit drug use disorder 130,000 (2.5% of Missouri population ages 12+)**
 - 13,000 ages 12-17
 - 41,000 ages 18-25
 - 75,000 ages 26+

Section B of the Status Report provides NSDUH trend data.

MISSOURI STUDENT SURVEY

Middle school and high school students reported the following mental health issues during the year preceding the 2020 Missouri Student Survey (MSS)². The percentages reflect all students in grades 6-12:

- Past-year victim of bullying at school: 26.2%
- Past-year seriously considering suicide: 11.1%
- Past-year suicide planning: 8.6%
- Past-year victim of weapon threat at school: 6.8%
- Past-year suicide attempt with injury: 0.8%

Middle and high school students in grades 6-12 reported the following substance use during the month and year preceding the 2020 Missouri Student Survey, and their lifetime use:

- Past-month alcohol use: 17.0%
- Past-month electronic cigarette use: 15.5%
- Past-month marijuana use: 8.9%
- Past 2-weeks binge drinking: 6.8%
- Past-month prescription drug misuse: 6.3%
- Past-month cigarette use: 4.5%
- Past-month chewing tobacco use: 2.5%
- Past-month over-the-counter drug misuse: 2.0%
- Past-month hookah use: 1.9%
- Past-month inhalant use: 1.0%
- Past-month synthetic drug use: 0.5%
- Lifetime alcohol use: 35.3%
- Lifetime electronic cigarette use: 29.7%
- Lifetime marijuana use: 16.9%
- Lifetime cigarette use: 15.0%
- Lifetime prescription drug misuse: 9.4%
- Lifetime chewing tobacco use: 6.1%
- Lifetime hookah use: 5.3%
- Lifetime over-the-counter drug misuse: 3.8%
- Lifetime inhalant use: 2.3%
- Lifetime hallucinogen use: 2.2%
- Lifetime cocaine use: 1.3%
- Lifetime club drug use: 1.0%
- Lifetime methamphetamine use: 0.7%
- Lifetime heroin use: 0.3%

Section C of the Status Report provides Missouri Student Survey trend data.

² The Missouri Institute of Mental Health conducts the Missouri Student Survey in even-numbered years with support from the Missouri Department of Mental Health. Data are weighted percentages.

MISSOURI ASSESSMENT OF COLLEGE HEALTH BEHAVIORS

Students from 24 Missouri colleges reported the following substance use during the year preceding the 2021 Missouri Assessment of College Health Behaviors Survey (MACHB)³:

- **Past-year use of alcohol: 70.5%**
 - Past-month use of alcohol: 56.2%
 - Past 2-weeks binge drinking: 21.2%
- **Past-year use of marijuana: 28.2%**
 - Smoked marijuana/cannabis: 23.5%
 - Edible marijuana/cannabis: 20.0%
 - Vaporized marijuana/cannabis: 15.8%
 - Marijuana derivatives: 9.3%
- **Past-year use of tobacco: 24.4%**
- **Past-year use of cigarettes: 9.8%**
- **Past-year use of ecstasy, MDMA, mushrooms, LSD, PCP, other hallucinogens: 5.0%**
- **Past-year use of prescription stimulant without prescription (Rx): 3.4%**
- **Past-year use of cocaine: 2.1%**
- **Past-year use of prescription pain medication without Rx: 2.1%**
- **Past-year use of prescription sedative without Rx: 1.3%**
- **Past-year use of prescription sleep medication without Rx: 0.8%**
- **Past-year use of inhalant: 0.8%**
- **Past-year use of kratom: 0.8%**
- **Past-year use of K2 synthetic marijuana: 0.7%**
- **Past-year use of methamphetamine: 0.4%**
- **Past-year use of heroin: 0.1%**

Students from the 24 Missouri colleges reported the following mental health issues during the year preceding the 2021 MACHB:

- **Anxiety: 64.3%**
- **Major depression: 34.8%**
- **Panic attack: 29.8%**
- **Chronic sleep disorder: 25.3%**
- **Suicidal thoughts: 24.7%**
- **Eating disorder: 14.3%**
- **Self-injury: 6.1%**
- **Abusive relationship: 4.4%**
- **Alcohol use disorder or dependency: 3.8%**
- **Sexual assault: 3.8%**
- **Bipolar disorder: 3.4%**
- **Suicide attempt: 1.6%**

³ The MACHB is conducted annually by the Partners in Prevention Statewide Coalition project, University of Missouri, Columbia, MO. The 2021 survey included 10,154 students at 24 Missouri colleges and universities.

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM

The Behavioral Risk Factor Surveillance System (BRFSS)⁴ collects data on health-related behaviors and chronic conditions, using telephone surveys conducted in all 50 states. The following are current survey estimates for Missouri adults:

- **Alcohol use among Missouri adults ages 18 and older in 2020:**
 - **Past 30-day use:**
 - **Males: 55.5%**
 - **Females: 46.8%**
 - **Saint Louis, MO-IL Metropolitan Statistical Area: 54.5%**
 - **Binge drinking:**
 - **Males: 20.7%**
 - **Females: 13.2%**
 - **Saint Louis, MO-IL Metropolitan Statistical Area: 17.9%**
 - **Heavy drinking (14 drinks per week): 7.7%**
 - **Males: 7.7%**
 - **Females: 6.6%**
 - **Saint Louis, MO-IL Metropolitan Statistical Area: 8.3%**
- **Tobacco use among Missouri adults ages 18 and older in 2020:**
 - **Current smokers, males: 18.6%**
 - **Current smokers, females: 16.9%**
 - **Former smokers, males: 28.6%**
 - **Former smokers, females: 22.3%**
 - **Never smoked, males: 52.8%**
 - **Never smoked, females: 60.8%**
- **Lifetime depressive disorder among Missouri adults ages 18 and older in 2020:**
 - **Overall: 22.8%**
 - **Males: 15.9%**
 - **Females: 29.3%**
 - **White, non-Hispanic: 23.5%**
 - **Black, non-Hispanic: 17.1%**
 - **Native American or Alaskan, non-Hispanic: 38.4%**
 - **Multiracial, non-Hispanic: 30.1%**
 - **Hispanic: 21.4%**

PREGNANCY RISK ASSESSMENT MONITORING SYSTEM

The Pregnancy Risk Assessment Monitoring System (PRAMS)⁵ collects data on maternal health indicators before and during pregnancy, and postpartum. The following are Missouri estimates for 2019:

- **Alcohol use during the last three months of pregnancy: 5.8%**
- **Cigarette smoking during the last three months of pregnancy: 12.1%**

⁴ The BRFSS is a surveillance project of the Centers for Disease Control and Prevention (CDC). The Missouri Department of Health and Senior Services provides state project coordination and support.

⁵ The PRAMS is a surveillance project of the Centers for Disease Control and Prevention (CDC). The Missouri Department of Health and Senior Services provides state project coordination and support.

Missouri state government agencies annually prepare a variety of data—some specifically for the Status Report. Below are some of the significant past-year metrics state agencies reported:

- **Missouri resident deaths in 2020: 73,882**
 - **Suicide deaths: 1,125**
 - **Homicide deaths: 802**
 - **Smoking attributable deaths: 10,123**
 - **COVID-19 deaths: 7,133**
 - **Drug induced deaths: 1,954**
 - **Alcohol induced deaths: 790**
- **Drug induced deaths by intent**
 - **Accidental poisoning: 1,739**
 - **Intentional poisoning (suicide): 82**
 - **Assault (homicide): 15**
 - **Intent undetermined: 42**
 - **Intent not specified: 76**
- **Alcohol induced deaths by diagnostic category**
 - **Mental, behavioral, and neurodevelopmental disorders: 329**
 - **Degenerative diseases of nervous system: 5**
 - **Cardiomyopathy (heart muscle disease): 6**
 - **Alcoholic liver disease: 398**
 - **Pancreatitis and pancreas disease: 9**
 - **Accidental poisoning by alcohol: 40**
 - **Intentional poisoning (suicide): 2**
- **Individuals with hospital drug use disorder primary diagnosis in 2019**
 - **Treated in emergency rooms for drug use disorders: 16,543**
 - **Hospitalized for drug use disorders: 5,733**
- **Individuals with hospital alcohol use disorder primary diagnosis in 2019**
 - **Treated in emergency rooms for alcohol use disorders: 17,163**
 - **Hospitalized for alcohol use disorders: 6,545**
- **Individuals with hospital mental disorder primary diagnosis in 2019**
 - **Treated in emergency rooms for mental disorders: 64,023**
 - **Hospitalized for mental disorders: 43,018**
- **Traffic crashes involving alcohol impaired drivers in 2020: 5,170**
 - **Fatal crashes: 155**
 - **Persons killed: 165**
 - **Injury crashes: 2,022**
 - **Persons injured: 2,817**
- **Traffic crashes involving drug impaired drivers in 2020: 1,547**
 - **Fatal crashes: 98**
 - **Persons killed: 110**
 - **Injury crashes: 673**
 - **Persons injured: 1,013**

- **Arrests for driving under the influence of alcohol or drugs in 2020: 17,614**
 - **Admitted to Substance Awareness Traffic Offender Program (SATOP): 11,407**
 - **Enrolled in DWI treatment court: 965**
 - **Sentenced to probation: 742**
 - **Admitted to prison: 296**
 - **Paroled or granted conditional release: 352**
- **Arrests for liquor law violations in 2020: 2,052**
 - **Juvenile court referrals for alcohol offenses: 284**
- **Arrests for drug law violations in 2020: 28,699**
- **Arrests for possession of illegal drugs in 2020: 26,187**
 - **Marijuana: 11,917**
 - **Cocaine or opium and derivatives (morphine, heroin, codeine): 2,298**
 - **Synthetic narcotics: 1,680**
 - **Other non-narcotics: 10,292**
- **Arrests for sale or manufacturing of illegal drugs: 2,512**
 - **Marijuana: 1,016**
 - **Cocaine or opium and derivatives (morphine, heroin, codeine): 336**
 - **Synthetic narcotics: 193**
 - **Other non-narcotics: 962**
- **Adjudication of drug offenses**
 - **Juvenile court referrals for drug offenses: 876**
 - **Enrollees in drug treatment courts: 5,454**
 - **Sentenced to probation: 5,048**
 - **Admitted to prison: 3,766**
 - **Paroled or granted conditional release: 5,036**
- **Total out-of-home placements of youth in 2020: 6,311**
 - **Adverse behavioral or situational conditions reported in removals: 11,047**
 - **Placements with parent/caretaker drug use reported: 3,092 (49.0%)**
 - **Placements with parent/caretaker alcohol use reported: 393 (6.2%)**
 - **Placements with parent/caretaker alcohol and/or drug use: 3,292 (52.2%)**
 - **Placements with youth behavior reported: 578**
 - **Placements with youth drug use reported: 198**
 - **Placements with youth alcohol use reported: 29**
 - **Placements with child neglect reported: 2,467**
 - **Placements with child physical abuse reported: 902**
 - **Placements with parent/caretaker inability to cope reported: 793**
 - **Placements with child abandonment reported: 439**
 - **Placements with child sexual abuse reported: 352**

Missouri has eight federally designated State Metropolitan Statistical Areas (SMSAs) that include 35 Missouri counties encompassing large urban areas. The state also has 22 Micropolitan Statistical Areas comprising 22 Missouri counties containing smaller cities. The remaining 58 counties are predominately non-urban or rural. Using the 2020 population estimate as a baseline, in a normal distribution about 75% of the behavioral health related events would occur in the Metropolitan areas, 11% in the Micropolitan areas, and 14% in the rural areas. The following chart illustrates that some adverse events are more prevalent in the metropolitan areas, exceeding the 75.1% metropolitan population percentage, while other events are more prevalent in the rural areas, exceeding the rural population percentage of 13.6%. Most agencies have reported their data by county of residence. Law enforcement agencies have reported arrest and traffic crash data by county of occurrence.

Table 1: Distribution of Behavioral Indicators among Metropolitan, Micropolitan, and Rural Areas, by Percentage of Total

Behavioral Health Related Event	Total	8 Metropolitan Statistical Areas		22 Micropolitan Statistical Areas		Non-Metro/Rural Missouri	
		Number	Percentage of Total	Number	Percentage of Total	Number	Percentage of Total
Homicide deaths in 2020	802	702	87.5%	47	5.9%	53	6.6%
Drug induced deaths in 2020	1,954	1,595	81.6%	171	8.8%	188	9.6%
Hospitalized for alcohol use disorders in 2019	6,545	5,300	81.0%	537	8.2%	708	10.8%
Treated in emergency rooms for alcohol use disorders in 2019	17,163	13,856	80.7%	1,635	9.5%	1,672	9.7%
Alcohol induced deaths in 2020	790	622	78.7%	66	8.4%	102	12.9%
Treated in emergency rooms for drug use disorders in 2019	16,543	12,907	78.0%	1,901	11.5%	1,735	10.5%
Hospitalized for drug use disorders in 2019	5,733	4,391	76.6%	675	11.8%	667	11.6%
Hospitalized for mental disorders in 2019	43,018	32,903	76.5%	4,792	11.1%	5,323	12.4%
Treated in emergency rooms for mental disorders in 2019	64,023	48,482	75.7%	7,565	11.8%	7,976	12.5%
Missouri 2020 population estimate	6,151,548	4,622,381	75.1%	694,362	11.3%	834,805	13.6%
Traffic crashes involving drug impaired drivers in 2020	1,547	1,147	74.1%	178	11.5%	222	14.4%
Suicide deaths in 2020	1,125	830	73.8%	117	10.4%	178	15.8%
Arrests for illicit drug possession in 2020 (when county is specified)	20,462	14,768	72.2%	2,704	13.2%	2,990	14.6%
Resident deaths in 2020	73,882	51,765	70.1%	9,228	12.5%	12,889	17.4%
Traffic crashes involving alcohol Impaired drivers in 2020	5,170	3,596	69.6%	660	12.8%	914	17.7%
Arrests for driving under influence of alcohol or drugs in 2020	17,614	12,228	69.4%	2,417	13.7%	2,969	16.9%
Juvenile court referrals for alcohol or drug offenses in 2020	1,160	799	68.9%	157	13.5%	204	17.6%
COVID-19 deaths in 2020	7,134	4,874	68.3%	941	13.2%	1,318	18.5%
Smoking attributable deaths in 2020	10,123	6,677	66.0%	1,447	14.3%	1,999	19.7%
Arrests for illicit drug sales or manufacturing in 2020 (when county is specified)	1,605	1,021	63.6%	325	20.2%	259	16.1%
Out-of-home placements of youth by juvenile authorities in 2020	6,311	3,749	59.4%	1,143	18.1%	1,419	22.5%
Out-of-home placements of youth by juvenile authorities, with a condition of removal that included parent/caretaker alcohol and/or drug use.	3,292	1,895	57.6%	667	20.3%	730	22.2%

Section D of the Status Report provides statewide trend data for many of the indicators listed in Table 1, and Section E provides the county totals. Section I provides a map illustrating Missouri's MSAs.