



CLINICAL REPORT

Suicide and Suicide Attempts in Adolescents

Benjamin N. Shain, MD, PhD, and the Committee on Adolescence

Guidance for the Clinician in Rendering
Pediatric Care

ABSTRACT

Suicide is the third-leading cause of death for adolescents 15 to 19 years old. Pediatricians can take steps to help reduce the incidence of adolescent suicide by screening for depression and suicidal ideation and behavior. This report updates the previous statement of the American Academy of Pediatrics and is intended to assist the pediatrician in the identification and management of the adolescent at risk of suicide. The extent to which pediatricians provide appropriate care for suicidal adolescents depends on their knowledge, skill, comfort with the topic, and ready access to appropriate community resources. All teenagers with suicidal thoughts or behaviors should know that their pleas for assistance are heard and that pediatricians are willing to serve as advocates to help resolve the crisis.

INTRODUCTION

The number of adolescent deaths that result from suicide in the United States had been increasing dramatically during recent decades until 1990, when it began to decrease modestly. In 2003, there were 3988 suicides among people 15 to 24 years old; 1487 (11% of deaths) were among those 15 to 19 years old, and 2501 (13% of deaths) were among those 20 to 24 years old.¹ The true number of deaths from suicide actually may be higher, because some of these deaths may have been recorded as “accidental.”²

From 1950 to 1990, the suicide rate for adolescents 15 to 19 years old increased by 300%,³ but from 1990 to 2003, the rate in this age group decreased by 35%.¹ Adolescent boys 15 to 19 years old had a suicide rate that was 6 times greater than that of their female counterparts, whereas the rate of suicide attempts was twice as high among girls than among boys.⁴ The ratio of attempted suicides to completed suicides among adolescents is estimated to be 50:1 to 100:1.⁵ Suicide affects young people from all races and socioeconomic groups, although some groups seem to have higher rates than others. American Indian/Alaska Native males have the highest suicide rate, and black women have the lowest rate of suicide. A statewide survey of students in grades 7 through 12 found that 28.1% of bisexual and homosexual boys and 20.5% of bisexual and homosexual girls had reported attempting suicide.⁶ The 2003 Youth Risk Behavior Survey of students in grades 9 through 12 in the United States indicated that during the 12 months before the survey, 28.6% of students felt sad or hopeless almost every day for at least 2 weeks in a row, 16.5% had planned a suicide attempt, 8.5% had attempted suicide, and 2.9% had made a suicide attempt that required medical attention.⁴

Firearms, used in half of completed suicides among people 15 to 19 years of age, were the leading method of suicide for boys in this age group in 2003 (54% of

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The recommendations in this report do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

Key Words

suicide, risk factors, prevention, treatment, adolescence

Abbreviation

FDA—Food and Drug Administration
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suicides) and the second-leading method for girls (29%).¹ Suicide attempts that involve a firearm usually are fatal, because there is little chance for rescue. Firearms in the home, regardless of whether they are kept unloaded or stored locked, are associated with a higher risk of completed adolescent suicide.^{7,8} In 1 study, when firearms were present in the home, each of the practices of securing the firearm (keeping it locked and unloaded) and the ammunition (keeping it locked and stored away from the firearm) were associated with reduced risk of youth shootings that resulted in unintentional or self-inflicted injury or death.⁹ Parents must be warned about the lethality of firearms in the home and advised strongly to remove them from the premises or, at least, to secure them.¹⁰ Ingestion of pills is the most common reported method of attempted suicide among adolescents.¹¹ However, the incidence of suicide attempts using other methods, such as hanging, is not known, because victims who do not die may not be brought for medical treatment.¹¹

Youth seem to be at much greater risk from media exposure than adults and may imitate suicidal behavior seen on television.¹² Media coverage of an adolescent's suicide may lead to cluster suicides, with the magnitude of additional deaths proportional to the amount, duration, and prominence of the media coverage.¹²

ADOLESCENTS AT INCREASED RISK

Although no specific tests are capable of identifying a suicidal person, specific risk factors exist.^{11,12} The clinician should use care in interpreting risk factors, however, because risk factors are common, whereas suicide is infrequent. In addition, the lack of most risk factors does not make an adolescent safe from suicide.

Fixed risk factors include family history of suicide or suicide attempts, male gender, parental mental health problems, gay or bisexual orientation, a history of physical or sexual abuse, and a previous suicide attempt. Social and environmental risk factors include the presence of firearms in the home, impaired parent-child relationship, living outside of the home (homeless or in a corrections facility or group home), difficulties in school, neither working nor attending school, social isolation, and presence of stressful life events such as legal or romantic difficulties or an argument with a parent. Personal mental health problems that predispose to suicide include depression, bipolar disorder, substance abuse or dependence, psychosis, posttraumatic stress disorder, panic attacks, and a history of aggression, impulsivity, or severe anger. More than 90% of adolescent suicide victims met criteria for a psychiatric disorder before their death. Immediate risk factors include agitation, intoxication, and a recent stressful life event. More information is available from the American Academy of Child and Adolescent Psychiatry¹¹ and Gould et al.¹²

INTERVIEWING THE ADOLESCENT

Primary care pediatricians should be comfortable screening for suicide and mood disorders by asking about emotional difficulties, identifying lack of developmental progress, and estimating level of distress, impairment of functioning, and level of danger to self and others. If needed, referral should then be made for appropriate mental health evaluation and treatment. This clinical report goes into more detail than is needed for this basic assessment. In areas where the resources necessary to make a timely mental health referral are lacking, pediatricians are strongly encouraged to obtain extra training and become competent in providing a more in-depth assessment.

The best way to assess for suicidal ideation is by directly asking or screening via self-report. Self-administered scales can be useful for screening, because adolescents may disclose information about suicidality on self-report that they deny in person. Scales, however, tend to be oversensitive and underspecific and lack predictive value (see the American Academy of Child and Adolescent Psychiatry practice parameter¹¹). Adolescents who endorse suicidality on a scale should always be assessed clinically.

One approach to initiate a confidential inquiry into suicidal thoughts or concerns is to ask a general question such as, "Have you ever thought about killing yourself or wished you were dead?" The question is best placed in the middle or toward the end of a list of questions about depressive symptoms. Regardless of the answer to the first question, the next question should be, "Have you ever done anything on purpose to hurt or kill yourself?" If the response to either question is positive, the pediatrician should obtain more detail (eg, nature of past and present thoughts and behaviors, time frame, intent, who knows and how did they find out). Inquiry should include suicide plans ("If you were to kill yourself, how would you do it?"), whether there are firearms in the home, and the response of the family. No data indicate that inquiry about suicide precipitates the behavior. In a screening program, asking high school students about suicidal ideation and behavior did not create distress or increase suicidal ideation, even in high-risk students.¹³

The adolescent should be interviewed separately from the parent, because the patient may be more likely to withhold important information in the parent's presence. Information should also be sought from parents and others as appropriate. Although confidentiality is important in adolescent health care, for adolescents at risk to themselves or others, safety takes precedence over confidentiality; the adolescent should understand that at the onset. Pediatricians need to inform appropriate people when they believe an adolescent is at risk of suicide. As much as is possible, the sequence of events that preceded the threat should be determined, current problems and conflicts should be identified, and the

degree of suicidal intent should be assessed. In addition, pediatricians should assess individual coping resources, accessible support systems, and attitudes of the adolescent and family toward intervention and follow-up.¹⁴

Questions should also be asked to elicit known risk factors. In particular, all adolescents, especially any patients who show psychosocial or adaptive difficulties, should be screened regularly for symptoms of mood disorders and should be asked about suicidal ideation, physical and sexual abuse, substance use, and sexual orientation. Screening at acute care visits, when possible, is desirable, because mental health problems may manifest more strongly at these times.¹⁵

Care in interviewing needs to be taken, because abrupt intrusive questions could result in a reduction of rapport and a lower likelihood of the adolescent sharing mental health concerns. This is especially true during a brief encounter for an unrelated concern. Initial questions should be open-ended and relatively nonthreatening. Examples include "Aside from [already stated non-mental health concern], how have you been doing?" "Is there anything that has been stressing you lately?" "How have things been going with _ [school, friends, parents, sports]?" When possible, more detailed questions should then follow, particularly during routine care visits or when a mental health concern is stated or suspected.

Suicidal thoughts or comments should never be dismissed as unimportant. Statements such as, "You've come really close to killing yourself," may, if true, acknowledge the deep despair of the youth and communicate to the adolescent that the interviewer understands how close to acting he or she has been. Such disclosures should be met with reassurance that the patient's pleas for assistance have been heard and that help will be sought.

Serious mood disorders, such as major depressive disorder or bipolar disorder, may present in adolescents in

several ways.¹⁶ Some adolescents may come to the office with complaints similar to those of depressed adults, having symptoms such as sad or down feelings most of the time, crying spells, guilty or worthless feelings, markedly diminished interest or pleasure in most activities, significant weight loss or weight gain or increase or decrease in appetite, insomnia or hypersomnia, fatigue or loss of energy, diminished ability to think or concentrate, and thoughts of death or suicide. The clinician should also look for adolescent manifestations of symptoms (Table 1).¹⁷ Some adolescents may present with irritability rather than depressed mood as the main manifestation. Other adolescents present with somatic symptoms such as abdominal pain, chest pain, headache, lethargy, weight loss, dizziness and syncope, or other nonspecific symptoms.¹⁸ Others present with behavioral problems such as truancy, deterioration in academic performance, running away from home, defiance of authorities, self-destructive behavior, vandalism, alcohol or other drug abuse, sexual acting out, and delinquency.¹⁹

Typically, symptoms of depression, mania, or a mixed state (depression and mania coexisting or rapidly alternating) can be elicited with careful questioning but may not be immediately obvious. Mania is characterized by irritability or euphoria along with symptoms that include decreased need for sleep, talking a lot, racing thoughts, grandiosity, distractibility, agitation or increased goal-directed activity, or excessive involvement in pleasurable activity that has a high potential for painful consequences (eg, running away, sexual activity, putting self in dangerous situations).¹⁶ Mania was once thought to occur only rarely in youth. However, approximately one fifth of all patients with bipolar disorder have their first episode during adolescence, although the prevalence in adolescents is still controversial. Developmental variations in presentation, symptomatic overlap with other disorders, and lack of clinician awareness

TABLE 1 Depressive Symptoms and Examples in Adolescents

Signs and Symptoms of Major Depressive Disorder	Signs of Depression Frequently Seen in Youth
Depressed mood most of the day	Irritable or cranky mood; preoccupation with song lyrics that suggest life is meaningless
Decreased interest/enjoyment in once-favorite activities	Loss of interest in sports, video games, and activities with friends
Significant weight loss/gain	Failure to gain weight as normally expected; anorexia or bulimia; frequent complaints of physical illness; eg, headache, stomach ache
Insomnia or hypersomnia	Excessive late-night TV; refusal to wake for school in the morning
Psychomotor agitation/retardation	Talk of running away from home, or efforts to do so
Fatigue or loss of energy	Persistent boredom
Low self-esteem; feelings of guilt	Oppositional and/or negative behavior
Decreased ability to concentrate; indecisive	Poor performance in school; frequent absences
Recurrent suicidal ideation or behavior	Recurrent suicidal ideation or behavior (writing about death; giving away favorite toys or belongings)

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have all led to underdiagnosis or misdiagnosis.²⁰ Red flags for mania in adolescents include episodes of rage, grossly overreacting to limit setting or other circumstances that the adolescent does not desire, and having good days and bad days. Mixed states may be particularly dangerous, because the adolescent may have hopelessness associated with depression and agitation, impulsivity, and the ability to get things done associated with mania.

MANAGEMENT OF THE SUICIDAL ADOLESCENT

Management depends on the degree of immediate and intermediate risk (see the American Academy of Child and Adolescent Psychiatry practice parameter¹¹ for a review and the article by Kaye et al²¹ for a practical guide to pediatric mental health evaluation, treatment, and systems of care). Unfortunately, no one can accurately predict suicide, so even experts can only determine who is at higher risk. Examples of adolescents at high risk include those with a plan or recent suicide attempt with a high probability of lethality; stated current intent to kill themselves; recent suicidal ideation or behavior accompanied by current agitation or severe hopelessness; and impulsivity and profoundly dysphoric mood associated with bipolar disorder, major depression, psychosis, or a substance use disorder. An absence of factors that indicate high risk, especially in the presence of a desire to receive help and a supportive family, suggests a lower risk but not necessarily a low risk. Low risk is difficult to determine. For example, an adolescent who has taken 8 ibuprofen tablets may have thought that it was a lethal dose and may do something more lethal the next time. Alternatively, the adolescent may have known that 8 ibuprofen tablets is not lethal and took the pills as a rehearsal for a lethal attempt. In the presence of a recent suicide attempt, the lack of current suicidal ideation may also be misleading if none of the factors that led to the attempt have changed or the reasons for the attempt are not understood. The benefit of the doubt is generally on safety in the management of the suicidal adolescent.

The term "suicide gesture" should not be used, because it gives a false sense of security. "Suicide attempt" is a more appropriate term for any deliberately self-harmful behavior or action that could reasonably be expected to produce self-harm and is accompanied by some degree of intent or desire for death as well as thinking by the patient at the time of the behavior that the behavior had even a small possibility of resulting in death. In a less-than-forthcoming patient, intent may be inferred by the lethality of the behavior, such as taking a large number of pills, or by an affirmative answer to a question such as, "At the time of your action, would you have thought it okay if you had died?"

Adolescents who initially may seem at low risk, joke about suicide, or seek treatment for repeated somatic complaints may be asking for help the only way they

can. Their concerns should be assessed thoroughly. Adolescents who are judged to be at low risk of suicide should still receive close follow-up, referral for a timely mental health evaluation, or both if they should have any significant degree of dysfunction or distress from emotional or behavioral symptoms.

For adolescents who seem to be at moderate or high risk of suicide or have attempted suicide, a mental health professional should be consulted immediately during the office visit. Options for immediate evaluation include hospitalization, transfer to an emergency department, or an appointment the same day with a mental health professional.

Intervention should be tailored to the adolescent's needs. Adolescents with a responsive and intact family, good peer relations and social support, hope for the future, and a desire to resolve conflicts may require only a brief crisis-oriented intervention.²² In contrast, adolescents who have made previous attempts, exhibit a high degree of intent to commit suicide, show evidence of serious depression or other psychiatric illness, are abusing alcohol or other drugs, have low impulse control, or have families who are unwilling to commit to counseling are at high risk and may require psychiatric hospitalization and long-term psychiatric and psychological intervention.

Although no controlled studies have been conducted to prove that admitting adolescents at high risk to a psychiatric unit saves lives,¹¹ the safest course of action is hospitalization, thereby placing the adolescent in a safe and protected environment. An inpatient stay will allow time for a complete medical and psychiatric or psychological evaluation with initiation of therapy in a controlled setting. The choice of hospital unit depends on available facilities in the area, health and mental health insurance, and managed care policies. Medical units that hospitalize adolescents must be staffed to manage both the medical and psychiatric needs of suicidal adolescents.²³ Proper medical intervention and treatment are essential for stabilization and management of patients' conditions. After the adolescent's condition has been stabilized medically, a comprehensive emotional and psychosocial assessment must be completed before discharge. Inquiry should be made into the events that preceded the attempt, the adolescent's current problems, and the presence of current or previous psychiatric illness and self-destructive behavior. In addition to an in-depth psychological evaluation of the adolescent, family members should be interviewed to obtain additional information to help explain the adolescent's suicidal thoughts or attempt. This information includes detailed questions about the adolescent's medical, emotional, social, and family history with special attention to signs and symptoms of mood disorders, stress, substance abuse, impulsivity, and anger. With parental permission and adolescent assent,

teachers and family friends also may provide useful information.

All adolescents who attempt suicide need a comprehensive outpatient treatment plan before discharge. Specific plans are needed, because adherence with outpatient therapy often is poor. Most adolescents who are examined in emergency departments and referred to outpatient facilities fail to keep their appointments. This is especially true when the appointment is made with someone other than the medical home practitioner or the person who performed the initial assessment.²⁴ Continuity of care, therefore, is of paramount importance. Medical home practitioners can enhance continuity and adherence by maintaining contact with suicidal adolescents even after referrals are made. All firearms should be removed from the home, because adolescents may still find access to locked guns stored in their home. Potentially lethal medication should be locked up. Vigorous treatment of the underlying psychiatric disorder is important in decreasing short-term and long-term risk. Contracting with the adolescent against suicide has not been proven effective in preventing suicidal behavior.¹¹ The technique may still be helpful in assessing risk in that refusal to agree to either not harm oneself or tell a specified person about intent to harm oneself is ominous.

Working with a suicidal adolescent typically provokes anxiety in those who are providing treatment. Suicide risk can only be reduced, not eliminated, and risk factors provide no more than guidance. Much of the information regarding risk factors is subjective and must be elicited from the adolescent, who may have his or her own agenda. Of course, clinicians' anxiety may be reduced with knowledge and experience. Just as importantly, clinicians need to be aware of their own anxiety to prevent interference in treatment and overreaction or underreaction.

ANTIDEPRESSANT MEDICATIONS AND SUICIDE

A complete review of the pharmacologic treatment of adolescent mood disorders is beyond the scope of this report. However, the Food and Drug Administration (FDA) directive of October 2004 and heavy media coverage make the use of antidepressant medications worth mentioning. The FDA directed pharmaceutical companies to label all antidepressant medications distributed in the United States with a black-box warning "to alert health care providers to an increased risk of suicidality (suicidal thinking and behavior) in children and adolescents being treated with these agents."²⁵ The FDA did not prohibit the use of these medications in youth but called on clinicians to balance increased risk of suicidality with clinical need and to monitor closely "for clinical worsening, suicidality, or unusual changes in behavior." The warning particularly stressed the need for close moni-

toring during the first few months of treatment and after dose changes.

The FDA advisory panel was aware that this warning could have the unintended effect of limiting access to necessary and effective treatment,¹⁷ and reported prescriptions of antidepressants for children and adolescents decreased by 19% in the third quarter of 2004 and 16% in the fourth quarter compared with the year before.²⁶ Concern has been expressed that this reduction of antidepressant prescribing may be related to the 18.2% increase in US youth suicides (1737–1935) from 2003 to 2004 after a decade of steady declines.²⁷

A recent example of the effectiveness of these medications in adolescents is the Treatment for Adolescents With Depression Study,²⁸ a large, well-designed study that found that a combination of fluoxetine and cognitive behavioral therapy led to significant clinical improvement in 71% of adolescents with major depression. This compared with improvement of 61% for fluoxetine alone, 43% for cognitive behavioral therapy alone, and 35% for placebo. Those who were treated with fluoxetine showed approximately twice the rate of self-harm adverse events compared with those who were not treated with fluoxetine.²⁸ However, despite adolescents with the highest suicide risk being excluded from the study, 29% of the depressed patients reported suicidal thoughts before the start of treatment. After 12 weeks of treatment, this decreased to 10% across all groups, with the combined-treatment group showing significantly more of a decrease than those in the placebo group.

The warning by the FDA was prompted by a finding that in 24 clinical trials that involved more than 4400 child and adolescent patients and 9 different antidepressant medications, spontaneously reported suicidal ideation or behavior was present in 4% of the subjects who were taking medication and 2% of the subjects who were taking a placebo. Contradictory findings of a slight reduction of suicidality, however, were found when subjects were asked at each visit about suicidal ideation and behavior. The latter method does not rely on spontaneous reports and is considered to be more reliable than event reports.¹⁷

Furthermore, a reanalysis of the data including 7 additional studies and using a random-effects model showed only a 0.7% increase in the risk of suicidal ideation or behavior.²⁹ The random-effects model is considered to provide a more conservative estimate of effect compared with the fixed-effect model used by the FDA, because it does not assume homogeneity across studies as does the fixed-effects model.

No suicides occurred during any of the studies. Suicidal ideation and behavior are common, and suicides are vastly less common, which makes it difficult to relate a change in one to a change in the other.¹⁷ Furthermore, the 28% decrease in completed suicides in the 10- to

19-year-old age group over the past decade may be at least partly a result of the increase of youth antidepressant prescribing over the same time period. Analyzing US data by dividing the country into 588 2-digit zip-code zones showed a significant ($P < .001$) 0.23-per-100 000 annual decrease in adolescent suicide with every 1% increase in antidepressant prescribing.³⁰

Regardless of whether the use of antidepressant medications changes the risk of suicide, depression is an important suicide risk factor, and careful monitoring of adolescents' mental health and behavioral status is critically important, particularly when initiating or changing treatment. The FDA warning states, "All pediatric patients being treated with antidepressants for any indication should be observed closely for clinical worsening, suicidality, and unusual changes in behavior, especially during the initial few months of a course of drug therapy, or at times of dose changes (either increases or decreases). Ideally, such observation would include at least weekly face-to-face contact with patients or their family members or caregivers during the first 4 weeks of treatment, then visits every other week for the next 4 weeks, then at 12 weeks, and as clinically indicated beyond 12 weeks. Additional contact by telephone may be appropriate between face-to-face visits."³¹

The American Psychiatric Association and the American Academy of Child and Adolescent Psychiatry have recommended a different monitoring approach¹⁷ that enlists the parents or guardians in the responsibility for monitoring and individualizing the frequency and nature of monitoring to the needs of the patient and the family. This approach potentially increases the effectiveness of monitoring and provides greater flexibility, thus reducing a barrier to prescribing. Warning signs for family members to contact the prescribing physician are listed in Table 2.¹⁷

Patients should not abruptly stop antidepressant medications, because withdrawal effects may include agitation and increased depression. Pediatricians should convey to parents the importance of consulting with the prescribing physician before stopping medication or changing the dose.

TABLE 2 Treatment With Antidepressant Medication: Warning Signs for Family Members to Contact the Physician

New or more frequent thoughts of wanting to die
Self-destructive behavior
Signs of increased anxiety/panic, agitation, aggressiveness, impulsivity, insomnia, or irritability
New or more involuntary restlessness (akathisia), such as pacing or fidgeting
Extreme degree of elation or energy
Fast, driven speech
New onset of unrealistic plans or goals

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SUMMARY

1. Adolescent suicide is an important public health problem.
2. Knowledge of risk factors may assist in the identification of adolescents who are at higher risk.
3. It is important to know and use appropriate techniques for interviewing potentially suicidal adolescents.
4. Mood disorders in adolescents have a variety of presentations.
5. Management options depend on the degree of suicide risk.
6. Treatment with antidepressant medications has risks and benefits.

ADVICE FOR PEDIATRICIANS

1. Ask questions about mood disorders, suicidal thoughts, sexual orientation, and other risk factors associated with suicide in routine history taking throughout adolescence, preferably at both acute care and routine care visits.
2. Recognize the medical and psychiatric needs of the suicidal adolescent and work closely with families and health care professionals involved in the management and follow-up of youth who are at risk or have attempted suicide. Develop working relationships with emergency departments and colleagues in child and adolescent psychiatry, clinical psychology, and other mental health professions to optimally manage the care of adolescents who are at risk of suicide. Because mental and physical health services are often provided through different systems of care, extra effort is necessary to ensure good communication, continuity, and follow-up through the medical home.
3. Because resources for adolescents and physicians vary by community, become familiar with local, state, and national resources that are concerned with treatment of psychopathology and suicide prevention in youth, including local hospitals with psychiatric units, mental health agencies, family and children's services, crisis hotlines, and crisis intervention centers. Have a list of relevant telephone numbers easily available in the office.
4. Educate yourself and your patients about the risks and benefits of antidepressant medications and provide reassurance that the medications are relatively safe and depression is relatively dangerous.
5. Carefully monitor patients with depression, especially after the initiation of antidepressant medication treatment and dose changes.

6. Because there is great variation among general pediatricians in training and comfort with assessing and treating patients with mental health problems, as well as in access to appropriate mental health resources, consider additional training and ongoing education in diagnosing and managing adolescent mood disorders, especially if practicing in an underserved area. Pediatricians without such skills still have an important role in screening all patients and referring patients when necessary.
7. During routine evaluations, ask whether firearms are kept in the home, and discuss with parents the increased risk of adolescent suicide with the presence of firearms. Specifically for adolescents at risk of suicide, advise parents to remove guns and ammunition from the house and secure supplies of potentially lethal medications.
8. Know the risk factors (eg, signs and symptoms of depression) associated with adolescent suicide and serve as a resource on the issue of adolescent suicide for parents, teachers, school personnel, clergy, and members of community groups who work with youth.
9. Advocate for benefit packages in health insurance plans to ensure that adolescents have access to preventive and therapeutic mental health services that adequately cover the treatment of clinically significant mental health disorders.

COMMITTEE ON ADOLESCENCE, 2005–2006

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LIAISONS

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 American Academy of Child and Adolescent Psychiatry

STAFF

Karen Smith

*Lead Author

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Benjamin N. Shain

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