

## INDICATORS OF MENTAL HEALTH IN CHILDREN AND ADOLESCENTS IN INDIANA

### Introduction

Mental health disorders among children and adolescents are an important public health issue across the United States. Many of our youth are suffering from mood, anxiety, behavior, and substance use disorders with onsets occurring as early as age 6; unfortunately, several do not receive treatment until years later.<sup>1,2</sup> Research estimates that one out of eight children ages 8 to 15 met criteria for a mental health disorder in the past year.<sup>3</sup> In 2013, the National Survey on Drug Use and Health (NSDUH) reported an estimated 2.6 million adolescents (10.7%) between the ages of 12 and 17 had at least one major depressive episode (MDE) within the past year, with 61.9% indicating they did not receive treatment for their depression.<sup>4</sup>

The Surgeon General's Report on Mental Health defined mental disorders in children as "serious deviations from expected cognitive, social, and emotional development" cultivated from the complex relationship between the child and their environment. Mental disorders with childhood and adolescent onset include:<sup>5</sup>

- anxiety disorders
- attention-deficit and disruptive behavior disorders
- autism and other pervasive developmental disorders
- eating disorders
- elimination disorders
- learning and communication disorders
- mood disorders
- schizophrenia
- tic disorders

Additionally, it is not considered unusual for a child to have co-occurring psychiatric disorders, and it is estimated that 40% of children or adolescents with one mental illness will have at least one other concurrent mental health disorder.<sup>2,5</sup>

Adolescents are not only affected by mental illness during youth, but can be severely impacted during their transition to adulthood. Mental health disorders are associated with housing instability, lower educational achievement, unemployment, and reduced access to health care in later life.<sup>6,7</sup> A 2010 study on the burden of psychiatric disorders demonstrated that emerging adults who experience a higher number of mental illness episodes also experience more negative impacts on life outcomes later on, including increased welfare dependence. Also, those averaging more than four episodes of mental illness worked six fewer hours and earned \$166 less per week than those with no reported mental health diagnosis.<sup>6</sup> Additionally, students with a mental health disorder have the highest high school dropout rate of any disability group (37%).<sup>8</sup> Furthermore, youth who do not receive treatment for their mental illness are at an increased risk for a substance use disorder (SUD), unnecessary disability, unemployment, homelessness, and inappropriate incarceration in adulthood.<sup>5,9</sup>

Comorbidity of SUD and mental illness is highly prevalent in adolescents. In 2012, an estimated 214,000 adolescents (3.1%) aged 16-17 had a co-occurring MDE and SUD in the past year, yet 53.3% did not receive treatment for either depression or substance use.<sup>7</sup> In a review on co-occurring disorders, the prevalence of comorbidity between SUDs and depression ranged from 11.1% to 32.0%. Most studies agree that the development and onset of a mental illness occurs prior to substance abuse and is associated with earlier onset of SUD.<sup>10</sup>

### Risk Factors

Many biological, psychological, and social risk factors can predispose adolescents to developing a mental health disorder. Biological risk factors include prenatal damage from: exposure to substances such as tobacco, alcohol, or illicit drugs;



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inherited genetic predisposition; head trauma; HIV infection; malnutrition; substance abuse; and other illnesses.<sup>5,11</sup> Psychological risk factors include: learning disorders; sexual, physical, and emotional abuse and neglect; difficult temperament; and maladaptive personality traits; unsatisfactory relationships; family conflict and poor family management; academic failure; bullying; discrimination and marginalization; and exposure to violence.<sup>5,11</sup> Moreover, many of these factors are often interrelated and have a cumulative effect that increases the risk of developing mental illness.<sup>5,12</sup>

Studies have reported major increases in lifetime prevalence of depression and mood disorders, as well as earlier age of onset among recent birth cohorts.<sup>1,13</sup> Also, an increased prevalence of mental health disorders in adolescents has been observed between the early 20th century and the early 1990s.<sup>2,14</sup> A cultural shift towards individualism and high expectations as well as a “trend of disconnection” in Western society has been suggested as cause of depression among young people.<sup>14</sup> There is also evidence that contemporary adolescents are more narcissistic and experience an increased emphasis on image and competition, which is associated with anxiety and depression.<sup>14,15</sup>

An additional concern is the rise in cyberbullying and its psychological impact on children and adolescents.<sup>16,17</sup> The Centers for Disease Control and Prevention (CDC) classify bullying as “any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated”.<sup>18</sup> A unique feature of cyberbullying is that it occurs through communications technology.<sup>16,18</sup> Cyberbullying, also known as electronic aggression, can be defined as “any type of harassment or bullying that occurs through e-mail, a chat room, instant messaging, a website (including blogs), text messaging, or videos or pictures posted on websites or sent through cell phones,” and has increased through the use of social media.<sup>16</sup> Perpetrators of cyberbullying have the ability to do so anonymously to a wide audience and may be less likely to feel accountable for their actions.<sup>16,17</sup> A 2012 study on the prevalence of cyberbullying found 59.7% of cyberbullying victims were also bullied in school, with reports of cyberbullying victimization higher among girls and non-heterosexually identified youths. This study also determined victims of both cyber- and school-based bullying were more than four times as likely to report depressive symptoms, ideas of suicide,

and self-injury, and more than five times as likely to attempt suicide when compared to non-victims.<sup>17</sup>

The CDC has identified suicide as the third leading cause of death for young people ages 10 to 24, and approximately 90% of youth who die by suicide have a mental health disorder.<sup>5,19</sup> Additionally, youth are more likely to survive attempted suicide than die from it, resulting in 157,000 adolescents receiving medical care for self-inflicted injuries per year. Boys are more likely to die from suicide than girls (81% versus 19%, respectively, for ages 10 to 24); although, girls are more likely to attempt suicide.<sup>19</sup> Individual risk factors for suicidal behaviors include mental illness, substance abuse, and impulsivity/aggression. However, there are additional determinants such as barriers to health care, availability of lethal means, unsafe media portrayals of suicide, and family history that contribute to suicidal impetus.<sup>20,21</sup> Since mood disorders significantly increase the risk of suicide and are one of the most frequently diagnosed mental disorders, there is a serious cause for concern and need for action regarding their treatment among youth.<sup>5</sup>

Youth mental illness impacts the child, the family, and the community. It involves complex interrelated factors and poses many serious public health challenges. Mental health disorders diagnosed in childhood can have negative effects on relationships, productivity, and overall well-being even during adulthood. They can also increase one’s likelihood for other chronic illnesses and disabilities. It is important to understand the prevalence and scope of mental health disorders in adolescents to effectively address the issue and implement change, especially at a local level. Surveillance and monitoring is necessary in identifying hardships and targeting resources, and is crucial to track progress in reducing the impact of mental disorders. Therefore, the rest of this brief reports current trends and prevalence rates of youth mental health disorders and their consequences to highlight the need to develop successful interventions that prevent and treat mental disorders as well as promote mental health in the State of Indiana.

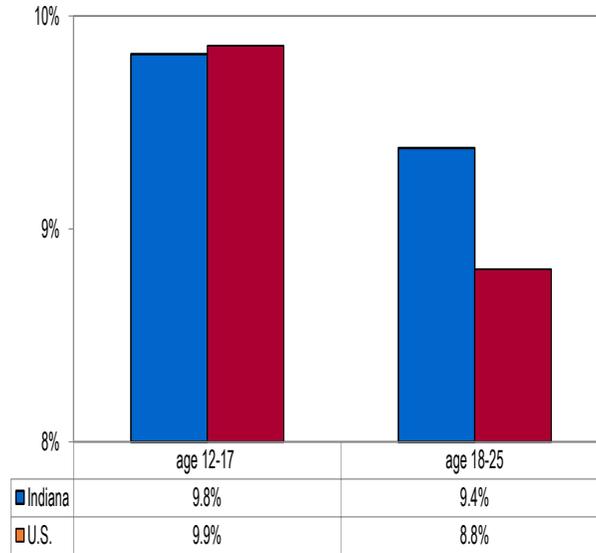
### **Prevalence of Mental Health Disorders and Health Consequences in Indiana**

Prevalence rates of major depressive episodes (MDE) are similar in Indiana and the United States. In 2013, 9.8% of Hoosier adolescents ages 12 to 17 (95% CI: 8.1-11.9) reported having had at least one MDE in the past year (U.S.:

9.9%, 95% CI: 9.5-10.3). Among Indiana adolescents ages 18 to 25, 9.4% (95% CI: 7.7-11.3) reported having had at least

one MDE in the past year (U.S.: 8.8%, 95% CI: 8.5-9.1) (see Figure 1).<sup>22</sup>

Figure 1: Percentage of Indiana and U.S. Adolescents and Young Adults (12-25 Years) Reporting at Least One Major Depressive Episode (MDE) in the Past Year, by Age Group (National Survey on Drug Use and Health, 2013)

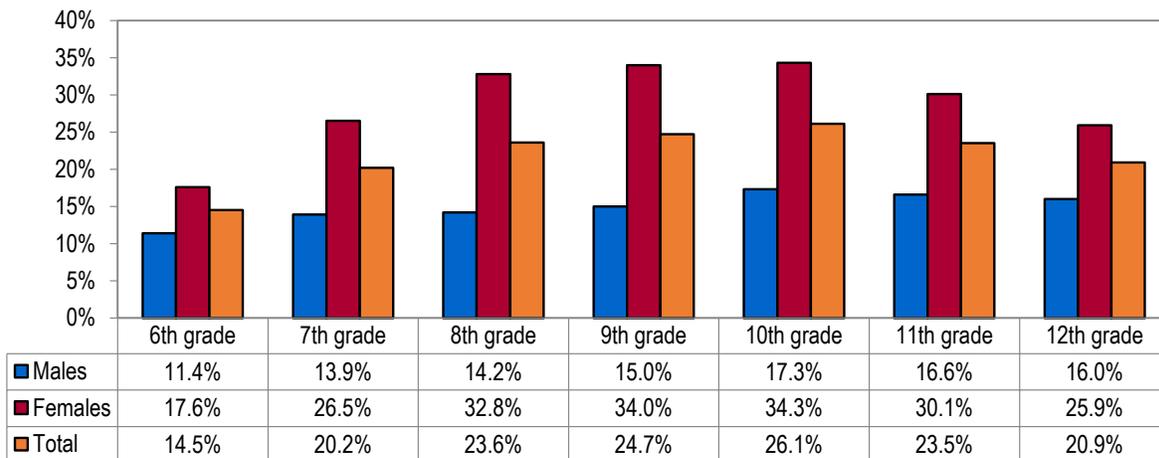


Source: Substance Abuse and Mental Health Services Administration, 2013<sup>22</sup>

Additionally, 29.1% (95% CI: 26.3-31.9) of Indiana high school students reported “feeling sad or hopeless almost every day for two or more weeks in a row, to the extent that they stopped doing some usual activities”. Indiana prevalence rates did not differ by race/ethnicity or grade level and were similar to U.S. rates.<sup>23</sup>

of sadness and hopelessness for female students in grades 6 through 12 (see Figure 2).<sup>24</sup> Similarly, the 2011 Youth Risk Behavior Surveillance System (YRBSS) found a significant difference in prevalence rates between Indiana female and male high school students reporting feeling sad or hopeless, 34.5% (95% CI: 31.2-37.9) and 23.7% (95% CI: 19.0-29.2), respectively.<sup>23</sup>

Figure 2: Percentage of Indiana Students (Grades 6 through 12) Reporting Feeling Sad or Hopeless (Indiana Youth Survey, 2014)



Source: Gassman, et al., 2014<sup>24</sup>

The CDC has identified bullying, in-person physical or verbal threats or through electronic media, to be linked to a number of mental health problems in youth, including depression and anxiety.<sup>18</sup> Based on 2011 YRBSS findings, prevalence rates were similar between Indiana and U.S. high school students for being electronically bullied (IN: 18.7%, 95% CI: 16.4-21.2; U.S.:16.2%, 95% CI: 15.3-17.2); however, Indiana prevalence rates differed significantly by gender, but not by grade level or race/ethnicity (Females: 25.5%, 95% CI: 22.6-28.7; Males: 12.1%, 95% CI: 9.3-15.7) (see Table 1). In addition, a significantly higher percentage of Indiana students experienced being bullied on school property (25.0%, 95% CI: 22.3-27.9) compared to U.S. students (20.1%, 95% CI: 18.7-21.5).<sup>23</sup>

Mental illness significantly increases the risk of suicide and is a serious public health concern.<sup>5,19</sup> In 2011, the percentage of high school students attempting suicide in the past year was significantly higher in Indiana (11.0%, 95% CI: 8.9-13.4) than the nation (7.8%, 95% CI: 7.1-8.5) and has been trending upward. Also, a higher percentage of Indiana students attempted suicide in the past year resulting in an injury, poisoning, or overdose, and had to be treated by a doctor or nurse (3.9%, 95% CI: 3.2-4.9) than U.S. students (2.4%, 95% CI: 2.0-2.9).<sup>23</sup>

The prevalence of adolescents ages 12 to 17 using outpatient, inpatient, or non-specialty medical treatment for mental health issues were comparable between Indiana and the nation (see Figure 3).<sup>22</sup> Between 2009 and 2013, about two-thirds of adolescents with an MDE in the past year did not receive treatment for their depression during this time period.<sup>25</sup> The rates were similar for the United States as well.<sup>4</sup>

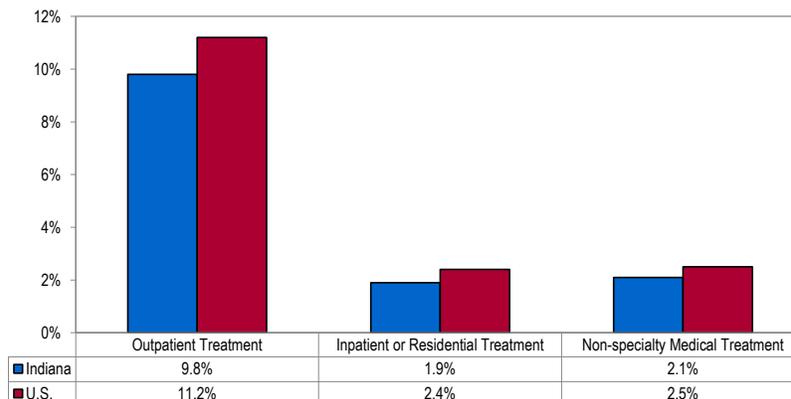
Table 1: Percentage of Indiana and U.S. High School Students Who Have “Been electronically bullied”\* (Youth Risk Behavior Surveillance System, 2011)

		Indiana	U.S.
Gender	Male	12.1% (9.3-15.7)	10.8% (9.6-12.0)
	Female	25.5% (22.6-28.7)	22.1% (20.9-23.3)
Race/Ethnicity	White	19.2% (16.4-22.4)	18.6% (17.2-20.1)
	Black	16.7% (11.5-23.8)	8.9% (7.6-10.4)
	Hispanic	15.5% (11.0-21.3)	13.6% (12.1-15.3)
Grades	9	20.7% (18.1-23.4)	15.5% (14.0-17.2)
	10	18.1% (15.5-21.0)	18.1% (16.4-20.0)
	11	18.5% (14.8-22.8)	16.0% (13.7-18.5)
	12	17.8% (11.9-25.9)	15.0% (13.3-16.8)
<b>Total</b>		<b>18.7%</b> <b>(16.4-21.2)</b>	<b>16.2%</b> <b>(15.3-17.2)</b>

\*Students reported being electronically bullied including through e-mail, chat rooms, instant messaging, Web sites, or texting.

Source: Centers for Disease Control and Prevention, 2011

Figure 3: Indiana and U.S. Adolescents (Ages 12 to 17) Using Mental Health Services in Past Year (National Survey on Drug Use and Health, 2011)



Source: Substance Abuse and Mental Health Services Administration, 2013<sup>22</sup>

## Economic Burden of Youth Mental Health Disorders

A study published on the direct and indirect costs associated with the morbidity and mortality of depression estimated \$16.3 billion in costs per year, which were based on the prevalence of MDE as well as on the number of suicides assumed to be linked to depression in the United States.<sup>26</sup> According to the National Alliance on Mental Illness (NAMI), untreated mental illnesses in the United States are estimated to cost more than \$100 billion a year in loss of productivity, and serious mental illness costs \$193.2 billion in lost earnings per year.<sup>9,27</sup> Another study estimated the annual cost of anxiety disorders was \$42.3 billion during the 1990s.<sup>28</sup> Of the common youth mental illnesses bipolar disorder has been determined to be the most expensive, costing more than twice as much as depression per diagnosis.<sup>29,30</sup> The CDC indicates that mental disorders are one of the most costly conditions to treat in children; the cost of healthcare services and decreased productivity among youth in the United States was estimated at \$247 billion annually.<sup>31</sup> Many studies suggest early intervention and improved prevention management could decrease the economic impact of these mental health disorders.<sup>26-31</sup>

## Help Seeking for Mental Health Issues Among Adolescents

Although the hesitancy to pursue professional help is not limited to adolescents, these studies found approximately only 18% to 34% of youth seek mental health treatment for their depression or anxiety. Frequent barriers listed are:

- Concern about confidentiality and trust from potential sources of help
- Difficulty identifying the symptoms of mental illness
- Concern about the characteristics of the provider (credibility, ability to provide help)
- Preference to rely on self rather than seek help
- Lack of or poor knowledge on mental health services
- Fear or stress about the act of seeking help
- Lack of health care accessibility (time, transport, cost), especially in rural communities
- Stigma

Among all barriers to help-seeking, stigma is the most frequently cited.<sup>32-34,36</sup> Stigma is motivated by negative attitudes towards mental illness and has severe adverse effects on those suffering from these disorders. Stigma is defined by the occurrence of labelling, stereotyping, separation, status loss, and discrimination in a context that is exercised to the detri-

ment of its victims.<sup>32</sup> Different types of stigma may include anticipated stigma, experienced stigma, internalized stigma, perceived stigma, stigma endorsement, and treatment stigma.<sup>33</sup> Stigmatization has been found to cause denial of symptoms and delays in treatment for those with mental disorders.<sup>34</sup> Stigma can also be the cause of those with mental illness being excluded from employment, housing, or even relationships and can ultimately interfere with recovery.<sup>34,35</sup>

In a review on mental health-related stigma and its impact on help-seeking, Clement et al. (2015) identified population groups who are more likely to allow stigma to have an impact on seeking mental health treatment. These subgroups include those with Asian, Arabic, African American, and other minority ethnic status; youth; males; and individuals with military or health occupation backgrounds.<sup>33</sup>

## Treatment of Youth Mental Health Disorders

Mental health professionals have developed effective treatments and programs for most mental health conditions; however, individuals with a mental disorder often do not seek treatment because they either do not have access to care, or do not want help for one reason or another.<sup>9</sup> In Indiana, it was reported that only 14,000 (31.9%) of adolescents with MDE per year received treatment for their depression.<sup>25</sup> Consequently, family members and friends often have to play a primary role in providing emotional, financial, and practical support. Since mood disorders, such as anxiety and depression, are among the most common mental health disorders in youth, it is important to provide early intervention and treatment for these problems.<sup>5,37</sup> A 2005 study found that 88.3% of mental health treatment sought by adolescents occurred in an outpatient setting, for example from their school psychologists.<sup>37</sup> Similarly, Indiana adolescents' treatments occurred more often in outpatient settings (9.8%) than in inpatient settings (1.9%).<sup>22</sup> The study also found that in adolescents suffering from anxiety, mental health services utilization was predicted by past suicide attempts, parental anxiety, parental depression, increased age, and the presence of comorbidities. Although, among adolescents with depression, the only significant predictor of mental health services utilization was history of a past suicide attempt. In addition, the frequency of mental health services utilization increased with the number of comorbid disorders.<sup>37</sup> As discussed, barriers to seeking mental health treatment by youth include stigma, poor mental health literacy, and a preference for self-reliance.<sup>36</sup> However, positive past experiences along with social support and encouragement can help motivate the help-seeking

process.<sup>9,36</sup> Intervention strategies for improving help-seeking by adolescents should focus on the removal of these barriers and reinforcement of positive associations with mental health treatment.

First onset of mental health disorders usually occurs during childhood, although treatment is typically not sought until later in life. Therefore, well-timed early interventions could be the key to reducing the severity of these illnesses and even prevent secondary mental disorders or comorbidities in the future.<sup>1,38</sup> Mental health treatment is fundamentally different for adolescents and adults, since treatment for adolescents must take into account developmental changes and complex dynamics which occur during youth. Adolescents often seek help primarily from professionals at their schools; therefore, these professionals must be equipped with evidence-based approaches to address these disorders. Evidenced-based models for mental health treatment with demonstrated effectiveness in adolescent populations include school-based interventions, family-focused interventions, community-based interdisciplinary treatment teams, therapeutic foster care services, and pharmacologic treatments for some mental disorders.<sup>38</sup>

### Thoughts for Policy Makers

There are strategies that can be implemented to focus on and improve issues related to mental health among Indiana's youth. Since many mental disorders have onsets during childhood that follow them into adulthood, it is imperative that we are able to identify, provide access, and treat these disorders in their early stages. In order to successfully do this, Indiana health services must provide adequate and easy access to mental health care. A noted 68.1% of Hoosier adolescents not receiving treatment for their depression provides evidence for a considerable unmet need for our Indiana youth to be addressed.<sup>25</sup> Stabilizing or increasing funding for mental health services, particularly at community and non-clinical settings, can provide increased and easier access to youth-friendly treatment for mental disorders.<sup>11</sup>

Mental disorders in earlier stages have been found to effectively respond to simple treatment methods at community levels such as education, psychosocial support, and self-help strategies being provided by schools and other local youth community organizations.<sup>11,36,38</sup> Targeting these organizations

and providing resources to identify and treat adolescents could substantially reduce the prevalence of consequences resulting from mental disorders in Indiana youth.

Even after increasing access to mental health treatment, stigma continues to be a main barrier for youth seeking these services.<sup>36,39</sup> To reduce stigma associated with mental illness, we need to promote public awareness of youth mental health issues. This can be accomplished through cumulative methods outlined by the Surgeon General's Conference on Children's Mental Health.<sup>39</sup>

- Develop guidelines for the public and caregivers available in a wide variety of settings to enhance and support mental health throughout the process of childhood development.
- Encourage primary health care providers to include mental health consultations and assessments as part of an adolescent's general healthcare.
- Promote an educational campaign through media, local healthcare and community systems, and advocacy groups on the stigma against mental health disorders.

By increasing public awareness, Indiana can reduce stigma and create a more supportive policy environment, as well as encourage Hoosier adolescents to seek help.

With increasing and significantly higher rates of attempted suicide compared to the nation, it is essential for Indiana to reduce this burden among its high school students.<sup>23</sup> Currently, there are several pieces of legislation promoting prevention initiatives against adolescent suicide in Indiana including: training requirements for teachers on child suicide prevention;

*“Promoting mental health for all Americans will require scientific know-how but, even more importantly, a societal resolve that we will make the needed investment. The investment does not call for massive budgets; rather, it calls for the willingness of each of us to educate ourselves and others about mental health and mental illness, and thus to confront the attitudes, fear, and misunderstanding that remain as barriers before us.”*  
(David Satcher, MD, PhD, former Surgeon General)<sup>5</sup>

grant funding for schools and community coalitions to promote safety among youth; creation of policy work groups on school safety procedures; guidelines on internet safety and discipline within schools; and reporting requirements for harassment and intimidation in school systems.<sup>40</sup> To continue targeting this issue, Indiana policymakers must per-

sist in offering support to the committees, work groups, and grant funding past the legislative expirations for these policy initiatives.

Mental health disorders are a complicated public health issue which places a huge burden on Hoosier adolescents and their families. Furthermore, consequences of mental illness,

such as suicide, are highly prevalent in Indiana. Since many mental health disorders emerge in childhood, the state has an opportunity to provide access to treatment and support through schools and youth community organizations during

this critical developmental period. In doing so, coupled with reducing stigma, Indiana can lessen the social and economic consequences and ease the suffering of those facing a youth mental health disorder in our state.

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