

# PHQ-9 modified for Adolescents (PHQ-A)

Name: \_\_\_\_\_ Clinician: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** How often have you been bothered by each of the following symptoms during the past **two weeks**? For each symptom put an "X" in the box beneath the answer that best describes how you have been feeling.

	(0) Not at all	(1) Several days	(2) More than half the days	(3) Nearly every day
1. Feeling down, depressed, irritable, or hopeless?				
2. Little interest or pleasure in doing things?				
3. Trouble falling asleep, staying asleep, or sleeping too much?				
4. Poor appetite, weight loss, or overeating?				
5. Feeling tired, or having little energy?				
6. Feeling bad about yourself – or feeling that you are a failure, or that you have let yourself or your family down?				
7. Trouble concentrating on things like school work, reading, or watching TV?				
8. Moving or speaking so slowly that other people could have noticed?  Or the opposite – being so fidgety or restless that you were moving around a lot more than usual?				
9. Thoughts that you would be better off dead, or of hurting yourself in some way?				

In the **past year** have you felt depressed or sad most days, even if you felt okay sometimes?

Yes                       No

If you are experiencing any of the problems on this form, how **difficult** have these problems made it for you to do your work, take care of things at home or get along with other people?

Not difficult at all       Somewhat difficult       Very difficult       Extremely difficult

Has there been a time in the **past month** when you have had serious thoughts about ending your life?

Yes                       No

Have you **EVER**, in your WHOLE LIFE, tried to kill yourself or made a suicide attempt?

Yes                       No

*\*\*If you have had thoughts that you would be better off dead or of hurting yourself in some way, please discuss this with your Health Care Clinician, go to a hospital emergency room or call 911.*

**Office use only:**

**Severity score:** \_\_\_\_\_



# Scoring the PHQ-9 modified for Teens

Scoring the PHQ-9 modified for teens is easy but involves thinking about several different aspects of depression.

To use the PHQ-9 as a diagnostic aid for Major Depressive Disorder:

- Questions 1 and/or 2 need to be endorsed as a "2" or "3"
- Need five or more positive symptoms (positive is defined by a "2" or "3" in questions 1-8 and by a "1", "2", or "3" in question 9).
- The functional impairment question (How difficult....) needs to be rated at least as "somewhat difficult."

To use the PHQ-9 to screen for all types of depression or other mental illness:

- All positive answers (positive is defined by a "2" or "3" in questions 1-8 and by a "1", "2", or "3" in question 9) should be followed up by interview.
- A total PHQ-9 score  $\geq 10$  (see below for instructions on how to obtain a total score) has a good sensitivity and specificity for MDD.

To use the PHQ-9 to aid in the diagnosis of dysthymia:

- The dysthymia question (In the past year...) should be endorsed as "yes."

To use the PHQ-9 to screen for suicide risk:

- All positive answers to question 9 as well as the two additional suicide items **MUST** be followed up by a clinical interview.

To use the PHQ-9 to obtain a total score and assess depressive severity:

- Add up the numbers endorsed for questions 1-9 and obtain a total score.
- See Table below:

<b>Total Score</b>	<b>Depression Severity</b>
0-4	No or Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression



# Does My Teen Need Help?

## Physical Warning Signs:

- ▶ Cuts on arms or legs or other physical signs of self-harm
- ▶ Rapid or major weight loss or weight gain
- ▶ Physical injuries without good explanations
- ▶ Many stomach, head, and/or back aches
- ▶ Worsening of a chronic condition

## Behavioral or Emotional Warning Signs:

- ▶ Major change in eating and/or sleeping habits
- ▶ Signs of frustration, stress, or anger
- ▶ Unusual or increasing fear, anxiety, or worry
- ▶ Relationship difficulties with family, friends, classmates, or teachers
- ▶ Skipping school, not participating in class, and/or a drop in grades
- ▶ Changes or problems with energy level or concentration
- ▶ Sudden mood swings
- ▶ Feeling down, hopeless, worthless, or guilty
- ▶ Aggressive or violent behavior
- ▶ Sudden loss of self confidence or sense of security
- ▶ Risky behaviors, breaking laws, stealing, hurting people
- ▶ Signs of alcohol or drug use
- ▶ Losing interest in things that were once enjoyed
- ▶ Constant concern about physical appearance or decrease in personal hygiene
- ▶ Isolation from others and often spends time alone
- ▶ Secretive about activities and whereabouts

**If you notice any of the above warning signs, talk with your teen and then call your teen's health care provider. Be ready to discuss how serious the problem is, when the problem started, and any changes in your teen's school or family situation. Don't wait too long before seeking help.**

## IMPORTANT QUESTIONS TO ASK YOUR TEEN

- When and why did this problem start?
- How much is this problem troubling you?
- Is the problem getting in the way of your school work or relationships with friends or family members?
- Have you been having any thoughts about dying or hurting yourself?
- How can I help you?

**Don't be afraid to ask your teen what's going on in his/her life. It will not cause any harm. A teenager in trouble needs support from caring parents.**

## MENTAL HEALTH EMERGENCIES

- ▶ Losing touch with reality
- ▶ In great danger of harming him/herself
- ▶ In great danger of harming others

*If your teen is having an emergency, take her/him to the nearest hospital emergency room or call 911.*

***DO NOT** leave her/him alone or unattended. Remove all dangerous items (guns, knives, pills) from your teen's reach.*

*Do you have any comments or questions about this handout? Please contact Adolescent Health Working Group by emailing [feedback@ahwg.net](mailto:feedback@ahwg.net) or calling (415) 554-8429. Thank you.*

### Sources:

- 1) Goodman RF. Choosing a Mental Health Professional for Your Child. New York University Child Study Center. 2000, <http://www.aboutourkids.org>
- 2) Substance Abuse and Mental Health Services Administration, National Mental Health Information Center. Child and Adolescent Mental Health. 2003, <http://www.mentalhealth.samhsa.gov/publications/allpubs/CA-0004/default.asp>





# Mental Health

## The process of managing emotions

**E**motions can bring discomfort for everyone, but this is especially true for adolescents, who are still learning to identify and manage their emotional responses. Emotional extremes are common during the teen years and may be reflected in mood swings, emotional outbursts, sadness, or behaviors intended to distract from uncomfortable feelings (such as sleeping or listening to loud music).

Teens, like all people, have some periods that are more challenging than others. For some, though, feelings of anxiety, sadness, anger, or stress may linger and become severe enough to interfere with their ability to function. It is estimated that at some point before age 20, one in 10 young people experiences a serious emotional disturbance that disrupts their ability to function at home, in school, or in the community. The good news is that most emotional disturbances are treatable.

### Signs of emotional disturbance

What is considered normal and healthy behavior depends to some degree on culture. Serious disorders in one culture may not appear in another culture. The same is true across generations. One contemporary example is intentional self-injury (known as “cutting”), which is incomprehensible to many adults who are familiar with

other types of emotional disturbances, such as depression or substance abuse.

A signpost of trouble to watch for is whether a teen’s capacity to function in school, at home, and in relationships is being negatively affected by emotions or behaviors. Family and friends are usually the first people to notice.

Emotional disturbance follows no single pattern. Some adolescents suffer a single, prolonged episode in their teen years and enjoy good mental health in adulthood. Others experience emotional disturbances episodically, with bouts of suffering recurring in their later teen years and adulthood. Only a small percentage of adoles-

## SIGNS OF DEPRESSION

- Frequent sadness, tearfulness, crying
- Decreased interest in activities or inability to enjoy formerly favorite activities
- Hopelessness
- Persistent boredom, low energy
- Social isolation, poor communication
- Extreme sensitivity to rejection or failure
- Increased irritability, anger, or hostility
- Difficulty with relationships
- Frequent complaints of physical illness such as headaches or stomachaches
- Frequent absences from school or poor performance in school
- Poor concentration
- Feeling overwhelmed easily or often
- A major change in eating and/or sleeping patterns
- Talk of or efforts to run away from home
- Thoughts or expressions of suicide or self-destructive behavior

SOURCE: American Academy of Child and Adolescent Psychiatry. (2008). The depressed child. Facts for Families. Retrieved from [www.aacap.org/cs/root/facts\\_for\\_families/the\\_depressed\\_child](http://www.aacap.org/cs/root/facts_for_families/the_depressed_child).

# SUICIDE

If a young person says he or she wants to kill him or herself, always take the statement seriously and immediately get help. If you think someone is suicidal, do not leave that person alone.

The suicide rate increases during the teen years and peaks in early adulthood (ages 20–24). There is a second peak in the suicide rate after age 65, and old age is when people are at highest risk. It is nearly impossible to predict who might attempt suicide, but some risk factors have been identified. These include depression or other mental

disorders, a family history of suicide, family violence, and exposure to suicidal behavior of others, including media personalities. Opportunity also plays a role. Having a firearm in the home increases the risk.

The American Academy of Child and Adolescent Psychiatry recommends asking a young person whether she is depressed or thinking about suicide. They advise, “Rather than putting thoughts in the child’s head, such a question will provide assurance that somebody cares and will give the young person the chance to talk about problems.”

SOURCES: American Academy of Child & Adolescent Psychiatry. (2008). Teen suicide. Facts for Families. Retrieved June 4, 2009, from [www.aacap.org/cs/root/facts\\_for\\_families/teen\\_suicide](http://www.aacap.org/cs/root/facts_for_families/teen_suicide).

National Institute of Mental Health. (2009). Suicide in the U.S.: Statistics and prevention. Retrieved June 4, 2009, from [www.nimh.nih.gov/health/publications/suicide-in-the-us-statistics-and-prevention/index.shtml](http://www.nimh.nih.gov/health/publications/suicide-in-the-us-statistics-and-prevention/index.shtml).



cents who experience an episode of emotional disturbance will go on to have a lifelong disorder that seriously impairs their functioning as an adult.

The most common mental health disorders in adolescence are depression, characterized by prolonged periods of feeling hopeless and sad; anxiety disorders, which include extreme feelings of anxiety and fear; and alcohol and other drug abuse, including use of prescription drugs like Vicodin or Ritalin for non-medical reasons.

The underlying causes of emotional disturbances are varied and cannot always be identified. Many factors go into the mix, including genetic predisposition, environmental conditions such as exposure to lead or living in a

chaotic household, and trauma such as abuse or witnessing a homicide.

Prolonged stress makes teens more vulnerable to emotional disturbances. A normal coping reaction to a difficult experience can impair someone’s well-being if it goes on for too long. For example, if a teen is teased at school, it is normal—even if not desirable—for him or her to feel humiliated and anxious and to avoid the pain by skipping school, playing video games, or even experimenting with substances. These coping strategies can become harmful if chronic symptoms of anxiety or depression develop, or if behaviors such as overeating, self-injury (“cutting”), alcohol or other drug use—originally started to distract from uncomfort-

able emotions—become compulsive or habitual.

## Getting help

Most mental health disorders are treatable. Treatment often includes—and often works best—when multiple approaches are used. These can include cognitive-behavioral therapy, family therapy, medication, and supportive education for parents and other caring adults in how to provide stability and hope as the family navigates its way through the episode of emotional disturbance.

Parents of teens with Attention Deficit Hyperactivity Disorder (ADHD), however, have often experienced years of the frustration and



exasperation that comes from trying to establish limits and discipline for children who seem consistently unable or unwilling to listen. Because all adolescents naturally strive toward assuming more responsibility and independence, the frustration of parenting a teen with ADHD may well intensify during this period of development.

A cycle of negative interaction, stress, and failure can also occur in the classroom between teachers and teens with ADHD. Teenagers who are disruptive, fidgety and impulsive can be singled out by the teacher, and labeled as disciplinary problems. Academic

settings with multiple periods, large classes, teachers who have differing styles, and complex schedules present additional problems for the teenager with ADHD.

Professional help, especially help that is affordable, can be hard to find, as there is a shortage of trained mental health providers with expertise in adolescence. The sidebar in this section provides some resources where caring adults and teens can look for help.

### **The power of prevention**

It is important to get involved early to teach positive coping skills and

address environmental situations that may trigger emotional disturbances. The supports that bolster good mental health are the very same ones that promote healthy development in general. Especially valuable are opportunities for young people to practice identifying and naming emotions, to figure out coping skills that help them dissipate the energy of negative emotions, and to have the repeated, encouraging experience of being heard, understood, respected, and accepted.



## RESOURCES

### **American Academy of Child and Adolescent Psychiatry: Facts for Families**

Extensive series of briefs on a wide variety of behaviors and issues affecting families. [http://www.aacap.org/cs/root/facts\\_for\\_families/facts\\_for\\_families](http://www.aacap.org/cs/root/facts_for_families/facts_for_families)

### **The Center for Mental Health in Schools: School Mental Health Project**

Clearinghouse for resources on mental health in schools, including systemic, programmatic, and psychosocial/mental health concerns. <http://smhp.psych.ucla.edu/>

### **Surgeon General's Report on Mental Health**

Includes a chapter on children and mental health. <http://www.surgeongeneral.gov/library/mentalhealth/home.html>

### **Technical Assistance Partnership for Child and Family Mental Health: Youth Involvement in Systems of Care. A Guide to Empowerment**

Blueprints for local systems of care that are seeking to increase youth involvement. [http://www.tapartnership.org/docs/Youth\\_Involvement.pdf](http://www.tapartnership.org/docs/Youth_Involvement.pdf)

SOURCE: Whitlock, J., and Schantz, K. (2009). Mental illness and mental health in adolescence. *Research Facts and Findings*. ACT for Youth Center of Excellence. Retrieved June 3, 2009 from [http://www.actforyouth.net/documents/MentalHealth\\_Dec08.pdf](http://www.actforyouth.net/documents/MentalHealth_Dec08.pdf)





**Evidence-Based Child and Adolescent Psychosocial Interventions**

This report is intended to guide practitioners, educators, youth, and families in developing appropriate plans using psychosocial interventions. It was created for the period October 2017 – April 2018 using the PracticeWise Evidence-Based Services (PWEBS) Database, available at [www.practicewise.com](http://www.practicewise.com). If this is not the most current version, please check the American Academy of Pediatrics (AAP) mental health Web site ([www.aap.org/mentalhealth](http://www.aap.org/mentalhealth)) for updates.

Please note that this chart represents an independent analysis by PracticeWise and should not be construed as endorsement by the AAP. For an explanation of PracticeWise determination of evidence/level, please see below or visit [www.practicewise.com/aap](http://www.practicewise.com/aap).

Problem Area	Level 1- BEST SUPPORT	Level 2- GOOD SUPPORT	Level 3- MODERATE SUPPORT	Level 4- MINIMAL SUPPORT	Level 5- NO SUPPORT
<b>Anxious or Avoidant Behaviors</b>	Cognitive Behavior Therapy (CBT), CBT and Medication, CBT for Child and Parent, CBT with Parents, Education, Exposure, Modeling	Assertiveness Training, Attention, Attention Training, CBT and Music Therapy, CBT and Parent Management Training (PMT), CBT with Parents Only, Cultural Storytelling, Family Psychoeducation, Hypnosis, Mindfulness, Relaxation, Stress Inoculation	Contingency Management, Group Therapy	Behavioral Activation and Exposure, Biofeedback, Play Therapy, PMT, Psychodynamic Therapy, Rational Emotive Therapy, Social Skills	Assessment/Monitoring, Attachment Therapy, Client Centered Therapy, Eye Movement Desensitization and Reprocessing (EMDR), Peer Pairing, Psychoeducation, Relationship Counseling, Teacher Psychoeducation
<b>Autism Spectrum Disorders</b>	CBT, Intensive Behavioral Treatment, Intensive Communication Training, Joint Attention/Engagement, PMT, Social Skills	Imitation, Peer Pairing, Theory of Mind Training	None	Massage, Peer Pairing and Modeling, Play Therapy	Attention Training, Biofeedback, Cognitive Flexibility Training, Communication Skills, Contingent Responding, Eclectic Therapy, Executive Functioning Training, Fine Motor Training, Modeling, Parent Psychoeducation, Physical/Social/Occupational Therapy, Sensory Integration Training, Structured Listening, Working Memory Training
<b>Delinquency and Disruptive Behavior</b>	Anger Control, Assertiveness Training, CBT, Contingency Management, Multisystemic Therapy, PMT, PMT and Problem Solving, Problem Solving, Social Skills, Therapeutic Foster Care	CBT and PMT, CBT and Teacher Training, Communication Skills, Cooperative Problem Solving, Family Therapy, Functional Family Therapy, PMT and Classroom Management, PMT and Social Skills, Rational Emotive Therapy, Relaxation, Self Control Training, Transactional Analysis	Client Centered Therapy, Moral Reasoning Training, Outreach Counseling, Peer Pairing	CBT and Teacher Psychoeducation, Exposure, Physical Exercise, PMT and Classroom Management and CBT, PMT and Self-Verbalization, Stress Inoculation	Behavioral Family Therapy, Catharsis, CBT with Parents, Education, Family Empowerment and Support, Family Systems Therapy, Group Therapy, Imagery Training, Play Therapy, PMT and Peer Support, Psychodynamic Therapy, Self Verbalization, Skill Development, Wraparound
<b>Depressive or Withdrawn Behaviors</b>	CBT, CBT and Medication, CBT with Parents, Client Centered Therapy, Family Therapy	Attention Training, Cognitive Behavioral Psychoeducation, Expression, Interpersonal Therapy, MI/Engagement and CBT, Physical Exercise, Problem Solving, Relaxation	None	Self Control Training, Self Modeling, Social Skills	CBT and Anger Control, CBT and Behavioral Sleep Intervention, CBT and PMT, Goal Setting, Life Skills, Mindfulness, Play Therapy, PMT, PMT and Emotion Regulation, Psychodynamic Therapy, Psychoeducation
<b>Eating Disorders</b>	CBT, Physical Exercise and Dietary Care and Behavioral Feedback	Family-Focused Therapy, Family Systems Therapy, Family Therapy with Parents Only	None	Physical Exercise and Dietary Care	Behavioral Training and Dietary Care, CBT with Parents, Client Centered Therapy, Dietary Care, Education, Family Therapy, Family Therapy with Parent Consultant, Goal Setting, Psychoeducation, Yoga
<b>Elimination Disorders</b>	Behavior Alert, Behavior Alert and Behavioral Training, Behavioral Training, Behavioral Training and Biofeedback and Dietary Care and Medical Care, Behavioral Training and Dietary Care and Medical Care	Behavioral Training and Dietary Care, Behavioral Training and Hypnosis and Dietary Care, CBT	Behavior Alert and Medication	None	Assessment/Monitoring, Assessment/Monitoring and Medication, Behavioral Training and Medical Care, Biofeedback, Contingency Management, Dietary Care, Dietary Care and Medical Care, Hypnosis, Medical Care, Psychoeducation

<b>Problem Area</b>	<b>Level 1- BEST SUPPORT</b>	<b>Level 2- GOOD SUPPORT</b>	<b>Level 3- MODERATE SUPPORT</b>	<b>Level 4- MINIMAL SUPPORT</b>	<b>Level 5- NO SUPPORT</b>
<b>Mania</b>	None	CBT for Child and Parent, Cognitive Behavioral Psychoeducation	None	None	Cognitive Behavioral Psychoeducation and Dietary Care, Dialectical Behavior Therapy and Medication, Family-Focused Therapy, Psychoeducation
<b>Substance Use</b>	CBT, Community Reinforcement, Contingency Management, Family Therapy, MI/Engagement	Assertive Continuing Care, CBT and Contingency Management, CBT and Medication, CBT with Parents, Family Systems Therapy, Functional Family Therapy, Goal Setting/Monitoring, MI/Engagement and CBT, MI/Engagement and Expression, Multidimensional Family Therapy, Problem Solving, Purdue Brief Family Therapy	Drug Court, Drug Court and Multisystemic Therapy and Contingency Management, Eclectic Therapy	Goal Setting, Psychoeducation	Advice/Encouragement, Assessment/Monitoring, Behavioral Family Therapy, Case Management, CBT and Community Information Campaign, CBT and Functional Family Therapy, Client Centered Therapy, Drug Court and Multisystemic Therapy, Drug Education, Education, Family Court, Feedback, Group Therapy, Mindfulness, MI/Engagement and CBT and Family Therapy, Multisystemic Therapy, Parent Psychoeducation, PMT, Therapeutic Vocational Training
<b>Suicidality</b>	None	Attachment Therapy, CBT with Parents, Counselors Care, Counselors Care and Support Training, Interpersonal Therapy, Multisystemic Therapy, Parent Coping/Stress Management, Psychodynamic Therapy, Social Support	None	None	Accelerated Hospitalization, Case Management, CBT, Communication Skills, Counselors Care and Anger Management
<b>Traumatic Stress</b>	CBT, CBT with Parents, EMDR	Exposure	None	Play Therapy, Psychodrama, Relaxation and Expression	Advice/Encouragement, Client Centered Therapy, CBT and Medication, CBT with Parents Only, Education, Expressive Play, Interpersonal Therapy, Problem Solving, Psychodynamic Therapy, Psychoeducation, Relaxation, Structured Listening

Adapted with permission from PracticeWise.

Note: CBT = Cognitive Behavior Therapy; MI = Motivational Interviewing; PMT = Parent Management Training; Level 5 refers to treatments whose tests were unresponsive or inconclusive. This report updates and replaces the “Blue Menu” originally distributed by the Hawaii Department of Health, Child and Adolescent Mental Health Division, Evidence-Based Services Committee from 2002–2009.

The recommendations in this publication 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. Original document included as part of Addressing Mental Health Concerns in Primary Care: A Clinician’s Toolkit. Copyright © 2010 American Academy of Pediatrics. All Rights Reserved. The American Academy of Pediatrics does not review or endorse any modifications made to this document and in no event shall the AAP be liable for any such changes

## Background

The PracticeWise “Evidence-Based Child and Adolescent Psychosocial Interventions” tool is created twice each year and posted on the AAP Web site at [www.aap.org/mentalhealth](http://www.aap.org/mentalhealth), using data from the PracticeWise Evidence-Based Services Database, available at [www.practicewise.com](http://www.practicewise.com). The table is based on an ongoing review of randomized clinical psychosocial and combined treatment trials for children and adolescents with mental health needs. The contents of the table represent the treatments that best fit a patient’s characteristics, based on the primary problem (rows) and the strength of evidence behind the treatments (columns). Thus, when seeking an intervention with the best empirical support for an adolescent with depression, one might select from among cognitive behavior therapy (CBT) alone, CBT with medication, CBT with parents included, client centered therapy, or family therapy. Each clinical trial must have been published in a peer-reviewed scientific journal, and each study is coded by 2 independent raters whose discrepancies are reviewed and resolved by a third expert judge. Prior to report development, data are subject to extensive quality analyses to identify and eliminate remaining errors, inconsistencies, or formatting problems.

## Strength of Evidence Definitions

The strength of evidence classification uses a 5-level system that was originally adapted from the American Psychological Association Division 12 Task Force on the Promotion and Dissemination of Psychological Procedures.<sup>1</sup> These definitions can be seen in the Box below. Higher strength of evidence is an indicator of the reliability of the findings behind the treatment, not an index of the expected size of the effect.

## Treatment Definitions

“Evidence-Based Child and Adolescent Psychosocial Interventions” uses a broad level of analysis for defining treatments, such that interventions sharing a majority of components with similar clinical strategies and theoretical underpinnings are considered to belong to a single treatment approach. For example, rather than list each CBT protocol for depression on its own, the tool handles these as a single group that collectively has achieved a particular level of scientific support. This approach focuses more on “generic” as opposed to “brand name” treatment modalities, and it also is designed to reduce the more than 500 distinct treatments that would otherwise be represented on this tool to a more practical level of analysis.

## Problem Definition

The presenting problems represented in the table rows are coded using a checklist of 25 different problem areas (e.g., anxious or avoidant behaviors, eating disorders, substance use). The problem area refers to the condition that a treatment explicitly targeted and for which clinical outcomes were measured. These problem areas are inclusive of diagnostic conditions (e.g., all randomized trials targeting separation anxiety disorder are considered collectively within the “Anxious or Avoidant Behaviors” row) but also include the much larger number of research trials that tested treatments but did not use diagnosis as a study entry criterion. For example, many studies use elevated scores on behavior or emotion checklists or problems such as arrests or suicide attempts to define participants. Mental health diagnoses are therefore nested under these broader categories.

## History of This Tool

This tool has its origins with the Child and Adolescent Mental Health Division of the Hawaii Department of Health. Under the leadership of then-division chief Christina Donkervoet, work was commissioned starting in 1999 to review child mental health treatment outcome literature and produce reports that could serve the mental health system in selecting appropriate treatments for its youth.<sup>2</sup> Following an initial review of more than 120 randomized clinical trials,<sup>3</sup> the division began to issue the results of these reviews in quarterly matrix reports known as the Blue Menu (named for the blue paper on which it was originally printed and distributed). This document was designed to be user-friendly and transportable, thereby making it amenable to broad and easy dissemination. As of 2010, the AAP supports the posting of the next generation of this tool. “Evidence-Based Child and Adolescent Psychosocial Interventions” now represents over 900 randomized trials of psychosocial treatments for youth. PracticeWise continues to identify, review, and code new research trials and plans to continue providing updates to this tool to the AAP for the foreseeable future.

## References

1. American Psychological Association Task Force on Promotion and Dissemination of Psychological Procedures, Division of Clinical Psychology. Training in and dissemination of empirically-validated psychological treatments: report and recommendations. *Clin Psychol.* 1995;48:3–23
2. Chorpita BF, Donkervoet CM. Implementation of the Felix Consent Decree in Hawaii: the implementation of the Felix Consent Decree in Hawaii. In: Steele RG, Roberts MC, eds. *Handbook of Mental Health Services for Children, Adolescents, and Families*. New York, NY: Kluwer Academic/Plenum Publishers; 2005:317–332
3. Chorpita BF, Yim LM, Donkervoet JC, et al. Toward large-scale implementation of empirically supported treatments for children: a review and observations by the Hawaii Empirical Basis to Services Task Force. *Clin Psychol Sci Pract.* 2002;9(2):165–190

See more on the PracticeWise [publications page](#).

## Strength of Evidence Definitions

### Level 1: Best Support

- I. At least 2 randomized trials demonstrating efficacy in one or more of the following ways:
  - a. Superior to pill placebo, psychological placebo, or another treatment.
  - b. Equivalent to all other groups representing at least one level 1 or level 2 treatment in a study with adequate statistical power (30 participants per group on average) that showed significant pre-study to post-study change in the index group as well as the group(s) being tied. Ties of treatments that have previously qualified only through ties are ineligible.
- II. Experiments must be conducted with treatment manuals.
- III. Effects must have been demonstrated by at least 2 different investigator teams.

### Level 2: Good Support

- I. Two experiments showing the treatment is (statistically significantly) superior to a waiting list or no-treatment control group. *Manuals, specification of sample, and independent investigators are not required.*  
OR
- II. One between-group design experiment with clear specification of group, use of manuals, and demonstrating efficacy by either
  - a. Superior to pill placebo, psychological placebo, or another treatment
  - b. Equivalent to an established treatment (See qualifying tie definition above.)

### Level 3: Moderate Support

One between-group design experiment with clear specification of group and treatment approach and demonstrating efficacy by either

- a. Superior to pill placebo, psychological placebo, or another treatment
- b. Equivalent to an already established treatment in experiments with adequate statistical power (30 participants per group on average)

### Level 4: Minimal Support

One experiment showing the treatment is (statistically significantly) superior to a waiting list or no-treatment control group. *Manuals, specification of sample, and independent investigators are not required.*

### Level 5: No Support

The treatment has been tested in at least one study but has failed to meet criteria for levels 1 through 4.



# EMOTIONAL & SOCIAL DEVELOPMENT



## A quest for emotional and social competence

**“Adults influence me more than my friends because they have more wisdom and experience in the world.”**

*Girl, 16*

**A**lthough the stereotype of adolescence emphasizes emotional outbursts and mood swings, in truth, the teen years are a quest for emotional and social competence.

Emotional competence is the ability to perceive, assess, and manage one’s own emotions. Social competence is the capacity to be sensitive and effective in relating to other people. Cognitive development in the adolescent brain gives teens increasing capacity to manage their emotions and relate well to others.

Unlike the physical changes of puberty, emotional and social development is not an inevitable biological

process during adolescence. Society expects that young people will learn to prevent their emotions from interfering with performance and relate well to other people, but this does not occur from brain development alone—it must be cultivated.

### **Four areas of emotional and social development**

Emotional and social development work in concert: through relating to others, you gain insights into yourself. The skills necessary for managing emotions and successful relationships have been called “emotional intelligence” and include self-awareness,

social awareness, self-management, and the ability to get along with others and make friends.

### Self-awareness: What do I feel?

Self-awareness centers on young people learning to recognize and name their emotions. Feelings cannot be labeled accurately unless conscious attention is paid to them, and that involves going deeper than saying one feels “good,” “bad,” or the all-purpose “OK.”

Going deeper means an adolescent might discover he or she feels “anxious” about an upcoming test, or “sad” when rejected by a potential love interest. Identifying the source of a feeling can lead to figuring out constructive ways to resolve a problem.

Without this awareness, undefined feelings can become uncomfortable enough that adolescents may grow withdrawn or depressed or pursue such numbing behaviors as drinking alcohol, using drugs, or overeating.

### Social awareness: What do other people feel?

While it is vital that youth recognize their own emotions, they must also develop empathy and take into account

## BRAIN BOX



Increases in estrogen and testosterone at puberty literally change the brain structure so that it processes social situations differently. Pubertal hormones prompt a proliferation of receptors for oxytocin, a hormone that functions as a neurotransmitter, in the limbic area of the brain, where emotional processing occurs. The effect of increased oxytocin is to increase feelings of self-consciousness, to the point where an adolescent may truly feel that his or her behavior is the focus of everyone else’s attention. These feelings of having the world as an audience peak around age 15 and then decline.

SOURCE: Steinberg, L. (2008) A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78–106.

the feelings of others. Understanding the thoughts and feelings of others and appreciating the value of human differences are the cornerstones of social awareness.

Cognitive development during adolescence may make social awareness difficult for some young people. Adolescents actually read emotions through a different part of the brain than do adults. Dr. Deborah Yurgelun-Todd, director of Neuropsychology and Cognitive Neuroimaging at McLean Hospital in Belmont, Massachusetts, took magnetic resonance imaging (MRI) scans of the brains of both teenagers and adults as they were shown images of faces that clearly expressed fear. All the adults correctly identified fear. About half of the teens got it wrong, mistaking the expression as that of shock, sadness, or confusion.

Yurgelun-Todd discovered that on the MRI scans of the adults, both the limbic area of the brain (the part of the brain linked to emotions) and the prefrontal cortex (connected to judgment and reasoning) were lit up. When teens saw the same images, the limbic area was bright, but there was almost no activity in the prefrontal cortex. Until the prefrontal cortex fully develops in





early adulthood, teens may misinterpret body language and facial expressions. Adults can help by telling teens how they are feeling. For example, a parent can say, “I’m not mad at you, just tired and crabby.”

### **Self-management: How can I control my emotions?**

Self-management is monitoring and regulating one’s emotions and establishing and working toward positive goals. Adolescents can experience intense emotions with puberty. Researchers have found that the increase of testosterone in both boys and girls at puberty literally swells the amygdala, an area of the brain associated with social acceptance, responses to reward, and emotions, especially fear.

Nonetheless, adolescents can and do learn to manage their emotions. Self-management in a young person involves using developing reasoning and abstract thinking skills to step back, examine emotions, and consider how those emotions bear on longer-term goals. By actively managing emotions rather than reacting to a flood of feelings, young people can learn to avoid the pitfalls and problems that strong emotions often evoke. Recognizing that they have the power to choose how to react in a situation can greatly improve the way adolescents experience that situation.

### **Peer relationships: How can I make and keep friends?**

Social and emotional development depends on establishing and maintaining healthy, rewarding relationships based on cooperation, effective communication, and the ability to resolve conflict and resist inappropriate peer pressure.

These social skills are fostered by involvement in a peer group, and teens generally prefer to spend increasing amounts of time with fellow adolescents and less time with family. Peers provide a new opportunity for young people to form necessary social skills and an identity outside the family.

## Possible causes of heightened emotions in adolescents



- Hormones, which set off physical changes at puberty, also affect moods and general emotional responses in teens.
- Concerns about physical changes—height, weight, facial hair, developing breasts in girls—are a source of sensitivity and heightened emotions.
- Irregular meal patterns, skipping breakfast, and fasting to lose weight can affect mood.
- Inadequate sleep can lead to moodiness, gloominess, irritability, and a tendency to overreact.
- Experiencing the normal ups and downs of social relationships, especially romantic relationships, can make a teen feel anything from elation to abject despair.

The influence of peers is normal and expected. Peers have significant sway on day-to-day values, attitudes, and behaviors in relation to school, as well as tastes in clothing and music. Peers also play a central role in the development of sexual identities and the formation of intimate friendships and romantic relationships.

Friends need not be a threat to parents’ ultimate authority. Parents re-

main central throughout adolescence. Young people depend on their families and adult caregivers for affection, identification, values, and decision-making skills. Teens report, and research confirms, that parents have more influence than peers on whether or not adolescents smoke, use alcohol and other drugs, or initiate sexual intercourse.

Teens also frequently seek out adult role models and advisors such

**“My mom is my biggest influence because she always knows the answers to my questions and would never tell me anything that would hurt me in the long run.”**

*Boy, 15*



## Popularity plusses and minuses

Most parents wish their teenagers to be popular. Certainly, most teens want to be popular, too. However, a recent study in the journal *Child Development* suggests that being on the A-list is not always what it's cracked up to be.

The advantages of popularity are that popular adolescents possess a broader array of social skills than their less well-liked peers, better self-concepts, a greater ability to form meaningful relationships with both friends and parents, and greater ability to resolve conflicts within these relationships.

But there is a downside. Popular teens are at higher risk for exposure to—and participation in—whatever risky behaviors are condoned by their peers. Popularity can be associated with higher levels of alcohol and substance abuse and minor deviant behavior, such as vandalism and shoplifting.

Popular kids tend to get along better with their friends and family members and seem to have more emotional maturity than others. This maturity can be compromised by their need for group approval, as popular teens may be even more willing than other teens to adopt behaviors they think will earn them greater acceptance. Sometimes the behaviors are “pro-social”—as when a group pressures popular members to be less aggressive and hostile. Sometimes, when risky behaviors are valued by popular kids, the behaviors are more deviant.

SOURCE: Allen, J.P., Porter, M.R., & McFarland, F.C. (2005). The two faces of adolescents' success with peers: adolescent popularity, social adaptation, and deviant behavior. *Child Development*. 76(3), 747–760.

as teachers, relatives, club leaders, or neighbors. Studies show that connections to teachers, for example, can be just as protective as connections to parents in delaying the initiation of sexual activity and use of drugs, alcohol, and tobacco.

Some teenagers, of course, trade the influence of parents and other adults for the influence of their peers,



but this usually happens when family closeness and parental monitoring are missing. Youth need to learn independent-thinking, decision-making, and problem-solving skills from their parents or guardians and other caring adults, so they can apply these skills within their peer network.

The nature of social relationships changes as adolescents get older. Younger teens typically have at least one primary group of friends, and the members are usually similar in many respects, including gender. During the early teen years, both boys and girls are concerned with conforming and being accepted by their peer group.

**“A good parent listens to you and does not look down on you.”**

*Girl, 14*

Emerging brain science indicates that during early adolescence social acceptance by peers may be processed by the brain similarly to other pleasurable rewards, such as receiving money or eating ice cream. This makes social acceptance highly desirable and helps explain why adolescents change their behavior to match their peers'. Teens often adopt the styles, values, and interests of the group to maintain an identity that distinguishes their group from other students.

Peer groups in middle adolescence (14-16 years) tend to contain both boys and girls, and group members are more tolerant of differences in appearance, beliefs, and feelings. By late adolescence (17-19 years), young people have diversified their peer network beyond a single clique or crowd and develop intimate relationships within these peer groups, such as one-on-one friendships and romances.

Dating is a way to develop social skills, learn about other people, and explore romantic and sexual feelings. The hormonal changes that accompany pu-

**“My friends have inspired me to help anyone that I see in need.”**

*Girl, 12*

berly move adolescents toward dating relationships. Mainstream culture plays a role as well. Media and popular culture are awash in images and messages that promote adolescent sexuality and romance. Dating can lead to sexual activity, but also to opportunities for expanded emotional growth. Dating and friendships open up an adolescent to experiencing extremes of happiness, excitement, disappointment, and despair. Recent research has shown that both boys and girls value intimacy in romantic relationships, dispelling the prevailing stereotype that boys prefer casual sexual relationships.

### **Emotional and social development in context**

Adolescents face an astonishing array of options in modern society—everything from choosing multiple sources of entertainment to deciding among alternative educational or vocational pathways. Teenagers are confronted with more decisions, and more complicated decisions, than their parents and grandparents faced, often in complex environments that trigger conflicting feelings and desires.

Responsible decision-making involves generating, implementing, and evaluating ethical choices in a given situation. The choices ideally will benefit both the decision-maker and the well-being of others.

The still-developing frontal lobes in the brain render adolescents vulnerable to making poor decisions; they can have trouble forming judgments when things are cloudy or uncertain. The Cognitive Development chapter gives strategies for helping young people with their decision-making skills.

Decisions about risk-taking often are made in group situations—settings that activate intense feelings and trigger impulses. In a recent experimental study, teenagers, college students, and adults were asked to play a video driving game. When participants were alone, levels of risky driving were the same for the teens, college students, and adults. However, when they played the game in front of friends, risky driving doubled among the adolescents and increased by 50 percent among the college students, but remained unchanged among the

adults. Risky behavior increased for both boys and girls.

In a follow-up study, Laurence Steinberg, PhD, of Temple University used functional MRI to map brain activity during the video driving game. The brain scans showed that teen brains respond differently when peers are present compared to when they are not present. When teens played the driving game alone, brain regions linked to cognitive control and reasoning were activated. When peers were present, additional brain circuitry that processes rewards was also activated,

### **The building blocks of empathy**



Empathy is the ability to identify with another person’s concerns and feelings. Empathy is the foundation of tolerance, compassion, and the ability to differentiate right from wrong. Empathy motivates teens and adults alike to care for those who are hurt or troubled.

#### **Ways you can help build empathy in an adolescent:**

- Demonstrate tolerance and generosity in your thoughts, words, and actions.
- Actively participate in religious or social organizations that ask you to focus on issues larger than yourself.
- Fine-tune your own empathetic behaviors and act on your concerns to comfort others, so that teenagers can copy your actions.
- Build a young person’s emotional vocabulary by using such “feelings” statements as “Your friend seems really (anxious, mad, discouraged).” You can also point out nonverbal feeling cues to a teenager.
- Teach empathy and awareness of others, such as helping youth understand on an emotional level the negative consequences of prejudice.
- Talk with a young person about how his or her own suffering can lead to compassion for other teens who experience suffering.





suggesting that, for teens, potentially rewarding—and potentially risky—behaviors become even more gratifying in the presence of peers. By late adolescence and early adulthood, the cognitive control network matures, so that even among friends in a high-pressure situation, the urge to take risks diminishes.

Because heightened vulnerability to peer influence and risk-taking ap-

pears to be a natural and normal part of neurobiological development, telling adolescents not to give in to peer influence may not be effective, especially during early adolescence. Instead, teens may be best protected from harm through limiting exposure to risky situations. Harm-reducing tactics include raising the price of cigarettes, rigorously policing the sale of alcohol to minors, placing restrictions on

teen driving, and making reproductive health services more accessible to adolescents.

**“A good friend is  
100% real with  
you all the time.”**

*Boy, 16*

# WAYS TO HELP TEENS MAKE HEALTHY SOCIAL CONNECTIONS



## Discuss the meaning of true friendship

People have plenty of acquaintances, but true friends can be rare gifts. Talk with young people about what distinguishes true friends from situational friends. True friends like you for yourself. They try to help and encourage you, and they stand by you when the other kids make fun of you or give you a hard time. A true friend does not judge you by the clothes you wear or how much expensive stuff you have, pressure you to go along with the crowd, make you do dangerous or illegal things, or leave you high and dry when things get rough.

## Help teens get involved in things they care about

Young people can make friends at school, but they can also form relationships through mutual interests. Find out what adolescents are interested in—computers, music, dance, poetry slams, sports, science fiction/fantasy—and help start a club, or get teens involved in existing organizations.



## Find role models for friendship

Examples of good friendships abound in movies, books, and songs, and also in your community. Friendship could be the theme of a book club or a movie series in a youth program. Expose adolescents to real-life role models and then discuss what good friendships have in common. What attributes or values do these people share?

## Promote service to others

Getting youth involved with a service project in your community is a way to strengthen friendships, both with people their own age and across the generations, and to make social connections through the pursuit of common goals. Community service also promotes the values of caring and kindness, and it helps adolescents develop a sense of empathy. Let teens decide what kind of service project they would like to do.



## Teach about the relationship between honesty and tact

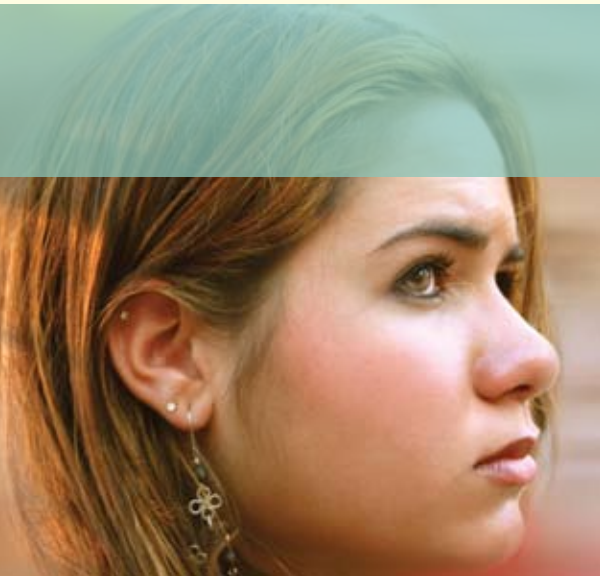
Friends don't tear each other down—even in the name of honesty. You can help sharpen a young person's decision-making skills by talking about ways of handling certain situations without being hurtful. Possible scenarios include what to say when someone asks, "Do you like my new haircut?" or what to say when a friend or relative mentions, "I've never seen you wear the sweater I gave you."



## Talk about boundaries

Being a friend does not mean being a doormat or being joined at the hip 24/7. Friendships need boundaries, just as other relationships do. Stress the importance of boundaries, establishing limits, and respecting privacy and "alone time," which make friendships healthier and stronger in the long run.





# Teen Stress

## Teens feel the pressure

“I think stress is a problem for teenagers like me...because when you get a certain age, you start worrying about certain things, like, when your puberty comes, your body starts to develop more, and then you get to worry about school, your families, and what most people think about you.”  
Girl, 14

**Y**ou may have caught yourself thinking, “Teen stress? Wait until they’re older—then they’ll know stress.”

Yet teen stress is an important health issue. The early teen years are marked by rapid changes—physical, cognitive, and emotional. Young people also face changing relationships with peers, new demands at school, family tensions, and safety issues in their communities. The ways in which teens cope with these stressors can have significant short- and long-term consequences on their physical and emotional health. Difficulties in handling stress can lead to mental health problems, such as depression and anxiety disorders.

What is stress? It is the body’s reaction to a challenge, which could be anything from outright physical danger to asking someone for a date or trying out for a sports team. Good and bad things create stress. Getting into a fight with a friend is stressful, but so is a passionate kiss and contemplating what might follow.

The human body responds to stressors by activating the nervous system and specific hormones. The hypothalamus signals the adrenal glands to produce more of the hormones adrenaline and cortisol and release them into the bloodstream. The hormones speed

## THINGS THAT CAN CAUSE YOUTH STRESS

- School pressure and career decisions
- After-school or summer jobs
- Dating and friendships
- Pressure to wear certain types of clothing, jewelry, or hairstyles
- Pressure to experiment with drugs, alcohol, or sex
- Pressure to be a particular size or body shape. With girls, the focus is often weight. With boys, it is usually a certain muscular or athletic physique.
- Dealing with the physical and cognitive changes of puberty
- Family and peer conflicts
- Being bullied or exposed to violence or sexual harassment
- Crammed schedules, juggling school, sports, after-school activities, social life, and family obligations

up heart rate, breathing rate, blood pressure, and metabolism. Blood vessels open wider to let more blood flow to large muscle groups, pupils dilate to improve vision, and the liver

releases stored glucose to increase the body’s energy. This physical response to stress kicks in much more quickly in teens than in adults because the part of the brain that can calmly assess danger and call off the stress response, the prefrontal cortex, is not fully developed in adolescence.

The stress response prepares a person to react quickly and perform well under pressure. It can help teens be on their toes and ready to rise to a challenge.

The stress response can cause problems, however, when it overreacts or goes on for too long. Long-term stressful situations, like coping with a parent’s divorce or being bullied at school, can produce a lasting, low-level stress that can wear out the body’s reserves, weaken the immune system, and make an adolescent feel depleted or beleaguered.

The things that cause adolescents stress are often different from what stresses adults. Adolescents will have different experiences from one another, as well. A good example of this can be seen by observing teens at a dance.

Some are hunched in the corner, eyes downcast and hugging the wall. They can’t wait for the night to be over. Others are out there dancing their feet off, talking and laughing and hoping the music never stops. In between, you

may find a few kids pretending to be bored, hanging out with their friends, and maybe venturing onto the floor for a dance or two. So, is the dance uniformly stressful?

Several strategies can help teens with their stress. It is best, whenever possible, to help teens address stressful situations immediately. Listen to them, be open, and realize that you can be supportive even if you cannot relate to what they are feeling. Tune in to your own levels of stress, since your overwhelmed feelings can be contagious. For chronic stress, parents or caring adults can help teens understand the cause of the stress and then identify and practice positive ways to manage the situation.

## SIGNS AN ADOLESCENT IS OVERLOADED

- Increased complaints of headache, stomachache, muscle pain, tiredness
- Shutting down and withdrawing from people and activities
- Increased anger or irritability; i.e., lashing out at people and situations
- Crying more often and appearing teary-eyed
- Feelings of hopelessness
- Chronic anxiety and nervousness
- Changes in sleeping and eating habits, i.e., insomnia or being “too busy” to eat
- Difficulty concentrating



## STRESS MANAGEMENT SKILLS FOR YOUNG PEOPLE—& ADULTS

- Talk about problems with others
- Take deep breaths, accompanied by thinking or saying aloud, “I can handle this”
- Perform progressive muscle relaxation, which involves repeatedly tensing and relaxing large muscles of the body
- Set small goals and break tasks into smaller, manageable chunks
- Exercise and eat regular meals
- Get proper sleep
- Break the habit of relying on caffeine or energy drinks to get through the day
- Focus on what you can control (your reactions, your actions) and let go of what you cannot (other people’s opinions and expectations)
- Visualize and practice feared situations
- Work through worst-case scenarios until they seem amusing or absurd
- Lower unrealistic expectations
- Schedule breaks and enjoyable activities
- Accept yourself as you are; identify your unique strengths and build on them
- Give up on the idea of perfection, both in yourself and in others

SOURCE: Dyl, J. Helping teens cope with stress. *Lifespan*. Retrieved from [www.lifespan.org/services/childhealth/parenting/teen-stress.htm](http://www.lifespan.org/services/childhealth/parenting/teen-stress.htm)

# Bullying

## Teen bullying: A part of growing up?



Most adults can remember being teased or bullied when they were younger. It may be regarded as a regular—albeit nasty—part of growing up, but research has shown that bullying has far-reaching negative effects on adolescents. This all-too-common experience can lead to serious problems for young people at a critical time in their development, including poor mental health and dropping out of school.

Estimates from a 2002 CDC survey reveal that approximately 30 percent of teens in the United States, or over 5.7 million teens, have been involved in bullying as a victim, spectator, or perpetrator. In a 2001 national survey of students in grades six to 10, 13 percent reported bullying others, 11 percent reported being the target of school bullies, and another 6 percent said they bullied others and were bullied themselves. Teen bullying appears to be much more common among younger teens than older teens. As teens grow older, they are less likely to bully others and to be the targets of bullies.

Bullying involves a person or a group repeatedly trying to harm someone they see as weaker or more vulnerable. Appearance and social status are the main reasons for bullying, but young people can be singled

## WARNING SIGNS

- Damaged or missing clothing and belongings
- Unexplained cuts, bruises, or torn clothes
- Lack of friends
- Frequent claims of having lost pocket money, possessions, packed lunches, or snacks
- Fear of school or of leaving the house
- Avoidance of places, friends, family members, or activities teens once enjoyed
- Unusual routes to and from school or the bus stop
- Poor appetite, headaches, stomachaches
- Mood swings
- Trouble sleeping
- Lack of interest in schoolwork
- Talk about suicide
- Uncharacteristic aggression toward younger siblings or family members

SOURCE: The Youth Connection, January/February 2005, Institute for Youth Development, [www.youthdevelopment.org](http://www.youthdevelopment.org)

out because of their sexual orientation, their race or religion, or because they may be shy and introverted.

Bullying can involve direct attacks—hitting, threatening or intimidating, maliciously teasing and taunting, name-calling, making sexual remarks, sexual assault, and stealing or damaging belongings. Bullying can also involve the subtler, indirect attacks of rumor-mongering or encouraging others to snub someone. New technology, such as text messaging, instant messaging, social networking websites, and the easy filming and online posting of videos, has introduced a new form of intimidation—cyberbullying—which is widespread on the Internet.

### Debunking the myth of the bully

The typical portrait of a young bully is someone who is insecure and seething with self-loathing. The latest research indicates the opposite is often true, that teen bullies—both boys and girls—tend to be confident, with high self-esteem and elevated social status among their peers.

Despite bullies' social status, their classmates would rather not spend a lot of time with them. Nonetheless, bullies' stature means that other teens tolerate bullying behavior. This can



# TAKING THE BARK OUT OF BULLIES

Bullying should not be shrugged off as a normal rite of passage in adolescence. It is abusive behavior that is likely to create emotional and social problems during the teen years and later in life for both the victim and the aggressor. Here is how adults can help:

- **SPEAK UP** after a teen tells you about being bullied at school or elsewhere. Take his or her concerns seriously. Go to the school and talk to the teachers, coaches, and principal. Speak to the parents or adults in charge if a teen is being harassed by a peer or social clique.
- **OBSERVE** your own behavior. Adolescents look to adults for cues as to how to act, so practice being caring and empathetic, and controlling your aggressions. Avoid engaging in physical violence, harsh criticism, vendettas, and vicious emotional outbursts.
- **ADVOCATE** for policies and programs concerning bullying in the schools and the community. Anti-bullying policies have been adopted by state boards of education in North Carolina, Oregon, California, New York, Florida, and Louisiana.

One successful program used throughout the country has been developed by Dan Olweus, a Norwegian psychologist and bullying expert. The program focuses on creating a “caring community” as opposed to eliminating bad behavior. For more information on the Olweus Bullying Prevention Program, go to <http://www.clemson.edu/olweus/>.

pose challenges for those addressing bullying problems.

Bullies also tend to be physically aggressive, impulsive, and quick to anger, which fits in with the profile of a classic intimidator. Most often, adolescent bullies are mirroring behavior they have seen in their home or observed in adults.

## School bullying

School bullying occurs more frequently among boys than among girls. Teenage boys are more likely both to bully others and to be the targets of bullies. While both boys and girls say others bully them by making fun of the way they look or talk, boys are more likely to report being hit, shoved, or punched. Girls are more often the targets of rumors and sexual comments, but fighting does occur.

While teenage boys target both boys and girls, teenage girls most often bully other girls, using sly and more indirect forms of aggression than boys, such as spreading gossip or urging others to reject or exclude another girl.

## Harassment hurts

Bullying can make teens feel stressed, anxious, and afraid. Adolescent victims of bullying may not be able to concentrate in school, a problem that can lead to avoiding classes, sports, and social situations. If the bullying continues for long periods of time, feelings of self-worth suffer. Bullied teens can become isolated and withdrawn. In rare cases, adolescents may take drastic measures, such as carrying weapons for protection.

One of the most common psychiatric disorders found in adolescents who are bullied is depression, an illness which, if left untreated, can interfere with their ability to function. According to a 2007 study linking bullying and suicidal behavior, adolescents who were frequently bullied in school were five times as likely to have serious suicidal thoughts and four times as likely to attempt suicide as students who had not been victims.

Even after the bullying has stopped, its effects can linger. Researchers have found that years later,

adults who were bullied as teens have higher levels of depression and poorer self-esteem than other adults.

Bullies also fare less well in adulthood. Being a teen bully can be a warning sign of future troubles. Teens, particularly boys, who bully are more likely to engage in other delinquent behaviors in early adulthood, such as vandalism, shoplifting, truancy, and drug use. They are four times more likely than non-bullies to be convicted of crimes by age 24, with 60 percent of bullies having at least one criminal conviction.



# CYBERBULLIES

Text messaging, social networking sites, blogs, email, instant messaging—all these are ways teens stay connected to each other and express who they are to the world.

However, this new technology can make young people vulnerable to the age-old problem of bullying. Unmonitored social networking sites and chat rooms can be a forum for messages that are sexually provocative, demeaning, violence-based, or racist.

Cyberbullies send harassing or obscene messages, post private information on a public site, intentionally exclude someone from a chat room, or pretend to be someone else to try to embarrass a person (for example, by pretending to be a boy or girl who is romantically interested in the person).

Cyberbullying can spiral into a “flame war”—an escalation of online attacks sent back and forth, either privately through text and instant messaging or on a public site. On public sites flaming is meant to humiliate the person attacked and drive him or her away from the web site or forum.

Often, the information used for cyberbullying at first appears innocent or inconsequential. A teen could post or text what he or she thinks is run-of-the-mill news about a friend, teacher, or family member, but others could use it for harassment or bullying purposes.

Although there is still very little research on cyberbullying, it appears

to occur at about the same rate as traditional bullying. A 2007 study of middle schools in the Southeast found



that boys and girls are equally likely to engage in cyberbullying, but girls are more likely to be victims. Twenty-five percent of girls and 17 percent of boys reported having been victims of cyberbullying in the past couple of months.

Over one-third of victims of electronic bullying in this study also reported bullying behaviors. Instant messaging is the most common method for cyberbullying.

Cyberbullying differs from traditional bullying in that it can be harder to escape. It can occur at any time of the day or night, and it can be much more public, since rude and obscene messages

can be spread quickly. It also can be anonymous. In the same 2007 study of middle school students, almost half of the victims of cyberbullying did not know who had bullied them.

Cyberbullying is much more common than online sexual solicitation, another serious concern. Most online sex crimes involve adult men soliciting teens between the ages of 12 and 17 into meeting them to have sex. The common media portrayal of teen victims as naïve is largely false. The vast majority of teens who are victims of online sexual predators know they are communicating with adults, communicate online about sex, and expect to have a romantic or sexual experience if and when they meet. About three-quarters of teens who meet the offender meet them more than once. To help teens avoid becoming victims of online sex crimes, it is important to have accurate and candid discussions about how it is wrong for adults to take advantage of normal sexual feelings among teens.

Teens are more vulnerable to sexual solicitations online if they send (not just post) private information to someone unknown, visit chat rooms, access pornography, or make sexual remarks online themselves.

There is no evidence that use of social networking sites such as Facebook or MySpace increases a teen's risk of aggressive sexual solicitation.

SOURCES: Gengler, C. (2009). Teens and the internet. *Teen Talk: A Survival Guide for Parents of Teenagers*. Regents of the University of Minnesota. Available at <http://www.extension.umn.edu/distribution/familydevelopment/00145.pdf>.  
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## WAYS ADULTS CAN PROTECT TEENS FROM CYBERBULLIES AND PREDATORS

- Stress to teens what is not safe to put on the web or give out to people they don't know: their full name, address, cell phone number, specific places they hang out, financial information, ethnic background, school, or anything else that would help someone locate them. Although it is important to protect young people's privacy, it may be necessary to review a teen's social networking site to make sure they do not reveal too much personal information.
- Emphasize that in cyberspace, there's no such thing as an "erase" button—messages, photos, rants, and musings can and do hang around forever. Information that may seem harmless now to a teen can be used against them at any time—maybe in the future when applying to college or looking for a job. Photos posted on the sites should not reveal too much personal information about teens.
- Shut down a personal website or blog when the adolescent is subjected to bullying or flaming. If necessary, it is possible to get a new email address and instant-messaging (IM) identity.
- Make clear to young people what kinds of messages are harmful and inappropriate. Enforce clearly spelled-out consequences if young people engage in those behaviors.
- Encourage teens not to respond to cyberbullying. The decision whether to erase messages is difficult. It is not good for teens to revisit them, but they may need to be saved as evidence if the bullying becomes persistent.
- Keep computers out of teens' bedrooms so that computer activity can be monitored better.

SOURCES: Kowalski, R.M. & Limber, S.P. (2007). Electronic bullying among middle school students. *Journal of Adolescent Health*, 41, S22–S30.  
Wolak, J., Finkelhor, D., Mitchell, K.J., & Ybarra, M.L. (2008). Online "predators" and their victims: myths, realities, and implications for prevention and treatment. *American Psychologist*, 63(2): 111–128.



## STATEMENT OF ENDORSEMENT

American Academy  
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DEDICATED TO THE HEALTH OF ALL CHILDREN™

# Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management

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**OBJECTIVES:** To update clinical practice guidelines to assist primary care (PC) clinicians in the management of adolescent depression. This part of the updated guidelines is used to address practice preparation, identification, assessment, and initial management of adolescent depression in PC settings.

**METHODS:** By using a combination of evidence- and consensus-based methodologies, guidelines were developed by an expert steering committee in 2 phases as informed by (1) current scientific evidence (published and unpublished) and (2) draft revision and iteration among the steering committee, which included experts, clinicians, and youth and families with lived experience.

**RESULTS:** Guidelines were updated for youth aged 10 to 21 years and correspond to initial phases of adolescent depression management in PC, including the identification of at-risk youth, assessment and diagnosis, and initial management. The strength of each recommendation and its evidence base are summarized. The practice preparation, identification, assessment, and initial management section of the guidelines include recommendations for (1) the preparation of the PC practice for improved care of adolescents with depression; (2) annual universal screening of youth 12 and over at health maintenance visits; (3) the identification of depression in youth who are at high risk; (4) systematic assessment procedures by using reliable depression scales, patient and caregiver interviews, and *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* criteria; (5) patient and family psychoeducation; (6) the establishment of relevant links in the community; and (7) the establishment of a safety plan.

**CONCLUSIONS:** This part of the guidelines is intended to assist PC clinicians in the identification and initial management of adolescents with depression in an era of great clinical need and shortage of mental health specialists, but they cannot replace clinical judgment; these guidelines are not meant to be the sole source of guidance for depression management in adolescents. Additional research that addresses the identification and initial management of youth with depression in PC is needed, including empirical testing of these guidelines.

## abstract



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## BACKGROUND

Major depression in adolescents is recognized as a serious psychiatric illness with extensive acute and chronic morbidity and mortality.<sup>1–4</sup> Research shows that only 50% of adolescents with depression are diagnosed before reaching adulthood.<sup>5</sup> In primary care (PC), as many as 2 in 3 youth with depression are not identified by their PC clinicians and fail to receive any kind of care.<sup>6,7</sup> Even when diagnosed by PC providers, only half of these patients are treated appropriately.<sup>5</sup> Furthermore, rates of completion of specialty mental health referral for youth with a recognized emotional disorder from general medical settings are low.<sup>8</sup>

In view of the shortage of mental health clinicians, the barriers to children's access to mental health professionals, the well-documented need for PC clinicians to learn how to manage this condition, the increasing evidence base that is available to guide clinical practice, the increased selective serotonin reuptake inhibitor–prescribing rates in pediatric PC,<sup>9,10</sup> and new evidence that a multifaceted approach with mental health consultation may improve the management of depression in PC settings,<sup>8,10–16</sup> guidance for the identification and management of depression in adolescents in PC were urgently needed. To address this gap as well as to meet the needs of PC clinicians and families who are on the front lines with few mental health resources available, in 2007, the Center for the Advancement of Children's Mental Health at Columbia University and the Sunnybrook Health Sciences Center at the University of Toronto joined forces with the New York Forum for Child Health, the New York District II Chapter 3 of the American Academy of Pediatrics (AAP),

and the Resource for Advancing Children's Health (REACH) Institute along with leading experts across the United States and Canada to address the need for a synthesis of knowledge in this area. The result of this initiative was the development of the Guidelines for Adolescent Depression in Primary Care (GLAD-PC). These guidelines are based on available research and the consensus of experts in depression and PC. The two companion articles<sup>17,18</sup> constituted the first-ever evidence- and expert consensus–derived guidelines to guide PC clinicians' management of adolescent depression. The guidelines were also accompanied by a tool kit (available at no cost for download at <http://www.gladpc.org>).

In this article, we present the updated recommendations on the identification, assessment, and initial management of depression in PC settings and new recommendations on practice preparations (not previously in the GLAD-PC). In the accompanying report, we present the results of the reviews and recommendations on treatment (psychotherapy, psychopharmacology, and pediatric counseling) and ongoing management.

Major depressive disorder (MDD) is a specific diagnosis described in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5)<sup>19</sup> characterized by discrete episodes of at least 2 weeks' duration (although episodes can last considerably longer) and involving changes in affect, cognition and neurovegetative functions, and interepisode remissions. Other types of depression exist, such as persistent depressive disorder and premenstrual dysphoric disorder. It is important to note that depressive disorders have been separated from bipolar and related disorders in

the DSM-5. Although the evidence for the psychopharmacology recommendations in the accompanying article focuses exclusively on MDD, the recommendations around identification, assessment, and initial management can be applied to other forms of depression as well.

Our guidelines also distinguish between mild, moderate, and severe forms of MDD. The DSM-5 depression criteria include 9 specific symptoms that have been shown to cluster together, run in families, and have a genetic basis,<sup>20–24</sup> and a large body of evidence accumulated over time now supports the internal consistency of depressive symptoms and the validity of the major depression construct.<sup>20</sup> According to the DSM-5, the severity of depressive disorders can be based on symptom count, intensity of symptoms, and/or level of impairment. This commonly used method to define depression severity has been used in large population-based studies<sup>25</sup> and may be particularly relevant in PC settings, in which less severe clinical presentations of depression may be more common. Thus, mild depression may be characterized on the basis of lower scores on standardized depression scales with a shorter duration of symptoms or meeting minimal criteria for depression. Following the DSM-5, mild depression might be defined as 5 to 6 symptoms that are mild in severity. Furthermore, the patient might experience only mild impairment in functioning.

In contrast, depression might be deemed severe when a patient experiences all of the depressive symptoms listed in the DSM-5. Depression might also be considered severe if the patient experiences severe impairment in functioning. Moderate depression falls between these 2 categories.

In general, however, even if not all 9 DSM-5–defined symptoms of depression are present, for the purposes of these guidelines, an adolescent with at least 5 criteria of MDD should be considered in the severe category if he or she presents with a specific suicide plan, clear intent, or recent attempt; psychotic symptoms; family history of first-degree relatives with bipolar disorder; or severe impairment in functioning (such as being unable to leave home).

These guidelines were developed for PC clinicians who are in a position to identify and assist youth with depression in their practice settings. Although the age range of 10 to 21 years may encompass preteenagers, adolescents, and young adults in specific instances, this age range was chosen to include those who might be considered developmentally adolescent. Research that supports adult depression guidelines includes adults 18 years and older. Much of the adolescent depression research focuses on children 18 years and younger. However, because adolescent medicine clinicians and school health clinicians often see patients until they are 21 years old, we have included the older adolescents. Furthermore, a PC clinician faced with an adolescent between the ages of 18 and 21 years can choose to use either adult or adolescent depression guidelines on the basis of the developmental status of the adolescent and his or her own comfort and familiarity with each set of guidelines.

## METHODS

The original GLAD-PC recommendations were developed on the basis of a synthesis of expert consensus– and evidence-based research review methodologies, as described in Zuckerbrot et al.<sup>17</sup> The 5-step process included conducting

focus groups with PC clinicians, patients, and their families, a systematic literature review, a survey of depression experts to address questions that were not answered in the empirical literature,<sup>26</sup> an expert consensus workshop, and an iterative guideline drafting process with opportunity for input from all workshop attendees.

For the research update of the GLAD-PC, systematic literature reviews were conducted in the same 5 key areas of adolescent depression management in PC settings as the original guidelines: identification and assessment, initial management, safety planning, treatment, and ongoing management of youth depression. Consistent with the original review, the updated searches were conducted by using relevant databases (eg, Medline and PsycInfo), and all primary studies published since the original GLAD-PC reviews in 2005 and 2006 were examined. All update procedures were conducted with the input and guidance of the steering group, which is composed of clinical and research experts, organizational liaisons, and youth and families with lived experience. As in the original review, recommendations were graded on the basis of the University of Oxford’s Centre for Evidence-Based Medicine grade of evidence (1–5) system, with 1 to 5 corresponding to the strongest to the weakest evidence respectively (see <http://www.cebm.net/wp-content/uploads/2014/06/CEBM-Levels-of-Evidence-2.1.pdf>). They were also rated on the basis of the strength of expert consensus among the steering group members that the recommended practice is appropriate. Recommendations with strong (>70%) or very strong (>90%) agreement are given here.

In addition, a new review on the topic of practice preparation was

conducted given the emerging evidence for this area since the development of the original GLAD-PC guidelines. Electronic searches of relevant databases were conducted for English-language studies in which researchers examined practice preparation for treating youth depression in PC that were published between 1946 and September 2016. Search terms were grouped by categories and included the following: “child\* or adolesc\* or youth or teen\* or juvenile” and “primary care or pediatr\* or family prac\* or general prac\*” and “depress\* or dysth\* or mood or bipolar” and “collaborative care or integrat\* health or medical-behavioral health care or behavioral health or medical home or shared care or facilitat\* or practice prepar\*”. Reference lists for relevant articles were also examined for additional studies that were not identified through search engines. A total of 135 abstracts were carefully examined. Studies that were conducted outside of PC facilities or that used solely adult populations were screened out, leaving a total of 8 relevant articles. A full report of all the literature reviews is available on request.

## RESULTS

### Literature Reviews

#### *Practice Preparation*

Once PC practices have buy-in from administrative and clinical staff to improve depression care for youth, 2 important steps are necessary. First, before practices embark on screening for or identifying youth who are at risk for depression, training in such issues as appropriate screening tools, assessment and diagnostic methods, safety planning, and so on is important. Second, it

is necessary to have access to community resources, such as mental health specialists (mental health specialists can include child and adolescent psychiatrists, psychiatric nurse practitioners, and therapists), not just as a potential referral resource but also for as-needed consultation for case patients that the PC clinicians choose to manage. We review the available evidence pertaining to these 2 areas (provider training and specialty consultation) below.

### *Effective Training Methods*

PC practices vary widely in their capacity to implement full-scale collaborative or integrative behavioral health programs to address psychological difficulties in youth. At minimum, providing PC providers with guidance, education, and training in key topic areas such as identification, evaluation of suicide risk, and initial management of adolescent depression can be a feasible and cost-efficient means of improving care delivery when comprehensive organizational restructuring efforts are out of reach. However, simply providing PC providers with relevant information is not enough because passive education strategies are usually inadequate for producing lasting change in provider behavior.<sup>27</sup>

Researchers in large-scale review studies suggest that the adoption of practice guidelines improves when training and implementation strategies are tailored to the PC practice (eg, training that is developed by primary mental health care specialists, such as the training provided by the REACH Institute [<http://www.thereachinstitute.org/>] and Child and Adolescent Psychology for Primary Care [<http://www.cappcny.org/>])<sup>28</sup> and/or use comprehensive training methods, such as varying information

delivery methods and skill-building exercises, such as role-playing.<sup>27</sup> Evidence regarding which specific theory-driven training strategies are most effective at eliciting behavior change with PC providers, particularly related to mental health, is sparse, but 1 promising framework leverages principles from the theories of reasoned action and planned behavior to inform training methodology (see Perkins et al<sup>29</sup> for explanation and review). This approach posits 3 primary determinants of PC behavior change: attitudes toward the practice innovation, the strength of intention to adopt the new practice(s), and sense of self-efficacy in one's ability to continue the new behavior. Although no randomized trials in which researchers use this or other systematic frameworks for PC provider-training methodologies were identified, researchers in preliminary studies offer support for training approaches that incorporate basic science-guided behavior change theory and methods. There is increasing evidence that quality-improvement strategies and techniques can change PC practitioner behavior both in mental health and in other arenas.<sup>30,31</sup> The REACH Institute (which is committed to renewing and improving techniques for professionals and parents to treat children with behavioral and emotional needs) has developed and widely implemented a 3-day intensive training on evidence-based pediatric mental health assessment, diagnosis, and treatment practices (including for youth depression) that is guided by basic science behavior change principles, demonstrating long-term practice changes (eg, increased use of symptom scales) as well as favorable PC provider attitudes toward, intentions to follow, and self-efficacy to adhere to the clinical guidelines up to 1 year

later.<sup>32</sup> In another study of the same training approach, participating PC providers showed higher levels of self-efficacy in diagnosing and managing youth depression and related disorders than those who received only more traditional continuing education programs (eg, lectures).<sup>33</sup>

An unrelated study demonstrated that provider attitudes toward youth mental health in PC impacts rates of identification. PC providers who viewed psychosocial treatment as burdensome were less likely to identify youth mental health problems.<sup>34</sup> A subsequent follow-up to the study revealed that providing PC staff with communication training enhanced their self-efficacy and willingness to discuss depression symptoms with patients and staff, and this was associated with long-term changes in practice behaviors, such as providing an agenda during the PC visit, querying for additional mental health concerns, and making encouraging statements to patients and families when symptoms are disclosed.<sup>35</sup> The small amount of available literature offers support for hands-on, interactive, and basic science theory-driven training strategies for PC clinicians, but more research is needed before a consensus can be reached on how best to optimize training and educational strategies for PC providers.

### *Access to Specialty Consultation*

In addition to obtaining relevant training, PC providers will benefit from having access to ongoing consultation with mental health specialists.<sup>36,37</sup> Consultation after training allows learning to be tailored to the PC provider's actual practice<sup>38</sup> and can increase provider comfort with diagnosing and treating mental health issues.<sup>33,39</sup> More than 25 states have established programs to promote collaboration between PC providers



and child psychiatrists by providing PC providers with education, rapid access to consultation, and referral options. Among the first psychiatric consultation programs was Targeted Child Psychiatry Services (TCPS) in the state of Massachusetts,<sup>40,41</sup> which offered regional providers access to real-time telephone consultation with a child psychiatrist and the option to refer a child to the psychiatry practice for a mental health evaluation, short-term psychosocial therapy, and/or pharmacotherapy. Program use data revealed that TCPS consultation support alone was sufficient to retain and treat in PC 43% of youth who potentially would have been referred to specialty services.<sup>40</sup> TCPS was subsequently expanded statewide and became known as the Massachusetts Child Psychiatry Access Project.<sup>14</sup> Similar programs in other states offer free training, telephone consultation, and referral advice to PC providers.<sup>14,42,43</sup> Participating PC providers consistently report being highly satisfied with the consultation they receive<sup>14,42,43</sup> and increasingly comfortable with treating mental health problems within the PC setting after consultation.<sup>14,42,43</sup> Additionally, consultation programs may improve access to mental health care not only by increasing its availability within PC but also by decreasing potentially unnecessary referrals to specialty care, which in turn makes specialty providers more available to treat complex or severe patients.<sup>41,44</sup>

#### *Identification and Assessment*

In 2009, after the publication of the GLAD-PC, the United States Preventive Services Task Force (USPSTF) endorsed universal adolescent depression screening in teenagers ages 12 to 18 years.<sup>45</sup> This recommendation was based on evidence that there are validated depression screening

tools that work in an adolescent PC population and the evidence that there are treatments that work for the identified population.<sup>45,46</sup> On the basis of our review to date, no researchers in a randomized control trial (RCT) have compared functional or depressive outcomes in a cohort of adolescents who were screened in PC by the PC providers themselves versus a cohort of adolescents who were not screened. This lack of evidence, which is also mentioned in the Canadian review of the literature in 2005,<sup>47</sup> the 2009 Williams et al<sup>46</sup> review performed for the USPSTF, the updated 2016 Forman-Hoffman et al<sup>48</sup> review for the USPSTF, and a 2013 systematic literature review published in *Pediatrics*,<sup>49</sup> becomes less relevant as more evidence accumulates regarding the specific steps in the process, such as the validity of PC screening, the feasibility of PC screening, the feasibility of implementing treatment in those who are identified as having depression, and the efficacy of treatment of those who received evidence-based treatments in PC. In our updated review in this area, we found 8 new articles that provide some psychometric data regarding the use of depression screens in the pediatric PC population (Supplemental Table 1) and 38 other articles that touch on screening issues that range from whether screening is taking place and whether screening impacts follow-up procedures or treatment to the specifics of screening, such as the use of mobile devices or gated procedures (Supplemental Table 2). Supplemental Tables 1 and 2 present the new evidence as well as the limitations for existing screening tools and protocols. Please see our original 2007 guidelines for the past review of screening tools and protocols.

During the original GLAD-PC development process, secondary

to the paucity of data on the validity of screening tools in the adolescent PC population, the original GLAD-PC guideline was used to review instruments that are used in community and psychiatric populations as well.<sup>17</sup> Given that those screens are still in use and that their psychometric data still apply, in this current review, we focus only on new screening data in PC. Eight of the articles present psychometric data, such as sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), or area under the curve (Supplemental Table 1). Most relevant were the 2 publications by Richardson et al<sup>56,57</sup> in which they validated the Patient Health Questionnaire-2 (PHQ-2) and the Patient Health Questionnaire-9 (PHQ-9) in a PC sample against a gold standard diagnostic interview (the Diagnostic Interview Schedule for Children-IV [DISC-IV]). The PHQ-9, with a cut-point of 11, had a sensitivity and specificity of 89.5% and 77.5%, respectively, to DISC-IV MDD with a PPV of 15.2% and NPV of 99.4%. A PHQ-2 cut score of 3 had a sensitivity and specificity of 73.7% and 75.2%, respectively, to DISC-IV MDD.

Researchers have looked at brief depression-specific screening questions that stand alone (eg, the PHQ-2),<sup>51,57,65,75,79,82,85</sup> longer depression-specific scales that stand alone (eg, the PHQ-9, the Mood and Feelings Questionnaire, the Columbia Depression Scale, and the PHQ-9: Modified for Teens),<sup>58,62,63,66,67,70,74,78,80–82,86–88</sup> brief depression screening questions that are part of a larger psychosocial tool (eg, the Guidelines for Adolescent Preventive Services [GAPS] questionnaire and the Pediatric Symptom Checklist [PSC]),<sup>53,54,64,68,69</sup> and brief screening questions or longer depression-specific scales that are combined with other screens for

either other psychiatric disorders (eg, Screen for Child Anxiety Related Disorders-5) and/or screens for other high-risk behaviors (eg, substance use and sexual activity) to make a more multidimensional tool or packet in 1 (eg, the behavioral health screen [BHS]).<sup>50,52,55,59–61,76,77,83,84,89</sup> Not all of the screens in these studies have specific psychometric validation data (eg, 2 depression questions on the GAPS). Clinicians may also consider the use of tools that can be used to screen for depression and other risk behaviors or more disorders. Although no researchers have compared the functional or depressive outcomes of a cohort of adolescents who were initially screened only for depression with a cohort of adolescents who were initially screened for an array of high-risk behaviors and emotional issues, some hint at the possibility that too much information may overwhelm the clinician and result in positive depression screening questions being overlooked in the morass of issues needing to be addressed.<sup>52,53,59–61,64,76,80,82–84,89</sup> Therefore, clinicians should base the selection of a depression-specific tool versus a more general tool on their own expertise and clinical supports in their practices. For example, a solo practitioner starting to address depression care in his or her practice may choose to start with screening for depression alone before moving to more general screening for riskier behaviors or disorders.

There is limited evidence to evaluate whether one can use a general parent questionnaire as a gated entry for adolescent self-report depression screening. Researchers in 1 study of general mental health screening used the parent- or youth-completed Pediatric Symptom Checklist-35 alone to screen for internalizing disorders, but this provides no

psychometric data,<sup>69</sup> whereas others used the Parent Pediatric Symptom Checklist-17 (PSC-17) along with other, more depression-specific child and parent scales.<sup>54,56,57,82</sup> One of these studies reveals adequate psychometric data for the parent PSC-17 internalizing subscale as compared with the Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) MDD module, performing as well as the Children's Depression Inventory but only with children aged 8 to 15 years.<sup>54</sup> Richardson et al<sup>56,57,82</sup> suggest some correlation with adolescent depression self-report tools, with the adolescent scores that are higher on the PHQ-9 or PHQ-2 being associated with higher mean on the parent PSC-17 internalizing subscale, with a correlation of 0.21 ( $P = .02$ ). However, the data presented do reveal that some teenagers who scored above the cutoffs on the self-reports would have parents who score below the cutoff of 5 on the internalizing subscale of the PSC-17. The authors do not present the data regarding how many teenagers would be missed by using the internalizing subscale as a gate and whether those teenagers met DISC-IV MDD criteria. Lastly, researchers in 1 study looked at the correlation of the PSC-17 internalizing subscale between the parent- and youth-completed PSC-17 but only among subjects whose parents were already positive.<sup>53</sup> The data revealed low agreement, with a  $\kappa$  of 0.15 (95% confidence interval of 0.00–0.30). However, those adolescents who did match with their parents were of higher severity than those parents who were positive but did not match with their negative-scoring teenagers. In addition, the parent PSC-17 in general has usually been studied with the younger adolescent cohort and not the older adolescent cohort. Once again, there is no RCT in

which researchers compare the outcomes of a cohort of adolescents who were universally screened with an adolescent depression self-report versus a cohort that was only screened with self-reports after a positive parent PSC result. All of these data reveal that there is limited evidence in the older teenage cohort about using parent reports alone, that parent information may be helpful if used in conjunction with child reports when a clinician is available to resolve discrepant data, and that if used alone, parent reports may only account for the adolescents with the most severe conditions, but those data are unclear.

Researchers have also looked at paper screens, Internet-based screens, and electronic screens that are accessed through a mobile or personal digital assistant device. Although there appears to be no evidence of researchers comparing such screening methods to each other, all methods seem to be equally successful (in that adolescents rarely refuse screening) and equally problematic (obstacles to universal screening exist with every method). See Supplemental Tables 1 and 2 for more specific information.

Some researchers report adaptive (brief initial questions and, if gated questions have positive results, then automated additional questions)<sup>61</sup> as well as algorithmic screening, in which a positive PHQ-2 result or the equivalent triggers a person to then administer a PHQ-9 or the equivalent.<sup>65,75,79,85</sup> Although evidence for this type of gated screening is limited, researchers in 1 study compared the psychometric data of the PHQ-2 versus the PHQ-9 in the same population.<sup>57</sup>

One limitation of brief depression screening may be the loss of the suicide questions if one focuses

only on brief questions on the basis of criterion A for MDD. The validation study of the PHQ-2 found that 19% of teenagers who did endorse suicidality did not screen positive on the PHQ-2, suggesting that in a real-world setting, they would have been missed.<sup>57</sup> Several studies in which researchers used brief or long depression-specific screenings that did not include a suicide question did add a suicide question for this reason.<sup>60,70,83,84,89</sup> In this review, we did not review the suicide screening in pediatric PC literature but are aware of the USPSTF decision not to endorse suicide screening secondary to its conclusion for the lack of evidence for PC intervention for suicidal adolescents.<sup>90</sup> However, we do note which depression screening studies also looked for suicide as well as the rates of suicidality that were found (Supplemental Tables 1 and 2).

One other area that was examined in the review is the definition of depression when screening for depression. The definition of depression affects the psychometric properties and evidence for the use of a screen given that trying to find only MDD versus trying to find any depressive symptoms requires different specificities and sensitivities, and using the same screens for both purposes would result in choosing different cutoffs. Again, whereas the USPSTF comments on screening for MDD, the screening literature seems to be more unfocused. Richardson et al<sup>79</sup> used a score of 2 as the initial gate and a score of 10 on the PHQ-9 as a positive score for entry into the next step. Forty percent of the sample did not meet the criteria for MDD but were deemed to be impaired enough with depressive symptoms to enter the study. When Lewandowski et al<sup>74</sup> studied the large-scale use of the PHQ-9 modified in the

health maintenance organization (HMO), they looked at whether any depressive disorder was identified, even adjustment disorder, rather than just MDD. The Youth Partners in Care (YPIC) intervention<sup>11,58</sup> also included teenagers without MDD who had clinically significant and current depressive symptoms. Van Voorhees et al,<sup>91</sup> in a series of small studies and now in a large RCT, have been purposely screening to account for depressive symptoms and depressive disorders other than MDD because the Competent Adulthood Transition with Cognitive-behavioral, Humanistic and Interpersonal Training (CATCH-IT) prevention model was developed for teenagers with depressive symptoms and disorders other than MDD.<sup>65</sup> Thus, the evidence for choosing instruments and cutoff scores may depend on what depression end point a PC provider is pursuing and what intervention the clinician wishes to put in place.

Although the USPSTF clearly endorsed screening at age 12 years, the literature in which researchers look at depression screening includes studies that have starting ages ranging from age 8 to 14 years and later ages ranging from 15 to 24 years. Most of the younger-age studies include depression as part of a broader psychosocial screening effort, with the researchers looking specifically at depression screening that focuses on some of the older age ranges (Supplemental Tables 1 and 2). With that said, there is no evidence to compare outcomes in a cohort of adolescents who were screened at age 11 years versus age 12 years versus age 13 years.

The last guideline review included the YPIC study, which did reveal that an identification program in PC, when combined with high-quality depression treatment,

actually yields better outcomes than treatment-as-usual conditions (when no high-quality depression treatment is available).<sup>11</sup> Two follow-up publications from the same intervention<sup>58,87</sup> are included in this review and once again show that identified youth who receive evidence-based treatment do have better outcomes. More recently, Richardson and colleagues, in their collaborative care for adolescent depression RCT, compared controls who screened positive and whose positive results were given to both parents and PC clinicians with subjects who were screened and placed in a collaborative care intervention.<sup>79</sup> Those in the collaborative care intervention had a greater chance of response and remission at 12 months and a greater likelihood of receiving evidence-based treatments. The researchers only tracked outcomes in those who were screened; although it is possible that those who were screened did better than those adolescents with depression who were not screened, the study does reveal that screening alone is not likely to improve outcomes by much given how much better those in the group that had screening combined with an intervention in place did and how much more likely they were to receive care than those who were only screened.

Although much of the literature on identification crosses both the area of screening and assessment in that the PC provider can use the screening tool to aid in the assessment, we found some studies that focused less on the screening tools and more on the assessment of depression in pediatric PC. These studies included those in which researchers used standardized patients to help with depression and suicide assessment as well as a protocol to teach PC clinicians how to do a therapeutic interview during the assessment process.<sup>62,63,71–73</sup>

In summary, no perfect depression screening and/or assessment tool exists, and no perfect screening algorithm or systematic protocol exists, but a number of adolescent depression assessment instruments do possess adequate psychometric properties to recommend their use in depression detection and assessment, and there is a limited amount of evidence to support some differing methods of implementation (Supplemental Table 3). Thus, it is reasonable to expect that depression detection in PC can be improved by the use of adolescent self-report checklists with or without parent self-reports. Reliance on adolescent self-report depression checklists alone will lead to substantial numbers of false-positive and false-negative cases. Screening and detection are only the first step to making a diagnosis. Instead, optimal diagnostic procedures should combine the use of depression-specific screening tools as diagnostic aids, buttressed by follow-up clinical interviews in which one obtains information from other informants (eg, parents) as legally permissible and uses either other tools or interviews to assess for other psychiatric diagnoses as well, reconciling discrepant information to arrive at an accurate diagnosis and impairment assessment before treatment. Although screening parents may not be required, gathering information from third-party collaterals to make a diagnosis is important. Teenagers should be encouraged to allow their parents to access their information, and the importance of including parents in the diagnostic discussion should be emphasized. For more information about rating scales and cutoff scores, please refer to the GLAD-PC tool kit.

### *Initial Management of Adolescent Depression*

On behalf of the initial GLAD-PC team, Stein et al<sup>92</sup> reviewed the literature

on psychosocial interventions for anticipatory guidance. No RCTs or evidence-based reviews were found. Citing earlier literature reviews in the area of injury prevention<sup>93</sup> and anticipatory guidance,<sup>94</sup> Stein et al<sup>92</sup> found some limited evidence that anticipatory guidance strategies, such as education and counseling, in the PC setting can be effective.

Another area reviewed by Stein et al<sup>92</sup> involved psychosocial interventions for improved adherence. In an evidence review on asthma adherence, Lemanek et al<sup>95</sup> suggested that some educational and behavioral strategies are probably efficacious in creating change. In addition, a study in which researchers used cognitive behavioral strategies revealed that diabetic adherence can also be improved.<sup>95</sup>

For this update, our team searched the Cochrane Database of Systematic Reviews for all types of interventions that were implemented in the adherence arena. These reviews<sup>96–98</sup> revealed that only complex, multifaceted approaches that include convenient care, patient education, reminders, reinforcement, counseling, and additional supervision by a member of the care team were effective in improving adherence in different chronic medical conditions, including asthma, hypertension, diabetes, and adult depression. In the pediatric literature, research regarding adherence commonly involved interventions that targeted both patients and their families.<sup>99</sup> Several key components have been identified that may improve compliance and/or adherence, including patient self-management and/or monitoring, patient and/or family education and/or support, and the setting and supervision of management goals.<sup>100,101</sup> The identification and periodic review of short- and long-term goals provides an individualized plan that both the provider and the patient and family

can follow over time.<sup>100,101</sup> Specifically in the area of youth depression, however, current research evidence reveals that only more complex interventions are likely to have the greatest impact on both adherence and treatment outcomes. This kind of coordinated care, which is often described as collaborative care or integrated behavioral health, is discussed further in the accompanying report on depression treatment and ongoing management.<sup>102</sup>

### *Safety Planning*

Safety planning with adolescent patients who have depression and are suicidal or potentially suicidal usually consists of instructing the family to remove lethal means, instructing the family to monitor for risk factors for suicide (including sexual orientation and intellectual disability), engaging the potentially suicidal adolescent in treatment, providing adolescents with mutually agreeable and available emergency contacts, and establishing clear follow-up. In our updated review of the literature, we found no trials in which researchers have studied the impact of or how to conduct any of these aspects of safety planning with adolescents with depression. Once again, no studies were found in which researchers examined the benefits or risks of a safety contract. Researchers in several articles reviewed what little literature is available regarding the use of suicide safety contracts, and all concluded that these should not be used in clinical practice because there is no empirical evidence that they actually prevent suicide.<sup>103–107</sup> Multiple authors also asserted that contracts have numerous flaws, which could actually be harmful to the clinician-patient alliance. Some alternatives to a contract have been proposed (for example, the commitment to treatment statement discussed by Rudd et al<sup>107</sup>), but none have been tested in a clinical trial. Some studies have suggested that



limiting access to firearms or other lethal means can decrease suicide by those methods, but the evidence is still unclear as to whether, on a broader population level, restricting access to certain lethal methods results in an overall decrease of suicide rates.<sup>108–116</sup> In addition, Brent et al<sup>117</sup> found that the families of adolescents with depression are frequently noncompliant with recommendations to remove firearms from the house. Yet, a small prospective follow-up of patients who were seen in an emergency department (ED) for mental health concerns found that the majority of their families removed or secured lethal means (firearms, alcohol, prescription medications, and over the counter medications) after injury-prevention education in the ED.<sup>117</sup> Some limited evidence suggests that quick and consistent follow-up and/or treatment with a team approach will be most helpful in increasing compliance and engagement among patients who are suicidal.<sup>118–120</sup>

## GUIDELINES

The strength of the evidence on which each recommendation is based has been rated 1 (strongest) through 5 (weakest) according to the Centre for Evidence-Based Medicine levels of evidence and paired with the strength of the recommendation (strong or very strong).

### Practice Preparation

**Recommendation 1:** *PC clinicians are encouraged to seek training in depression assessment, identification, diagnosis, and treatment if they are not previously trained (grade of evidence: 5; strength of recommendation: very strong).*

Consistent with the original GLAD-PC guidelines, PC clinicians who manage adolescent depression are advised

to pursue additional education in identification, assessment, diagnosis, treatment and follow-up, consent and confidentiality, safety risk assessment and management, liability, and billing practices. Appropriate training on the assessment, diagnosis, and treatment of adolescent depression enhances PC providers' attitudes and self-efficacy to treat youth depression within their practices, thereby making it more likely that psychological disorders will be identified in the patient population.<sup>34</sup> The REACH Institute and Child and Adolescent Psychology for Primary Care are examples of organizations that provide training opportunities to PC clinicians. In addition to high-quality content, studies of PC provider training reveal that effective information delivery methods are important to the successful uptake of new practice behaviors. Such training methods include a succinct presentation of high-priority information, interactive content delivery methods, hands-on learning activities (eg, role-plays), and cultivating peer leaders to champion new practices. Additionally, access to ongoing consultation after training allows learning to be tailored to the PC provider's actual practice<sup>38</sup> and can increase comfort with diagnosing and treating mental health issues.<sup>33, 39</sup> Clinicians also need to practice self-care by using supports for themselves as they take on more responsibilities of caring for youth with depression because engaging with this population can prove to be emotionally challenging.

**Recommendation 2:** *PC clinicians should establish relevant referral and collaborations with mental health resources in the community, which may include patients and families who have dealt with adolescent depression and are willing to serve as a resource for other affected adolescents and their family members. Consultations should be pursued whenever*

*available in initial cases until the PC clinician acquires confidence and skills and when challenging cases arise. In addition, whenever available, these resources may also include state-wide or regional child and adolescent psychiatry consultation programs (grade of evidence: 5; strength of recommendation: very strong).*

The lack of linkages among relevant services within a system of care is a large gap in the management of chronic disorders in young people.<sup>121</sup> Furthermore, family-based interventions have been shown to help youth with mental illness.<sup>122</sup> Therefore, establishing mental health referral and collaboration resources in the local community for adolescents with depression and their families is essential to ensuring timely and effective access to needed services.<sup>11,123</sup> Such linkages may include mental health sites to which patients can be referred for specialty care services, such as comprehensive evaluations, psychosocial treatment, pharmacotherapy, and crises intervention services (in the event of suicidality). In highly underserved areas, these linkages may also include paraprofessionals who are tasked with providing the bulk of supportive counseling services to local residents. To reduce barriers to care, PC providers may arrange to have standing agreements with these practices regarding referral, the exchange of clinical information, points of contact, and so on. Schools play a critical role, especially if therapeutic support is available. Clinicians should connect to any available resources in the school system. PC providers should also work with the patient and/or family to establish an individual education plan to provide supports for the teenager in the school setting. Other linkages may include online or in-person support groups, advocacy groups (eg, the American

Foundation for Suicide Prevention), and family partner organizations (ie, patients and/or caregivers who have experience dealing with adolescent depression and serve as a resource for affected adolescents and families whenever these services are available).

To provide support to PC providers, >25 states have established programs to promote collaboration between PC providers and child psychiatrists by providing PC providers with education, rapid access to consultation, and referral options. PC sites may wish to search registries such as the National Network of Child Psychiatry Access Programs ([www.nncpap.org](http://www.nncpap.org)) to identify any regional or state-wide programs that are available in their areas.

### Identification and Surveillance

**Recommendation 1: Adolescent patients ages 12 years and older should be screened annually for depression (MDD or depressive disorders) with a formal self-report screening tool either on paper or electronically (universal screening) (grade of evidence: 2; strength of recommendation: very strong).**

Given the high prevalence of adolescent depression (lifetime prevalence is estimated to be ~20% by age 20 years), the evidence that adolescent depression can be persistent, the fact that adolescence is a time of significant brain maturation, and longitudinal studies that reveal that adolescents with depression have significant problems as adults, it is important to try to identify and treat adolescents with depression early in the course of the disorder. Although most PC clinicians believe it is their responsibility to identify depression in their adolescent patients, evidence suggests that only a fraction of these youth are identified when presenting in PC settings even after the USPSTF mandate on screening.<sup>45</sup> Extant

evidence does suggest that screening with a systematic tool will identify more adolescents with depressive disorders than not screening at all. Providers should choose a tool with at least minimal validation data. Given that more evidence is needed to guide the choice of a depression screening tool, at this point, providers should choose a depression-only tool or a combined tool, a short tool as a gate or a longer initial tool, and an adaptive screening or a paper screen on the basis of what they believe will work better for their practices, patients, and health organizations. Furthermore, the current literature does reveal that screening and scoring before the provider is in the room with the patient can be most helpful to the workflow. Although both the USPSTF and the AAP support the universal use of an adolescent self-report screen, using a parent-completed PSC as an initial gate may be acceptable given the limited evidence. However, 1 limitation to gated depression screening, using either a short self-report or a longer parent psychosocial report as the initial gate, is the loss of the suicide questions that are part of longer adolescent self-reports. Given the high rate of suicidal ideation and attempts among adolescents and the fact that not all adolescents who are suicidal will have MDD, it seems likely that screening for suicidality may be helpful as well, so providers should consider including suicide questions. Choosing a cutoff score for the selected tool will need to depend on the practice's expected prevalence rates as well as the practice's available and accepted pathways for intervention. Although there is no evidence to suggest how often a teenager should be screened, screening once per year seems reasonable until more evidence is amassed, whether this takes place at health maintenance visits or at the next available sick visit. Finally, this recommendation

should not discourage PC providers who regularly speak with their teenagers about their moods from continuing to do so and should not dissuade clinicians from learning how to better identify teens with depression through interview, but we merely endorse universal adolescent depression self-report instruments as an initial screening tool.

**Recommendation 2: Patients with depression risk factors (eg, a history of previous depressive episodes, a family history, other psychiatric disorders, substance use, trauma, psychosocial adversity, frequent somatic complaints, previous high-scoring screens without a depression diagnosis, etc) should be identified (grade of evidence: 2; strength of recommendation: very strong) and systematically monitored over time for the development of a depressive disorder by using a formal depression instrument or tool (targeted screening) (grade of evidence: 2; strength of recommendation: very strong).**

As part of overall health care, PC clinicians should routinely monitor the psychosocial functioning of all youth because problems in psychosocial functioning may be an early indication of a variety of problems, including depression. Risk factors that clinicians may use to identify those who are at high risk for depression include a previous history or family history of (1) depression, (2) bipolar disorder, (3) suicide-related behaviors, (4) substance use, and (5) other psychiatric illness; (6) significant psychosocial stressors, such as family crises, physical and sexual abuse, neglect, and other trauma history; (7) frequent somatic complaints; as well as (8) foster care and adoption.<sup>124–126</sup> Research evidence shows that patients who present with such risk factors are likely to experience future depressive episodes.<sup>22,127–133</sup> There are recent

data as well that reveal that those who score high on depression screening instruments, even when they are not initially diagnosed with depression, may be at risk for a depression diagnosis within 6 months.<sup>66</sup> Although these at-risk teenagers may be screened annually as part of the practice's universal depression screening, they may also require a more frequent, systematic, targeted screening during other health care visits (ie, well-child visits and urgent care visits). Following the chronic care model, teens with depression, past depression, frequent somatization, or other risk factors may need to be included in a registry and managed more closely over time.

### Assessment and/or Diagnosis

**Recommendation 1: PC clinicians should evaluate for depression in those who screen positive on the formal screening tool (whether it is used as part of universal or targeted screening), in those who present with any emotional problem as the chief complaint, and in those in whom depression is highly suspected despite a negative screen result. Clinicians should assess for depressive symptoms on the basis of the diagnostic criteria established in the DSM-5 or the International Classification of Diseases, 10th Revision (grade of evidence: 3; strength of recommendation: very strong) and should use standardized depression tools to aid in the assessment (if they are not already used as part of the screening process) (grade of evidence: 1; strength of recommendation: very strong).**

Scoring high on a screening tool alone does not make for a diagnosis of MDD, especially given that in a low-risk PC population, the PPV of a positive screen result may be low. However, as discussed earlier, a positive screen result can also indicate a different depressive

disorder or subthreshold depression. On the other hand, in youth who are suspected of having depression on the basis of other initiating triggers, such as risk factors, somatic complaints, or other emotional chief complaints, assessing for depression (regardless of whether there is a positive screen result) may be in order. PC clinicians should probe for the presence of any of several depressive disorders, including MDD, persistent depressive disorder (dysthymia), and other specified or unspecified depressive disorders by using systematic, rigorous assessment methods. Although standardized instruments should be used to help with diagnosis, they should not replace direct interview by a clinician.<sup>134–136</sup> Because adolescents with depression may not be able to clearly identify depressed mood as their presenting complaint, providers need to be aware of common presenting symptoms that may signal MDD. These may include irritability, fatigue, insomnia or sleeping more, weight loss or weight gain, decline in academic functioning, family conflict, and other symptoms of depressive disorders.<sup>137</sup>

**Recommendation 2: Assessment for depression should include direct interviews with the patients and families and/or caregivers (grade of evidence: 2; strength of recommendation: very strong) and should include the assessment of functional impairment in different domains (grade of evidence: 1; strength of recommendation: very strong) and other existing psychiatric conditions (grade of evidence: 1; strength of recommendation: very strong). Clinicians should remember to interview an adolescent alone.**

Evidence of the core symptoms of depression and functional impairment should be obtained

from the youth as well as from families and/or caregivers separately.<sup>138–140</sup> The involvement of the family is critical in all phases of management and should be included in the assessment for depressive disorders. If family involvement is determined to be detrimental, then involving another responsible adult would be appropriate. Family relationships may also affect the presentation of depression in adolescents. However, despite the importance of family involvement and the imperative to try to include family, adolescents value their sense of privacy, confidentiality, and individuality. It is important to remember that adolescents should be interviewed alone about their depressive symptoms, suicidality, and psychosocial risk factors and circumstances. The cultural backgrounds of the patients and their families should also be considered during the assessments because they can impact the presentation of core symptoms.<sup>141</sup> Collateral information from other sources (eg, teachers) may also be obtained to aid in the assessment. Given the high rates of comorbidities, clinicians should assess for the existence of comorbid conditions that may affect the diagnosis and treatment of the depressive disorder.<sup>2,22,142,143</sup> These comorbidities may include 1 or more of the following conditions: substance use, anxiety disorder, attention-deficit/hyperactivity disorder, bipolar disorder, physical abuse, and trauma. Instruments that assess for a range of common comorbid mental health conditions should be considered as well during this assessment phase if they were not used in the initial screening protocol. Clinicians should also assess for impairment in key areas of functioning, including school, home, and peer settings.<sup>144</sup> Subjective distress should be evaluated as well. Regardless of the diagnostic impression or any further treatment plans, a safety assessment, including

for suicidality, should be completed by the clinician (see recommendation 3 in Initial Management of Depression).

### **Initial Management of Depression**

***Recommendation 1: Clinicians should educate and counsel families and patients about depression and options for the management of the disorder (grade of evidence: 5; strength of recommendation: very strong). Clinicians should also discuss the limits of confidentiality with the adolescent and family (grade of evidence: 5; strength of recommendation: very strong).***

Management should be based on a plan that is developed with the understanding that depression is often a recurring condition. As seen in studies of depression interventions, families and patients need to be educated about the causes and symptoms of depression, impairments associated with it, and the expected outcomes of treatment.<sup>145–148</sup> Information should be provided at a developmentally appropriate level and in a way that the patient and family can understand the nature of the condition and the management plan. Communication that is developmentally appropriate should facilitate the ability of parents and patients to work with the clinicians to develop an effective and achievable treatment plan. To establish a strong therapeutic alliance, the clinicians should also take into account cultural factors that may affect the diagnosis and management of this disorder.<sup>141</sup> Clinicians should also be aware of the negative reactions of family members to a possible diagnosis of depression in a teen (ie, sadness, anger, and denial). Sample materials are available in the GLAD-PC and include resources for patients and parents. Because the symptoms of depression can also affect many areas of an adolescent's life, other

ongoing partnerships may need to be established with personnel in schools and other settings (eg, extracurricular activities). Confidentiality should also be discussed with the adolescent and his or her family. Adolescents and families should be aware of the limits of confidentiality, including the need to involve parents or legal authorities when the risk of harm to the adolescent or others may be imminent. Clinicians should be aware of state laws regarding confidentiality (for additional information, see [www.advocatesforyouth.org](http://www.advocatesforyouth.org)).

***Recommendation 2: After appropriate training, PC clinicians should develop a treatment plan with patients and families (grade of evidence: 5; strength of recommendation: very strong) and set specific treatment goals in key areas of functioning, including home, peer, and school settings (grade of evidence: 5; strength of recommendation: very strong).***

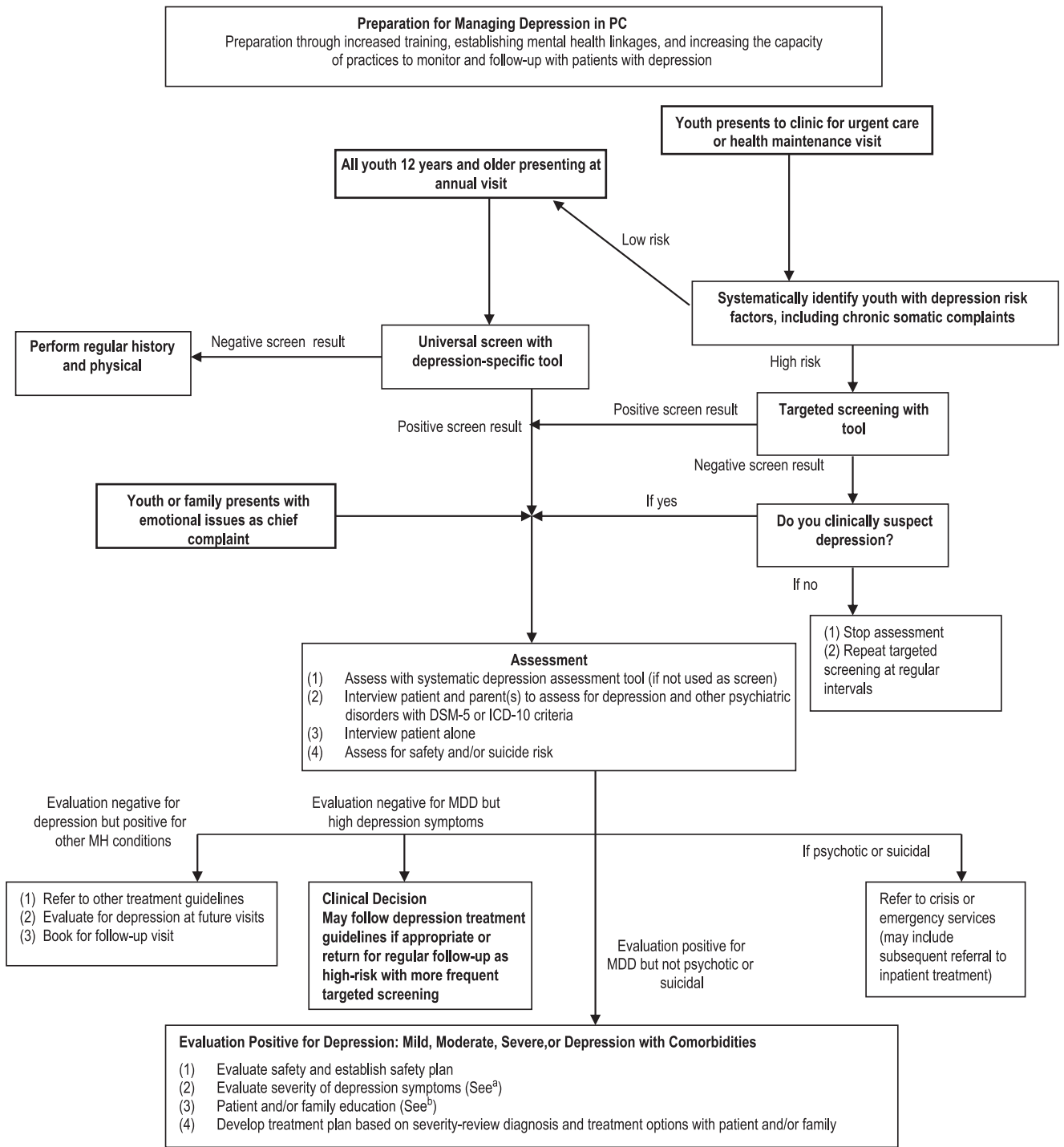
From studies of chronic disorders in youth, it is suggested that better adherence to treatment is associated with the identification and tracking of specific treatment goals and outcomes. Written action plans in asthma management have some evidence for improved outcomes.<sup>149</sup> Similarly, studies of adolescents with depression reveal greater adherence and outcomes when they were assessed to be ready for change and received their treatment of choice.<sup>11,86</sup> If a patient presents with moderate-to-severe depression or has persistent depressive symptoms, treatment goals and outcomes should be identified and agreed on via close collaboration with the patient and family at the time of treatment initiation. Treatment goals may include the establishment of a regular exercise routine, adequate nutrition, and regular meetings to resolve issues at home. In the adult depression literature, monitoring appears to be most effective when it

is implemented through designated case managers who monitor patients' clinical status and treatment plan adherence.<sup>12</sup> The benefits of such programs may be enhanced through the use of electronic medical records (EMRs) and the development of patient registries. Technologies such as apps are being used more commonly in clinical practice, and there is emerging evidence for their effectiveness.<sup>150</sup>

***Recommendation 3: All management should include the establishment of a safety plan, which includes restricting lethal means, engaging a concerned third party, and developing an emergency communication mechanism should the patient deteriorate, become actively suicidal or dangerous to others, or experience an acute crisis associated with psychosocial stressors, especially during the period of initial treatment, when safety concerns are the highest (grade of evidence: 3; strength of recommendation: very strong). The establishment and development of a safety plan within the home environment is another important management step.***

Suicidality, including ideation, behaviors, and attempts, is common among adolescents with depression. In studies of completed suicide, more than 50% of the victims had a diagnosis of depression.<sup>151</sup> Therefore, clinicians who manage this disorder should develop an emergency communication mechanism for handling increased suicidality or acute crises. After assessing a patient for suicidality, the clinician should obtain information from a third party, assess that adequate adult supervision and support are available, have an adult agree to help remove lethal means (eg, medications and firearms) from the premises, warn the patient of the disinhibiting effects of drugs and alcohol, put contingency planning





**FIGURE 1** Clinical assessment flowchart. ICD-10, *International Classification of Diseases, 10th Revision*; MH, mental health. <sup>a</sup> See part I of the guidelines for definitions of mild, moderate, and severe depression. Please consult the tool kit for methods that are available to aid clinicians in distinguishing among mild, moderate, and severe depression. <sup>b</sup> Psychoeducation, supportive counseling, facilitation of parental and patient self-management, referring for peer support, and regular monitoring of depressive symptoms and suicidality.

in place, and establish follow-up within a reasonable period of time.<sup>109,120,152,153</sup> This plan should be developed with adolescents

(and with their families and/or caregivers if possible) and should include a list of persons and/or services for the adolescent to contact

in case of acute crisis or increased suicidality. The establishment of this plan is especially important during the period of diagnosis and initial

treatment, when safety concerns are the highest. It is critical for PC clinicians to make linkages with their closest crisis support and hospital services so that they are supported in crisis situations when caring for youth with depression. Clinicians may also work with schools to develop an emergency plan for all students who may experience acute suicidal crises. This global approach may prevent, in some instances, having to label a specific child as suicidal when providers are merely trying to ensure that safety measures are in place in case the child decompensates. Components of a safety plan may also include a list of persons who are aware of the adolescents' issues and will be able to assist if contacted during an acute crisis (Fig 1).

## DISCUSSION

Although not definitive and subject to modification on the basis of the ongoing accumulation of additional evidence, this part of the updated guidelines is intended to help address the lack of recommendations regarding practice preparation, screening, diagnosis, and initial management of depression in adolescents aged 10 to 21 years in PC settings in the United States and Canada. As such, these guidelines are intended to assist PC clinicians in family medicine, pediatrics, nursing, and internal medicine, who may be the first (and sometimes only) clinicians to identify, manage, and possibly treat adolescent depression. These guidelines may also be helpful to allied health professionals who care for adolescents.

Although not all the steps involved in identifying, diagnosing, and initially managing the care for adolescent depression in PC have been (or even can be) subject to rigorous RCTs, there is sound reason

to believe that existing tools and management protocols for adolescent depression can be applied in the PC setting. Although more research is needed, we suggest that these components of the identification and initial management of adolescent depression in PC can be done. The recommendations were developed and updated on the basis of areas that had at least strong agreement among experts.

### Should These Guidelines Be Universally Deployed?

One might question whether PC clinicians should identify and diagnose the problem of adolescent depression if the lack of psychiatric services prevents them from referring these youth.<sup>154</sup> This caution notwithstanding, the increasingly prevailing recommendation is that at a minimum, PC clinicians should be provided the necessary guidance to support the initial management of adolescent depression.<sup>155,156</sup> Nonetheless, because practitioners and their clinical practice settings vary widely in their degree of readiness in identifying and managing adolescent depression, it is likely that a good deal of time and flexibility will be required before these guidelines are adopted systematically or as a universal requirement. It is conceivable that integrated health care systems with EMRs, tracking systems, and access to specialty mental health backup and consultation will be most ready and able to fully implement the guidelines. The second part of the guidelines, the companion article, addresses the treatment of depression. Practices that do identify adolescent depression and have nowhere to refer patients to may benefit from the guidance offered in the next set of recommendations.

### Preparatory Steps

Because the management of adolescent depression may constitute a new or major challenge for some

PC practices, a number of important considerations should be kept in mind when preparing to implement the guidelines given the findings from studies in the adult literature; input from our focus groups of clinicians, families, and patients; and the experience of members of the GLAD-PC Steering Committee. Specifically, PC clinicians who manage adolescent depression should pursue the following: (1) additional training regarding issues such as advances in screening, diagnosis, treatment, follow-up, liability, consent, confidentiality, and billing; (2) practice and systems changes, such as office staff training and buy-in, EMRs, and automated tracking systems, whenever available; and (3) establishing linkages with mental health services.

Linkages with community mental health resources are necessary to both meet the learning needs of the PC clinicians and to facilitate consultation for and/or referral of difficult cases. Practice and systems changes are useful in increasing clinicians' capacity to facilitate monitoring and follow-up of patients with depression. For example, staff training may help prioritize calls from adolescent patients who may not state the nature of their call. Specific tools and/or templates have been developed that offer examples of how to efficiently identify, monitor, track, and refer teenagers with depression. These materials are available in the GLAD-PC tool kit. The tool kit addresses how each of the recommendations might be accomplished without each practice necessarily having to "reinvent the wheel."

## CONCLUSIONS

Review of the evidence suggests that PC clinicians who have appropriate training and are attempting to deliver comprehensive health care should be able to identify

and initiate the management of adolescent depression. This will likely require real changes in existing systems of care. As health care models such as the medical home indicate, comprehensive health care should include assessment and coordination of care for both physical and behavioral health issues. This first part of the guidelines for adolescent depression in PC may enable providers to pull together the current best evidence and deliver the best available, high-quality care even in instances when they are not in a position to treat such youth. Mounting evidence suggests that pediatric providers can and should identify and coordinate depression care in their adolescent populations.

#### APPENDIX: PART I TOOLKIT ITEMS

- Screening/assessment instruments (i.e., Columbia Depression Scale)
- Information sheet on the developmental considerations in the diagnosis of depression
- Assessment Algorithm/Flow Sheet (Fig 1)
- Fact sheet/family education materials
- Educational materials on suicide prevention/safety planning

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#### ABBREVIATIONS

AAP: American Academy of Pediatrics  
 BHS: Behavioral Health Screen  
 CATCH-IT: Competent Adulthood Transition with Cognitive-behavioral, Humanistic and Interpersonal Training  
 DISC-IV: Diagnostic Interview Schedule for Children-IV  
 DSM-5: *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*  
 ED: emergency department  
 EMR: electronic medical record  
 GAPS: Guidelines for Adolescent Preventive Services  
 GLAD-PC: Guidelines for Adolescent Depression in Primary Care  
 HMO: health maintenance organization  
 K-SADS: Kiddie Schedule for Affective Disorders and Schizophrenia  
 MDD: major depressive disorder  
 NPV: negative predictive value  
 PC: primary care  
 PHQ-2: Patient Health Questionnaire-2  
 PHQ-9: Patient Health Questionnaire-9  
 PPV: positive predictive value  
 PSC: Pediatric Symptom Checklist  
 PSC-17: Pediatric Symptom Checklist-17  
 RCT: randomized controlled trial  
 REACH: Resource for Advancing Children's Health  
 TCPS: Targeted Child Psychiatry Services  
 USPSTF: United States Preventive Services Task Force  
 YPIC: Youth Partners in Care

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## Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management

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**Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management**

Rachel A. Zuckerbrot, Amy Cheung, Peter S. Jensen, Ruth E.K. Stein, Danielle Laraque and GLAD-PC STEERING GROUP

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# Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part II. Treatment and Ongoing Management

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**OBJECTIVES:** To update clinical practice guidelines to assist primary care (PC) in the screening and assessment of depression. In this second part of the updated guidelines, we address treatment and ongoing management of adolescent depression in the PC setting.

**METHODS:** By using a combination of evidence- and consensus-based methodologies, the guidelines were updated in 2 phases as informed by (1) current scientific evidence (published and unpublished) and (2) revision and iteration among the steering committee, including youth and families with lived experience.

**RESULTS:** These updated guidelines are targeted for youth aged 10 to 21 years and offer recommendations for the management of adolescent depression in PC, including (1) active monitoring of mildly depressed youth, (2) treatment with evidence-based medication and psychotherapeutic approaches in cases of moderate and/or severe depression, (3) close monitoring of side effects, (4) consultation and comanagement of care with mental health specialists, (5) ongoing tracking of outcomes, and (6) specific steps to be taken in instances of partial or no improvement after an initial treatment has begun. The strength of each recommendation and the grade of its evidence base are summarized.

**CONCLUSIONS:** The Guidelines for Adolescent Depression in Primary Care cannot replace clinical judgment, and they should not be the sole source of guidance for adolescent depression management. Nonetheless, the guidelines may assist PC clinicians in the management of depressed adolescents in an era of great clinical need and a shortage of mental health specialists. Additional research concerning the management of depressed youth in PC is needed, including the usability, feasibility, and sustainability of guidelines, and determination of the extent to which the guidelines actually improve outcomes of depressed youth.

## abstract

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## BACKGROUND

Studies have revealed that up to 9% of teenagers meet criteria for depression at any one time, with as many as 1 in 5 teenagers having a history of depression at some point during adolescence.<sup>1–7</sup> In primary care (PC) settings, point prevalence rates are likely higher, with rates up to 28%.<sup>8–12</sup> Taken together, in epidemiologic and PC-specific studies it is suggested that despite relatively high rates, major depressive disorder (MDD) in youth is underidentified and undertreated in PC settings.<sup>13,14</sup>

Because adolescents face barriers to receive specialty mental health services, only a small percentage of depressed adolescents are treated by mental health professionals.<sup>15</sup> As a result, PC settings have become the de facto mental health clinics for this population, although most PC clinicians feel inadequately trained, supported, or reimbursed for the management of depression.<sup>14–21</sup> Although MDD management guidelines have been developed for specialty care settings (eg, the American Academy of Child and Adolescent Psychiatry<sup>22</sup>) or related problems such as suicidal ideation or attempts,<sup>23</sup> it is clear that significant practice and clinician differences exist between the primary and specialty care settings that do not allow a simple transfer of guidelines from one setting to another.

Recognizing this gap in clinical guidance for PC providers, in 2007, a group of researchers and clinical experts from the United States and Canada established Guidelines for Adolescent Depression in Primary Care (GLAD-PC), a North American collaborative, to develop guidelines for the management of adolescent depression in the PC setting. The development process of GLAD-PC is described in detail in Part I of the original GLAD-PC articles.<sup>24,25</sup> In this article, we describe the updated recommendations regarding treatment, ongoing management, and

follow-up, along with the supporting empirical evidence for these recommendations. In our companion article, we provide a detailed description of the update process as well as the corresponding updated recommendations for GLAD-PC regarding practice preparation, depression identification, assessment, and diagnosis, and initial management before formal treatment.

## METHODS

A full description of the methodology used for the update of GLAD-PC is included in our companion article. In brief, the expert collaborative used a mix of qualitative (expert consensus) and quantitative (literature reviews) methods to inform the update of GLAD-PC. In view of space limitations, only the methods and results of the updated literature reviews regarding available evidence for treatment and ongoing management are presented in this article.

The following 3 literature reviews were conducted for the updated GLAD-PC recommendations: (1) nonspecific psychosocial interventions in pediatric PC, including studies pertaining to integrated behavioral health and collaborative care models; (2) antidepressant treatment; and (3) psychotherapy interventions.

For the first review, we searched the literature (PubMed, PsycInfo, and the Cochrane Database) for articles published from 2005 to the present in which researchers examined evidence for psychosocial interventions delivered in the PC setting to update the previous review conducted by Stein et al.<sup>26</sup> The “related articles” function was used to search for articles similar to Asarnow et al<sup>14</sup> and Richardson et al.<sup>27</sup> In addition, reference lists of all relevant articles were also examined for other relevant studies.

In the second updated review, we examined the efficacy and safety of antidepressant medications in the pediatric population (under the age of 18 years). This review was used to update the findings from the US Food and Drug Administration (FDA) safety report<sup>28</sup> and the previously published GLAD-PC review on antidepressants in youth depression.<sup>29</sup> Studies in which researchers examined the management of depression with the use of antidepressants as both monotherapy and combination therapy were included.

In the third review, we searched the literature for depression trials in which researchers examined the efficacy of psychotherapy for the management of depression in children and adolescents. The search included all forms of psychotherapy, including both individual and group-based therapies. We not only identified both individual studies but also high-quality systematic reviews, given the extensive empirical literature in this area. In both the second and third reviews, the literature searches were conducted by using Medline and PsycInfo to find studies published between 2005 to the present. To ensure additional articles were not missed, reference lists of included articles were hand-searched for other relevant studies. A full description of the 3 reviews is available on request.

## RESULTS

### Organizational Adoption of Integrative Care

Within the past decade, there has been a shift in medicine and in mental health away from the “traditional” model of autonomous individual providers and toward delivering empirically supported interventions in a team-based manner. This followed a growing recognition that complex chronic conditions, such as depression,

are more successfully managed with proactive, multidisciplinary patient-centered care teams. Ongoing changes in the health care landscape helped to solidify support for this revolution. Systems are enacting top-down changes designed to make the entire delivery system (organizations, clinics, and providers) more effective, efficient, safe, and satisfying to both patients and providers.

Proposed integrated care models include “chronic care management,” “integrated behavioral health care,” “collaborative care,” and “medical home.” Here, the term “integrative care” will be used to collectively refer to models such as these. These complex care models share multiple features, such as an emphasis on systematically identifying and tracking target populations, multidisciplinary patient care, structured protocols for symptom management, regular follow-ups, decreasing fragmentation across the care team, and enhancing the patient’s ability to self-manage their condition.<sup>30</sup> The following list represents many of the components described in 1 or more of these health care models:

1. a treatment team that includes the patient, the family, and access to mental health expertise;
2. education (including decision tools) for PC providers, patients, and family;
3. tools and/or procedures to systematically identify, assess, and diagnose patients who are at risk or are currently experiencing depressive symptoms;
4. a care plan for target patients (which may involve the family when possible and includes resources at other agencies or in the community);
5. improved communication and coordination of care across providers and/or between patient, family, and provider;

6. case management and/or patient and family support;
7. routine tracking of patient progress, with appropriate follow-up action as needed;
8. routine evaluation of staff performance metrics to inform ongoing quality improvement efforts; and
9. increased patient and family motivation and capacity to self-manage symptoms, including education, feedback, etc.

A variety of integrative care models have been proposed or discussed in the literature,<sup>31,32</sup> but few studies have actually been conducted to examine whether they ultimately improve care for children and adolescents with mental health disorders, broadly speaking, or depression, specifically. In the present review, only 3 randomized clinical trials were identified. In the first, Asarnow et al<sup>14</sup> found that adolescents treated for depression at PC clinics engaging in a quality improvement initiative received higher rates of mental health care and psychosocial therapy, endorsed fewer depressive symptoms, reported a greater quality of life, and expressed greater satisfaction with their care than comparison adolescents in a usual care condition. In a second study, researchers examined the additive benefits of providing brief (4-session) cognitive behavioral therapy (CBT) for depression in conjunction with antidepressant medication compared with medication alone in a collaborative care practice with embedded care managers and found a weak but positive benefit for adjunctive CBT.<sup>33</sup> Finally, Richardson et al<sup>27</sup> randomly assigned adolescents to either an integrative care condition, in which patients chose from a treatment menu of antidepressant medication alone, brief CBT alone, or a combination of the 2, versus usual care. Results

revealed that integrative care was associated with significant decreases in depression scores and improved response and remission rates at 12 months compared with treatment as usual.<sup>27</sup> The results of a cost-effectiveness analysis of this trial revealed that the integrative care condition was more effective at reducing depression symptoms for adolescents, resulting in incremental cost savings given the quality of life years gained from improved functioning.<sup>34</sup>

Although research studies offer support for the impact of integrative or collaborative health care delivery models as a whole,<sup>35</sup> multiple changes to the practice setting are being evaluated simultaneously. The components of integrative health care models have largely been identified through practice-based research<sup>36</sup> or “best ideas” about how to solve identified problems, without a clear theoretical or empirical basis for these components individually or in combination. Thus, it is unknown what “active ingredients” account for the greatest proportion of variance in patient improvement because no dismantling studies have been conducted in which the relative impact of the individual components was examined. Given that integrated health care approaches are resource-intensive to implement and maintain, it may not be feasible for many PC practices to fully adopt such a model. Some states and communities have attempted to implement “wraparound services” under the “systems of care model”; however, unfortunately, these services are usually restricted to severely impaired children with chronic mental health problems. Nonetheless, such services are available if PC providers are interested.<sup>37,38</sup> Unfortunately, there is relatively little information to help guide prioritization and decision-making for PC clinics that wish to improve patient care within the constraints

of highly limited human and/or financial resources.

### Antidepressant Treatment

The updated treatment review for antidepressant safety and efficacy included randomized controlled trials (RCTs) of antidepressants in youth with depression. In this GLAD-PC review, we identified 27 peer-reviewed articles in this area, including trials with fluoxetine, sertraline, citalopram, paroxetine, duloxetine, and venlafaxine. In addition, in several studies, the switch from a selective serotonin reuptake inhibitor (SSRI) to venlafaxine, a serotonin norepinephrine reuptake inhibitor, was explored.<sup>39–41</sup> Older antidepressants (ie, monoamine oxidase inhibitors, tricyclic antidepressants) were not included in our updated review because of several reasons. First, the 2004 FDA review that was used for the development of the guidelines only involved newer classes of antidepressants. Second, older antidepressants are not used because of the lack of efficacy demonstrated in clinical trials data for other classes of older antidepressants.<sup>42</sup>

Overall, both individual clinical trial evidence and evidence from systematic reviews still support the use of antidepressants in adolescents with MDD. Bridge et al<sup>43</sup> conducted a meta-analysis of the clinical trials data and calculated the numbers needed to treat and numbers needed to harm. They concluded that 6 times more teenagers would benefit from treatment with antidepressants than would be harmed.<sup>43</sup> In reviewing the individual studies, the percentage of subjects who responded to antidepressants ranged from 47% to 69% and from 33% to 57% for those on placebo (see Table 1). The majority of these studies revealed a significant difference between those on medication versus those on placebo. Similarly, on the basis of the

**TABLE 1** Response Rates in RCTs of Antidepressants Based on Clinical Global Impression

Medication	Drug, %	Placebo, %	P
Fluoxetine <sup>45,a</sup>	56	33	.02
Fluoxetine <sup>46</sup>	52	37	.03
Fluoxetine <sup>47</sup>	61	35	.001
Paroxetine <sup>48,b</sup>	66	48	.02
Paroxetine <sup>49</sup>	69	57	NS
Paroxetine <sup>49</sup>	65	46	.005
Citalopram <sup>50</sup>	47	45	NS
Citalopram <sup>51</sup>	51	53	NS
Sertraline <sup>52</sup>	63	53	.05
Escitalopram <sup>53</sup>	63	52	.14
Escitalopram <sup>54</sup>	64	53	.03

NS, not significant.

<sup>a</sup> Fluoxetine alone compared with placebo.

<sup>b</sup> Paroxetine compared with placebo.

updated review, fluoxetine still has the most evidence to support its use in the adolescent population.<sup>44</sup>

The largest study, the Treatment of Adolescent Depression Study, involved subjects who were randomly assigned to receive placebo, CBT alone, fluoxetine alone, or a combination treatment of CBT with fluoxetine.<sup>45</sup> Subjects assigned to receive combination treatment or fluoxetine alone showed significantly greater improvement in their depressive symptoms compared with those on placebo or those treated with CBT alone (also see subsection “CBT”). There is also a more rapid initial response when medication is initiated first or in combination with therapy.<sup>55</sup> The superiority of combination therapy is also demonstrated in adolescents with anxiety.<sup>56,57</sup> However, a few trials have revealed little extra benefit to combination therapy, but these findings might be confounded by the control therapy intervention (ie, routine specialist care).<sup>58–60</sup>

Combination therapy has also been evaluated in adolescents with treatment-resistant depression. In the Treatment of SSRI-resistant Depression in Adolescents study, researchers examined treatment options for adolescents aged 12 to 18 whose depression had not improved after 1 adequate trial of an SSRI.<sup>39–41,49,61–63</sup> Subjects were randomly assigned to 4 possible

interventions: (1) switch to a different SSRI (citalopram, fluoxetine, paroxetine), (2) switch to a second SSRI in combination with CBT, (3) switch to venlafaxine, or (4) switch to venlafaxine in combination with CBT. Patients who received CBT and changed their medication to a second SSRI or venlafaxine had a higher response rate (54.8%; 95% confidence interval [CI]: 47%–62%) than changing the medication alone (40.5%; 95% CI: 33%–48%;  $P = .009$ ). Additionally, there was no difference in response rate between venlafaxine and a second SSRI (48.2%; 95% CI: 41%–56%; and 47%; 95% CI: 40%–55%;  $P = .83$ ) as well as no significant differences among Children’s Depression Rating Scale–Revised improvements between treatment options.

Finally, with available evidence from RCTs, it is suggested that adverse effects do emerge in depressed youth who are treated with antidepressants.<sup>45</sup> Adverse effects (ie, nausea, headaches, behavioral activation, etc) were found to occur in most adolescents treated with antidepressants, with duloxetine, venlafaxine, and paroxetine as the most intolerable.<sup>45</sup> Therefore, routine monitoring of the development of adverse events is critical for depressed youth treated with antidepressants.

The most significant adverse effect of antidepressants is the emergence of



new onset or worsening suicidality, which was demonstrated in the FDA review in 2004.<sup>29</sup> The estimated risk of suicidality is 4% in those on medication versus 2% in those on placebo. However, further analyses of clinical trials data revealed that there is overall improvement in suicidality in subjects treated with antidepressants, with only a few subjects reporting worsening or new onset suicidality.<sup>49</sup> In the FDA review, it was also suggested that paroxetine and venlafaxine have a significantly higher risk for suicidality compared with other serotonergic antidepressants.

The doubling of risk of suicidality was also confirmed in population level studies.<sup>63</sup> However, studies have also revealed that almost all adolescents who die by suicide do not test positive for antidepressants in postmortem toxicology tests despite being prescribed these drugs.<sup>64</sup> Furthermore, Olfson et al<sup>65</sup> found an inverse relationship between rates of SSRI prescriptions and rates of suicide in adolescent populations.

### Psychotherapy

In the third review conducted, we examined the efficacy of psychotherapy, such as CBT, interpersonal psychotherapy for adolescents (IPT-A), as well as nonspecific interventions such as counseling and support. Through our search, we were able to identify both individual studies as well as several high-quality meta-analyses and/or reviews that were recently conducted to examine the efficacy of psychotherapy in adolescent depression.

#### CBT

Numerous meta-analyses and reviews have been conducted on CBT in the treatment of adolescent depression and showed improved outcomes for subjects treated with CBT.<sup>66–68</sup> There are also several ongoing studies in which researchers

are evaluating CBT in youth up to age 21.<sup>69</sup>

The effectiveness of CBT for adolescents with moderate to moderately severe depression was also evaluated in Treatment of Adolescent Depression Study, in which researchers randomly assigned 439 12- to 17-year-olds who were depressed to treatment with CBT, fluoxetine, CBT plus fluoxetine, or placebo.<sup>45,70</sup> According to Clinical Global Impressions severity scores, the posttreatment response rate to 15 sessions of CBT over 12 weeks (43.2%; 95% CI: 34%–52%) was not significantly different ( $P = .40$ ) from placebo (34.8%; 95% CI: 26%–44%). The authors attributed this relatively low response rate, in part, to the fact that the study population suffered from more severe and chronic depression than participants in previous studies and to a high rate of psychiatric comorbidity in their study participants. Along with the fairly robust placebo-response rate, it is also possible that the nonspecific therapeutic aspects of the medication management could have successfully competed with the specific effects of the CBT intervention. As a consequence, one cannot and should not conclude that CBT is ineffective.

In another study with adolescents with depression, Fleming et al<sup>71</sup> evaluated the effectiveness of a computerized cognitive behavioral therapy (CCBT) intervention called SPARX in treating adolescents aged 13 to 16 years excluded from mainstream education ( $n = 20$ ). After randomly assigning them to CCBT or the waitlist control, it was found that there were significantly greater reductions in Children's Depression Rating Scale and Reynolds Adolescent Depression Scale scores from baseline to week 5 for the intervention group compared with those who waited. In addition, the SPARX group was significantly more likely to be in remission or have a significant reduction in symptoms.

In several other studies, researchers have evaluated CCBT interventions and have also found similar results, with 1 study conducted in the PC setting.<sup>72,73</sup>

#### IPT-A

In terms of IPT-A, only a handful of studies have been conducted. First, Tang et al<sup>74</sup> randomly assigned 347 adolescents who were depressed to receive IPT-A in schools or treatment as usual. IPT-A was found to have significantly higher effects on reducing severity of depression, suicidal ideation, and hopelessness compared with treatment as usual. In Gunlicks-Stoessel et al's<sup>75</sup> study, 63 adolescents who were depressed were randomly assigned to IPT-A or treatment as usual. Adolescents who were depressed who reported higher baseline levels of interpersonal difficulties showed a greater and more rapid reduction in depressive symptoms if treated with IPT-A compared with treatment as usual. In the most recent study,<sup>76</sup> 57 adolescents with depressive symptoms were randomly assigned to receive either 8 weeks of interpersonal therapy–adolescent skills training or supportive school counseling. Adolescents who were treated with interpersonal therapy–adolescent skills training showed significantly greater rates of change compared with adolescents who received school counseling on the Center for Epidemiologic Studies Depression Scale ( $t[215] = -2.56$ ,  $P = .01$ ), Children's Depression Rating Scale-Revised ( $t[169] = -3.09$ ,  $P < .01$ ), and the Children's Global Assessment Scale ( $t[168] = 3.24$ ,  $P < .01$ ).

### GUIDELINES

Each of the recommendations below was graded on the basis of the level of supporting research evidence from the literature and the extent to which experts agreed that it is highly appropriate in PC. The level

of supporting evidence for each recommendation is based on the Oxford Centre for Evidence-Based Medicine grades of evidence<sup>1-5</sup> system, with 1 to 5 corresponding to strongest to weakest evidence (see <http://www.cebm.net/wp-content/uploads/2014/06/CEBM-Levels-of-Evidence-2.1.pdf/>).

Recommendation strength based on expert consensus was rated in 4 categories: very strong (>90% agreement), strong (>70% agreement), fair (>50% agreement), and weak (<50% agreement). The recommendations in the guidelines were developed only in areas of management that had at least a “strong agreement” among experts (see Fig 1 for the treatment algorithm).

## Treatment

**Recommendation 1: PC clinicians should work with administration to organize their clinical settings to reflect best practices in integrated and/or collaborative care models (eg, facilitating contact with psychiatrists, case managers, embedded therapists). (grade of evidence: 4; strength of recommendation: very strong).**

There is a growing recognition that complex chronic conditions, such as depression, are most successfully managed with proactive, multidisciplinary, patient-centered care teams.<sup>77,78</sup> Proposed integrated care models include chronic care management, integrated behavioral health care, collaborative care, and medical home. These complex care models have been shown to be more effective in improving outcomes and share multiple features, such as an emphasis on systematically identifying and tracking target populations, decreasing fragmentation across the care team, and enhancing the patient’s ability to self-manage their condition.

**Recommendation 2: After initial diagnosis, in cases of mild depression, clinicians should consider a period of active support and monitoring before starting evidence-based treatment (grade of evidence: 3; strength of recommendation: very strong).**

After a preliminary diagnostic assessment, in cases of mild depression, clinicians should consider a period of active support and monitoring before recommending treatment (from 6 to 8 weeks of weekly or biweekly visits for active monitoring). Evidence from RCTs with antidepressants and CBT show that a sizable percentage of patients respond to nondirective supportive therapy and regular symptom monitoring.<sup>42,43,45,48,50,70,79</sup> However, if symptoms persist, treatment with antidepressants or psychotherapy should be offered, whether provided by PC or mental health. Active support and monitoring is also essential in cases in which depressed patients and/or their families and/or caregivers refuse other treatments. Active support and counseling for adolescents by pediatric PC clinicians have been evaluated for several different disorders, including substance abuse and sleep disorders.<sup>22</sup>

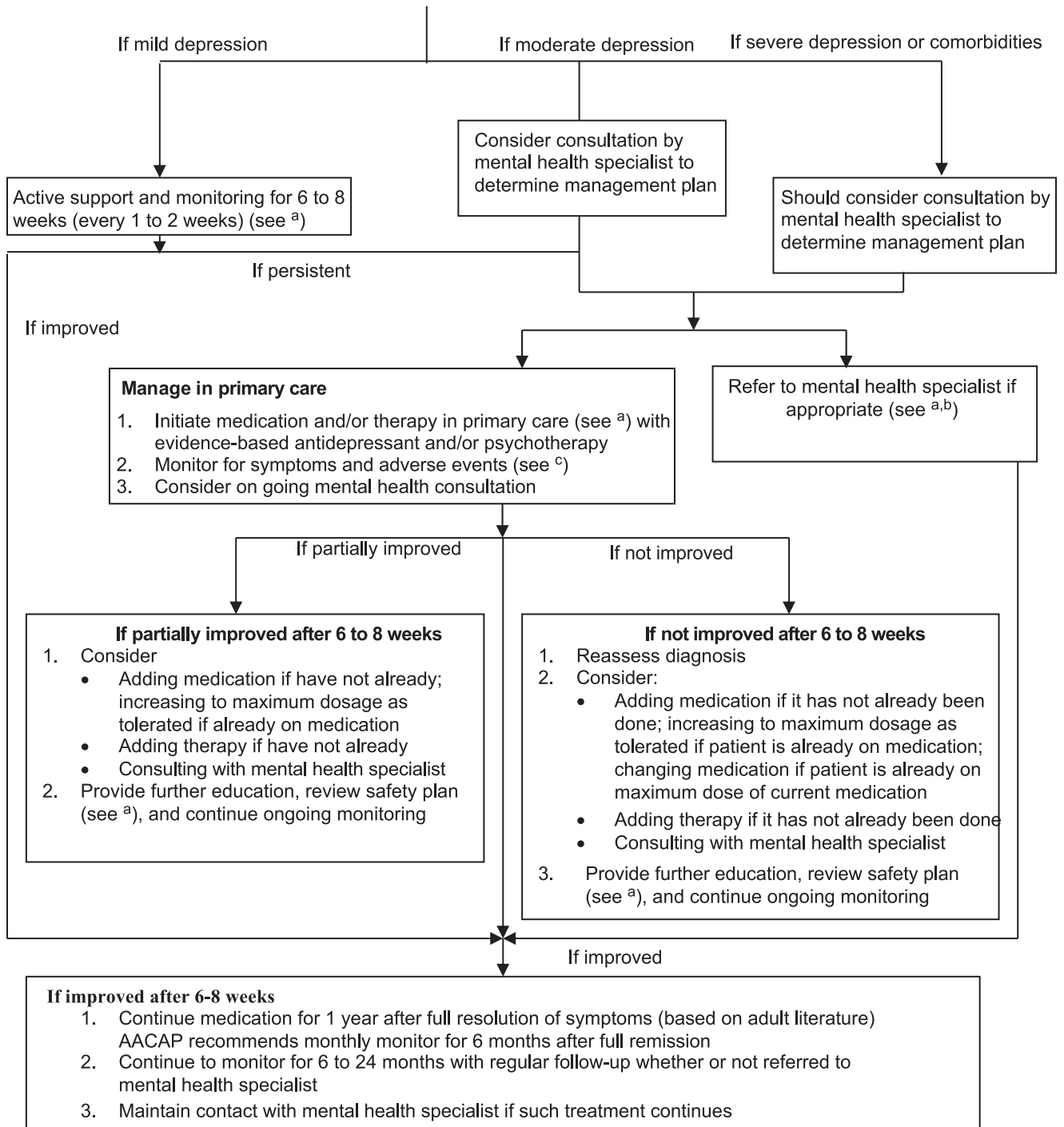
Furthermore, expert opinion based on extensive clinical experience and qualitative research with families, patients, and clinicians indicates that these strategies are a crucial component of management by PC clinicians. For further guidance on how to provide active support, please refer to the GLAD-PC toolkit (<http://www.gladpc.org>).

For moderate or severe cases, the clinician should recommend treatment; crisis intervention; patient and family support services, such as in-home or skill-building services (as indicated); and mental health consultation immediately, without a period of active monitoring.

**Recommendation 3: If a PC clinician identifies an adolescent with moderate or severe depression or complicating factors and/or conditions such as coexisting substance abuse or psychosis, consultation with a mental health specialist should be considered (grade of evidence: 5; strength of recommendation: strong). Appropriate roles and responsibilities for ongoing comanagement by the PC clinician and mental health clinician(s) should be communicated and agreed on (grade of evidence: 5; strength of recommendation: strong). The patient and family should be active team members and approve the roles of the PC and mental health clinicians (grade of evidence: 5; strength of recommendation: strong).**

In adolescents with severe depression or comorbidities, such as substance abuse, clinicians should consider consultation with mental health professionals and refer to such professionals when deemed necessary. In cases of moderate depression with or without comorbid anxiety, clinicians should consider consultation by mental health and/or treatment in the PC setting. Although the access barriers to mental health services need to be addressed by policy makers to make mental health consultations more feasible, available, and affordable in underserved areas, clinical judgment should prevail in the meantime; thus, the need for consultation should be based on the clinician’s judgment. PC providers should also take into consideration the treatment preferences of patients and/or families, the severity and urgency of the case presentation, and the PC provider’s level of training and experience.

Active support and treatment should also be started in cases in which there is a lengthy waiting list for mental health services. Once a



**FIGURE 1**

Clinical management flowchart. <sup>a</sup>Psychoeducation, supportive counseling, facilitate parental and patient self-management, refer for peer support, and regular monitoring of depressive symptoms and suicidality. <sup>b</sup>Negotiate roles and/or responsibilities between PC and mental health and designate case coordination responsibilities. Continue to monitor in PC after referral and maintain contact with mental health. <sup>c</sup>Clinicians should monitor for changes in symptoms and emergence of adverse events, such as increased suicidal ideation, agitation, or induction of mania. For monitoring guidelines, please refer to the guidelines and/or toolkit. AACAP, American Academy of Child and Adolescent Psychiatry.

referral is made, comanagement of treatment should take place with the PC clinician remaining involved in follow-up. In particular, roles and

responsibilities should be agreed on between the PC clinician and mental health clinician(s), including the designation of case coordination

responsibilities.<sup>48,50,77,78,80,81</sup> It is critical for PC clinicians to make linkages with their closest crisis support and hospital services so that

they are supported in crisis situations when caring for depressed youth.

**Recommendation 4: PC clinicians should recommend scientifically tested and proven treatments (ie, psychotherapies, such as CBT or IPT-A, and/or antidepressant treatment, such as SSRIs) whenever possible and appropriate to achieve the goals of the treatment plan<sup>82</sup> (grade of evidence: 1; strength of recommendation: very strong).**

After providing education and support to the patient and family, the range of effective treatment options, including medications, psychotherapies, and family support should be considered. The patient and family should be assisted to arrive at a treatment plan that is both acceptable and implementable, taking into account their preferences and the availability of treatment services. The treatment plan should be customized according to the severity of disease, risk of suicide, and the existence of comorbid conditions. The GLAD-PC toolkit ([www.gladpc.org](http://www.gladpc.org)) provides more detailed guidance around the factors that may influence treatment choices (ie, a patient with psychomotor retardation may not be able to actively engage in psychotherapy). A “common factors” approach is focused on evidence-based practices, which are common across therapies. Common factors include better communication skills, to be supportive, to take advantage of therapeutic alliance, and to engage in shared decision-making.<sup>83</sup> Common sense approaches such as the prescription of physical exercise, sleep hygiene, and adequate nutrition should also be used in the management of these patients.

As an aside, the majority of CBT and IPT-A studies in which researchers included patients with MDD also included patients with depression not otherwise specified, subthreshold depressive symptoms, or dysthymic disorder. In contrast, medication RCTs for depression in adolescents

**TABLE 2** Components of CBT and IPT-A

Therapy	Key Components
CBT	Thoughts influence behaviors and feelings and vice versa. Treatment targets patient’s thoughts and behaviors to improve his or her mood. Essential elements of CBT include increasing pleasurable activities (behavioral activation), reducing negative thoughts (cognitive restructuring), and improving assertiveness and problem-solving skills to reduce feelings of hopelessness. CBT for adolescents may include sessions with parents and/or caregivers to review progress and to increase compliance with CBT-related tasks.
IPT-A	Interpersonal problems may cause or exacerbate depression, and that depression, in turn, may exacerbate interpersonal problems. Treatment targets patient’s interpersonal problems to improve both interpersonal functioning and his or her mood. Essential elements of interpersonal therapy include identifying an interpersonal problem area, improving interpersonal problem-solving skills, and modifying communication patterns. Parents and/or caregivers are involved in sessions during specific phases of the therapy.

generally only included subjects with MDD. Thus, although the general treatment of depression is addressed in these guidelines, medication-specific guidelines apply only to fully expressed MDD.

### Psychotherapies

Both CBT and IPT-A have been adapted to address depression in adolescents and have been shown to be effective in treating adolescents with MDD in tertiary care as well as community settings.<sup>57,84</sup> CBT has been used in the PC setting with preliminary positive results.<sup>33,35</sup> Also suggested in emerging evidence is the superior efficacy of combination therapy (medication and CBT) versus CBT alone.<sup>43</sup> For a brief description of the 2 therapies, see Table 2.

### Antidepressant Treatment

Previous research has shown that up to 25% of pediatric PC clinicians and 42% of family physicians in the United States had recently prescribed SSRIs for more than 1 adolescent under the age of 18.<sup>15</sup> When indicated by clinical presentation (ie, clear diagnosis of MDD with no comorbid conditions) and patient and/or family preference, an SSRI should be used. The selection of the specific SSRI should be based on the optimum combination of safety and efficacy data. Deliberate self-harm and/or suicide risk is more likely to occur if the SSRI is started at higher doses

(rather than normal starting doses).<sup>85</sup> The patient and family should be informed about the possible adverse effects (clinicians may use checklist), including possible switch to mania or the development of behavioral activation or suicide-related events. Once the antidepressant is started, and if tolerated, the clinician should support an adequate trial up to the maximum dose and duration.

In Table 3, recommended antidepressants and dosages for use in adolescents with depression are listed. These recommendations are based on the updated literature review and reviewed by the GLAD-PC Steering Committee. Generally, the effective dosages for antidepressants in adolescents are lower than would be found in adult guidelines. Note that only fluoxetine has been approved by the FDA for use in children and adolescents with depression, and only escitalopram has been approved for use in adolescents aged 12 years and older. Clinicians should know the potential drug interactions with SSRIs. Further information on the use of antidepressants is described in the GLAD-PC toolkit ([www.gladpc.org](http://www.gladpc.org)). In addition, all SSRIs should be slowly tapered when discontinued because of risk of withdrawal effects. Details regarding the initial selection of a specific SSRI and possible reasons for initial drug choice can be found in the GLAD-PC toolkit.



**TABLE 3** SSRI Titration Schedule

Medication	Starting Dose (qd/od), mg	Increments, mg	Effective Dose, mg	Maximum Dosage, mg	Contraindicated
Citalopram	10	10	20	60	MAOIs
Fluoxetine	10	10–20	20	60	MAOIs
Fluvoxamine	50	50	150	300	MAOIs
Paroxetine <sup>a</sup>	10	10	20	60	MAOIs
Sertraline	25	12.5–25	50	200	MAOIs
Escitalopram	10	5	10	20	MAOIs

MAOI, monoamine oxidase inhibitor; qd/od, every day once daily.

<sup>a</sup> Not recommended to be started in PC.

Contact (either in person or by telephone with either the clinician or member of the clinical staff) should take place after the initiation of treatment to review the patient's and family's understanding of and adherence to the treatment plan. Issues such as the current status of the patient and the patient and/or family's access to educational materials regarding depression should be discussed during follow-up conversations. For relevant educational resources for patients and/or families, please refer to the GLAD-PC toolkit ([www.gladpc.org](http://www.gladpc.org)).

**Recommendation 5: PC clinicians should monitor for the emergence of adverse events during antidepressant treatment (SSRIs) (grade of evidence: 3; strength of recommendation: very strong).<sup>82</sup>**

Re-analysis of safety data from clinical trials of antidepressants led to a black-box warning from the FDA regarding the use of these medications in children and adolescents in 2004 and a recommendation for close monitoring. The exact wording of the FDA recommendation is:

*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.*

It should be noted, however, that there is no empirical evidence to support the requirement of face-to-face meetings per se. In fact, evidence

from large population-based surveys reveals high reliability of telephone interviews with adolescent subjects for the diagnosis of depression.<sup>86,87</sup> Although obtaining a diagnosis is not the same as the elicitation of adverse events while in treatment, with this evidence, it is suggested that telephone contact may be just as effective in monitoring for adverse events. More importantly, a regular and frequent monitoring schedule should be developed, taking care to obtain input from the adolescents and families to ensure compliance with the monitoring strategy.<sup>88,89</sup> This may include monitoring of depressive symptoms, risky behaviors, and also functioning in the school setting, especially if an individualized education program is in place. Working closely with the family will ensure appropriate monitoring and help-seeking by caregivers.

### Ongoing Management

The strength of evidence on which each recommendation is based has been rated 1 (strongest) through 5 (weakest), according to the Oxford Centre for Evidence-Based Medicine levels of evidence, and paired with the strength of recommendation (Very strong [ $>90\%$  agreement]), Strong [ $>70\%$  agreement], Fair [ $>50\%$  agreement], Weak [ $<50\%$  agreement]).

**Recommendation 1: Systematic and regular tracking of goals and outcomes from treatment should be performed, including assessment of depressive symptoms and**

**functioning in several key domains. These include home, school, and peer settings (grade of evidence: 4; strength of recommendation: very strong).**

Goals should include both improvement in functioning and resolution of depressive symptoms. Tracking of goals and outcomes from treatment should include function in several important domains (ie, home, school, peers). Evidence from large RCTs reveals that depressive symptoms and functional impairments may not improve at the same rate with treatment.<sup>28,70</sup> Therefore, symptoms and functioning should be tracked regularly during the course of treatment with information gathered from both the patients and their families when possible.

According to expert consensus, it is ideal that patients are assessed in person within 1 week of the initiation of treatment. At every assessment, clinicians should inquire about each of the following: (1) ongoing depressive symptoms, (2) risk of suicide, (3) possible adverse effects from treatment (including the use of specific adverse-effect scales), (4) adherence to treatment, and (5) new or ongoing environmental stressors. In several studies, researchers have examined medication maintenance after response.<sup>90–93</sup> Emslie et al<sup>93</sup> randomly assigned pediatric patients who had responded to fluoxetine by 19 weeks to placebo or to medication continuation for an additional 32 weeks. Of the 20 subjects randomly assigned to the 32-week medication relapse-prevention arm, 10 were exposed to fluoxetine for 51 weeks. Significantly fewer relapses occurred in the group randomly assigned to medication maintenance, which suggests that longer medication continuation periods, possibly 1 year, may be necessary for relapse prevention. In addition, Emslie et al<sup>93</sup> found the greatest risk of relapse to be in the first 8 to 12 weeks

after discontinuing medication, which suggests that after stopping an antidepressant, close follow-up should be encouraged for at least 2 to 3 months. Other studies have revealed similar benefits of prolonged treatment after acute response.<sup>90–93</sup>

With the limited evidence in children and adolescents and the emerging evidence in the adult literature in which it is suggested that antidepressant medication should be continued for 1 year after remission, both GLAD-PC and the American Academy of Child and Adolescent Psychiatry concluded that medication be maintained for 6 to 12 months after the full resolution of depressive symptoms.<sup>22,90–93</sup>

However, regardless of the length of treatment, all patients should be monitored on a monthly basis for 6 to 12 months after the full resolution of symptoms.<sup>22,93,94</sup> If the depressive episode is a recurrence, clinicians are encouraged to monitor patients for up to 2 years given the high rates of recurrence as demonstrated in the adult literature in which maintenance treatment in those with recurrent depression continues for up to 2 years after the full resolution of symptoms. Clinicians should obtain consultation from mental health professionals if a teenager develops psychosis, suicidal or homicidal ideation, and new or worsening of comorbid conditions.

**Recommendation 2: Diagnosis and initial treatment should be reassessed if no improvement is noted after 6 to 8 weeks of treatment (grade of evidence: 4; strength of recommendation: very strong). Mental health consultation should be considered (grade of evidence: 4; strength of recommendation: very strong).**

If improvement is not seen within 6 to 8 weeks of treatment, mental health consultation should be considered. Evidence of improvement

may include reduction in the number of depressive symptoms, improved functioning in social or school settings, or improvement spontaneously reported by the adolescent and/or parent or caregiver. The clinician should also reassess the initial diagnosis, choice and adequacy of initial treatment, adherence to treatment plan, presence of comorbid conditions (eg, substance abuse) or bipolar symptoms that may influence treatment effectiveness, and new external stressors. If a patient has no response to a maximum therapeutic dose of an antidepressant medication, the clinician should consider changing the medication. Alternatively, if the patient has failed to improve on antidepressant medication or therapy alone, the addition of or switch to the other modality should be considered.

**Recommendation 3: For patients achieving only partial improvement after PC diagnostic and therapeutic approaches have been exhausted (including exploration of poor adherence, comorbid disorders, and ongoing conflicts or abuse), a mental health consultation should be considered (grade of evidence: 4; strength of recommendation: very strong).**

If a patient only partially improves with treatment, mental health consultation should be considered. The clinician should also review the diagnosis and explore possible causes of partial response, such as poor adherence to treatment, comorbid disorders, or ongoing conflicts and/or abuse. These causes may need to be managed first before changes to the treatment plan are made.

If a patient has been treated with a SSRI (maximum tolerated dosage) and has shown only partial improvement, the addition of an evidence-based psychotherapy should be considered, if not previously initiated. Other considerations may include the

addition of another medication, an increase of the dosage above FDA-approved ranges, or a switch to another medication as suggested in the Treatment of SSRI-resistant Depression in Adolescents study,<sup>39</sup> preferably done in consultation with a mental health professional. Likewise, if a patient's condition fails to improve after a trial of either CBT or IPT-A and has not yet begun medication, the clinician should consider a trial of SSRI antidepressant treatment. Strong consideration should also be given to a referral to mental health services.

**Recommendation 4: PC clinicians should actively support depressed adolescents referred to mental health services to ensure adequate management (grade of evidence: 5; strength of recommendation: very strong). PC clinicians may also consider sharing care with mental health agencies and/or professionals where possible (grade of evidence: 1; strength of recommendation: very strong). Appropriate roles and responsibilities regarding the provision and comanagement of care should be communicated and agreed on by the PC clinician and the mental health clinician(s) (grade of evidence: 4; strength of recommendation: very strong).**

PC clinicians should continue follow-up with adolescents with depression who have been referred to mental health services for assessment and/or management.<sup>95</sup> Where possible, PC clinicians may consider sharing management of depressed adolescents with mental health agencies and/or professionals. There is emerging evidence from the literature about the greater effectiveness of “shared-care” models for the management of depression in the PC setting.<sup>27,31,95–97</sup> There is also increasing evidence to support that quality improvement strategies and techniques can change PC

practitioner behavior both in mental health and in other arenas.<sup>98,99</sup>

## DISCUSSION

The recommendations regarding treatment and ongoing management highlight the need for PC providers to become familiar with the use of empirically tested treatments for adolescent depression, including both antidepressants and psychotherapy. In particular, antidepressant treatments can be useful in certain clinical situations in the PC setting. In many of these clinical scenarios, PC providers should schedule systematic and routine follow-up, including mental health support when appropriate. The need for systematic follow-up, whether by PC provider or by mental health provider, is especially important in light of the FDA black-box warnings regarding the emergence of adverse events with antidepressant treatment.

Psychotherapy is also recommended as first-line treatment of adolescents who are depressed in the PC setting. Although the provision of psychotherapy may be less feasible and practical within the constraints (ie, time, availability of trained staff) of PC settings, there is some evidence to support that quality improvement projects involving psychotherapy can improve the care of adolescents who are depressed.<sup>35</sup>

GLAD-PC was developed and now updated on the basis of the needs of PC clinicians who are faced with the challenge of caring for depressed adolescents as well as many barriers, including the shortage of mental health resources in most community settings. Although it is clear that more evidence and research in this area are needed, these updated guidelines represent a necessary step toward improving the care of depressed adolescents in the PC setting. Similar guidelines have also been produced for other health care contexts, such as in the United

Kingdom (<https://www.nice.org.uk/guidance/cg28>). The updated GLAD-PC guidelines and the toolkit ([www.gladpc.org](http://www.gladpc.org)) reflect the coming together of available evidence and the consensus of experts representing a broad spectrum of specialties and advocacy organizations within the North American health care context. However, no improvements in care will be achieved if changes do not occur in the health care systems that would allow for increased training in mental health for PC clinicians and in collaborative models for both primary and specialty care clinicians. Therefore, it is critical that training programs for PC providers increase their focus on mental health issues and that trainees in both PC and specialty care areas be helped to hone their skills in working in collaborative care models<sup>89</sup> (see [http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Pages/implementing\\_mental\\_health\\_priorities\\_in\\_practice.aspx](http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Mental-Health/Pages/implementing_mental_health_priorities_in_practice.aspx)). For providers who are currently practicing, continuing education should strengthen skills in collaborative work, and specifically, for PC providers, increase skills and knowledge in the management of depression.

## LIMITATIONS

Although the guidelines covered a range of issues regarding the management of adolescent depression in the PC setting, there were other controversial areas that were not addressed in these recommendations. These included such issues as the use of augmenting agents and treatment of subthreshold symptoms. New emerging evidence may impact on the inclusion of such areas in future iterations of the guidelines and the toolkit (available for download at [www.gladpc.org](http://www.gladpc.org)). Many of these recommendations are made in the face of an absence

of evidence or at lower levels of evidence.

## FUTURE DIRECTIONS

Ample evidence exists to support the notion that guidelines alone are insufficient in closing the gaps between recommended versus actual practices.<sup>100,101</sup> Thus, it will be necessary to identify effective methods for disseminating information and provide assistance to PC clinicians in changing practice. Researchers should build on this work by piloting and evaluating methods, tools, and strategies to facilitate the adoption of these guidelines for the management of adolescent depression in PC settings. Researchers should also explore optimal methods for helping clinicians and their clinical settings address the range of obstacles that may interfere with the adoption of necessary practices to yield sustainable management of adolescent depression in PC settings.

Many jurisdictions have recognized the need to increase collaborative care to address the care of adolescents with mental illness. In Canada and the United States, models of care involving mental health and PC are being implemented (National Network of Child Psychiatry Access Programs: [www.nncpap.org](http://www.nncpap.org); Massachusetts Child Psychiatry Access Program: <https://www.mcpap.com/>; Partnership Access Line; Training and Education for the Advancement of Children's Health),<sup>102–106</sup> However, the empirical support for these models is modest internationally; therefore, additional research is urgently needed.

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#### ABBREVIATIONS

CBT: cognitive behavioral therapy  
CCBT: computerized cognitive behavioral therapy  
CI: confidence interval  
FDA: Food and Drug Administration  
GLAD-PC: Guidelines for Adolescent Depression in Primary Care  
IPT-A: interpersonal psychotherapy for adolescents  
MDD: major depressive disorder  
PC: primary care  
RCT: randomized controlled trial  
SSRI: selective serotonin reuptake inhibitor

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## Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part II. Treatment and Ongoing Management

Amy H. Cheung, Rachel A. Zuckerbrot, Peter S. Jensen, Danielle Laraque, Ruth E.K. Stein and GLAD-PC STEERING GROUP

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# Suicide and Suicide Attempts in Adolescents

Benjamin Shain, MD, PhD, COMMITTEE ON ADOLESCENCE

Suicide is the second leading cause of death for adolescents 15 to 19 years old. This report updates the previous statement of the American Academy of Pediatrics and is intended to assist pediatricians, in collaboration with other child and adolescent health care professionals, in the identification and management of the adolescent at risk for suicide. Suicide risk can only be reduced, not eliminated, and risk factors provide no more than guidance. Nonetheless, care for suicidal adolescents may be improved with the pediatrician's knowledge, skill, and comfort with the topic, as well as ready access to appropriate community resources and mental health professionals.

## abstract

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## 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. From 1950 to 1990, the suicide rate for adolescents 15 to 19 years old increased by 300%,<sup>1</sup> but from 1990 to 2013, the rate in this age group decreased by 28%.<sup>2</sup> In 2013, there were 1748 suicides among people 15 to 19 years old.<sup>2</sup> The true number of deaths from suicide actually may be higher, because some of these deaths may have been recorded as “accidental.”<sup>3</sup> Adolescent boys 15 to 19 years old had a completed suicide rate that was 3 times greater than that of their female counterparts,<sup>2</sup> whereas the rate of suicide attempts was twice as high among girls than among boys, correlating to girls tending to choose less lethal methods.<sup>4</sup> The ratio of attempted suicides to completed suicides among adolescents is estimated to be 50:1 to 100:1.<sup>5</sup>

Suicide affects young people from all races and socioeconomic groups, although some groups have higher rates than others. American Indian/Alaska Native males have the highest suicide rate, and black females have the lowest rate of suicide. Sexual minority youth (ie, lesbian, gay, bisexual, transgender, or questioning) have more than twice the rate of suicidal ideation.<sup>6</sup> The 2013 Youth Risk Behavior Survey of students in

grades 9 through 12 in the United States indicated that during the 12 months before the survey, 39.1% of girls and 20.8% of boys felt sad or hopeless almost every day for at least 2 weeks in a row, 16.9% of girls and 10.3% of boys had planned a suicide attempt, 10.6% of girls and 5.4% of boys had attempted suicide, and 3.6% of girls and 1.8% of boys had made a suicide attempt that required medical attention.<sup>7</sup>

The leading methods of suicide for the 15- to 19-year age group in 2013 were suffocation (43%), discharge of firearms (42%), poisoning (6%), and falling (3%).<sup>2</sup> Particular attention should be given to access to firearms, because reducing firearm access may prevent suicides. Firearms in the home, regardless of whether they are kept unloaded or stored locked, are associated with a higher risk of completed adolescent suicide.<sup>8,9</sup> However, in another study examining firearm security, each of the practices of securing the firearm (keeping it locked and unloaded) and securing 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.<sup>10</sup>

Youth seem to be at much greater risk from media exposure than adults and may imitate suicidal behavior seen on television.<sup>11</sup> 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.<sup>11</sup> A prospective study found increased suicidality with exposure to the suicide of a schoolmate.<sup>12</sup> Newspaper reports about suicide were associated with an increase in adolescent suicide clustering, with greater clustering associated with article front-page placement, mention of suicide or the method of suicide in the article title, and detailed description in the article text about the individual

or the suicide act.<sup>13</sup> More research is needed to determine the psychological mechanisms behind suicide clustering.<sup>14,15</sup> The National Institute of Mental Health suggests best practices for media and online reporting of deaths by suicide.<sup>16</sup>

### ADOLESCENTS AT INCREASED RISK

Although no specific tests are capable of identifying a suicidal person, specific risk factors exist.<sup>11,17</sup> The health care professional should use care in interpreting risk factors, however, because risk factors are common, whereas suicide is infrequent. Of importance, 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; history of adoption<sup>18,19</sup>; male gender; parental mental health problems; lesbian, gay, bisexual, or questioning sexual orientation; transgender identification; a history of physical or sexual abuse; and a previous suicide attempt. Personal mental health problems that predispose to suicide include sleep disturbances,<sup>20</sup> depression, bipolar disorder, substance intoxication and substance use disorders, psychosis, posttraumatic stress disorder, panic attacks, a history of aggression, impulsivity, severe anger, and pathologic Internet use (see *Internet Use* section). In particular, interview studies showed a marked higher rate of suicidal behavior with the presence of psychotic symptoms.<sup>21</sup> A prospective study found a 70-fold increase of acute suicidal behavior in adolescents with psychopathology that included psychosis.<sup>22</sup> By definition, nonsuicidal self-injury (NSSI) does not include intent to die, and risk of death is deliberately low. Nonetheless, NSSI is a risk factor for suicide attempts<sup>23,24</sup> and suicidal ideation.<sup>25</sup> 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 Psychiatry<sup>26</sup> and Gould et al.<sup>11</sup>

Social and environmental risk factors include bullying, 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. An unsupported social environment for lesbian, gay, bisexual, and transgender adolescents, for example, increases risk of suicide attempts.<sup>27</sup> Protective factors include religious involvement and connection between the adolescent and parents, school, and peers.<sup>26</sup>

### Bullying

Bullying has been defined as having 3 elements: aggressive or deliberately harmful behavior (1) between peers that is (2) repeated and over time and (3) involves an imbalance of power, for example, related to physical strength or popularity, making it difficult for the victim to defend himself or herself.<sup>28</sup> Behavior falls into 4 categories: direct-physical (eg, assault, theft), direct-verbal (eg, threats, insults, name-calling), indirect-relational (eg, social exclusion, spreading rumors), and cyberbullying.<sup>29</sup> The 2013 Youth Risk Behavior Survey of students in grades 9 through 12 in the United States indicated that during the 12 months before the survey, 23.7% of girls and 15.6% of boys were bullied on school property, 21.0% of girls and 8.5% of boys were electronically bullied, and 8.7% of girls and 5.4% of boys did not go to school 1 day in the past 30 because they felt unsafe at or to or from school.<sup>7</sup> Studies have focused on 3 groups: those who were

victims, those who were bullies, and those who were both victims and bullies (bully/victims).<sup>30</sup>

Reviewing 31 studies, Klomek et al<sup>29</sup> found a clear relationship between both bullying victimization and perpetration and suicidal ideation and behavior in children and adolescents. Females were at risk regardless of frequency, whereas males were at higher risk only with frequent bullying. A review by Arseneault et al<sup>31</sup> cited evidence that bullying victimization is associated with severe baseline psychopathology, as well as individual characteristics and family factors, and that the psychopathology is made significantly worse by the victimization. Being the victim of school bullying or cyberbullying is associated with substantial distress, resulting in lower school performance and school attachment.<sup>32</sup> Suicidal ideation and behavior were greater in those bullied with controlling for age, gender, race/ethnicity, and depressive symptomology.<sup>33</sup> Suicidal ideation and behavior were increased in victims and bullies and were highest in bully/victims.<sup>34</sup> Similar increases in suicide attempts were found comparing face-to-face bullying with cyberbullying, both for victims and bullies.<sup>35</sup>

Bullying predicts future mental health problems. Bullying behavior at 8 years of age was associated with later suicide attempts and completed suicides,<sup>36</sup> although among boys, frequent perpetration and victimization was not associated with attempts and completions after controlling for conduct and depressive symptoms. Among girls, frequent victimization was associated with later suicide attempts and completions even after controlling for conduct and depressive symptoms. High school students with the highest psychiatric impairment 4 years later were those who had been identified as at-risk for

suicide *and* experiencing frequent bullying behavior. Copeland et al<sup>30</sup> found that children and adolescents involved in bullying behavior had the worst outcomes when they were both bullies and victims, leading to depression, anxiety, and suicidality (suicidality only among males) as adults. Assessment for adolescents with psychopathology, other signs of emotional distress, or unusual chronic complaints should include screening for participation in bullying as victims or bullies.

### Internet Use

Pathologic Internet use correlates with suicidal ideation and NSSI.<sup>37</sup> Self-reported daily use of video games and Internet exceeding 5 hours was strongly associated with higher levels of depression and suicidality (ideation and attempts) in adolescents.<sup>38</sup> A more specific problem is that adolescents with suicidal ideation may be at particular risk for searching the Internet for information about suicide-related topics.<sup>39</sup> Suicide-related searches were found to be associated with completed suicides among young adults.<sup>40</sup> Prosuicide Web sites and online suicide pacts facilitate suicidal behavior, with adolescents and young adults at particular risk.<sup>37</sup>

A number of factors diminish the exposure of prosuicide Web sites. Web site results from the search term, "suicide," are predominantly of institutional origin, with content largely related to research and prevention. Although there are a substantial number of sites from private senders (these sites are often antimedical, antitreatment, and pro-suicide,<sup>41</sup> including sites that advocate suicide or describe methods in detail<sup>42</sup>), suicide research and prevention sites tend to come up in searches more commonly. Clicking on links within each site keeps the reader in the site, strengthening the site's position. Methods sites and overtly prosuicide sites are

more isolated, decentralized, and unfocused; these are less prevalent among the first 100 search results, perhaps related to a recent and deliberate strategy by the internet search engines (eg, search engine optimization).<sup>41</sup>

Learning of another's suicide online may be another risk factor for youth.<sup>43</sup> Exposure to such information is through online news sites (44%), social networking sites (25%), online discussion forums (15%), and video Web sites (15%). Social networking sites have particular importance, because these may afford information on suicidal behavior of social contacts that would not otherwise be available. Fortunately, exposure to information from social networking sites does not appear related to changes in suicidal ideation, with increased exposure mitigated by greater social support. Participation in online forums, however, was associated with increases in suicidal ideation, possibly related to anonymous discussions about mental health problems. For example, suicide attempts by susceptible individuals appear to have been encouraged by such conversations.<sup>44,45</sup>

### INTERVIEWING THE ADOLESCENT

Primary care pediatricians should be comfortable screening patients for suicide, mood disorders, and substance abuse and dependence. Ask about emotional difficulties and use of drugs and alcohol, identify lack of developmental progress, and estimate level of distress, impairment of functioning, and level of danger to self and others. Depression screening instruments shown to be valid in adolescents include the Patient Health Questionnaire (PHQ)-9 and PHQ-2.<sup>46</sup> If needed, a referral should be made for appropriate mental health evaluation and treatment. In areas where the resources necessary to make a timely mental health

referral are lacking, pediatricians are encouraged to obtain extra training and become competent in providing a more in-depth assessment.

Suicidal ideation may be assessed 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. Adolescents who endorse suicidality on a scale should be assessed clinically. Screening tools useable in a primary care setting have not been shown to have more than limited ability to detect suicide risk in adolescents,<sup>47</sup> consistent with the findings of an earlier review.<sup>48</sup> Instruments studied in adolescent groups with high prevalence of suicidal ideation and behavior showed sensitivity of 52% to 87% and specificity of 60% to 85%; the results are only generalizable to high-risk populations.<sup>49,50</sup> Suicide screening, at least in the school setting, does not appear to cause thoughts of suicide or other psychiatric symptoms in students.<sup>51,52</sup>

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, 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 they found 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, even in high-risk students.<sup>51</sup>

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 have this explained by the pediatrician so that he or she understands that at the onset. Pediatricians need to inform appropriate people, such as parent(s) and other providers, when they believe an adolescent is at risk for suicide and to share with the adolescent that there is a need to break confidentiality because of the risk of harm to the adolescent. 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.<sup>53</sup> Questions should also be asked to elicit known risk factors. Note that it is acceptable and, in some cases, more appropriate for the patient to be referred to a mental health specialist to access the degree of suicide intent and relevant factors such as coping mechanisms and support systems.

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?" "I know that a lot of people your age have a lot going on. What kinds of things have been on your mind or 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 serious he or she has felt about dying. 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.<sup>54</sup> 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 pediatrician should also look for adolescent behaviors that are characteristic of symptoms (Table 1).<sup>54</sup> Some adolescents may present with irritability rather than depressed mood as the main manifestation. Other adolescents present for an acute care visit



with somatic symptoms, such as abdominal pain, chest pain, headache, lethargy, weight loss, dizziness and syncope, or other nonspecific symptoms<sup>55</sup> Others present with behavioral problems, such as truancy, deterioration in academic performance, running away from home, defiance of authorities, self-destructive behavior, vandalism, substance use disorder, sexual acting out, and delinquency.<sup>56</sup> 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. The American Academy of Pediatrics (AAP) provides more information about adolescent bipolar disorder and the role of the pediatrician in screening, diagnosis, and management.<sup>57</sup>

At well-adolescent visits, adolescents who show any evidence of psychosocial or adaptive difficulties should be assessed regularly for mental health concerns and also asked about suicidal ideation, physical and sexual abuse, bullying, substance use, and sexual orientation. Depression screening is now recommended for all adolescents between the ages of 11 and 21 years of age in the third edition of *Bright Futures*.<sup>58</sup> The AAP developed a resource, "Addressing Mental Health Concerns in Primary Care: A Clinician's Toolkit," which is available for a fee.<sup>59</sup> The AAP also developed a Web site that provides resources and materials free of charge.<sup>60</sup> Identification and screening at acute care visits, when possible, is desirable, because mental health problems may manifest more strongly at these times.

## MANAGEMENT OF THE SUICIDAL ADOLESCENT

Management depends on the degree of acute risk. Unfortunately, no one can accurately predict suicide, so

**TABLE 1** Depressive Symptoms and Examples in Adolescents<sup>54</sup>

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 wt loss/gain	Failure to gain wt 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 thoughts of death or suicidal ideation or behavior	Recurrent suicidal ideation or behavior (threats of suicide, writing about death; giving away favorite toys or belongings)

even experts can only determine who is at higher risk. Intent is a key issue in the determination of 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 implies a low risk of suicide that may not be warranted. "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 ingesting 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 of 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, arrangements for immediate mental health professional evaluation should be made during the office visit. Options for immediate evaluation include hospitalization, transfer to an emergency department, or a same-day appointment with a mental health professional.

Intervention should be tailored to the adolescent's needs. Adolescents with a responsive and supportive family, little likelihood of acting on suicidal impulses (eg, thought of dying with no intent or plan for suicide), and someone who can take action if there is mood or behavior deterioration may require only outpatient treatment.<sup>17</sup> 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, engage in substance use or have an active substance use disorder, have low impulse control, or have families who are unwilling to commit to counseling are at high risk and may require psychiatric hospitalization.

Although no controlled studies have been conducted to prove that admitting adolescents at high risk to a psychiatric unit saves lives,<sup>17</sup> likely 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 evaluation with initiation of therapy in a controlled setting as well as arrangement of appropriate mental health follow-up care.

Pediatricians can enhance continuity of care and adherence to treatment recommendations by maintaining contact with suicidal adolescents even after referrals are made. Collaborative care is encouraged, because it has been shown to result in greater reduction of depressive

symptoms in a primary care setting.<sup>61</sup> Recommendations should include that all firearms are removed from the home, because adolescents may still find access to locked guns stored in their home, and that medications, both prescription and over-the-counter, are locked up. Vigorous treatment of the underlying psychiatric disorder is important in decreasing short-term and long-term risk of suicide. Although asking the adolescent to agree to a contract against suicide has not been proven effective in preventing suicidal behavior,<sup>17</sup> the technique may still be helpful in assessing risk in that refusal to agree either not to harm oneself or to tell a specified person about intent to harm oneself is ominous. In addition, safety planning may help guide a patient and his or her family in what steps to take in moments of distress to ensure patient safety.

Working with a suicidal adolescent can be very difficult for 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. Just as importantly, pediatricians need to be aware of their personal reactions to prevent interference in evaluation and treatment and overreaction or underreaction.

#### **ANTIDEPRESSANT MEDICATIONS AND SUICIDE**

The Food and Drug Administration (FDA) directive of October 2004 and heavy media coverage changed perceptions of antidepressant medications, and not favorably. 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. 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."<sup>62</sup> The warning particularly stressed the need for close monitoring during the first few months of treatment and after dose changes.

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 subjects who were receiving medication and in just half that (2%) of subjects who were receiving a placebo. No completed suicides occurred during any of the studies. In the same studies, however, only a slight reduction of suicidality was found when subjects were asked directly at each visit about suicidal ideation and behavior, which was considered a contradictory finding. The method of asking directly does not rely on spontaneous reports and is considered to be more reliable than the spontaneous events report method used by the FDA to support the black-box warning.<sup>63</sup> In addition, a reanalysis of the data including 7 additional studies and using a more conservative model showed only a trivial 0.7% increase in the risk of suicidal ideation or behavior in those receiving antidepressant medications.<sup>64</sup>

Subsequent studies have addressed the validity of the black-box warning and suggest that, for appropriate youth, the risk of not prescribing antidepressant medication is significantly higher than the risk of prescribing. Gibbons et al<sup>65</sup> conducted a reanalysis of all sponsor-conducted

randomized controlled trials of fluoxetine and venlafaxine, which included 12 adult, 4 geriatric, and 4 youth studies of fluoxetine and 21 adult trials of venlafaxine. Adult and geriatric patients treated with both medications showed decreased suicidal thoughts and behaviors, an effect mediated by the decreases of depressive symptoms with treatment. No significant treatment effect on suicidal thoughts and behaviors was found with youth treated with fluoxetine, although depressive symptoms in fluoxetine-treated patients decreased more quickly than symptoms in patients receiving placebo. There was no overall greater rate of suicidal thoughts and behaviors in the treatment groups versus the placebo groups. The finding of increased suicidal ideation and behavior in the treatment groups that formed the basis of the FDA black-box warning on antidepressant use in children and adolescents was not found in this reanalysis of the fluoxetine studies. More importantly, these reanalyses demonstrated the efficacy of fluoxetine in the treatment of depression in youth. Patients in all age and drug groups had significantly greater improvement relative to patients in placebo groups, with youth having the largest differential rate of remission over 6 weeks—46.6% of patients receiving fluoxetine versus 16.5% of those receiving placebo.<sup>66</sup>

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.<sup>63</sup> Examining all available observational studies, Dudley et al<sup>67</sup> found that recent exposure to selective serotonin reuptake inhibitor medications was rare (1.6%) for young people who died by suicide, supporting the conclusion that most of the suicide victims did not have the potential benefit of antidepressants at the time of their deaths. The study suggests that whether antidepressants increase suicidal

thoughts or behaviors in adolescents, few actual suicides are related to current use of the medications.

Several studies showed a negative correlation between antidepressant prescribing and completed adolescent suicide. The 28% decrease in completed suicides in the 10- to 19-year-old age group from 1990 to 2000 may have been at least partly a result of the increase in youth antidepressant prescribing over the same time period. Analyzing US data by examining prescribing and suicide in each of 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.<sup>68</sup> A second study analyzed county-level data during the period from 1996 to 1998 and found that higher selective serotonin reuptake inhibitor prescription rates significantly correlated with lower suicide rates among children and adolescents 5 to 14 years of age.<sup>69</sup> Using a decision analysis model, Cournard et al<sup>70</sup> calculated that antidepressant treatment of children and adolescents would prevent 31.9% of suicides of depressed subjects, similar to findings in the adult (32.2%) and geriatric (32.3%) age groups.

The FDA advisory panel was aware that the black-box warning could have the unintended effect of limiting access to necessary and effective treatment<sup>63</sup> and reported that 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.<sup>71</sup> Claims data for Tennessee Medicaid showed a 33% reduction of new users of antidepressants 21 months after the black-box warning.<sup>72</sup> US national managed care data showed reduced diagnosing of pediatric depression and a 58% reduction of antidepressant prescribing compared with what was predicted by the preadvisory trend.<sup>73</sup> Decreased

antidepressant prescribing was also seen with chart review.<sup>74</sup> Most of the reductions in diagnosing and prescribing were related to substantial reductions by primary care providers, with these reductions persisting through 2007.<sup>75</sup> Studies differed as to whether there was<sup>76</sup> or was not<sup>73,74</sup> a compensatory increase of psychotherapy treatment during the same time period.

Concern was expressed that the reduction of antidepressant prescribing may be related to the increase in US youth suicides from 2003 to 2004 after a decade of steady declines.<sup>77</sup> Gibbons et al<sup>78</sup> found that antidepressant prescribing for youth decreased by 22% in both the United States and the Netherlands the year after the black-box warnings in both countries and a reduction in prescribing was observed across all ages. From 2003 to 2004, the youth suicide rate in the United States increased by 14%; from 2003 to 2005, the youth suicide rate in the Netherlands increased by 49%. Across age groups, data showed a significant inverse correlation between prescribing and change in suicide rate. The authors suggested that the warnings could have had the unintended effect of increasing the rate of youth suicide.<sup>78</sup> Examining health insurance claims data for 1.1 million adolescents, 1.4 million young adults, and 5 million adults, the rate of psychotropic medication poisonings, a validate proxy for suicide attempts, was found to have increased significantly in adolescents (21.7%) and young adults (33.7%), but not in adults (5.2%), in the second year after the FDA black-box warning, corresponding with decreases in antidepressant prescribing (adolescents, -31.0%; young adults, -24.3%; adults, -14.5%).<sup>79</sup>

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. Furthermore, despite the aforementioned new information, the FDA has not removed or changed the black-box warning; the warning should be discussed with parents or guardians and appropriately documented. The American Psychiatric Association and the American Academy of Child and Adolescent Psychiatry recommended a monitoring approach<sup>63</sup> 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.<sup>63</sup>

## SUMMARY

1. Adolescent suicide is an important public health problem.
2. Knowledge of risk factors, particularly mood disorders, psychosis, and bullying victimization and perpetration, 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 predisposing adolescents to suicide have a variety of presentations.
5. Management options depend on the degree of suicide risk.
6. Treatment with antidepressant medication is important when indicated.

**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

## ADVICE FOR PEDIATRICIANS

1. Ask questions about mood disorders, use of drugs and alcohol, suicidal thoughts, bullying, sexual orientation, and other risk factors associated with suicide in routine history taking throughout adolescence. Know the risk factors (eg, signs and symptoms of depression) associated with adolescent suicide and screen routinely for depression. Consider using a depression screening instrument, such as the PHQ-9 or PHQ-2, at health maintenance visits from 11 to 21 years of age and as needed at acute care visits.<sup>46</sup>
2. Educate yourself and your patients about the benefits and risks of antidepressant medications. Patients with depression should be carefully monitored, with appropriately frequent appointments and education of the family regarding warning signs for when to call you, especially after the initiation of antidepressant medication treatment and with dose changes. Recent studies suggest that, for appropriate youth, the benefits of antidepressant medications outweigh the risks.
3. 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 evaluate and manage the care of adolescents who are at risk for 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.
4. 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. Compile the names and contact information of local mental health resources and providers and make that information available to patients/families when needed.
5. 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 with fewer resources still have an important role in screening, comanaging with mental health professionals, and referring patients when necessary (as recommended in *Bright Futures, Fourth Edition*).

6. During routine evaluations and where consistent with state law, 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 for suicide, advise parents to remove guns and ammunition from the house and secure supplies of prescription and over-the-counter medications.

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#### ABBREVIATIONS

AAP: American Academy of Pediatrics  
 FDA: Food and Drug Administration  
 NSSI: nonsuicidal self-injury  
 PHQ: Patient Health Questionnaire

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