

Health Equity in Focus:
Mental and Behavioral
Health Data Brief





Measuring the **breadth, depth and persistence** of key mental and behavioral health disparities at the national level among both adults and youth

Mental and behavioral health disparities were as much as **14 times greater** between subpopulations.

The *America's Health Rankings® Mental and Behavioral Health Data Brief* provides objective, national data to measure the **breadth, depth and persistence** of key mental and behavioral health disparities at the national level among both adults and youth across populations.

Previous *America's Health Rankings* reports found disparities in mental and behavioral health measures, both broadly and within specific populations. This new analysis builds on past reports by highlighting mental and behavioral health disparities by race/ethnicity, age, gender, disability status and sexual orientation.

In this brief, mental health includes a person's emotional, psychological and social well-being while behavioral health has more to do with the specific actions people take and how they can be influenced by an individual's mental health. These conditions can affect a person's thoughts, feelings, moods and behaviors.

This brief analyzed 15 mental health measures (e.g., depression diagnosis, anxiety diagnosis, suicidal thoughts) and behavioral health measures (e.g., illicit drug use, marijuana use and substance use disorder) across five subpopulation groups using data from four national public health surveys: the Substance Abuse and Mental Health Services Administration's (SAMHSA's) National Survey of Drug Use and Health; the Health Resources and Services Administration's (HRSA's) Maternal and Child Health Bureau's (MCHB's) National Survey of Children's Health; the Centers for Disease Control and Prevention's (CDC's) Behavioral Risk Factor Surveillance System (BRFSS); and the CDC's National Health Information Survey. Where possible, it assessed data over a ten-year period (2011-2021) using three points across time: 2011, 2016 and 2021.

While additional disparities exist across measures and subpopulations, the disparities included in this brief had disparity rate ratios of 1.5 or higher (i.e., one group's rate was more than 1.5 times that of another) and, where available, data demonstrated persistence over time.

As Americans recover from the health effects and isolating impact of the pandemic, the United Health Foundation invites national, state and community leaders, policymakers, advocates and others to use these findings to identify and address the breadth, depth and persistence of mental and behavioral health disparities affecting the health and well-being of Americans across the U.S. These new data provide critical direction for closing longstanding gaps and building a stronger, more equitable America where all individuals have the opportunity to thrive.

For details on defining disability, measures and subpopulations, please refer to the appendix on page 12. For information on data sources, methodology and additional measures, please visit AmericasHealthRankings.org.

Racial and Ethnic Disparities Among Adults and Youth



Mental and behavioral health disparities differed significantly by race/ethnicity among adults and youth.

Disparities Were as Much as 14 Times Greater for American Indian/Alaska Native Youth

American Indian/Alaska Native adults and youth face persistent disparities in mental and behavioral health with little improvement over time. This is consistent with findings of previous *America's Health Rankings* reports, which found that American Indian/Alaska Native populations experienced disproportionately higher and increasing rates of [drug death](#) and [teen suicide](#) compared to other racial and ethnic groups.

In 2021, American Indian/Alaska Native adults experienced a 3.4 times higher rate (28.3%) of substance use disorder (SUD) compared to Asian adults (8.4%). SUD includes alcohol or drug use — including use and misuse of prescription drugs — in the past year. Additionally, compared to Asian adults (8.3%), American Indian/Alaska Native adults also experienced a 3.0 times higher rate (24.6%) of illicit drug use, which includes cocaine, hallucinogens, heroin, inhalants, methamphetamine and/or misuse of prescription drugs.

American Indian/Alaska Native children (ages 0-17) had a 14.2 times higher likelihood of being exposed to two or more household-level adverse childhood experiences (ACEs) (31.2%) compared to Asian (2.2%), 3.0 times higher compared to Hispanic (10.3%) and 2.0 times higher than Black (15.9%) and multiracial (15.5%) children. Household-level ACEs include: divorce; death or imprisonment of a parent or guardian; living with anyone who was mentally ill, suicidal or severely depressed; living with anyone who had a problem with alcohol or drugs; and witnessing physical violence in the home. Stressful and traumatic events that occur in a child's life affect the health and well-being of youth. In the absence of protective factors, ACEs affect a child's development and emotional, cognitive, social and biological functioning, with long-lasting impacts into adulthood.¹⁻⁶

American Indian/Alaska Native youth also experienced relational health risks at a high rate. Relational health risks include having one or more of the following: two or more household-level ACEs; a parent in need of emotional or coping support; a parent with fair or poor mental health; and a parent with high parental aggravation.⁷ American Indian/Alaska Native youth had a 1.8 times higher rate of relational health risk to their household emotional support (58.3%) compared to white youth (27.1%) in 2021.

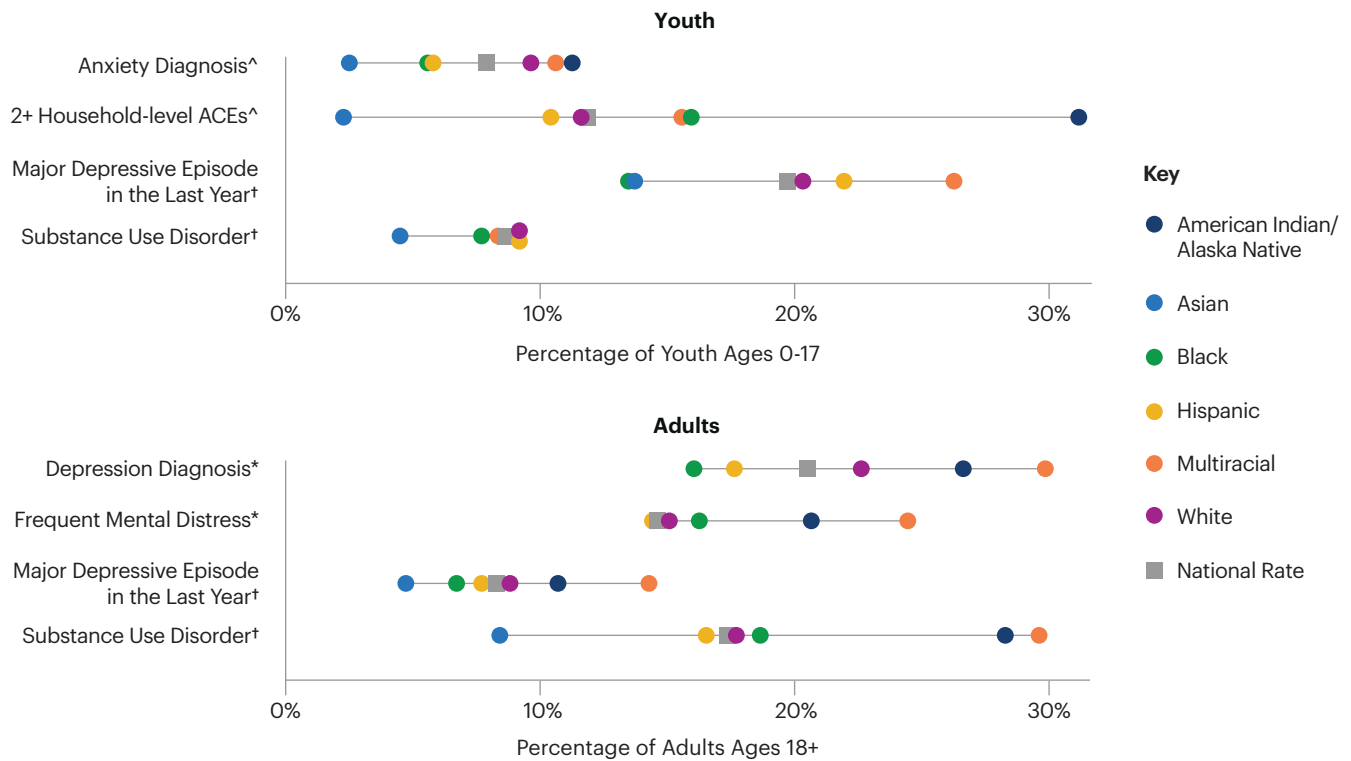
Hispanic Adults and Youth Experienced Disproportionate Rates of Major Depressive Episodes

Hispanic adults had a 1.7 times higher rate of having had a major depressive episode in the last year compared to Asian adults (7.8% vs. 4.7%) and Hispanic youth had a 1.5 times higher rate compared to Black youth in 2021 (22.0% vs. 14.4%). The [COVID-era Disparities Survey featured in the 2022 Annual Report](#) noted that Hispanic adults reported pandemic-related occupational stress and financial issues, as well as disproportionate loss of close friends or family members due to the COVID-19 pandemic.

Black Adults Experienced Multiple Disparities and Black Youth Had Disproportionate Rates of ACEs

Mental health conditions, such as depression and anxiety, affect a person's thoughts, feelings, moods and behaviors, and individuals can experience these while also having substance use disorders (SUD).⁸ Black adults had a 2.2 times higher rate of SUD and a 1.9 times higher rate of co-occurring low-to-moderate mental illness and substance use disorder (LMMI SUD) compared to Asian adults in 2021 (18.6% vs. 8.4% and 5.3% vs. 2.8%, respectively). Furthermore, Black youth had a 7.2 times higher likelihood of being exposed to two or more household-level ACEs compared to Asian youth and a 1.5 times higher rate compared to Hispanic youth (15.9% vs. 2.2% and 10.3%, respectively) in 2021.

Mental and Behavioral Health Disparities by Race and Ethnicity



Sources: ^{*}Behavioral Risk Factor Surveillance System (BRFSS), 2021; [†]National Survey of Drug Use and Health (NSDUH), 2021; [^]National Survey of Children's Health (NSCH), 2021.

Substance Use and Diagnosed Anxiety High Among White Adults and Youth, Respectively

White adults and youth also experienced higher rates of behavioral and mental health challenges. Notably, white adults had a 2.2 times higher rate of illicit drug use compared to Asian adults (18.0% vs 8.3%) in 2021, as well as a 1.9 times higher rate of co-occurring low-to-moderate mental illness and substance use disorder (LMMI SUD) compared to Asian adults (5.4% vs. 2.8%) in 2021. White youth had a 4.2 times higher rate of diagnosed anxiety compared to Asian youth (9.7% vs. 2.3%) in 2021. Previous [America's Health Rankings reports](#) found that white adults experienced disproportionate and increasing rates of non-medical prescription drug use and illicit drug use.

Asian Youth Experienced Wide Disparities in Household Emotional Support

In 2021, Asian adults and youth reported the lowest prevalence of mental health challenges across the measures included in this brief. However, 52.9% of Asian children have a caregiver who is not coping well and/or lacks emotional support for parenting. This rate is 3.4 times higher than among white (15.5%) children, 3.0 times higher than among multiracial (17.9%) children and 1.8 times higher than among American Indian/Alaska Native (29.3%) and Black (30.2%) children.

Adults and Youth with Disabilities



Significant mental and behavioral health disparities existed for both adults and youth with disabilities compared to their peers without disabilities.

Mental Health Disparities Were 3.5 Times Greater for Adults with Disabilities

Adults with disabilities were 3.5 times more likely to experience frequent mental distress compared to adults without disabilities (30.5% vs. 8.8%) and 3.5 times more likely to have a major depressive episode in the past year compared to adults without disabilities (22.9% vs. 6.5%). Suicidal thoughts were more than 3.3 times higher in adults with disabilities (12.5%) than adults without disabilities (3.8%).

Youth with Disabilities Experienced Disparities in Mental Health and Household Emotional Support

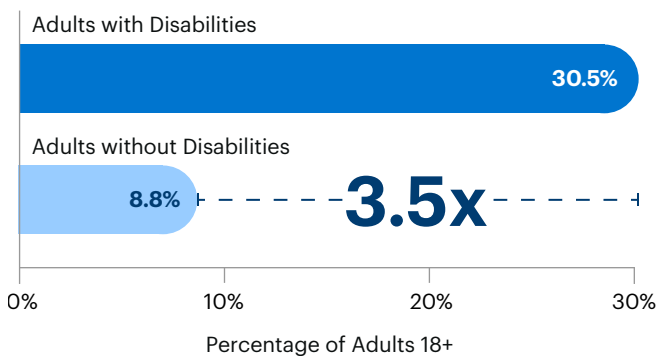
Youth with disabilities were 6.5 times more likely to have diagnosed anxiety than youth without disabilities (30.5% vs. 4.7%). At the same time, nearly half of youth with disabilities had a major depressive episode in the past year — 3.4 times higher than youth without disabilities (47.7% vs. 13.9%). They were also 2.6 times more likely to be exposed to two or more household-level adverse childhood experiences (ACEs) compared to their peers without disabilities (25.5% vs. 9.7%).

Nearly 3 in 5 youth with disabilities experienced at least one household-level family and personal relational health risk that may have influenced their safety, stability and emotional support.

Persistent Behavioral Health Disparities Exist for Both Adults and Youth with Disabilities

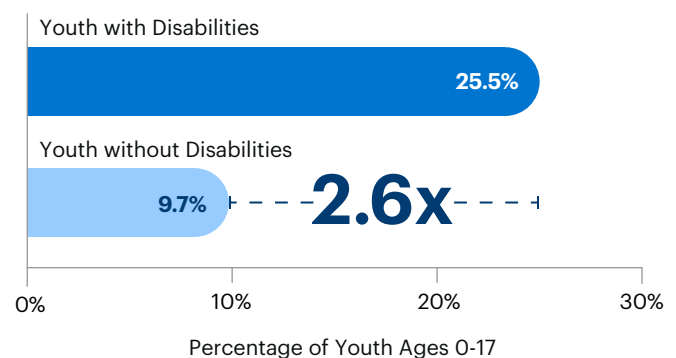
Illicit drug use and substance use disorders (SUD) were also higher for adults with disabilities than their peers without disabilities in 2021. In both cases, rates were 1.7 times higher for adults with disabilities. One-quarter (25.2%) of adults with disabilities reported use of illicit drugs, compared to 15.0% of adults without disabilities. Similarly, 27.7% of adults with disabilities had an SUD, compared to 15.9% of adults without disabilities. The rate of co-occurring low-to-moderate mental illness and substance use disorder (LMMI SUD) was 2.3 times higher for adults with disabilities (9.9% vs. 4.4%). For youth with disabilities, the rate of illicit drug use was 2.4 times higher compared to their peers without disabilities (14.4% vs. 6.0%).

Frequent Mental Distress in Adults



Source: Behavioral Risk Factor Surveillance System (BRFSS), 2021.

2+ Household-level ACEs in Youth



Source: National Survey of Children's Health (NSCH), 2021.

Disparities by Sexual Orientation



Adults who identify as lesbian, gay or bisexual (LGB) faced wide disparities in mental and behavioral health compared to heterosexual adults.

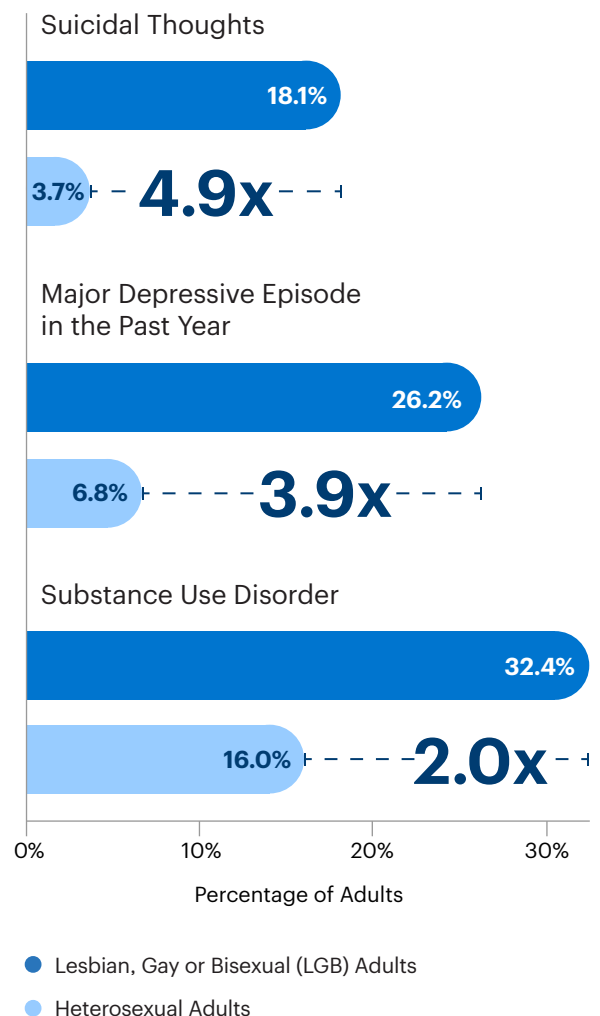
LGB Adults Were More Likely to Have Suicidal Thoughts and Major Depressive Episodes

In 2021, suicidal thoughts were 4.9 times higher among LGB adults (18.1%) than heterosexual adults (3.7%). LGB adults were also 3.9 times more likely to have had a major depressive episode in the past year than heterosexual adults (26.2% vs. 6.8%). Unmet mental health treatment needs were 1.7 times higher among LGB adults (42.0%) than heterosexual adults (24.6%).

Substance Use Disorder Was Twice as High Among LGB Adults

Our analysis found the rate of substance use disorder (SUD) was 2.0 times higher for LGB adults compared to their heterosexual peers (32.4% vs. 16.0%) and illicit drug use was 2.4 times higher for LGB adults compared to their heterosexual peers (35.4% vs. 14.6%). Rates of co-occurring low-to-moderate mental illness and substance use disorder (LMMI SUD) were 2.5 times higher for LGB adults (11.3% vs. 4.5%).

Mental and Behavioral Health Disparities by Sexual Orientation



Source: National Survey of Drug Use and Health (NSDUH), 2021.

Mental Health Disparities Among Young Adults



Young adults were most likely to report unmet mental health needs, substance use disorder and illicit drug use.

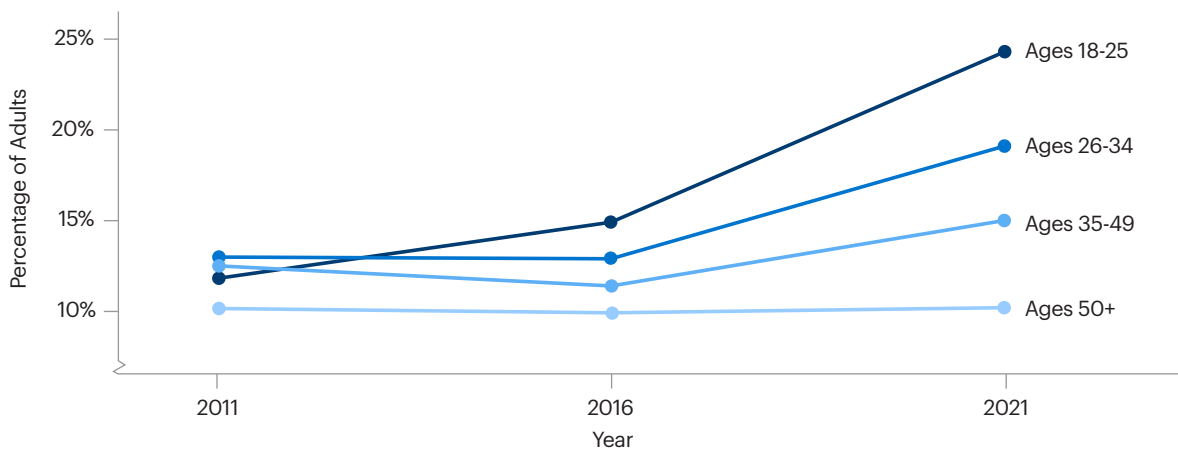
Frequent Mental Distress Rates and Depression Diagnoses Increased for Young Adults

The prevalence of frequent mental distress — the percentage of adults who reported their mental health was not good 14 or more days in the past 30 days — rose 24.8% from 11.7% to 14.6% between 2011 and 2021. For young adults (ages 18-25), frequent mental distress rose 101.7% from 12.1% to 24.4% between 2011 and 2021. Over the time points included in this analysis, young adults also experienced an 88.5% increase in a diagnosis of depression during their lifetime from 18.0% to 27.9%.

Mental and Behavioral Health Challenges Decreased with Age

Young adults and those ages 26-34 experienced multiple disparities in mental health outcome measures compared to older adult age groups. In 2021, rates of frequent mental distress were 2.3 times higher for young adults (24.4%), 1.8 times higher for adults ages 26-34 (19.1%), and 1.5 times higher for adults ages 35-49 (15.3%) compared to older adults ages 50+ (10.5%). Similarly, disparities for diagnosed depression decreased with age. In 2021, rates of diagnosed depression were 1.7 times higher for young adults (27.9%), and 1.5 times higher for adults ages 26-34 (24.6%) compared to older adults ages 50+ (16.9%).

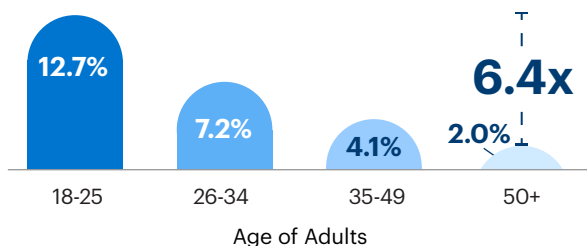
Trends in Frequent Mental Distress by Age



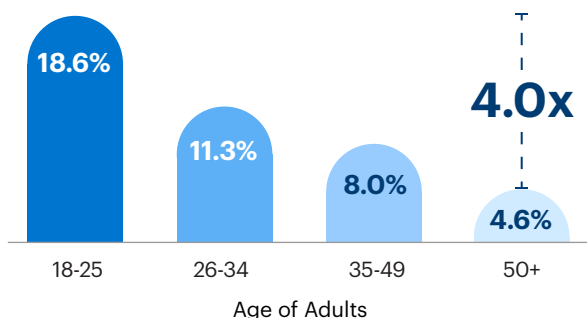
Source: CDC, Behavioral Risk Factor Surveillance System, 2011 – 2021.

Mental and Behavioral Health by Age

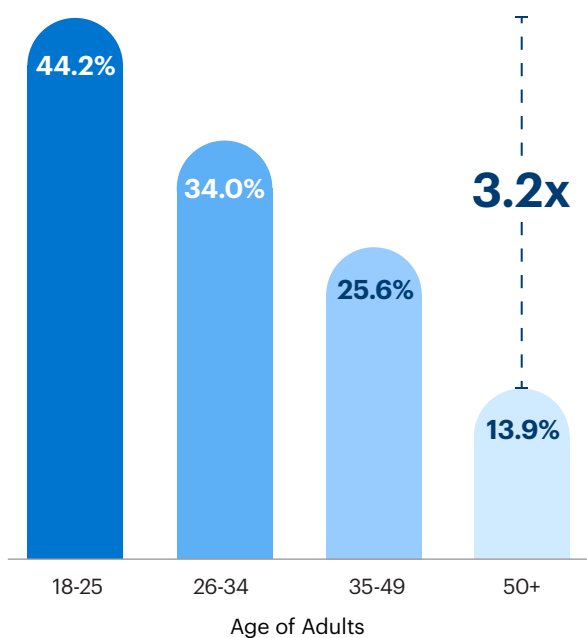
Suicidal Thoughts



Major Depressive Episode in Past Year



Unmet Mental Health Treatment Needs



Source: National Survey of Drug Use and Health (NSDUH), 2021.

Young Adults Had the Widest Disparities for Suicidal Thoughts, Depressive Symptoms and Unmet Mental Health Treatment Needs

In 2021, young adults had the widest disparity ratios compared to older adults (50+) for suicidal thoughts (6.4 times higher) and having experienced symptoms of a major depressive episode (4.0 times higher rate). At the same time, young adults were 3.2 times more likely to report having an unmet mental health treatment need in the past year. Young adults also experienced wide disparities for frequent mental distress, substance use disorder and diagnosed depression. Factors such as social disconnection and societal trends may put some demographic groups, including young adults, at higher risk for loneliness, isolation, anxiety, depression and poor health.⁹⁻¹³

Adults Ages 26-34 Experienced Higher Rates of Co-occurring Mental Illness and Substance Use Disorder

Adults ages 26-34 had the highest rates of illicit drug use, as well as co-occurring low-to-moderate mental illness and substance use disorder (LMMI SUD) compared to other adult age groups. The rate of co-occurring LMMI and SUD for adults ages 26-34 was 3.2 times higher compared to older adults ages 50+ (2.9%) in 2021. Adults ages 26-34 experienced a 39.8% increase in diagnosed depression and 44.7% increase in frequent mental distress between 2011 and 2021.

Disparities Among Youth Based on Income Level



Children living below the federal poverty level were more likely to have risks to household support, safety and well-being.

Recent national estimates highlighted in previous [America's Health Rankings reports](#) indicate that 9.9 million children have experienced two or more of nine adverse childhood experiences (ACEs). ACEs can include various traumatic events during childhood, such as witnessing or being a victim of violence, physical or emotional abuse, neglect, household dysfunction or parental separation or divorce. Having two or more household-level ACEs is

considered a health risk that influences youth safety, stability and support in their home.⁷

This analysis found that in 2021, children living below the federal poverty level were 2.7 times more likely to have experienced two or more of six household-level ACEs compared to households at or above 400% of the federal poverty level (16.9% compared to 6.2%).

Disparities by Gender



Females were more likely to have mental health conditions, while behavioral health conditions were more prevalent among males.

Consistent with previous [America's Health Rankings reports](#), notable disparities in mental health measures (e.g., depression diagnosis, anxiety diagnosis, suicidal thoughts) and behavioral health measures (e.g., illicit drug use, marijuana use and substance use disorder) existed by gender. Mental health challenges tended to be more prevalent among females, while males had higher rates of behavioral health challenges. This is consistent with literature where females have higher rates of anxiety and depression, as well as of multiple

mood disorders, compared to males.¹⁴ The rate of diagnosed depression was 1.8 times higher for adult females compared to males (26.4% vs. 14.4%). Additionally, adult females reported a 1.5 times higher rate of frequent mental distress compared to males (17.7% vs. 11.8%), and adult and youth females were 1.6 and 2.5 times more likely to report symptoms indicative of a major depressive episode in the past year (10.2% vs. 6.4% and 28.9% vs. 11.4%, respectively).



Communities across the country are feeling the impact of mental and behavioral health challenges — particularly patterns of disparities within America’s most at-risk populations.

We encourage community advocates and public health officials to use these findings to spark dialogue and take action to improve access and treatment for mental and behavioral health conditions to meet the needs of millions of individuals.

Together, committed leaders can disrupt the breadth, depth and persistence of disparities across key markers of mental and behavioral health to ensure that the holistic health of all Americans is a top priority.

Appendix

Subpopulation Group Definitions

This report highlights disparities by five key subpopulation groups; race/ethnicity, age, gender, disability status and sexual orientation. Not all subpopulations are available for all data sources and measures. In addition, where they are reported, definitions of measures and subpopulations may vary based on data sources.

Gender. This report includes data for females and males as readily available through public data sources.

Disability. It is important to note that the criteria for disability in the measures highlighted in this brief includes people who indicate that they have a physical, mental or emotional condition that impacts their day-to-day ability to function. This aligns with standardized definitions and data collection across federal data sources. While our analysis shows wide mental and behavioral health disparities between individuals with disabilities and individuals without disabilities, it is important to note that the inclusion of emotional condition in the criteria for disability may be a confounding factor. However, people with disabilities or poor mental health are at greater risk for social disconnection associated with increased risk for anxiety and depression.⁹ Further research is needed to fully understand the complexity of mental and behavioral health disparities among this population. In this report, person-first language is utilized in consideration of the unique needs and interests of people with disabilities.

Adults (or youth) with disabilities. Subpopulation of individuals who are classified as having disabilities based on standardized definition across all data sources using items that were added to all federally administered surveys in accordance with 2010 PPACA legislation. Individuals are classified as having disabilities if they (or their proxy) respond Yes to one or more of the following:

- (1) Are you deaf or do you have serious difficulty hearing?
- (2) Are you blind or do you have serious difficulty seeing, even when wearing glasses?

- (3) Because of physical, mental or emotional conditions, do you have serious difficulty concentrating, remembering or making decisions? (ages 5+)
- (4) Do you have serious difficulty walking or climbing stairs? (ages 5+)
- (5) Do you have difficulty dressing or bathing? (ages 5+)
- (6) Because of a physical, mental or emotional condition, do you have difficulty doing errands alone such as visiting a doctor's office or shopping? (ages 15+)

Sexual Orientation. Subpopulation of adults who identify as lesbian, gay or bisexual (LGB). This definition follows the NSDUH data source definition.

Limitations

Where data are reported, confidence intervals can be wide, meaning that the true rate may be far from the point estimate listed. In some cases, multiracial adults and youth had higher prevalence estimates compared to other racial and ethnic groups; however, data limitations such as small sample size or large margin of error require cautious interpretation of the results.

Caution should also be taken when interpreting data on specific health and behavior measures. Of note, many are self-reported measures that rely on an individual's perception of health and behaviors. Additionally, some health outcome measures indicate whether a respondent has been told by a health care professional that they have a disease — excluding those who may not have received a diagnosis or not have sought or obtained treatment. Social, cultural, geographical and other factors may affect the access, awareness and utilization of mental health services and treatment.

2023 Mental and Behavioral Health Data Brief Measures

Mental Health			
Measure	Description	Source(s)	Data Year(s)
Anxiety Diagnosis	Percentage of children ages 3-17 who have been diagnosed by a doctor or health care professional with an anxiety problem and are currently experiencing the problem.	HRSA MCHB, National Survey of Children's Health	2016, 2021
Co-Occurring Low-to-Moderate Mental Illness (LMMI) and Substance Use Disorder (SUD)	Percentage of adults who had co-occurring low-to-moderate mental illness and substance use disorder in the past year. NSDUH utilizes the self-report responses to DSM-5 items related to mental health and substance use. Substances included in the SUD category include alcohol, cocaine, hallucinogens, heroin, inhalants, marijuana, meth and misuse of prescription drugs.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Depression Diagnosis	Percentage of adults who have ever been told by a health professional that they have a depressive disorder.	CDC, Behavioral Risk Factor Surveillance System	2011, 2016, 2021
Frequent Mental Distress	Percentage of adults who report that their mental health was poor during 14 or more days out of the past 30.	CDC, Behavioral Risk Factor Surveillance System	2011, 2016, 2021
Major Depressive Episode (Adult)	Percentage of adults who had a major depressive episode in the past year. NSDUH utilizes the Sheehan Disability Scale to identify if an individual experienced a major depressive episode (experienced at least five of nine criteria; at least one of the criteria is a depressed mood or loss of interest or pleasure in daily activities and that they had the related feelings for two weeks or more during the past 12 months).	SAMHSA, National Survey on Drug Use and Health	2011, 2016, 2021
Major Depressive Episode (Youth)	Percentage of youth ages 12-17 who had a major depressive episode in the past year.	SAMHSA, National Survey on Drug Use and Health	2011, 2016, 2021
Suicidal Thoughts	Percentage of adults who seriously thought about killing themselves in the past year.	SAMHSA, National Survey on Drug Use and Health	2011, 2016, 2021
Behavioral Health			
Measure	Description	Source(s)	Data Year(s)
Illicit Drug Use (Adult)	Percentage of adults who used any illicit drug other than marijuana in the past year including cocaine, hallucinogens, heroin, inhalants, methamphetamine and/or misused prescription drugs.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Illicit Drug Use (Youth)	Percentage of youth ages 12-17 who used any illicit drug other than marijuana in the past year including cocaine, hallucinogens, heroin, inhalants, methamphetamine and/or misused prescription drugs.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Substance Use Disorder (Adult)	Percentage of adults who have an alcohol or drug use disorder.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Substance Use Disorder (Youth)	Percentage of youth ages 12-17 who have an alcohol or drug use disorder.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Clinical Care			
Measure	Description	Source(s)	Data Year(s)
Unmet Mental Health Treatment Needs	Percentage of adults who had mild, moderate or severe mental illness in the past 12 months who report perceiving needing mental health treatment any time in the past 12 months that they did not receive (includes people who may have received some type of mental health service in the past 12 months but felt an unmet need for services before or after they received services).	SAMHSA, National Survey on Drug Use and Health	2011, 2016, 2021

Household-level

Measure	Description	Source(s)	Data Year(s)
Multiple Household-Level Adverse Childhood Experiences	Percentage of youth ages 0-17 who have experienced two or more out of six adverse childhood experiences (ACEs): parent/guardian divorced or separated; parent/guardian died; parent/guardian served time in jail; child saw or heard physical violence in home; child lived with anyone who was mentally ill, suicidal or severely depressed; child lived with someone who had a problem with alcohol or drugs.	HRSA MCHB, National Survey of Children's Health	2016, 2021
Relational Health Risks	Percentage of children who experience one or more of four relational health risks: having two or more household-level adverse childhood experiences, a parent in need of emotional or coping support, a parent with fair or poor mental health, or a parent with high parental aggravation.	HRSA MCHB, National Survey of Children's Health	2016, 2021
Low Parent Coping or Emotional Support	Percentage of children ages 0-17 whose primary caregiver reports not coping well with parenting or lacking day-to-day emotional support.	HRSA MCHB, National Survey of Children's Health	2016, 2021

Additional Measures on AmericasHealthRankings.org

Measure	Description	Source(s)	Data Year(s)
Behavioral or Conduct Problems	Percentage of children ages 3-17 who have ever been told by a doctor, other health care provider or an educator that they have a behavioral or conduct problem.	HRSA MCHB, National Survey of Children's Health	2016, 2021
Binge Drinking (Adult)	Percentage of adults who binge drank one or more times in the past 30 days as defined by four or more drinks on one occasion for females and five or more drinks for males.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Binge Drinking (Youth)	Percentage of youth ages 12-17 who binge drank one or more times in the past 30 days as defined by four or more drinks on one occasion for females and five or more drinks for males.	SAMHSA, National Survey on Drug Use and Health	2016, 2021
Marijuana Use (Adult)	Percentage of adults who used marijuana one or more times in the past month.	SAMHSA, National Survey on Drug Use and Health	2011, 2016, 2021
Marijuana Use (Youth)	Percentage of youth ages 12-17 who used marijuana one or more times in the past year.	SAMHSA, National Survey on Drug Use and Health	2011, 2016, 2021
Avoided Mental Health Care Due to Costs	Percentage of all adults who delayed getting counseling or therapy from a mental health professional due to cost during the past 12 months.	CDC, National Health Interview Survey	2021
Unmet Mental Health Treatment Needs (Child)	Percentage of children ages 3-17 reported by their parents to have been diagnosed by a health care provider with a mental/behavioral condition (depression, anxiety problems, or behavioral or conduct problems) who needed but did not receive mental health treatment.	HRSA MCHB, National Survey of Children's Health	2016, 2021
Low Parental Mental Health	Percentage of children ages 0-17 who have one or two caregivers who are in poor or fair mental health.	HRSA MCHB, National Survey of Children's Health	2016, 2021

References

- 1 Anda, R. F., V. J. Feliti, J. D. Bremner, J. D. Walker, C. Whitfield, B. D. Perry, et al. "The Enduring Effects of Abuse and Related Adverse Experiences in Childhood: A Convergence of Evidence from Neurobiology and Epidemiology." *European Archives of Psychiatry and Clinical Neuroscience* 256, no. 3 (2006): 174-186.
- 2 Burke, N.J., J. L. Hellman, B. G. Scott, C. F. Weems, and V.G. Carrion. "The Impact of Adverse Childhood Experiences on An Urban Pediatric Population." *Pediatrics* 141, no. 4 (2018): e20173490. <https://doi.org/10.1016/j.chiabu.2011.02.006>.
- 3 Centers for Disease Control and Prevention (CDC). "Adverse Childhood Experiences (ACEs)." 2021. <https://www.cdc.gov/violenceprevention/aces/index.html>.
- 4 U.S. Department of Health and Human Services, Administration for Children and Families, Children's Bureau. Child Welfare Information Gateway. "Long-Term Consequences of Child Abuse and Neglect." 2019. <https://www.childwelfare.gov/pubs/factsheets/long-term-consequences/>.
- 5 Danese, A., and B. S. McEwen. "Adverse Childhood Experiences, Allostatic Load, and Age-Related Disease." *Physiology & Behavior* 106, no. 1 (2012): 29-39.
- 6 Hughes, K., M. A. Bellis, K. A. Hardcastle, D. Sethi, A. Butchart, C. Mikton, L. Jones, and M. P. Dunne. "The Effect of Multiple Adverse Childhood Experiences on Health: A Systematic Review and Meta-analysis." *The Lancet Public Health* 2, no. 8 (2017): e356-e366.
- 7 Bethell, C., C. K. Blackwell, N. Gombojav, M. B. Davis, C. Bruner, and A. S. Garner. "Toward Measurement for a Whole Child Health Policy: Validity and National and State Prevalence of the Integrated Child Risk Index." *Academic Pediatrics* 22, no. 6 (August 2022): 952-964. <https://doi.org/10.1016/j.acap.2021.12.001>.
- 8 Jones, C. M., and E. F. McCance-Katz. "Co-occurring Substance Use and Mental Disorders Among Adults with Opioid Use Disorder." *Drug and Alcohol Dependence* 197 (April 2019): 78-82. <https://doi.org/10.1016/j.drugalcdep.2018.12.030>.
- 9 Office of the Surgeon General. "Our Epidemic of Loneliness and Isolation: The U.S. Surgeon General's Advisory on the Healing Effects of Social Connection and Community." 2023. <https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf>.
- 10 Holt-Lunstad, J., T. B. Smith, M. Baker, T. Harris, and D. Stephenson. "Loneliness and Social Isolation as Risk Factors for Mortality: A Metaanalytic Review." *Perspectives on Psychological Science* 10, no. 2 (2015): 227-237.
- 11 Valtorta, N. K., M. Kanaan, S. Gilbody, S. Ronzi, and B. Hanratty. "Loneliness and Social Isolation as Risk Factors for Coronary Heart Disease and Stroke: Systematic Review and Meta-Analysis of Longitudinal Observational Studies." *Heart* 102, no. 13 (2016): 1009-16.
- 12 Mann, F., J. Wang, E. Pearce, et al. "Loneliness and the Onset of New Mental Health Problems in the General Population." *Social Psychiatry and Psychiatric Epidemiology* 57, no. 11 (2022): 2161-2178.
- 13 Kannan, V., and P. Veazie. "US Trends in Social Isolation, Social Engagement, and Companionship — Nationally and by Age, Sex, Race/Ethnicity, Family Income, and Work Hours, 2003–2020." *SSM - Population Health* 21, (2023).
- 14 Kessler, Ronald C., Wai Tat Chiu, Olga Demler, and Ellen E. Walters. 2005. "Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication." *Archives of General Psychiatry* 62 (6): 617-27. <https://doi.org/10.1001/archpsyc.62.6.617>.

UNITED HEALTH FOUNDATION®

About the United Health Foundation

Through collaboration with community partners, grants and outreach efforts, the United Health Foundation works to improve our health system, build a diverse and dynamic health workforce and enhance the well-being of local communities. The United Health Foundation was established by UnitedHealth Group (NYSE: UNH) in 1999 as a not-for-profit, private foundation dedicated to improving health and health care. To date, the United Health Foundation has committed more than \$700 million to programs and communities around the world. To learn more, visit UnitedHealthFoundation.org.

For more information, contact:

The United Health Foundation
Jenifer McCormick
jenifer_mccormick@uhg.com
(952) 936-1917

AmericasHealthRankings.org

