

# The Kids Are Not Alright

## Mental Health Utilization Among Children and Young Adults: 2016-2022

May 2023

The mental health landscape for [children](#) in the United States continues to be [a major concern](#), with recent studies indicating declines in children's mental health, driven, at least in part, by the COVID-19 [pandemic](#). In light of this, the [Clarify Health Institute](#) analyzed patterns in the use of mental health services among children and young adults from 2016-2022. Among the most striking results, we find a 250% increase in inpatient (IP) hospital admissions for children and young adults for anxiety and fear-related disorders and a 221% increase for feeding and eating disorders, representing a tripling since 2016.

Our analysis is based on an observational national sample of health insurance claims for over 24.5 million children and young adults up to 21 years of age from 2016-2022. This research brief is the second in a series reviewing mental health utilization, following our initial analysis, which analyzed the use of mental health services among children aged 1-18 with a diagnosed mental health condition.

The goal of this brief to provide a clearer picture of the current state of youth mental health care utilization and its contributing factors among children and young adults. [The CDC](#) estimates that four in ten high school students experienced persistent sadness or hopelessness in 2021, with two in ten seriously considering suicide. The [National Institute of Mental Health](#) reports that, as of 2020, 16.5% of adolescents experienced a major depressive episode in the past year. [Anxiety disorders](#) are also increasingly common, with a lifetime prevalence of up to 32% among adolescents. Moreover, early-life stress and trauma [impact the development and long-term mental health](#) of affected individuals.

In producing these insights, we aim to inform stakeholders of the ongoing challenges and areas in need of intervention to improve youth mental health. With this knowledge, we can collectively work toward improved mental health support and resources for children and young adults in the United States.

## Major Findings

Our major findings include the following:

- Rising incidence of most mental health conditions among children and young adults from 2016–2022, accompanied by pandemic-related decreases in 2020, lowering overall growth rates for the time period
- A 124% overall increase in mental health IP hospital admissions, including:
  - A 250% increase in IP hospital admissions for anxiety and fear-related disorders
  - A 221% increase in IP hospital admissions for feeding and eating disorders
  - A 96% increase in IP hospital admissions for depressive disorders
- A 45% increase in mental health emergency department (ED) visits, including a 74% increase in ED visits for suicidal ideation, attempts, and other self-harm
- Higher rates of mental health IP admissions and ED visits among teenagers and young adults compared to younger children, with the largest increases among girls aged 12-15

Our findings validate and underscore the calls to action by other national stakeholders, including the joint [declaration](#) by three pediatric medical societies and the Surgeon General's [advisory](#) about protecting youth mental health. Our findings point to an increasing need to urgently improve data collection and monitoring of the mental health of America's youth and for clinicians, health systems, and insurers to prioritize addressing the growing mental health crisis.

## Methodology

We assess mental health services diagnosing and utilization among children and young adults up to 21 years old. Mental and behavioral health conditions are identified and categorized using [AHRQ CCSR](#) condition categories. To leverage the most recently available data related to mental health care utilization by children and young adults, we consider fully mature claims data from 2016 - 2021 and preliminary data for 2022. Specifically, we compare mature claims from 2016 through the third quarter of 2022, with values for the last three months of 2022 imputed based on prior year estimates.

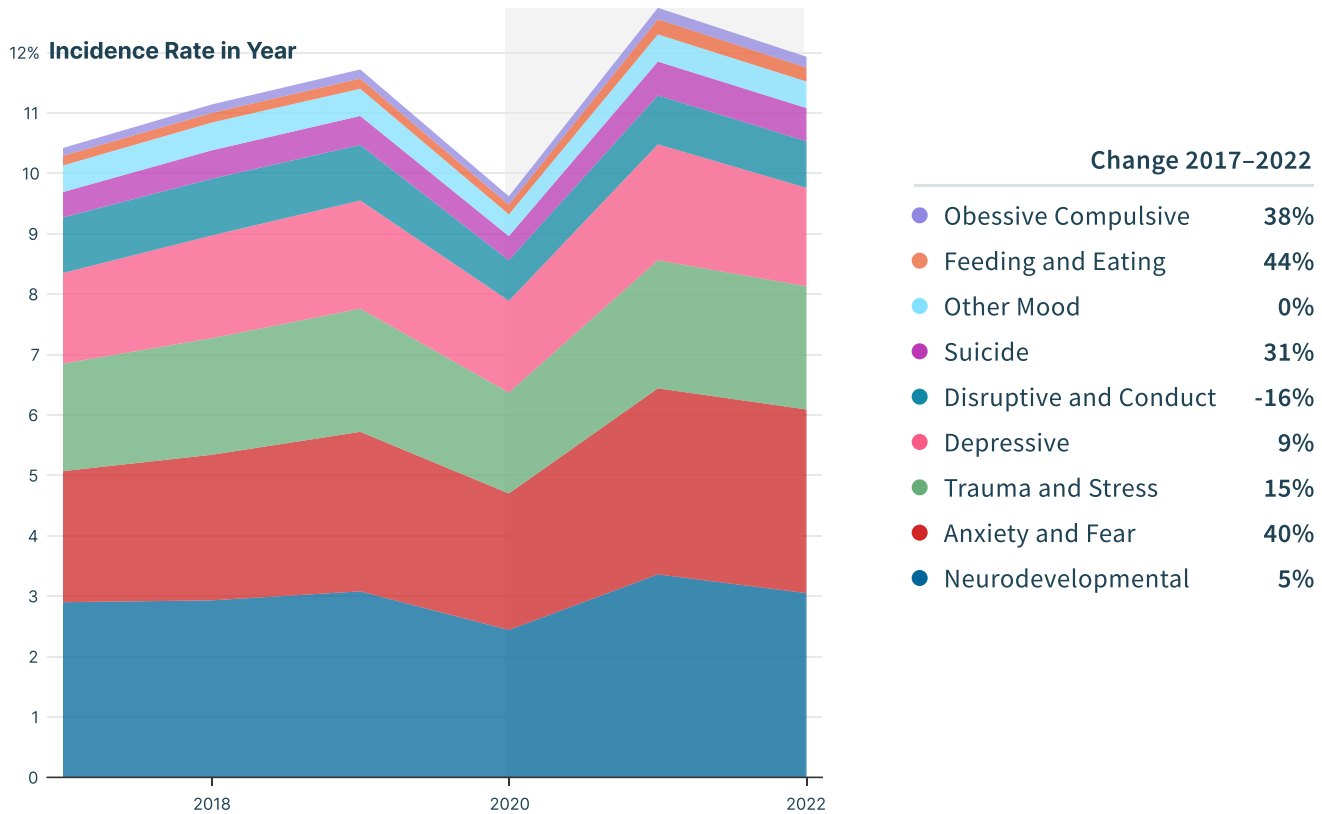
With the exception of results presented separately for age and sex subgroups, all results are case-mix adjusted to account for any sample population age- or sex-differences over time. We standardize estimates to the 2019 calendar year, adjusting other annual estimates to match the age and sex distributions in this reference year.

## Trends in Mental Health Diagnosing among Children and Young Adults

**Figure 1** highlights the increase in new diagnoses for nine mental health condition categories from 2017-2022. For the purposes of this study, new diagnoses (i.e., incidence rates) are defined as the presence of a mental health diagnosis code in any given year with no corresponding documented diagnosis in the preceding year. 2016 data is only considered to confirm no diagnosis was reported in the prior year.

Feeding and eating disorders had the highest rate of growth (44%), followed by anxiety and fear disorders (40%), and obsessive-compulsive disorders (38%). Interestingly, only diagnoses for disruptive and conduct disorders decreased (16%) over the analysis period. The overall growth rates do hide some year-over-year volatility in diagnosing, in part due to the impact of the COVID-19 pandemic. For example, anxiety and fear-related conditions saw a 14% decrease in 2020 (from a 2.6% rate in 2019 to 2.3%), followed by a 36% increase in 2021 (to 3.1%), culminating in a 40% overall increase from 2017 to 2022 (from 2.2% to 3.0%).

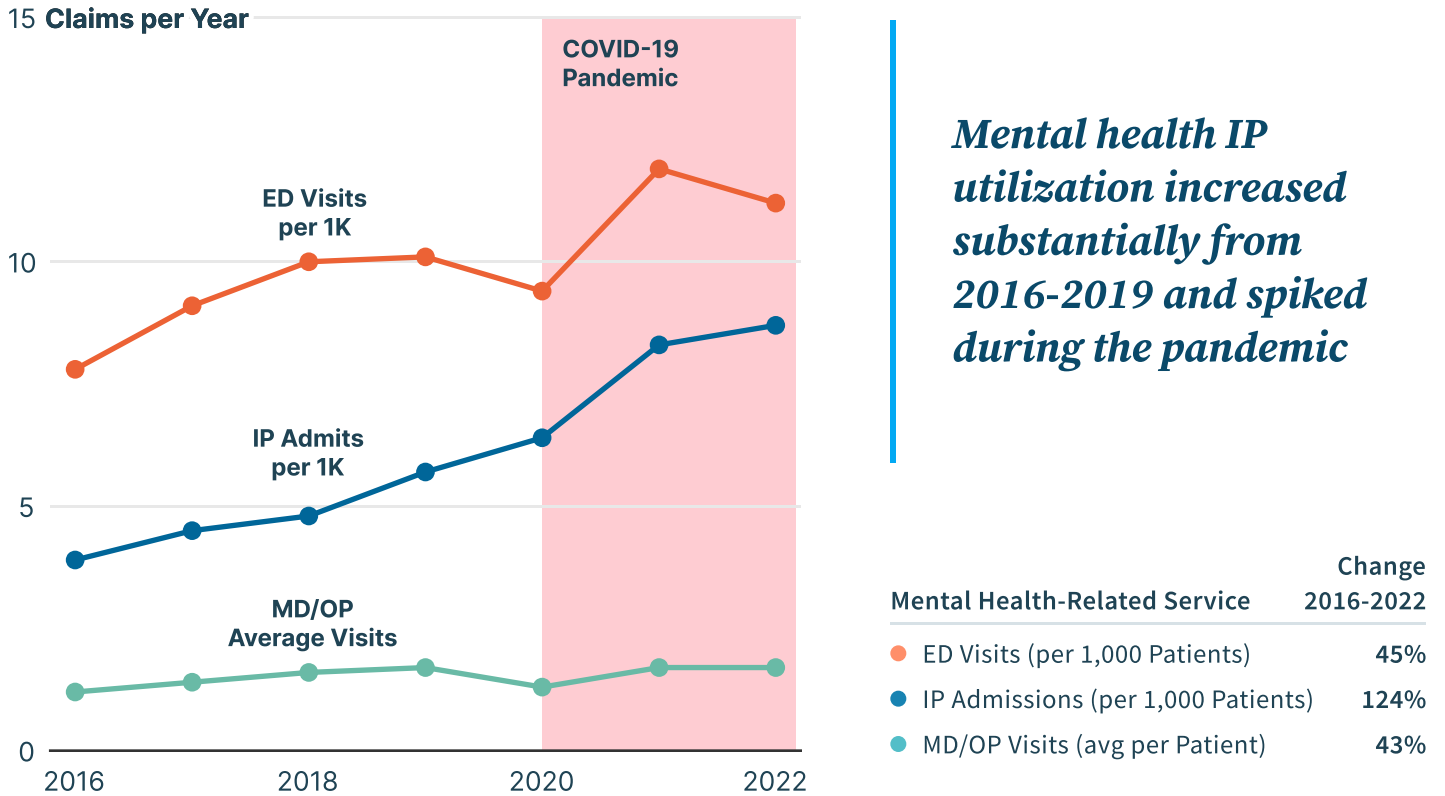
**FIGURE 1: ANNUAL INCIDENCE RATES ACROSS CONDITIONS, 2017-2022**



## Trends in Mental Health Care Utilization among Children and Young Adults

We assessed mental health services utilization among children and young adults from 2016-2022, looking at overall utilization, condition-specific utilization, and differences in utilization by age and sex.

**FIGURE 2: TRENDS IN IP, ED, AND OFFICE/OUTPATIENT (MD/OP) UTILIZATION, 2016-2022**



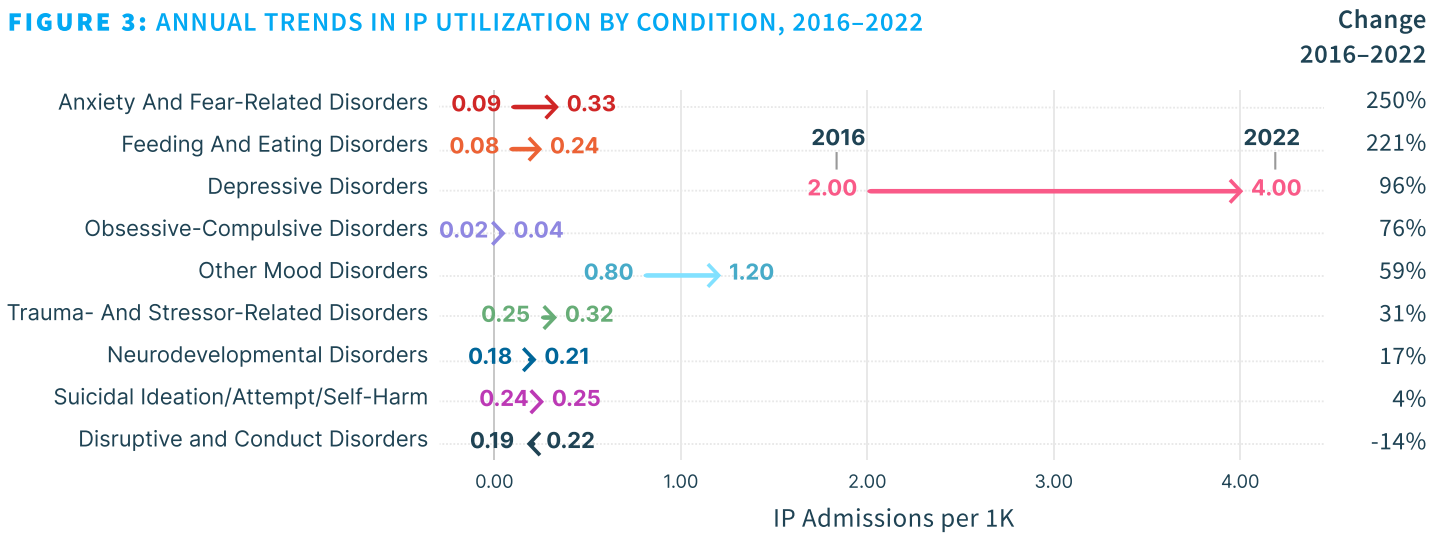
**Figure 2** presents trends in the utilization of three categories of mental health services among children and young adults: acute IP admissions, ED visits, and office and outpatient (MD/OP) mental health professional visits. Overall, from 2016 to 2022, we estimate that:

- IP admissions increased 124% (from 3.9 to 8.7 visits annually per 1,000 patients)
- ED visits increased 45% (from 7.8 to 11.2 visits annually per 1,000 patients)
- MD/OP mental health services utilization rose from 2016 to 2019, but then experienced a sharp decrease in 2020, likely driven by the COVID pandemic, reducing the overall growth rate for these services to 43% from 2016 to 2022.

Our estimates are case-mix adjusted to account for any sample population differences in age or sex over time.

## Condition-Specific Changes in Utilization

**FIGURE 3: ANNUAL TRENDS IN IP UTILIZATION BY CONDITION, 2016–2022**



**Figure 3** highlights differences in mental health IP utilization among children and young adults by condition from 2016 to 2022. Anxiety and fear-related disorders increased by 250%, feeding and eating disorders by 221%, and depressive disorders by 96% from 2016 to 2022. Conversely, admissions for other conditions exhibited slower growth, and admissions for disruptive and conduct-related disorders declined by 14%.

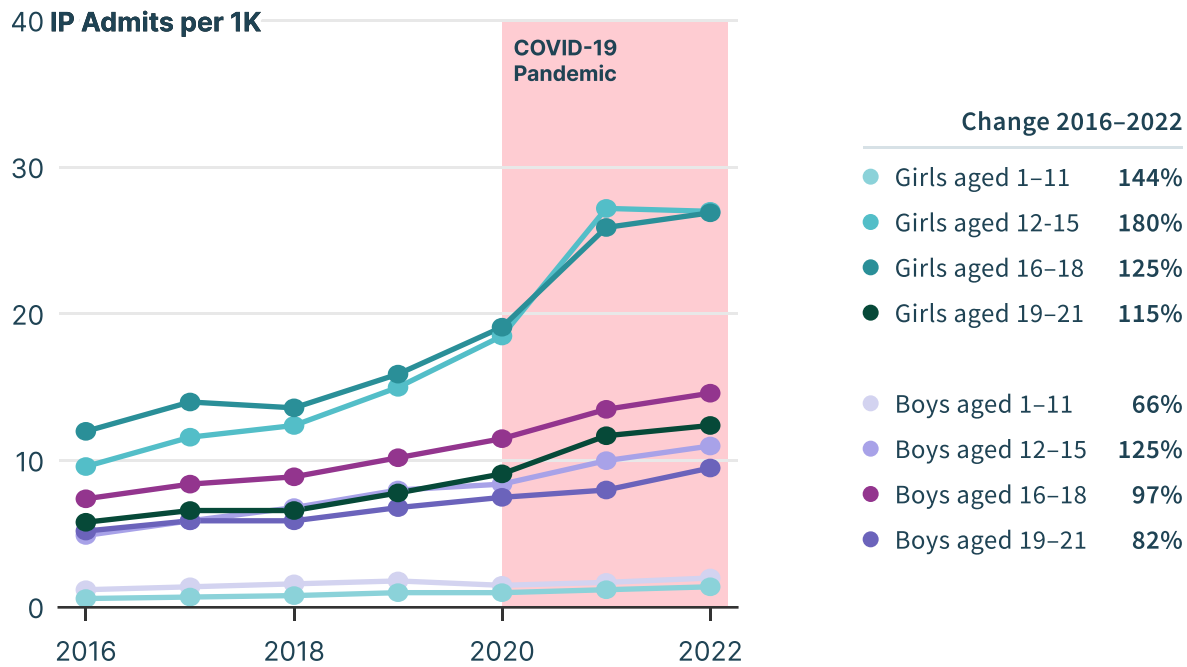
*Inpatient admissions for anxiety and fear-related disorders and feeding and eating disorders have both tripled since 2016*

A similar analysis of ED utilization shows consistent trends, with some exceptions. Notably, while rates of IP hospital admissions for suicidal ideation, attempts, and other self-harm

increased by only 4%, ED visits with this primary diagnosis have increased by 74% over the same time period (from 2.1 visits per 1K in 2016 to 3.7 visits in 2022).

## Age & Sex Differences in Mental Health Care Utilization

**FIGURE 4: ANNUAL TRENDS IN IP UTILIZATION BY AGE AND SEX, 2016–2022**

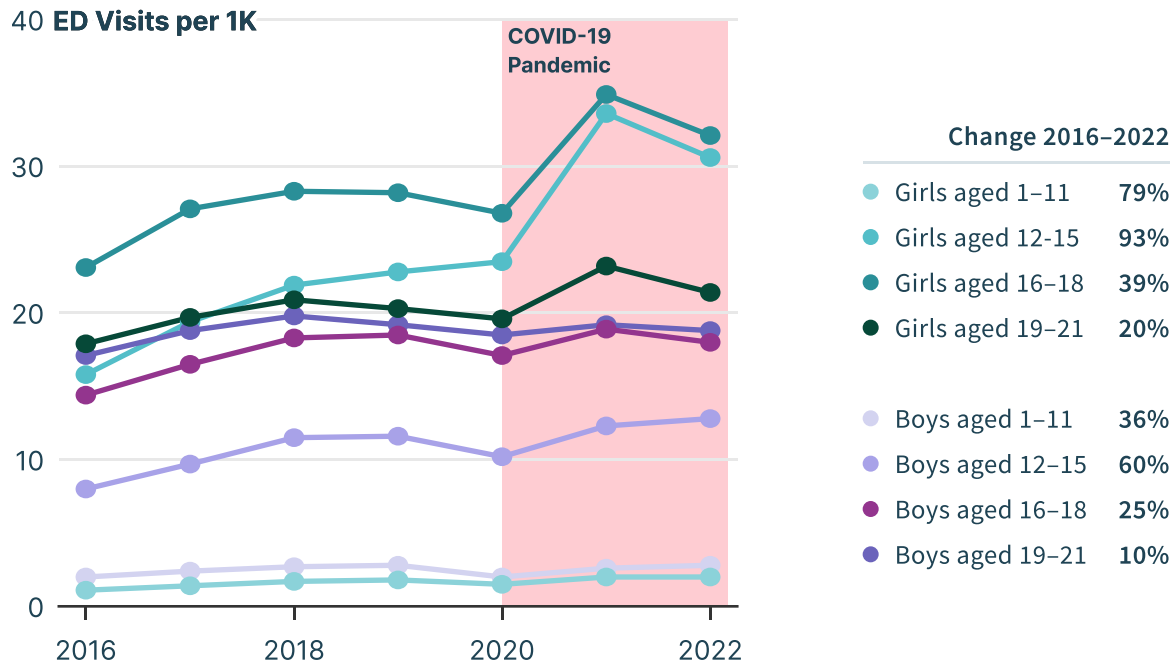


**Figure 4** highlights differences in mental health IP utilization among children and young adults by age and sex. We observe substantial increases from 2016 to 2022 for both boys and girls of all age groups, but the increase is particularly pronounced among adolescents over 12 years old. Mental health IP admissions increased 180% among girls and 125% among boys aged 12–15 from 2016–2022. Underlying admission rates for girls aged 12–15 were around 2.5 times higher than admission rates for boys in the same age group across the entire time period (27.0 versus 11.0).

***IP utilization increased dramatically during the pandemic, with the largest increases for adolescents aged 12–15***

Although trends worsened across all age and sex groups during the pandemic, mental health-related IP utilization was increasing prior to 2020. One potential driver of increasing IP utilization for adolescents is increasing rates of social media and internet use; [97% of teens use the internet every day, averaging 8 hours and 39 minutes of daily screen media. Among other research](#), one study of over six thousand 12-15-year-olds found that more than three hours of social media use a day was linked to [depression and internalizing mental health problems](#), potentially contributing to the long-term trends we observe.

**FIGURE 5: ANNUAL TRENDS IN ED UTILIZATION BY AGE AND SEX, 2016-2022**



**Figure 5** highlights differences in mental health ED utilization by age and sex. Similar to IP utilization, girls were more likely than boys to experience an ED encounter. While ED utilization dropped for several cohorts at the beginning of the pandemic, rates rose dramatically in 2021.

ED utilization has risen most among 12-15 year-olds in the pediatric population since 2016. Mental health ED visits increased 45% overall, ranging from a low of 10% for boys aged 19-21 years old to highs of 79% and 93% among girls and boys aged 12-15, respectively.

*Adolescent girls over age 12 experienced a sharp increase in ED utilization during the pandemic*



## Discussion

This analysis of mental health care utilization from 2016 to 2022 quantifies the notable increase in the utilization of mental health services among children and young adults. The findings underscore the urgent need for a comprehensive, multi-faceted approach to address this growing crisis. Health care providers, educators, policymakers, and other stakeholders must come together to develop targeted interventions and allocate appropriate resources to support the mental and emotional well-being of our youth.

***Improving access, utilization, and quality of behavioral health services among children and young adults should be a national priority for US health systems, payers, and policymakers***

The United States has faced a [persistent shortage](#) of inpatient pediatric psychiatric beds and facilities, despite our estimated 124% increase in inpatient utilization since 2016. Efforts by organizations such as the [National Alliance on Mental Illness](#) (NAMI), the [American Academy of Child and Adolescent Psychiatry](#) (AACAP), and the [Substance Abuse and Mental Health Services Administration](#) (SAMHSA) have sought to address this issue by increasing the supply of inpatient pediatric mental health services in response to the [pandemic](#). Although precise estimates are challenging to obtain, these advocacy efforts have contributed to [growth in inpatient mental health service availability](#) despite an [ongoing failure](#) to meet clinical demand. Inpatient care is essential for patients with severe mental health conditions, providing a structured environment and intensive treatment. However, it often reflects a failure to provide [appropriate outpatient care](#) earlier in the patient's journey. Institutionalization can have consequences such as disruption of daily life, social stigma, and financial burden. So, the most effective approach to pediatric mental health care likely involves a combination of inpatient and outpatient services, with patients transitioning between levels of care based on their individual needs and the severity of their conditions. More efforts should be made to encourage [such initiatives](#).

Despite documented increases in acute utilization of pediatric mental health services, access to outpatient pediatric mental health care [continues to be challenging](#). Moreover, research is needed to further assess the effectiveness of interventions aimed at improving the mental health and well-being of children and young adults, with a particular focus on [early identification](#) and intervention. Efforts should be made to increase mental and behavioral health screening rates for all children and young adults, regardless of insurance coverage, and to ensure access to evidence-based treatments. This will involve addressing the



current shortage of mental health care providers, [integrating mental health](#) care into primary care settings, and [supporting school-based programs](#) that offer behavioral health services.

As noted above, one factor that cannot be ignored in this discussion is the potential impact of [social media](#). Numerous studies have [shown correlations](#) between [increased social media usage](#) and the prevalence of mental health issues such as depression, anxiety, and low self-esteem among young people.

The growing need for mental health services among children and young adults highlights a critical [unmet need](#), and addressing [longstanding access issues](#), such as [workforce shortages](#), funding disparities, and stigma, is crucial. By expanding inpatient care capacity and implementing innovative solutions like [telepsychiatry services](#), we can improve access and provide timely, effective care to children and adolescents, ultimately benefiting those most in need and underserved by the current system. Furthermore, the recent allocation of [\\$3.5 billion in federal funding](#) for behavioral health programs is a crucial step forward in improving mental health care access in the United States. However, [continued investment](#) in pediatric mental health resources, research, and support is necessary to create a more robust and effective system that meets the diverse needs of our nation's youth.

In conclusion, the growing crisis of mental health among children and young adults demands the attention and collaboration of various stakeholders. The surge in mental health care inpatient and emergency department visits can be attributed to multiple factors, including rising incidence, gaps of care in the health care system, school-based stressors without sufficient school-based mental health services, and the impact of social media. By addressing the multiple factors contributing to this issue, we can work toward a brighter, healthier future for our children.

# Appendix

## Limitations

We note several limitations in the presented analyses, primarily arising from the use of insurance claims data. Our utilization metrics rely on patients' willingness to seek treatment and mental health professionals' diagnosis of mental health conditions within a clinical setting. Additionally, we do not observe the high volume of pediatric mental health services provided in non-clinical settings, such as through schools and community-based programs or those paid for by families out-of-pocket rather than through health insurance. This likely impacts both our utilization as well as incidence estimates related to mental health care among children and young adults. Further consideration of data from these settings as well as population surveys is critical in establishing the full picture of adolescent mental health in the US. Mental health services are often covered separately by insurers, and increased compliance with federal and state [mental health parity laws](#) may also help to bridge gaps in access. Our review of mental health services utilization is inherently descriptive. Focused evaluations of clinically validated and culturally sensitive interventions are necessary to address the burgeoning pediatric mental health crisis.

## Technical Notes

### Data source

Presented analyses utilize a combined commercial and Medicaid managed care claims data source leveraging data from multiple payers across the US. Our sample includes an average 24.5 million children aged 1-21 years old annually from 2016 - 2022.

### Identification/classification of mental health conditions

We identify and categorize mental and behavioral health conditions using [AHRQ CCSR](#) condition categories. Specifically, we present results among children identified with the mental and behavioral disorder (MBD) categories, defined by ICD-10 diagnosis codes, for:

- Depressive disorders (MBD002)
- Other specified and unspecified mood disorders (MBD004)
- Anxiety and fear-related disorders (MBD005)
- Obsessive-compulsive and related disorders (MBD006)
- Trauma- and stressor-related disorders (MBD007)
- Disruptive, impulse-control, and conduct disorders (MBD008)
- Feeding and eating disorders (MBD010)
- Suicidal ideation, attempts, and other intentional self-harm (MBD012)
- Neurodevelopmental disorders (MBD014)

### **Utilization rates per 1,000 patients**

Utilization rates by claim type (i.e., counts of IP, ED, and MD/OP services) are estimated among patients enrolled in either commercial insurance or Medicaid in the current year. In comparing utilization across calendar years, we compare fully mature claims data from 2016 to 2022 Q3. Utilization values for 2022 Q4 are imputed based on prior year estimates.

### **New diagnosis rate calculations**

New diagnosis rates (i.e., incidence rates) are calculated among individuals observed with at least six months continuous enrollment in both the current and prior year. Incident diagnoses are identified in a given year if a diagnosis code for the same MBD condition category was not identified in prior year data. Diagnosis rates from 2016 - 2022 are estimated consistently with utilization analyses, however given the look back period incidence calculations are only made from 2017 - 2022.

### **Case-mix adjustment**

With the exception of results presented separately for age and sex subgroups, all results are case-mix adjusted to account for any sample population age- or sex-differences over time. We standardize estimates to the 2019 calendar year, adjusting other annual estimates to match the age and sex distributions in this reference year.

## **About the Clarify Health Institute**

The Clarify Health Institute is the research arm of Clarify Health, an enterprise analytics and value-based payments platform company. It leverages Clarify's data assets, including claims, clinical, and social determinants of health data across 300 million patient journeys to shine a light on important health care issues and explore trends. It provides industry leaders, policymakers, academic researchers, the media, and the public unprecedented access to data-driven health care insights.

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