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SPECIAL ARTICLE

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

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Endorsements: The Canadian Paediatric Society, the Society for Adolescent Medicine, the Canadian Association for Adolescent Health, the National Association for Pediatric Nurse Practitioners, the Society for Developmental and Behavioral Pediatrics, the American Academy of Child and Adolescent Psychiatry, the Canadian Academy of Child Psychiatry, the Canadian Psychiatric Association, the College of Family Medicine of Canada, the National Alliance on Mental Illness, the Mental Health Association of New York City, the National Mental Health Association (now known as Mental Health America), the Depression and Bipolar Support Alliance, and the Federation of Families for Children's Mental Health have endorsed these guidelines. Endorsements from the American Academy of Pediatrics and the Canadian Psychological Association are pending. The American Academy of Family Physicians, the American Medical Association, and the American Psychological Association have been involved in the development of the guidelines but do not endorse external guidelines.

ABSTRACT

OBJECTIVES. To develop clinical practice guidelines to assist primary care clinicians in the management of adolescent depression. This first part of the guidelines addresses identification, assessment, and initial management of adolescent depression in primary care settings.

METHODS. By using a combination of evidence- and consensus-based methodologies, guidelines were developed by an expert steering committee in 5 phases, as informed by (1) current scientific evidence (published and unpublished), (2) a series of focus groups, (3) a formal survey, (4) an expert consensus workshop, and (5) draft revision and iteration among members of the steering committee.

RESULTS. Guidelines were developed for youth aged 10 to 21 years and correspond to initial phases of adolescent depression management in primary care, including identification of at-risk youth, assessment and diagnosis, and initial management. The strength of each recommendation and its evidence base are summarized. The identification, assessment, and initial management section of the guidelines includes recommendations for (1) identification of depression in youth at high risk, (2) systematic assessment procedures using reliable depression scales, patient and caregiver interviews, and *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria, (3) patient and family psychoeducation, (4) establishing relevant links in the community, and (5) the establishment of a safety plan.

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

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Key Words

depression, primary care, guidelines

Abbreviations

PC—primary care

RCT—randomized, controlled, clinical trial
GLAD-PC—Guidelines for the Management of Adolescent Depression in Primary Care

MDD—major depressive disorder
DSM-IV—*Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*

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MAJOR DEPRESSION IN adolescents is recognized as a serious psychiatric illness with extensive acute and chronic morbidity and mortality.^{1,2} Research shows that only 50% of adolescents with depression are diagnosed before they reach adulthood.³ In primary care (PC), as many as 2 in 3 depressed youth are not identified by their PC clinicians and do not receive any kind of care.^{4,5} Even when diagnosed by PC physicians, only half of these patients are treated appropriately.³ Furthermore, rates of completion of specialty mental health referral for youth with a recognized emotional disorder from general medical settings are quite low (J. V. Campo, MD, written communication, 2006).

In view of the shortage of mental health clinicians and barriers to children having access to mental health professionals, the well-documented need for PC clinicians to learn how to manage this condition, the increasing evidence base available to guide clinical practice, increased selective serotonin reuptake inhibitor–prescribing rates in pediatric PC,^{6,7} and new evidence that a multifaceted approach with mental health consultation may improve the management of depression in PC settings,^{8–11} guidelines may be a necessary first step in the identification and management of depression in adolescents in PC. Unfortunately, no depression-management guidelines have been developed for use in the PC setting in the United States or Canada.

Although additional randomized, controlled, clinical trial (RCT) information is urgently needed to guide PC clinicians in optimal management approaches, such studies often take years to complete, and many critical PC adolescent depression-management questions have not been, and will likely never be, addressed in completed or ongoing studies. To address this gap and meet the needs of PC clinicians and families who are on the “front lines” with few mental health resources available, this report and its companion article¹² constitute the first-ever evidence- and expert consensus–derived guidelines to guide PC clinicians’ management of adolescent depression. These guidelines are also accompanied by a toolkit (available at no cost for download at www.glad-pc.org; see Appendix).

Over the last 3 years, 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, New York District II and New York Chapters 1 through 3 of the American Academy of Pediatrics and, more recently, the 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 the Management of Adolescent Depression in Primary Care (GLAD-PC). These guidelines are based on available research and consensus of experts in depression and in PC.

In this article, we present the summary result of literature reviews of the available data and the recommendations on the identification and assessment of depression in PC settings; in our accompanying report,¹² we present the results of the reviews and recommendations on treatment (psychotherapy, psychopharmacology, and pediatric counseling) and ongoing management. Although very few studies have addressed adolescent depression identification and management in PC settings, many PC clinicians are already attempting to change their clinical practices; thus, a great need exists to develop and disseminate methods and tools for assisting PC clinicians in managing adolescent depression.

Major depressive disorder (MDD) is a specific diagnosis described in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*,¹³ which includes symptoms of low mood, anhedonia, and other neurovegetative symptoms (ie, insomnia, decreased concentration, low energy, etc). Other types of depression exist, including dysthymia, subthreshold forms, or those that occur as part of bipolar disorder or other mental illness. Although the evidence for the psychopharmacology recommendations in the accompanying article¹² focus 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-IV depression criteria include 9 specific symptoms that have been shown to cluster together, run in families, and have a genetic basis,^{14–18} 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, based on the validation criteria for all psychiatric diagnoses.¹⁴ According to the DSM-IV, severity of depressive disorders can be based on symptom count. This commonly used method to define depression severity has been used in large population-based studies¹⁹ 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 in standardized depression scales with shorter duration of symptoms or meeting minimal criteria for depression. Following the DSM-IV, 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 to be severe if a patient experiences all of the depressive symptoms listed in the DSM-IV. 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-IV–defined symptoms of depression are present, for the purposes of these guidelines, an adolescent who meets at

least 5 criteria for the diagnosis of MDD should be considered to be in the severe category if he or she presents with a specific suicide plan, clear intent, or recent attempt; psychotic symptoms; 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 depressed youth in their practice settings. Although the age range of 10 to 21 years may encompass preteens, adolescents, and young adults in specific instances, this age range was chosen to include those who might be 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. However, a primary caregiver faced with an adolescent between the ages of 18 and 21 can choose to use either adult or adolescent depression guidelines on the basis of the developmental status of the adolescent and their own comfort and familiarity with each set of guidelines.

METHODS

The following recommendations were developed on the basis of a synthesis of expert consensus- and evidence-based research-review methodologies. We compiled the necessary information to develop these recommendations in 5 phases.

1. To understand the problems and obstacles faced by PC clinicians regarding the management of adolescent depression, we first conducted focus groups with PC clinicians and youth patients and their family members to review issues pertinent to the PC management of depression.
2. Systematic literature reviews were conducted in each of 5 key areas in which recommendations were subsequently developed. Whenever possible, these reviews focused on identifying empirical evidence that was developed within child/adolescent PC settings. When PC studies were unavailable, research from specialty mental health care was reviewed. In all 5 review instances, the GLAD-PC Steering Group first determined the existence of all high-quality, previously published, systematic evidence-based reviews that met the following criteria: (a) clear definition of search terms from Medline, including words and word roots; (b) explicit delineation of years searched; (c) exclusion of non-English-language studies; (d) physical review and reading of search-identified titles and abstracts; and (e) selection, review, and reading of possibly relevant articles before determination of final inclusion. When more than 1 systematic evidence-based review was identified for a given area, all reviews were drawn on to identify relevant articles for potential inclusion. More than 1 systematic evidence-based review was available for the areas of efficacy of psychotherapeutic interventions for youth MDD and efficacy of pharmacologic treatments for youth MDD. For all reviews, when appropriate, we updated the review for any ensuing years transpired since the latest review by using these same 5 methods. When systematic reviews were not available for a given area, the GLAD-PC team conducted a systematic review by using Medline (from inception to 2004/2005) and the criteria described above. Reviews were guided by members of the GLAD-PC Steering Committee, which comprised leading experts in each of these areas.

To address the first key area regarding the identification and assessment of adolescent depression in PC, a systematic evidence review was conducted to identify all available evidence about adolescent depression identification in PC, as well as information regarding current practices. This review has since been published.²⁰ Because of limited information about depression assessment and screening measures in PC specifically, we also reviewed adolescent-screening instruments/tools previously used in psychiatric or community populations. Beginning from 2 previous systematic evidence reviews,^{21,22} the GLAD-PC team performed an additional systematic review from 1998 to 2004.

To address the second key area regarding the initial management of adolescent depression in PC, a systematic evidence review was conducted to identify all available evidence about interventions for adolescent depression in PC and has since been published as well.²³ Other evidence for the initial management of adolescent depression in PC came from systematic evidence reviews that addressed the chronic illness model, systems of care, and safety planning for suicidal patients.

3. On the basis of the questions and issues identified during the focus groups and the literature reviews, we developed a survey to answer questions regarding critical issues in PC management of adolescent depression that have not been answered in the empirical literature. The survey questions were developed and reviewed by clinical and research experts in the area of mental health and PC. Using this survey, research and clinical experts were surveyed on their depression assessment and management recommendations. Depression clinical/research experts ($N = 81$) from Canada and the United States were asked to complete the 34-item study survey. Of these items, 3 questions dealt with the identification and diagnosis of depression. Subjects were chosen by using 1 of 4 criteria: (a) membership in child and adolescent psychiatric organizations in Canada and the United States including their academies of child and adoles-

cent psychiatry; (b) recipient of federal grants for related research; (c) lead author of at least 2 articles on clinical research in the area from 1999 to 2004 on the basis of Medline citations; or (d) key PC clinical and research leader with expertise in the area of guideline development and/or emotional and behavioral disorders that present in PC settings. Complete survey results ($n = 76$) will be presented in a subsequent peer-reviewed article and are available from the authors on request.²⁴

4. An expert consensus workshop was held in July 2004 with 81 North American experts on depression, clinical pediatrics, quality improvement, mental health policy, and health economics. Published data from the literature review, unpublished high-quality research currently in process of publication, and the results of the survey were presented to guide the initial discussion and consensus process.
5. Guidelines were developed on the basis of multiple iterations shared among a small group of core writers, guidance of the larger steering committee, and ultimate input of all consensus-conference attendees to obtain full ownership of the final product. The results of this process are presented below.

On the basis of the 5-step method, 2 guidelines were developed to address different areas of adolescent depression management in PC settings: (1) identification, assessment, and initial management and (2) treatment and ongoing management. This part of the guidelines focuses on identification, assessment, and initial management. Each section of both guidelines is composed of individual recommendations followed by a brief rationale that refers to available empirical findings and experts' consensus opinion on which the recommendations were based. Each recommendation is graded on the basis of the Oxford Centre for Evidence-Based Medicine grade of evidence (A–D) system (see www.cebm.net/levels_of_evidence.asp). In addition, the strength of each recommendation, in terms of the extent to which experts agreed that the recommendation is highly appropriate and a "first-line" practice, was reached for each recommendation. Recommendation strength 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 "strong agreement" among experts.

RESULTS

Literature Reviews: Identification and Assessment

Twenty-five articles were located that discussed specific identification methods for adolescent depression in pediatric PC. Only 10 of these articles presented psychometric data of any kind, such as sensitivity, specificity,

positive predictive value, negative predictive value, and area under the curve (a full table is available in the published review²⁰). One of the 25, plus an additional 5 survey articles, dealt with current identification practices by PC physicians. According to those data, most PC clinicians rely on the use of presenting complaints and family concerns to identify depressed youth.²⁵ Likewise, other surveys confirmed that very few pediatric providers have instituted a systematic assessment or case-finding tool to identify adolescent depression.^{26,27}

Despite clinicians' principal reliance on adolescent and parental chief complaints and physician interview in current practice, the authors of the review found that the use of these methods alone underidentify adolescent depression.²⁰ Even physicians who are trained in the use of mnemonics to guide interviews underidentify adolescent depression.²⁸ Instead, only by asking patients directly about depression and suicide (versus relying on them to volunteer the information) does one reliably improve case finding and the psychometric quality of diagnostic data.^{29–32} Using systematic assessment methods with depression-specific questions seems to provide the best identification results.^{27–29,33}

Many steps are involved in implementing systematic depression-identification procedures within a busy practice setting (eg, training office staff in the use of procedures, adjusting other paperwork demands to fit the depression-identification procedures, ensuring that providers review the information, teaching providers how to use the information, and determining whether the procedures actually benefit youth). Although no study has documented the feasibility and outcomes of taking all of these steps within a single study, evidence from the review cited above as well as a recently published pilot study,³⁴ suggests that each of these steps can be implemented in real-world settings (ie, training office staff^{27,28,30,33–37}, ensuring PC providers review any results^{27,28,32–34,37}, and establishing that appropriate counseling and/or needed mental health referrals are made^{33,39}). Finally, and perhaps most importantly, although no study compared outcomes between screened and not-screened groups, 1 study did demonstrate that an identification program in PC when combined with high-quality depression treatment actually yields better outcomes than treatment-as-usual conditions⁸ (when no high-quality depression treatment is available).

Because of limited information about depression assessment and screening measures in PC specifically, we also reviewed adolescent-screening instruments/tools previously used in psychiatric or community populations. Beginning from 2 previous systematic evidence reviews,^{21,22} the GLAD-PC team performed an additional systematic review for the years 1998–2004 and found 15 studies with psychometric performance data on depression instruments in English-speaking adolescents. A table that presents these 15 studies, the gold-standard

diagnostic assessment used, sensitivity, specificity, positive predictive value, negative predictive value, prevalence, and study population is available on request. Commonly used adolescent-screening instruments included the Beck Depression Inventory,⁴⁰ the Reynolds Adolescent Depression Screen,⁴¹ and the Mood and Feelings Questionnaire.⁴² Sensitivities of these more common instruments ranged from .70 to .90, and specificities ranged from .39 to .90. In addition, the Kutcher Adolescent Depression Scale, a newer 6-item instrument, had sensitivity and specificity of .81 and .86, respectively, in a school population with a positive predictive value of .39 and a negative predictive value of .98 given a 10% prevalence.⁴³

In summary, no perfect depression screening/assessment tool exists, but a number of adolescent depression assessment instruments do possess adequate psychometric properties to commend their use in depression detection and assessment. Thus, it is reasonable to expect that depression detection in PC can be improved by the use of self- or parent-report checklists. Reliance on adolescent self-report depression checklists alone will lead to substantial numbers of false-positive and false-negative cases. 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) and reconciles discrepant information to arrive at an accurate diagnosis and impairment assessment before treatment. For more information about rating scales and cutoff scores, please refer to the GLAD-PC toolkit (available at www.glad-pc.org; see Appendix).

Initial Management of Adolescent Depression

A GLAD-PC review of adolescent depression interventions performed in PC²³ found 4 articles that directly discussed interventions for adolescent depression in PC, only 1 of which reported an intervention by a PC staff member as opposed to a mental health worker.⁴⁴ This identified RCT⁴⁴ evaluated the effectiveness of a PC-delivered consultation intervention that invited teens from 8 general practices in Britain to discuss their health concerns with a PC nurse who provided individual consultations. In addition to discussing adolescents' general health concerns, the PC nurses offered mental health referrals when they deemed it appropriate. Posthoc analyses indicated that among teens with high Center for Epidemiological Studies Depression Scale for Children (CES-DC) scores, those who were randomly assigned to the PC nurse consultation had lower CES-DC scores on follow-up than adolescents with high CES-DC scores who were not randomly assigned to the consultation, which suggests that a PC-delivered intervention may be useful in addressing depression symptoms and/or similar emotional issues (because these patients were not diag-

nosed with a depressive disorder per se), perhaps by the consultation itself or by the resulting referral to mental health.

Although the study discussed above was the only one that dealt with an intervention by a PC provider for adolescent depression, the large multisite trial conducted by Asarnow et al⁸ showed that improving links between PC and mental health will result in better outcomes for depressed adolescents who present in PC.

In addition, on behalf of the GLAD-PC team, Stein et al²³ reviewed the literature on psychosocial interventions for anticipatory guidance. No RCTs or evidence-based reviews were found.²³ Citing earlier literature reviews in the area of injury prevention⁴⁵ and anticipatory guidance⁴⁶; Stein et al²³ 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 al²³ involved psychosocial interventions for improved adherence. An evidence review by Lemanek et al⁴⁷ on asthma adherence suggested that some educational and behavioral strategies are "probably efficacious" in creating change. In addition, a study that used cognitive behavioral strategies suggested that diabetic adherence can also be improved.⁴⁷

In addition, our team searched the Cochrane database for systematic reviews of all types of interventions implemented in the adherence arena. These reviews⁴⁸⁻⁵⁰ suggested that only complex, multifaceted approaches that included 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. These complex models have also moved beyond the somewhat paternalistic traditional model to a model of shared decision-making between the provider and patient.⁵¹ However, improvements in treatment outcomes remain small even with these complex and resource-intensive interventions.⁴⁹ In the pediatric literature, research regarding adherence commonly involved interventions that targeted both patients and their families.⁵² Several key components have been identified that may improve compliance/adherence, including patient self-management/monitoring, patient/family education/support, and the setting and documentation of achievement of management goals.^{53,54} 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.^{53,54} However, current research evidence suggests that more complex interventions that include shared decision-making between provider and patient are likely to have the greatest impact on both adherence and treatment outcomes. This kind of coordinated care has been designated the PC medical home and is discussed further in this section.⁵⁵

Factors that pertain to the linkages between/among organizations have been studied as well. For example, the concept of “system of care” was first described in 1986 in a monograph by Stroul and Friedman⁵⁶ and used to support the Children and Adolescent Service System Program; their monograph outlined the ideal model for an integrated system of care for children and youth with severe emotional disturbances. Over the last 2 decades, numerous examples of comprehensive, coordinated, community-based systems of care have been implemented and evaluated.^{57–60} Most of them showed no improvement in patient outcomes but significant improvement in other areas such as patient/family satisfaction, decreased wait time, and more appropriate care.^{57–60}

In the chronic care medical literature, PC professionals have been encouraged to provide a medical home for their patients with chronic conditions. In effect, professionals are expected to remain accessible to patients and families through periods of quiescence and medical crises, coordinate care with other health care professionals, advocate with third-party payers, and provide continuity of care to prevent long-term consequences of chronic illnesses.^{61–63} A review of the evidence for the medical home was conducted by Cooley,⁵⁵ who found that although no studies of the outcomes of the broad application of the medical home exist, some evidence exists for positive outcomes for different aspects of the concept. Again, no RCTs exist that we could find. In 1 study, children without a medical home were twice as likely to delay or forego needed care and to have unmet health care service needs.⁶⁴ Two other reviews focused on the impact of coordination of care and continuity of care.^{65,66} As a recent vaccination study demonstrated, just having a medical home available to a patient does not necessarily mean that the patient will make full use of the available services.⁶⁷ Thus, as outlined in a recent American Academy of Pediatrics policy statement,⁶⁸ the medical home must provide care coordination and help patients to make use of available resources.

Although the “system of care” focuses on the overall coordination of care involving many agencies that are involved in the care of youth (child welfare services, schools, etc), a crucial link in that system and for adolescent depression is that between mental health and PC. Currently, no specific literature addresses the issue of referral to specialty care of adolescent patients with depression (such as which subgroups of patients would benefit from referral to mental health professionals). Studies have been conducted with adults with depression that demonstrate that increased collaborative care between mental health and PC professionals is needed to improve the care of patients with depression in PC.^{11,69–71} The adult literature shows the importance of a close working relationship between mental health specialists and PC clinicians in the PC setting.^{11,69} Different models of collaboration have been shown to be effective in the

adult depression literature, including the use of case managers in PC practices and consultation by on-site mental health clinicians. Other models include shared care and telephone consultation on an ad hoc basis. Although these models suggest improved outcomes for both clinicians and patients, there are significant barriers to the successful implementation of these collaborative models, including funding deficiencies and shortage of mental health providers. Financial and other incentives for both PC and mental health clinicians to develop these models and obtain the training needed to function within these models are essential. Increased development of skills needed for collaborative care and training in mental health may also be addressed at earlier stages of training such as during residency for both PC and mental health clinicians.

Safety Planning

Safety planning with depressed suicidal or potentially suicidal adolescent patients usually consists of instructing the family to remove lethal means, instructing the family to monitor for risk factors for suicide, engaging the potentially suicidal adolescent in his or her treatment, providing adolescents with mutually agreeable and available emergency contacts should they find themselves with increasing suicidality, and establishing clear follow-up. Our review of the literature found no trials that have studied the impact of or how to conduct any of these aspects of safety planning with depressed adolescents. No studies have examined the benefits or risks of a safety contract. Some studies have suggested that limiting access to firearms or other lethal means can decrease suicide by those methods,^{72–75} 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. In addition, a study by Brent et al⁷⁶ found that families of depressed adolescents are frequently noncompliant with recommendations to remove firearms from the house. Yet, a small prospective follow-up of patients seen in an emergency department for mental health concerns found that the majority of families removed or secured lethal means (firearms, alcohol, prescription medications, and over-the-counter medications) after injury-prevention education in the emergency department, whereas no families who did not receive injury-prevention education did so.⁷⁶ Some limited evidence suggests that quick and consistent follow-up with a team approach will be most helpful in increasing compliance and engagement among suicidal patients.^{78,79}

GUIDELINES

Identification

Recommendation 1: Patients with depression risk factors (such as history of previous episodes, family history, other psychiatric

disorders, substance abuse, trauma, psychosocial adversity, etc) should be identified (grade of evidence: C; strength of recommendation: very strong) and systematically monitored over time for the development of a depressive disorder (grade of evidence: C; strength of recommendation: very strong).

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 they present in PC settings, and only 50% of depressed adolescents are diagnosed before reaching adulthood.^{3,25} 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. For those at known increased risk for depression, PC clinicians should use systematic, effective identification strategies. Risk factors that clinicians may use to identify those who are at high risk for depression include a personal history and/or family history of (1) depression, (2) bipolar disorder, (3) suicide-related behaviors, (4) substance abuse, and (5) other psychiatric illness, or (6) significant psychosocial stressors such as family crises, physical and sexual abuse and neglect, and other trauma history. Research evidence shows that patients who present with such risk factors are likely to experience future depressive episodes.^{17,80-86} Patients who have been treated for depression or suicidality in the past should continue to be monitored. PC clinicians should systematically evaluate adolescents at high risk for depression during health care visits (ie, well-child visits, urgent care visits). This systematic assessment should take place at least once a year, but frequent somatizers may need to be assessed more often.

Identification methods of youth at high risk may involve tools such as standardized written instruments, either generalized (eg, Guidelines for Adolescent Preventive Services and Strength and Difficulties Questionnaire) or specific emotional symptom checklists (eg, Beck Depression Inventory, Kutcher Adolescent Depression Scale). Although mnemonic-based interviews (eg, HEADSS: home, education/employment, activities, drugs, sexuality, suicide/depression) may also be used routinely during visits to guide the direct interview, systematic and scheduled use of psychometrically reliable and practical methods such as brief symptom checklists or validated depression scales are a preferred adjunct.

Assessment/Diagnosis

Recommendation 1: PC clinicians should evaluate for depression in adolescents at high risk as well as those who present with emotional problems as the chief complaint (grade of evidence: B; strength of recommendation: very strong). Clinicians should assess for depressive symptoms on the basis of diagnostic criteria established in the DSM-IV or International

Classification of Diseases, 10th Revision (grade of evidence: B; strength of recommendation: very strong) and should use standardized depression tools to aid in the assessment (grade of evidence: A; strength of recommendation: very strong).

PC clinicians should probe for the presence of any of several depressive disorders, including MDD, dysthymia, and depression not otherwise specified by using systematic, rigorous assessment methods. Standardized instruments should be used to help with diagnosis but should not replace direct interview by the clinician.⁸⁷⁻⁸⁹ 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 symptoms may include insomnia, weight loss, decline in academic functioning, family conflict, and other symptoms of depressive disorders.⁹⁰ The *Diagnostic and Statistical Manual for Primary Care*⁹¹ can help PC clinicians distinguish between transient depressive responses and depressive disorders.

Recommendation 2: Assessment for depression should include direct interviews with the patients and families/caregivers (grade of evidence: B; strength of recommendation: very strong) and should include the assessment of functional impairment in different domains (grade of evidence: B; strength of recommendation: very strong) and other existing psychiatric conditions (grade of evidence: B; strength of recommendation: very strong).

Evidence of the core symptoms of depression and functional impairment should be obtained from the youth and from families/caregivers separately.⁹²⁻⁹⁴ The involvement of the family is critical in all phases of management and should be included in the assessment for depressive disorders. Family relationships also may affect the presentation of depression in adolescents. Cultural background of the patients and their families also must be considered during the assessment, because it can affect the presentation of core symptoms.⁹⁵ Collateral information from other sources (such as 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.^{2,17,96,97} These comorbidities may include 1 or more of the following conditions: substance abuse, anxiety disorder, attention-deficit/hyperactivity disorder, bipolar disorder, physical abuse, sexual abuse, and trauma. Instruments that assess for a range of common comorbid mental health conditions should be considered also. Clinicians should also assess for impairment in key areas of functioning including school, home, and peer settings.⁹⁸ Subjective distress should be assessed also. Regardless of the diagnostic impression or any additional treatment plans, a safety assessment must be completed by the clinician (see recommendation 4 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: C; strength of recommendation: very strong). Clinicians should also discuss limits of confidentiality with the adolescent and family (grade of evidence: D; strength of recommendation: very strong).

Management should be based on a plan 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.^{23,99–101} Information should be provided at a developmentally appropriate level, 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 clinician to develop an effective and achievable treatment plan. To establish a strong therapeutic alliance, the clinician should also take into account cultural factors that may affect the diagnosis and management of this disorder.⁹⁵ Clinicians should also be aware of the negative reactions of family members to a possible diagnosis of depression in the teen (ie, sadness, anger, denial). Sample materials are available in the GLAD-PC toolkit 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 (extracurricular activities). Confidentiality must also be discussed with the adolescent and his or her family. Adolescents and their 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 (eg, see www.advocatesforyouth.org/publications/iag/confhlth.htm for additional information).

Recommendation 2: Clinicians should develop a treatment plan with patients and families (grade of evidence: C; strength of recommendation: very strong) and set specific treatment goals in key areas of functioning, including home, peer, and school settings (grade of evidence: D; 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 produced evidence for improved outcomes.¹⁰² If a patient presents with moderate-to-severe depression or has persistent depressive symptoms, treatment goals and outcomes should be identified and agreed upon, based on close collaboration with the pa-

tient 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 seems most effective when implemented through designated case managers who monitor patients' clinical status and treatment-plan adherence.⁹ The benefits of such programs may be enhanced through the use of electronic medical charts and the development of patient registries.

Recommendation 3: The PC clinician should establish relevant links/collaboration with mental health resources in the community (grade of evidence: B; strength of recommendation: very strong), which may include patients and families who have dealt with adolescent depression and are willing to serve as resources to other affected adolescents and their family members (grade of evidence: D; strength of recommendation: very strong).

A major gap in the management of chronic disorders in young people is the lack of linkages between relevant services that make up the system of care for an individual youth.¹⁰³ Furthermore, family-based interventions have been shown to help youth with mental illness.¹⁰⁴ Therefore, establishing relevant links/collaboration with mental health resources in the local community, including peer support groups, advocacy groups, and traditional community- or hospital-based mental health services whenever these services are available, is essential to ensure timely and effective access to needed services.^{8,105} Such linkages may include prearranged agreement regarding referral, exchange of clinical information, points of contact, etc. Where appropriate (eg, rural areas), clinicians should also establish links with paraprofessionals who may provide the bulk of counseling and supportive services in underserved areas.

Recommendation 4: All management must 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 highest (grade of evidence: C; strength of recommendation: very strong).

Suicidality, including ideation, behaviors, or attempts, is common among adolescents with depression. In studies of completed suicide, more than 50% of the victims had a diagnosis of depression.¹⁰⁶ Therefore, clinicians who manage this disorder must develop an emergency communication mechanism for handling increased suicidality or acute crises. After assessing a suicidal patient for suicidality, the clinician must obtain information from a third party, assess that adequate adult supervision and support are available, have an adult agree to help remove lethal medications and firearms from the premises, warn the patient of the disin-

hibiting effects of drugs and alcohol, put contingency planning in place, and establish follow-up within a reasonable period of time.^{72,107} This plan should be developed with adolescents (and with their families/caregivers if possible) and should include a list of persons/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 highest. Clinicians may also work with schools to develop an emergency plan for all students who may experience an acute suicidal crisis. This global approach may prevent, in some instances, having to label a specific child 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.

DISCUSSION

Although not definitive and subject to modification on the basis of ongoing accumulation of additional evidence, this part of the guidelines is intended to address the lack of recommendations regarding the 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 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, our review suggests that these components of the identification and initial management of adolescent depression in PC can be done. The recommendations were developed on the basis of areas that had at least "strong agreement" among experts. However, there were other controversial areas that were not addressed in these recommendations, such as universal screening. New emerging evidence may affect the inclusion of such areas in future iterations of these guidelines and the accompanying toolkit.

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.¹⁰⁸ This caution notwithstanding, the increasingly prevailing recommendation is that as a min-

imum, PC clinicians should be provided the necessary guidance to support their initial management of adolescent depression.^{109,110} 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 electronic medical charts, tracking systems, and access to specialty mental health back-up and consultation will be most "ready" and able to fully implement the guidelines. The second part of the guidelines, the companion article,¹² addresses the treatment of this disorder. Practices that do identify adolescent depression and have nowhere to refer the patients 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 with clinicians, families and patients, and the experience of members of the GLAD-PC Steering Committee. Specifically, PC clinicians who manage adolescent depression should pursue (1) additional education regarding issues such as advances in screening, diagnosis, treatment, and follow-up, liability, consent, confidentiality, and billing, (2) practice and systems changes such as office staff training and "buy-in," electronic medical charts, 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 clinician and facilitate consultation/referral of difficult cases. Practice and systems changes are useful in increasing clinicians' capacity to ensure 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 teens with depression. These materials are available in the GLAD-PC toolkit (available at www.glad-pc.org). The toolkit 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 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 must include assessment and coordination of care for both physical and behavioral health. This first part of the guidelines for adolescent depression in PC may enable providers to pull together the current best evidence and attempt to initiate the best available high-quality care, even in instances in which they are not in a position to treat such youth. Mounting evidence suggests that pediatric providers can and should identify and coordinate depression care for their adolescent population.

APPENDIX: PART I TOOLKIT ITEMS

- Screening/assessment instruments (ie, Columbia Depression Scale)
- Information sheet on the developmental considerations in the diagnosis of depression
- Assessment algorithm/flow sheet (Fig 1)
- Fact sheet/family educational materials
- Educational materials on suicide prevention/safety planning

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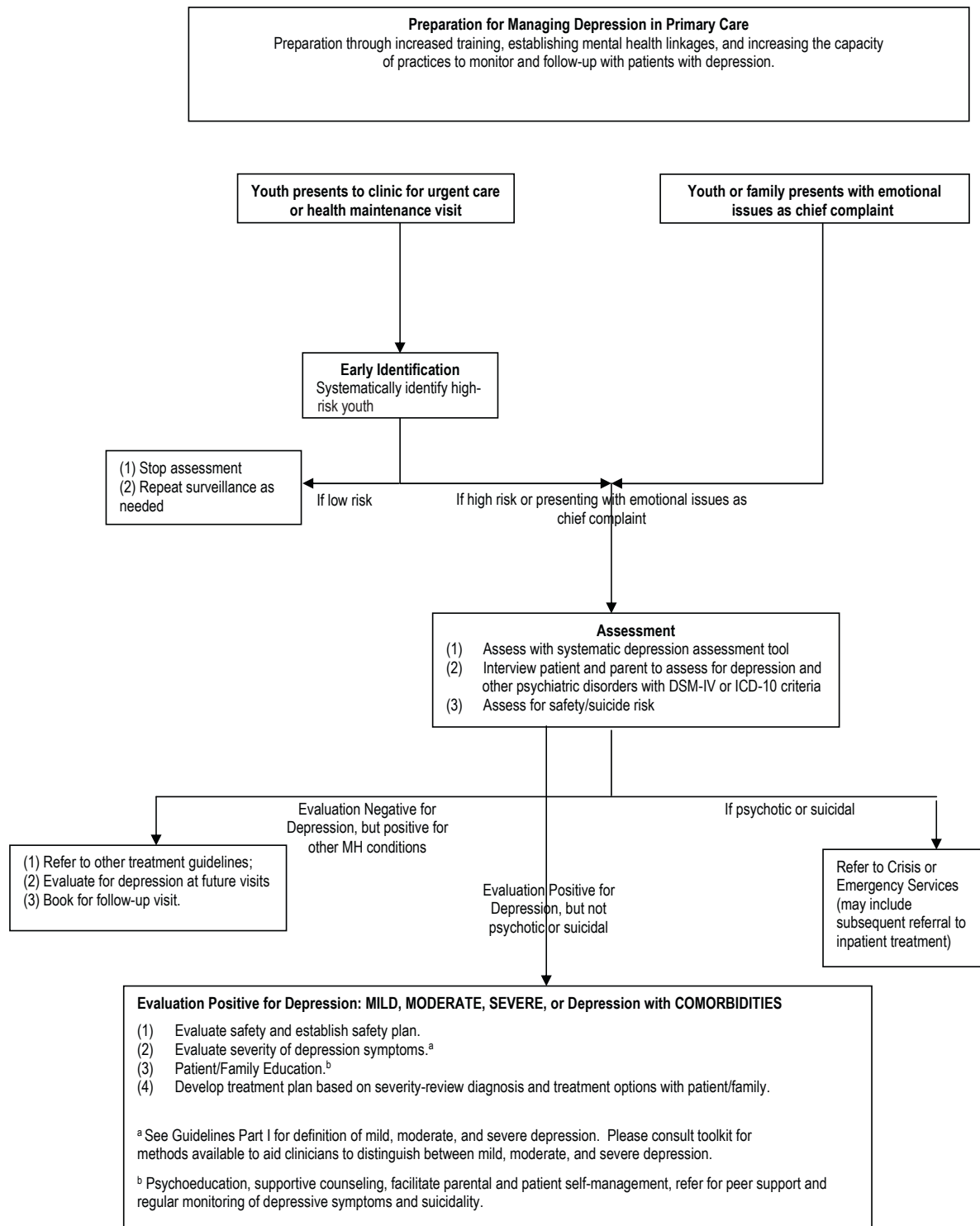


FIGURE 1
Clinical assessment flowchart.

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REFERENCES

- Fleming JE, Offord DR, Boyle MHP. Relevance of childhood and adolescent depression in the community. Ontario Child Health Study. *Br J Psychiatry*. 1989;155:647–654
- American Academy of Child and Adolescent Psychiatry. Practice parameters for the assessment and treatment of children and adolescents with depressive disorders. *J Am Acad Child Adolesc Psychiatry*. 1998;37(10 suppl):63S–83S
- Kessler RC, Avenevoli S, Ries Merikangas K. Mood disorders in children and adolescents: an epidemiologic perspective. *Biol Psychiatry*. 2001;49:1002–1014
- Burns BJ, Costello EJ, Angold A, et al. Children's mental health service use across service sectors. *Health Aff (Millwood)*. 1995;14:147–159
- Leaf PJ, Alegria M, Cohen P, et al. Mental health service use in the community and schools: results from the four-community MECA study—methods for the epidemiology of child and adolescent mental disorders study. *J Am Acad Child Adolesc Psychiatry*. 1996;35:889–897
- Rushon JL, Clark SJ, Freed GL. Pediatrician and family physician prescription of selective serotonin reuptake inhibitors. *Pediatrics*. 2000;105(6). Available at: www.pediatrics.org/cgi/content/full/105/6/e82
- Zito JM, Safer DJ, DosReis S, et al. Rising prevalence of antidepressants among US youths. *Pediatrics*. 2002;109:721–727
- Asarnow JR, Jaycox LH, Duan N, et al. Effectiveness of a quality improvement intervention for adolescent depression in primary care clinics: a randomized controlled trial. *JAMA*. 2005;293:311–319
- Gilbody S, Whitty P, Grimshaw J, Thomas R. Educational and organizational interventions to improve the management of depression in primary care: a systematic review. *JAMA*. 2003;289:3145–3151
- Scott J, Thorne A, Horn P. Quality improvement report: effect of a multifaceted approach to detecting and managing depression in primary care. *BMJ*. 2002;325:951–954
- Wells KB, Sherbourne C, Schoenbaum M, et al. Impact of disseminating quality improvement programs for depression in managed primary care: a randomized controlled trial [published correction appears in *JAMA*. 2000;283:3204]. *JAMA*. 2000;283:212–220
- Cheung A, Zuckerbrot RA, Jensen PS, et al. Guidelines for Adolescent Depression in Primary Care (GLAD-PC): part II—treatment and ongoing management. *Pediatrics*. 2007;120(5). Available at: www.pediatrics.org/cgi/content/full/120/5/e1313
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. 4th ed. Washington, DC: American Psychiatric Association; 1994
- Robins E, Guze SB. Establishment of diagnostic validity in psychiatric illness: its application to schizophrenia. *Am J Psychiatry*. 1970;126:983–987
- Feighner JP, Robins E, Guze SB, Woodruff RA Jr, Winokur G, Munoz R. Diagnostic criteria for use in psychiatric research. *Arch Gen Psychiatry*. 1972;26:57–63
- Lewinsohn PM, Essau CA. Depression in adolescents. In: Gotlib IH, Hammen CL, eds. *Handbook of Depression*. 8th ed. New York, NY: Guilford Press; 2002:541–559
- Costello EJ, Mustillo S, Erkanli A, Keeler G, Angold A. Prevalence and development of psychiatric disorders in childhood and adolescence. *Arch Gen Psychiatry*. 2003;60:837–844
- Keller MB, Klein DN, Hirschfeld RM, et al. Results of the DSM-IV mood disorders field trial. *Am J Psychiatry*. 1995;152:843–849
- Cuijpers P, de Graaf R, van Dorsselaer S. Minor depression: risk profiles, functional disability, health care use and risk of developing major depression. *J Affect Disord*. 2004;79:71–79
- Zuckerbrot RA, Jensen PS. Improving recognition of adolescent depression in primary care. *Arch Pediatr Adolesc Med*. 2006;160:694–704
- Pignone M, Gaynes BN, Rushton JL, et al. HSTAT: *Guide to Clinical Preventive Services*. 3rd ed. Research Triangle Park, NC: Research Triangle Institute. Available at: www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat3.chapter. 1996. Accessed September 10, 2007
- Brooks SJ, Kutcher S. Diagnosis and measurement of adolescent depression: a review of commonly used instruments. *J Child Adolesc Psychopharmacol*. 2001;11:341–376
- Stein REK, Zitner LE, Jensen PS. Interventions for adolescent depression in primary care. *Pediatrics*. 2006;118:669–682
- Cheung AH, Zuckerbrot RA, Jensen PS, Stein RK, Laraque D; GLAD-PC Steering Committee. Expert survey for the management of adolescent depression in primary care. *Pediatrics*. In press
- Olson AL, Kelleher KJ, Kemper KJ, Zuckerman BS, Hammond CS, Dietrich AJ. Primary care pediatricians' roles and perceived responsibilities in the identification and management of depression in children and adolescents. *Ambul Pediatr*. 2001;1:91–98
- Halpern-Felsler BL, Ozer EM, Millstein SG, et al. Preventive services in a health maintenance organization: how well do pediatricians screen and educate adolescent patients? *Arch Pediatr Adolesc Med*. 2000;154:173–179
- Klein JD, Allan MJ, Elster AB, et al. Improving adolescent preventive care in community health centers. *Pediatrics*. 2001;107:318–327
- Schubiner H, Tzelepis A, Wright K, Podany E. The clinical utility of the Safe Times Questionnaire. *J Adolesc Health*. 1994;15:374–382
- Cappelli M, Clulow MK, Goodman JT, et al. Identifying depressed and suicidal adolescents in a teen health clinic. *J Adolesc Health*. 1995;16:64–70
- Joiner TE Jr, Pfaff JJ, Acres JG. A brief screening tool for suicidal symptoms in adolescents and young adults in general health settings: reliability and validity data from the Australian national general practice youth suicide prevention project. *Behav Res Ther*. 2002;40:471–481
- Yates P, Kramer T, Garralda E. Depressive symptoms among adolescent primary care attenders: levels and associations. *Soc Psychiatry Psychiatr Epidemiol*. 2004;39:588–594
- Smith MS, Mitchell J, McCauley EA, Calderon R. Screening

- for anxiety and depression in an adolescent clinic. *Pediatrics*. 1990;85:262–266
33. Schichor A, Bernstein B, King S. Self-reported depressive symptoms in inner-city adolescents seeking routine health care. *Adolescence*. 1994;29:379–388
 34. Zuckerbrot RA, Maxon L, Pagar D, Davies M, Fisher PW, Shaffer D. Adolescent depression screening in primary care: feasibility and acceptability. *Pediatrics*. 2007;119:101–108
 35. McKelvey RS, Davies LC, Pfaff JJ, Acres J, Edwards S. Psychological distress and suicidal ideation among 15–24-year-olds presenting to general practice: a pilot study. *Aust N Z J Psychiatry*. 1998;32:344–348
 36. McKelvey RS, Pfaff JJ, Acres JG. The relationship between chief complaints, psychological distress, and suicidal ideation in 15–24-year-old patients presenting to general practitioners. *Med J Aust*. 2001;175:550–552
 37. Pfaff JJ, Acres JG, McKelvey RS. Training general practitioners to recognize and respond to psychological distress and suicidal ideation in young people. *Med J Aust*. 2001;174:222–226
 38. Burns JJ, Cottrell L, Perkins K, et al. Depressive symptoms and health risk among rural adolescents. *Pediatrics*. 2004;113:1313–1320
 39. Smith PB, Buzi RS, Weinman ML. Mental health problems and symptoms among male adolescents attending a teen health clinic. *Adolescence*. 2001;36:323–332
 40. Beck AT, Steer RA. *Manual for the Beck Depression Inventory*. San Antonio, TX: Psychological Corporation; 1987
 41. Reynolds WM. *Reynolds Adolescent Depression Scale*. Lutz, FL: Psychological Assessment Resources; 1987
 42. Thapar A, McGuffin P. Validity of the shortened Mood and Feelings Questionnaire in a community sample of children and adolescents: a preliminary research note. *Psychiatry Res*. 1998;81:259–268
 43. LeBlanc JC, Almudevar A, Brooks SJ, Kutcher S. Screening for adolescent depression: comparison of the Kutcher Adolescent Depression Scale with the Beck Depression Inventory. *J Child Adolesc Psychopharmacol*. 2002;12:113–126
 44. Walker Z, Townsend J, Oakley L, et al. Health promotion for adolescents in primary care: randomised controlled trial. *BMJ*. 2002;325:524
 45. Bass JL, Christoffel KK, Widome M, et al. Childhood injury prevention counseling in primary care settings: a critical review of the literature. *Pediatrics*. 1993;92:544–550
 46. Nelson CS, Wissow LS, Cheng TL. Effectiveness of anticipatory guidance: recent developments. *Curr Opin Pediatr*. 2003;15:630–635
 47. Lemanek KL, Kamps J, Chung NB. Empirically supported treatments in pediatric psychology: regimen adherence. *J Pediatr Psychol*. 2001;26:253–275
 48. Haynes RB, McDonald H, Garg AX, Montague P. Interventions for helping patients to follow prescriptions for medications. *Cochrane Database Syst Rev*. 2002;(2):CD000011
 49. Haynes RB, Yao X, Degani A, Kripalani S, Garg A, McDonald HP. Interventions to enhance medication adherence. *Cochrane Database Syst Rev*. 2005;(4):CD000011
 50. Roter DL, Hall JA, Merisca R, Nordstrom B, Cretin D, Svarstad B. Effectiveness of interventions to improve patient compliance: a meta-analysis. *Med Care*. 1998;36:1138–1161
 51. Vermeire E, Hearnshaw H, Van Royen P, Denekens J. Patient adherence to treatment: three decades of research—a comprehensive review. *J Clin Pharm Ther*. 2001;26:331–342
 52. Blum RW. Compliance in the adolescent with chronic illness. *Semin Adolesc Med*. 1987;3:157–162
 53. La Greca AM. It's “all in the family”: responsibility for diabetes care. *J Pediatr Endocrinol Metab*. 1998;11(suppl 2):379–385
 54. La Greca AM, Bearman KJ. Commentary: if “an apple a day keeps the doctor away,” why is adherence so darn hard? *J Pediatr Psychol*. 2001;26:279–282
 55. Cooley WC. Redefining primary pediatric care for children with special health care needs: the primary care medical home. *Curr Opin Pediatr*. 2004;16:689–692
 56. Stroul BA, Friedman R, eds. *A System of Care for Children and Youth With Severe Emotional Disturbances*. Washington, DC: Georgetown University Child Development Center, CASSP, Technical Assistance Center; 1986
 57. Rosenblatt A, Attkisson CC, Fernandez AJ. Integrating systems of care in California for youth with severe emotional disturbance, II: initial group home expenditure and utilization findings from the California AB377 evaluation project. *J Child Fam Stud*. 1992;1:263–286
 58. Bickman L, Guthrie PR, Foster EM, et al. *Evaluating Managed Mental Health Services: The Fort Bragg Experiment*. Nashville, TN: Vanderbilt University; 1995
 59. Bickman L, Lambert EW, Summerfelt WT, Heflinger CA. Rejoinder to questions about the Fort Bragg evaluation. *J Child Fam Stud*. 1996;5:197–206
 60. Bickman L, Summerfelt WT, Noser K. Comparative outcomes of emotionally disturbed children and adolescents in a system of services and usual care. *Psychiatr Serv*. 1997;48:1543–1548
 61. American Academy of Pediatrics, Committee on Children With Disabilities. General principles in the care of children and adolescents with genetic disorders and other chronic health conditions. *Pediatrics*. 1997;99:643–644
 62. Asch-Goodkin J. Every child deserves a medical home. *Contemp Pediatr*. 1990;99:643–644
 63. American Academy of Pediatrics, Ad Hoc Task Force on Definition of the Medical Home. The medical home. *Pediatrics*. 1992;90:774
 64. Strickland B, McPherson M, Weissman G, van Dyck P, Huang ZJ, Newacheck P. Access to the medical home: results of the national survey of children with special health care needs. *Pediatrics*. 2004;113:1485–1492
 65. O'Malley AS. Current evidence on the impact of continuity of care. *Curr Opin Pediatr*. 2004;16:693–699
 66. Stille CJ, Antonelli RC. Coordination of care for children with special health care needs. *Curr Opin Pediatr*. 2004;16:700–705
 67. Smith PJ, Santoli JM, Chu SY, Ochoa DQ, Rodewald LE. The association between having a medical home and vaccination coverage among children eligible for the vaccines for children program. *Pediatrics*. 2005;116:130–139
 68. American Academy of Pediatrics, Council on Children With Disabilities. Care coordination in the medical home: integrating health and related systems of care for children with special health care needs. *Pediatrics*. 2005;116:1238–1244
 69. Unützer J, Rubenstein L, Katon WJ, et al. Two-year effects of quality improvement programs on medication management for depression. *Arch Gen Psychiatry*. 2001;58:935–942
 70. Katon W, Von Korff M, Lin E, et al. Stepped collaborative care for primary care patients with persistent symptoms of depression: a randomized trial. *Arch Gen Psychiatry*. 1999;56:1109–1115
 71. Schulberg HC, Katon WJ, Simon GE, Rush AJ. Best clinical practice: guidelines for managing major depression in primary medical care. *J Clin Psychiatry*. 1999;60(suppl 7):19–26; discussion 27–28
 72. Brent DA, Perper JA, Moritz G, Baugher M, Schweers J, Roth C. Firearms and adolescent suicide: a community case-control study. *Am J Dis Child*. 1993;147:1066–1071
 73. Brent D, Perper J, Allman C, Moritz G, Wartella M, Zelenak J. The presence and accessibility of firearms in the homes of adolescent suicides: a case-control study. *JAMA*. 1991;266:2989–2995
 74. Shah S, Hoffman RE, Wake L, Marine WM. Adolescent sui-

- cide and household access to firearms in Colorado: results of a case-control study. *J Adolesc Health*. 2000;26:157–163
75. Hawton K, Townsend E, Deeks J, et al. Effects of legislation restricting pack sizes of paracetamol and salicylate on self poisoning in the united kingdom: before and after study. *BMJ*. 2001;322:1203–1207
 76. Brent DA, Baugher M, Birmaher B, Kolko DJ, Bridge J. Compliance with recommendations to remove firearms in families participating in a clinical trial for adolescent depression. *J Am Acad Child Adolesc Psychiatry*. 2000;39:1220–1226
 77. Kruesi MJ, Grossman J, Pennington JM, Woodward PJ, Duda D, Hirsch JG. Suicide and violence prevention: parent education in the emergency department. *J Am Acad Child Adolesc Psychiatry*. 1999;38:250–255
 78. Brent DA. Assessment and treatment of the youthful suicidal patient. *Ann N Y Acad Sci*. 2001;932:106–128; discussion 128–131
 79. Stewart SE, Manion IG, Davidson S. Emergency management of the adolescent suicide attempter: a review of the literature. *J Adolesc Health*. 2002;30:312–325
 80. Fergusson DM, Horwood LJ, Lynskey MT. Maternal depressive symptoms and depressive symptoms in adolescents. *J Child Psychol Psychiatry*. 1995;36:1161–1178
 81. Fergusson DM, Horwood LJ, Lynskey MT. Childhood sexual abuse and psychiatric disorder in young adulthood: II. Psychiatric outcomes of childhood sexual abuse. *J Am Acad Child Adolesc Psychiatry*. 1996;35:1365–1374
 82. Fergusson DM, Woodward LJ, Horwood LJ. Risk factors and life processes associated with the onset of suicidal behavior during adolescence and early adulthood. *Psychol Med*. 2000;30:23–39
 83. Goodwin RD, Fergusson DM, Horwood LJ. Early anxious/withdrawn behaviors predict later internalising disorders. *J Child Psychol Psychiatry*. 2004;45:874–883
 84. Weissman MM, Wickramaratne P, Nomura Y, Warner V, Pilowsky D, Verdelli H. Offspring of depressed parents: 20 years later. *Am J Psychiatry*. 2006;163:1001–1008
 85. Weissman MM, Wickramaratne P, Nomura Y, et al. Families at high and low risk for depression: a 3-generation study. *Arch Gen Psychiatry*. 2005;62:29–36
 86. Nomura Y, Wickramaratne PJ, Warner V, Mufson L, Weissman MM. Family discord, parental depression, and psychopathology in offspring: ten-year follow-up. *J Am Acad Child Adolesc Psychiatry*. 2002;41:402–409
 87. Piacentini J, Shaffer D, Fisher P, Schwab-Stone M, Davies M, Gioia P. The Diagnostic Interview Schedule for Children-Revised Version (DISC-R): III. Concurrent criterion validity. *J Am Acad Child Adolesc Psychiatry*. 1993;32:658–665
 88. Cox A, Hopkinson K, Rutter M. Psychiatric interviewing techniques II: naturalistic study—eliciting factual information. *Br J Psychiatry*. 1981;138:283–291
 89. Cox A, Rutter M, Holbrook D. Psychiatric interviewing techniques V: experimental study—eliciting factual information. *Br J Psychiatry*. 1981;139:29–37
 90. Ryan ND, Puig-Antich J, Ambrosini P, et al. The clinical picture of major depression in children and adolescents. *Arch Gen Psychiatry*. 1987;44:854–861
 91. Wolraich M, Felice ME, Drotar D. *The Classification of Child and Adolescent Mental Diagnoses in Primary Care: Diagnostic and Statistical Manual for Primary Care (DSM-PC) Child and Adolescent Version*. Elk Grove, IL: American Academy of Pediatrics; 1996
 92. Costello EJ, Angold A, Burns BJ, et al. The great smoky mountains study of youth: goals, design, methods, and the prevalence of DSM-III-R disorders. *Arch Gen Psychiatry*. 1996;53:1129–1136
 93. Schwab-Stone ME, Shaffer D, Dulcan MK, et al. Criterion validity of the NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3). *J Am Acad Child Adolesc Psychiatry*. 1996;35:878–888
 94. Jensen PS, Rubio-Stipec M, Canino G, et al. Parent and child contributions to diagnosis of mental disorder: Are both informants always necessary? *J Am Acad Child Adolesc Psychiatry*. 1999;38:1569–1579
 95. Manson SM, Shore JH, Bloom JM. The depressive experience in American Indian communities: a challenge for psychiatric theory and diagnosis. In: Kleinman A, Good B, eds. *Culture and Depression*. Berkeley, CA: University of California Press; 1985:331
 96. Treatment for Adolescents With Depression Study (TADS) Team. The Treatment for Adolescents With Depression Study (TADS): demographic and clinical characteristics. *J Am Acad Child Adolesc Psychiatry*. 2005;44:28–40
 97. Kovacs M, Obrosky DS, Sherrill J. Developmental changes in the phenomenology of depression in girls compared with boys from childhood onward. *J Affect Disord*. 2003;74:33–48
 98. Curry J, Rohde P, Simons A, et al. Predictors and moderators of acute outcome in the Treatment for Adolescents With Depression Study (TADS). *J Am Acad Child Adolesc Psychiatry*. 2006;45:1427–1439
 99. Emslie GJ, Findling RL, Yeung PP, Kunz NR, Li Y, Durn BL. Efficacy and safety of venlafaxine ER in children and adolescents with major depressive disorder. Poster presented at: the American Psychiatric Association; Annual Meeting; May 1–6 2004; New York, NY
 100. Clarke GN, Rohde P, Lewinsohn PM, Hops H, Seeley JR. Cognitive-behavioral treatment of adolescent depression: efficacy of acute group treatment and booster sessions. *J Am Acad Child Adolesc Psychiatry*. 1999;38:272–279
 101. Mufson L, Dorta KP, Wickramaratne P, Nomura Y, Olfson M, Weissman MM. A randomized effectiveness trial of interpersonal psychotherapy for depressed adolescents. *Arch Gen Psychiatry*. 2004;61:577–584
 102. Bhogal S, Zemek R, Ducharme FM. Written action plans for asthma in children. *Cochrane Database Syst Rev*. 2006;(3): CD005306
 103. Stroul BA, Friedman RM. *A System of Care for Children and Youth With Severe Emotional Disturbances*. Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center
 104. Hoagwood KE. Family-based services in children's mental health: a research review and synthesis. *J Child Psychol Psychiatry*. 2005;46:690–713
 105. Heflinger CA, Sonnichsen SE, Brannan AM. Parent satisfaction with children's mental health services in a children's mental health managed care demonstration. *J Ment Health Adm*. 1996;23:69–79
 106. Shaffer D, Fisher P, Dulcan MK, et al. The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): description, acceptability, prevalence rates, and performance in the MECA Study. Methods for the Epidemiology of Child and Adolescent Mental Disorders Study. *J Am Acad Child Adolesc Psychiatry*. 1996;35:865–877
 107. American Academy of Child and Adolescent Psychiatry. Summary of the practice parameters for the assessment and treatment of children and adolescents with suicidal behavior. *J Am Acad Child Adolesc Psychiatry*. 2001;40:495–499
 108. Asarnow JR, Jaycox LH, Anderson M. Depression among youth in primary care models for delivering mental health services. *Child Adolesc Psychiatr Clin N Am*. 2002;11:477–497, viii
 109. Olin SC, Hoagwood K. The surgeon general's national action agenda on children's mental health. *Curr Psychiatry Rep*. 2002;4:101–107
 110. Coyle JT, Pine DS, Charney DS, et al. Depression and bipolar support alliance consensus statement on the unmet needs in diagnosis and treatment of mood disorders in children and adolescents. *J Am Acad Child Adolesc Psychiatry*. 2003;42:1494–1503

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