

APPROACHES TO RECOGNITION AND MANAGEMENT OF CHILDHOOD PSYCHIATRIC DISORDERS IN PEDIATRIC PRIMARY CARE

Linden J. Cassidy, MD and Michael S. Jellinek, MD

BACKGROUND

Psychosocial dysfunction in children, first recognized more than 20 years ago as the "new morbidity" in pediatric practice, is now the leading cause of disability in childhood and adolescence.^{15-17, 30} Epidemiologic research indicates that 14% to 20% of American children have one or more psychiatric disorders in the moderate to severe range,¹⁰ and the overall prevalence is rising.¹ As many as half of all pediatric office visits reflect behavioral, psychosocial, and educational concerns, and most children in the United States with a psychiatric disorder receive care only from their pediatricians, making primary care clinics the "de facto mental health service" for most children in need of such care.¹⁴ In addition, with the advent of managed care, pediatricians are increasingly becoming "gatekeepers" who identify and refer children with mental health problems.

Despite the growing prevalence of psychiatric illness in children, four out of five children with diagnosable behavioral and emotional problems are not identified by their pediatricians, and even fewer receive mental health services.¹⁴ Furthermore, children are more likely to be recognized and treated if their behavior upsets or annoys adults than if their psychiatric symptoms lead to school failure and poor functioning at home. Poor children are among the least likely to receive adequate mental health attention.⁴⁴ Numerous studies have shown that untreated mental health problems result in high rates of medical

From the Department of Psychiatry, Harvard Medical School (LJC, MSJ); the Child Psychiatry Service, Massachusetts General Hospital (LJC, MSJ); and the Child Psychiatry Service, McLean Hospital (LJC), Boston, Massachusetts

services²⁹ and place children at high risk for chronic psychosocial morbidity, including antisocial and self-injurious behavior.^{31, 33, 40}

Some obstacles to recognition by pediatricians are long-standing. Parents may be reluctant to raise psychosocial concerns, pediatricians may wish to avoid stigmatizing labels, pediatric training underemphasizes mental health and behavioral problems, and reimbursement for psychosocial services is low or unavailable for pediatricians. New hurdles have emerged as efforts to contain medical costs, such as managed care systems and capitation, have led to shortened office visits, larger panel sizes, constraints on referrals, and even disincentives to recognize children in need.²³

This introduction describes the most common psychiatric conditions presenting to pediatric clinics and discusses approaches to identification, assessment of severity, and treatment planning. Within treatment planning are highlighted guidelines for consulting a pediatric psychopharmacologist because medication is often an important feature of a comprehensive treatment plan.

COMMON CHILDHOOD PSYCHIATRIC DISORDERS

What are the major psychiatric disorders seen in pediatric practice? This discussion focuses on disorders with an overall prevalence among children of more than 2%—specifically, attention deficit-hyperactivity disorder (ADHD), anxiety disorders, major depression, substance-use disorders, and conduct disorder.

Attention-Deficit Hyperactivity Disorder

Attention-deficit hyperactivity disorder is well-known to pediatricians and is probably the most common mental disorder among school-aged children, with prevalence rates of about 9% in boys and 3% in girls, depending on the criteria used.⁴⁵ It is also one of the most treatable disorders. The hallmarks of ADHD, which often emerge before age 4 years, include inattention, impulsivity, distractibility, poor organizational skills, low frustration tolerance, and activity levels higher than is developmentally appropriate. The symptoms must occur in at least two settings and significantly impair learning, social development, or both. ADHD is often comorbid with other disorders, which can complicate diagnosis and treatment. Among children with ADHD seen in child psychiatric clinics, the most common comorbidities are conduct disorder (30%–50%), anxiety disorder (25%), mood disorder (15%–75%), and learning disabilities ($\leq 25\%$).^{3, 9} Any child with ADHD should also be screened for these disorders.

Children of different ages and temperaments show a wide range of behavior related to physical activity, attentiveness, and self-control. The Child and Adolescent Version⁶ of the Diagnostic and Statistical Manual for Primary Care (DSM-PC) outlines a spectrum of these behaviors from developmental variation to problem to disorder. For instance, preschoolers normally have very short attention spans, and school-aged children may not persist long with tasks they dislike that require concentration (developmental variations, DSM-PC V65.49). Other children may have inattention or hyperactive-impulsive behaviors that cause some degree of family or social difficulty but that are not sufficiently impairing or pervasive to warrant the diagnosis of ADHD (inattention or hyperactive-impulsive behavior problem, DSM-PC V40.3). Stressors, such as family turmoil, marital discord, or the birth of a sibling, may trigger transient inattention

or hyperactive-impulsive behavior problems without warranting the diagnosis of ADHD.

Anxiety Disorders

Approximately 9% of school-aged children have anxiety symptoms that interfere with their day-to-day functioning and place them at risk for school refusal, underachievement, and low self-esteem.^{2,13} Anxiety and depression often occur together, and their independent contributions to school and social difficulties are hard to disentangle. One third to half of children with anxiety disorders are depressed,^{8,43} and most depressed children have one or more anxiety disorders. The most common specific anxiety disorders are separation anxiety disorder, generalized anxiety disorder, social phobia, panic disorder, and posttraumatic stress disorder.

Separation anxiety disorder is marked by developmentally inappropriate, excessive worry about separation from home or caregivers. For instance, a 5-year-old child with separation anxiety disorder may develop acute school refusal because of his inability to cope with fears about separating from his mother to attend school.

Generalized anxiety disorder involves excessive worry about various areas of a child's life, including school, peers, family, and activities, as well as somatic symptoms of anxiety, such as fatigue, muscle tension (and associated headaches), and insomnia. These children may be irritable and have poor concentration.

Children with social phobia have a marked and persistent fear of social or performance situations, such as parties or reading aloud in class. These children fear being scrutinized or humiliated and try to avoid these situations as much as possible, with impaired functioning as a result.

Panic disorder is quite rare in elementary-school-aged children but becomes more common among adolescents. It is heralded by panic attacks with multiple somatic symptoms (e.g., light-headedness, shortness of breath, sweating, palpitations, or chest or abdominal pain), a feeling of panic, and sense of impending doom. The initial attack leads to anticipatory anxiety about future episodes and efforts to avoid them, that is, by avoiding the setting where the initial attack occurred.

Posttraumatic stress disorder occurs as a result of overwhelming trauma and includes symptoms or intrusive re-experiencing (e.g., as in nightmares and repetitive play related to the traumatic event), avoidance of trauma-related stimuli and numbing of general responsiveness (e.g., inability to recall an important aspect of the trauma, decreased interest and emotional responsiveness), and increased arousal (e.g., insomnia, irritability).

Anxiety is a normal and sometimes lifesaving response to threats (anxious variation, DSM-PC V65.49). Infants typically show fears of noises, heights, and loss of physical support. Fear of strangers and of separation from caregivers peaks at 8 to 9 months. Many children have distressing worries and fears, usually transient, that do not interfere with their functioning. When anxiety causes a child significant distress, but is not sufficiently severe or enduring to warrant the diagnosis of an anxiety disorder, an anxiety problem may be present (DSM-PC V40.2). For instance, infants and toddlers may show excessive separation distress and clinginess or may have sleep difficulties, while school-aged children may have worries, fears, and physical symptoms of anxiety that are distressing but do not interfere with activities. Such children often need cognitive preparation and reassurance when facing anxiety-provoking situations (e.g.,

visiting a new school in advance, talking about a competitive event) but ultimately participate well in activities they once feared. Adolescents with anxiety problems may seem bored, withdrawn, or sad when stressed, or they may engage transiently in risk-taking behavior. In contrast, adolescents with anxiety disorders have persistent symptoms even after external sources of stress resolve.

Depression

Epidemiologic studies have shown that major depression is a disabling disorder identifiable in all age groups. In the United States, depression affects approximately 2% of school-aged children, 5% of young adolescents, and 8% of older adolescents (similar to the rate for adults).^{6, 25, 46} Before puberty, rates of depression are similar in boys and girls; after puberty, as in adulthood, there is a 2:1 female preponderance.³² Childhood depression is often chronic and recurrent, causing severe dysfunction and leaving children at risk for later chronic mental illness and suicide. Chronic low-grade depression (dysthymia) has recently been recognized as a "gateway disorder" that sets the stage for chronic emotional illness in later life, such as major depression or bipolar (manic-depressive) disorder.³⁵ More than 5000 youth (aged 15–24 years), more than half of whom are depressed, commit suicide each year, and one in eight teenage deaths is caused by suicide. This high rate does not include those "accidents" that involve risk-taking behavior or drunk driving that may have depressive or self-destructive elements. Recent reports suggest that secular rates of depression are rising; more recent birth cohorts have a greater risk for the disorder, and at earlier ages, than previous cohorts.⁴⁶

Although, in the past, children were thought to present with "masked depression," in which typical adultlike depressive symptoms were hidden behind other symptoms, such as hyperactivity, learning disabilities, and enuresis,¹⁹ more recent research suggests that the core symptoms of depression are similar in children and adults; however, children may express those symptoms differently according to their developmental level. For instance, depressed toddlers may show failure to thrive, preschoolers may develop tantrums or lose acquired skills, school-aged children may become disruptive and fail in school, and adolescents may complain of boredom and take excessive risks. Depressed children are often irritable and have somatic complaints in addition to showing more typical signs, such as loss of enjoyment and interest and disturbed sleep, appetite, energy, and concentration. Depressed or irritable mood and associated symptoms must be present for most of the day, every day, for 2 weeks and have a significant impact on the child's functioning to constitute a major depressive episode.

Depressed mood falls along a normal or episodic continuum. Sadness or irritability in response to disappointment or loss is normal and usually resolves quickly for children in a supportive environment. Sadness and related symptoms that have a mild impact on a child's functioning but are not sufficiently intense to constitute a depressive disorder can be viewed as "sadness problems" (DSM-PC V40.3). Sadness problems may occur in response to parental illness, separation, or divorce and may include some symptoms of major depression in mild form. For instance, a sad or disappointed child may have more frequent tantrums, nightmares, and physical problems that respond to increased attention from primary caregivers. Older children may become bored and apathetic for a time but also respond to attention from peers and adults. Following the death of a loved one, children may show symptoms of sadness as part of bereavement,

which typically persists for less than 2 months after the loss. Atypical symptoms in a grieving child, such as suicidal thoughts, excessive guilt, or a sense of worthlessness, point to a major depression complicating bereavement.

Substance-Use Disorders

Substance-use disorders are a leading public health problem among adolescents. Violent deaths, including accidents, suicides, and homicides, account for more than three fourths of deaths among 15- to 24-year-olds, and substance use is frequently a contributor in all three. As early as elementary school, some children experiment with substances: one in six has used marijuana by the seventh grade, and, for some, this early exposure leads to regular use.³⁹ Alcohol and tobacco are the most common licit substances used, and marijuana is by far the most commonly abused illicit substance. Approximately 20% of high school seniors smoke cigarettes daily despite public health interventions to discourage youth smoking.¹¹ Approximately 90% of high school seniors have used alcohol, and about 30% report drinking heavily (five or more drinks in a row) in the previous 2 weeks.⁵ In a recent survey, 25% and 39% of eighth- and tenth-grade students, respectively, reported using alcohol in the previous month. Excluding alcohol, the rates of reported use of any illicit substance were 12% among eighth-grade students and 24% among twelfth-grade students.⁵ Approximately 1 in 20 high school seniors reported daily marijuana use. Prevalence rates are likely higher among those who drop out of high school.

Substance abuse is defined in DSM-IV as a distressing or impairing pattern of substance use involving failure to fulfill role obligations (e.g., at school, work, or home), risk taking (e.g., driving while intoxicated), legal problems, or persistent use despite interpersonal problems due to the substance. Substance dependence is marked by at least three of the following criteria: tolerance, withdrawal, escalating amounts of substance used, persistent unsuccessful desire or efforts to cut down, much time spent in substance-related activity, sacrifice of other important activities, and persistent use despite knowledge of substance-induced problems.

Although most adolescents experiment with alcohol and drugs, usually in social contexts among peers, only a few develop substance-use disorders. One-time experimentation or safe social use in late adolescence may or may not be a problem depending on community, legal, and sociocultural norms. More-than-one-time use that is neither significantly impairing nor repeated constitutes a substance-use problem, as outlined in DSM-PC (V71.09). For instance, a teenager who drinks alcohol or uses marijuana more than occasionally (e.g., once a month or more) sometimes has impaired memory or motor functions caused by substance use, occasionally uses alone or because of emotional problems, most likely has a substance-use problem, and is at increased risk for a substance-use disorder.

Conduct Disorder

Conduct disorder is one of the most common and most worrisome psychiatric disorders in children and adolescents and accounts for many referrals to child psychiatric clinics.^{4, 28} Prevalence rates range from 6% to 16% for boys and 2% to 9% for girls, depending on the populations studied and the criteria used.⁶ Rates are highest among boys raised in poverty, particularly those who display

inappropriate aggression at an early age; however, as a group, affected children suffer from a myriad of biopsychosocial stressors. The hallmark of children or adolescents with conduct disorder is repeated, persistent violation of others' rights and of major age-appropriate rules and norms. These violations may include physical aggression against people or animals, destruction of property (e.g., fire setting), deceit or theft, and serious violations of rules (e.g., truancy, running away, breaking curfew) and must cause significant impairment. Childhood-onset conduct disorder is distinguished from adolescent-onset conduct disorder by the presence of at least one symptom before age 10 years and has distinct comorbidities, with a higher frequency of ADHD, aggression, low IQ, and neuropsychiatric disorders.

Conduct disorder falls at the extreme of a spectrum of oppositionality and aggression. Nearly all younger children are physically aggressive at times, particularly when stressed, whereas older children resort more often to verbal aggression when frustrated or hurt. DSM-PC outlines normal developmental manifestations of aggression and oppositionality, such as the preschoolers' tendency to grab toys and hit others, while generally responding to parental reprimands. Some children's behavior falls short of conduct disorder but constitutes an aggressive or oppositional problem (DSM-PC V71.02) because it begins to affect family routines, peer relationships, and school functioning. For instance, the school-aged child who intermittently gets into fights or hurts others when frustrated or who talks back and throws tantrums sufficiently often to cause problems for the family probably has an aggressive or oppositional behavior problem worthy of clinical attention.

APPROACHES TO IDENTIFICATION

Clinical Interview

Asking questions about psychosocial functioning and being open to the answers given are critical to quality of care in light of the barriers to talking about these emotionally difficult issues. In recent studies, only one third of parents whose primary concern about their children was psychosocial planned to discuss this concern with the pediatrician. When psychosocial issues were raised, pediatricians responded only 40% of the time and even less when parents were less well educated. The interview should focus on the child's and the family's functioning. Information from multiple informants is likely to give the most accurate picture of a child, although sources often do not agree. For instance, parents generally are more accurate than children in reporting their children's behavior problems. But children are often more accurate than parents in reporting their own feelings and emotional problems.

Given common time pressures, a comprehensive psychosocial interview is usually not feasible in a single pediatric office visit. But by asking about some key areas at each visit, over time the pediatrician can develop a better understanding of a child's psychosocial functioning. The basic question, "Do you have any concerns about your child's behavior or emotional well-being?" has been suggested as a rapid way to increase the likelihood of identifying disturbed children.¹⁶ Reviewing the literature, Hack²¹ suggested additional questions with a high yield in identifying significant psychosocial dysfunction and provided rationales for each area of inquiry. Examples of key questions are listed in parentheses, with questions for children in italics.

1. Family (Who is in your family? Who lives with you?)
2. Household stability (How many times has your family moved? Have any major changes taken place in your family or lifestyle?)
3. Marital conflict and divorce (Are you and your spouse able to work together in raising your child? How do you handle disagreements? When things get out of hand, how far do they go?)
4. Crises (Has your family ever been through a major crisis? How did you all cope?)
5. Parental mental health (Have you or any of your family members ever suffered from a mental illness or substance abuse problem? Are you aware of any effect this problem may have had on your child?)
6. School (How does your child like school and his or her teachers? *How do you like school and your teachers?* How did your child do in first grade? What grades does he or she get? Has he or she ever stayed back a year or been in special education classes? Has he or she ever had trouble going to school? Missed more than 10 days in the year? Cut classes?)
7. Peer relationships (How does your child get along with peers? Does he or she have a best friend? Does your teenager have a group of good friends? *Do you have a best friend?* Does your child seem to enjoy picking on weaker children? *Do you ever like to pick on or bother another kid?* Does your child tend to get picked on? *Are you a kid who always gets picked on?*)
8. Activities and hobbies (What does your child like to do? *What do you like to do?* Is there something your child is really good at? *Is there something you are really good at?*)
9. Emotional health (What emotions do you see in your child these days? *Do you feel angry or sad a lot?* Has your child lost someone important to him or her? Has he or she ever been treated for an emotional or school problem?)
10. Poverty (Have you ever been on welfare or been unable to support your children financially?)
11. Injury (Has your child ever had to go to the emergency room for an injury? How many times?)
12. Substance abuse (Do you ever drink alcohol? If yes, then (CAGE) C–Have you ever felt the need to cut down on your drinking? A–Have people ever annoyed you by criticism of your drinking? G–Have you ever felt guilty about your drinking? E–Have you ever taken a morning eye opener to steady your nerves or get rid of a hangover? Do you think your child is drinking alcohol or using drugs? *Have you ever tasted beer, wine, or alcohol? How old were you when you began to drink alcohol?*)
13. Risk taking (Is there anything your teenager has done to himself or herself that has you really concerned?)
14. Suicide (Has your teenager ever tried to harm himself or herself? *Did you ever feel so upset that you wished you were not alive or you wanted to die? Did you ever do something you know was so dangerous you could have gotten hurt or killed? Did you ever try to kill yourself?*)

Questionnaires

Questionnaires can expedite psychosocial screening by identifying children and families in need of further assessment. For some parents, written instruments provide a more comfortable way to share concerns than direct interview. Questionnaires can provide a measure of quality assurance by ensuring that

important questions are asked of all patients. Optimal screening questionnaires are brief and easy to administer so that they fit smoothly into the pattern of clinical practice. The Pediatric Symptom Checklist (PSC) is one such instrument, designed specifically for administration in the pediatric waiting room. It is a well-validated, 35-item, parent-report screen of children's emotional and behavioral dysfunction, suitable for use with children aged 4 to 16 years.^{26, 36} The PSC can be completed and scored in less than 5 minutes. A single score is calculated by simple addition of scores ranging from 0 to 2 for symptoms rated as "never," "sometimes," or "often" present. Established cutoff scores (28 of 70 for school-aged children) have a sensitivity of 95%, specificity of 68%, and false-positive rate of 32% compared with psychologist or psychiatrist ratings of behavioral dysfunction.^{24, 27} Specificity is even higher in low-income populations. The PSC seems to function well at identifying children at risk and in need of further assessment.⁴²

Although its length has hampered its use for widespread screening purposes in pediatric clinics, the Child Behavior Checklist (CBCL) provides more in-depth assessment of children identified as at risk. The CBCL is an empirically derived, standardized, broad-based measurement of behavior problems for children aged 4 to 18 years. Raw scores are converted to standard T scores on three summary scales (i.e., total problems, internalizing, and externalizing) and eight or nine individual clinical scales (e.g., aggressive behavior, attention problems, and social problems). A teacher report form (TRF) and a youth self-report form for children and adolescents aged 11 to 18 years are also available. The CBCL and TRF are the most commonly used and best-normed and validated instruments for mental health and research settings. The Conners Parent and Teacher Rating Scales^{12, 20} are an excellent measure for assessing ADHD. The Child Attention Problems (CAP)⁷ is a brief teacher-rating scale derived from the TRF of the CBCL that is convenient to use for weekly monitoring of response to treatment. Some clinicians use the DSM-IV criteria in the form of a questionnaire to screen for ADHD and to monitor response to treatment.

When the pediatrician suspects a child may be depressed or anxious, it is important to interview the child directly because these mood symptoms may not be evident to parents and teachers. In addition, it may facilitate the interview to have children complete self-report scales designed to detect depression and anxiety. The Children's Depression Inventory (CDI)³⁴ is a 27-item, self-report questionnaire for children and adolescents aged 7 to 16 years that takes 10 minutes to administer. The CDI has norms available and acceptable reliability and validity.^{18, 41} The Revised Children's Manifest Anxiety Scale (RCMAS)^{37, 38} is a 37-item scale for 6- to 19-year-old children and adolescents, designed to assess severity of anxiety symptoms. Like the CDI, the RCMAS is well validated, and norms are available.

ASSESSING SEVERITY

DSM-PC provides the most practical guide to severity assessment, recommending that in primary-care contexts, severity be rated globally in terms of the child's overall status. DSM-PC proposes the following global ratings of severity:

- Mild—unlikely to cause serious developmental difficulties or impairment of functioning
- Moderate—may cause, or is causing, some developmental difficulties or impairment; further evaluation and intervention are warranted

Severe—is causing serious developmental difficulties and dysfunction in one or more key areas of the child’s life; mental health referral and comprehensive treatment planning are often indicated, possibly on an urgent basis

Although advances in standardized questionnaires and knowledge of developmental psychopathology continue to bring the field closer to statistically valid and reliable measures of severity, at this time, the best and most practical clinical approach to assessing severity is a thoughtful, systematic clinical assessment. Empathic interviewing remains the best way to determine, for example, whether an adolescent’s social withdrawal is a transient reaction to a stressor or reflects a serious mood disorder associated with substance abuse or suicidal ideations.

Once a psychosocial problem is identified, several dimensions are relevant to assessing its severity, including symptoms, functioning, burden of suffering, and risk and protective factors. Symptoms (e.g., hyperactivity, anxiety, and social withdrawal) should be gauged by their frequency, intensity, seriousness, duration, and pervasiveness (i.e., home, school, or both). In most cases, the clinical importance of symptoms comes to light only in the context of associated clinical impairment. But in some cases (e.g., severe or frequent suicidal ideation), symptoms may be sufficiently severe to warrant immediate intervention.

When psychiatric symptoms are sufficiently persistent or intense, they interfere with children’s ability to function and progress developmentally. Psychosocial dysfunction is probably the most important factor in assessing severity and need for treatment. Important arenas to assess include school performance, peer and family relationships, activities, and play. These areas often influence each other, so that the child who is “held back” for academic failure in school may develop social difficulties caused by loss of an age-appropriate peer group. Persistent dysfunction may cause symptoms, such as sadness, anxiety, and loss of self-esteem.

Burden of suffering, although hard to quantify, is an important parameter of severity. Suffering is reflected in the depth of a family’s and child’s distress and their difficulty in coping with their problems. Psychosocial problems that limit or isolate families, increase family or peer conflicts, intrude into multiple areas of functioning, are long-standing, or threaten physical safety often take the greatest toll on families.

Finally, risk factors increase the likelihood that a child will need clinical intervention, and protective factors decrease it. Although as yet we are unable to predict the impact of particular risk factors, such as poverty, divorce, or medical illness, on children, multiple risk factors can be overwhelming for many children and families. Therefore, three or more significant risk factors are likely to cause functional impairment in many families and should lower the clinician’s threshold for intervening. Conversely, multiple protective factors (e.g., intact family, good academic functioning, and even temperament) may outweigh the impact of a risk factor and decrease the likelihood of resulting psychological problems.

COMPREHENSIVE TREATMENT PLANNING

A comprehensive treatment approach to childhood psychiatric disorders encompasses the appropriate use of verbal therapies and medication and also examines the “fit” between the child and the environment. The child’s day-to-day circumstances and activities can then be incorporated into a treatment

plan.²² Making the environment therapeutic for the child involves assessing development and daily functioning in the context of family, peers, and school and identifying reasonable expectations. Appropriate expectations provide realistic benchmarks of progress that allow the child to feel successful and foster self-esteem. Collaborating with parents and teachers to set reasonable expectations promotes their understanding of the child's disorder, reduces frustration and conflict between them and the child, and gives the clinician a sense of the family's and the school's flexibility. For instance, when and how should an anxious child be expected to separate from parents or participate in an activity he or she fears? When should a child with ADHD be allowed to stop homework to play or relax? What grades are reasonable for a child with a learning disorder, and how much remedial attention is beneficial rather than demoralizing? When should parents expect a child recovering from depression to have enough energy and interest to resume his or her usual activities? The idea of reasonable expectations also applies to the role of medications. Helping children and parents understand what they can reasonably expect from a particular medication, and how other treatments and strategies fit with the medication, can foster compliance and recovery.

The following case vignettes illustrate the range of clinical interventions appropriate for different children and the varying role medication can have in treating childhood psychiatric disorders, using the example of ADHD.

Case 1

Martin is a 5-year-old boy who was noted to be hyperactive in day care at ages 2 and 3 years. In recent months, his mother has had to leave work fairly often to pick him up from day care because he has been unable to transition from lunch to nap time, and at these times the teachers cannot handle him. His parents do not take him to movies or to church because he won't sit in his chair or be quiet, and in shopping malls he usually runs off. Other clinicians then told his parents the Martin has ADHD and should receive medication, but the idea is upsetting to them.

Once Martin had been diagnosed with ADHD, the first goal of treatment was to discuss the diagnosis with his parents and explore their ideas and fears about the disorder, its treatment, and prognosis. They may be helped to know that medication can help Martin learn to listen to them and his teachers and is not a substitute for their guidance. They should also know that many ADHD symptoms can be effectively and safely treated, and that for one third to half of children, ADHD symptoms tend to abate during adolescence and early adulthood.

Within a few weeks of starting methylphenidate, Martin's behavior is much improved. His preschool teacher finds he transitions normally through the daily schedule, and his mother gets no more calls at work. His charm and intelligence are now shining through. He is less hyperactive throughout the day, although he still has trouble settling for bed. The pediatrician talks with his parents about involving Martin in age-appropriate sports through the local YMCA and the need for a quiet routine before bed and suggests that for now they bring Martin only to short movies and church services geared for children.

Martin's ADHD symptoms are highly responsive to medication, allowing him to function normally without significant modification in his preschool setting. Some discussion of age-appropriate expectations (e.g., bedtime and church) serve to reduce parent-child conflict and help Martin to feel successful. For this

young child, the pediatrician will periodically assess any learning, behavioral, or social problems.

Case 2

Nine-year-old Chris is becoming the “class clown,” often teasing other students and disrupting the class. He tries to avoid doing homework, often forgetting his books, and has been falling more and more behind his peers academically over the past few years.

Further evaluation shows that Chris has ADHD, and psychoeducational testing recommended by his pediatrician reveals a reading-learning disorder. Chris’s treatment plan includes stimulant medication and modifications of his school and home life. He is seated at the front of the class near his teacher and away from peers who easily distract him. His teacher and parents communicate daily about his progress using a homework notebook that Chris carries. For several hours each week, he receives remedial help in school for reading and organizational skills. Teachers and parents identify the tasks Chris enjoys, does well, and that harness his energy and boost his self-esteem. For instance, to help him cope with transitions, Chris’s teacher recruits him into a positive leadership role by having him pass out supplies at the beginning of new class activities. His parents help break homework up into 15-minute “chunks” interspersed with video games or active play. Chris’s father begins spending a few “fun” hours alone with him each week, often playing basketball- or soccer-activities they both enjoy. Although an extra effort, Chris is enrolled in the town soccer program, and, in that setting, his behavior is indistinguishable from his teammates’. His parents are looking into summer soccer camp because Chris is curious about a sleep-away experience.

Chris’s ADHD is complicated by a learning disorder and an oppositional behavior problem. Comprehensive treatment for him requires medication, school-based interventions, and adjustment of expectations at home. Greater involvement with his father helps build Chris’s self-esteem and gives him a closer link to his primary role model, and playing soccer gives him an activity that is consistently rewarding for him. If Chris continues to have impairing ADHD symptoms, he and his parents should be referred to a cognitive-behavioral therapist for behavior management.

Case 3

Eleven-year-old Maria is having explosive outbursts at home over homework and household chores, worsening over the past year since her parents separated and divorced. She sees her father every other weekend and lives with her mother and younger brother. Her parents feel quite bitter about each other. Maria has always struggled at school, where she seems to daydream and doodle instead of focusing on her work, and this problem is worsening. With one-on-one attention, she can produce age-appropriate work. The teacher thinks she could do better if she wanted to because her performance varies from hour to hour. Maria used to have several good friends, but some have moved away, and others seem to have lost interest. She has also dropped out of Girl Guides, saying it was boring. She spends hours in her room by herself listening to the radio and looking at magazines.

Child psychiatric referral reveals that Maria meets criteria for the predominantly inattentive form of ADHD, now complicated by major depression. Be-

cause she is not hyperactive and impulsive, she has come to medical attention later than Martin and Chris did, and her self-esteem may be lower as a result. Like Chris, she needs psychoeducational testing to rule out learning disorders and assess her learning style and achievement level. Other diagnostic possibilities, such as an anxiety disorder, adjustment disorder, or substance-use disorder, should be excluded. Family history reveals that Maria's mother has had depression in the past and responded well to antidepressants. Maria's ADHD predates her depression, which may have been precipitated by the stress of her parents' separation and divorce. She is treated with a stimulant in combination with an antidepressant. School-based interventions help Maria's teachers understand how ADHD interferes with her ability to sustain attention and select an appropriate focus, and how depression is compounding matters by reducing her enjoyment of learning. Instructions are kept clear and brief, and she is expected to focus for 20 minutes at a stretch. She receives tutoring to help her organize her homework assignments.

Maria's parents have several sessions with a mental-health clinician to help them focus on their child's needs in the wake of a difficult divorce. They learn about the importance of praise and reward for Maria, spending one-on-one time with her, and finding ways to build on activities she enjoys. For instance, they encourage her to invite one other child over to listen to music together, and they ensure that she has an allowance she can spend as she chooses. Maria begins individual psychotherapy sessions to help her cope with her parents' divorce and build her self-esteem.

The complexity and duration of Maria's problems in the setting of family upheaval necessitate a multimodal treatment approach, combining medication, individual psychotherapy, parent guidance work, and school-based interventions.

Case 4

Sixteen-year-old Joey has become truant from school and has just been arrested for shoplifting and placed on probation. His mother says her son hardly speaks to her and his father anymore and that he "blows up" at them when they try to speak to him. He hangs around with a tough group of peers and comes home late at night. He has started to get involved in physical fights. Joey was an average student until he reached middle school, when his grades began to slip; however, several of his elementary-school teachers found him restless and difficult to work with, and at times he became disruptive in class.

Psychiatric evaluation reveals that Joey has long-standing ADHD, now complicated by conduct disorder. In addition, he is abusing alcohol and marijuana, and his mood is consistently low and irritable, raising the possibility of a depressive disorder. Joey has little interest in receiving ongoing psychiatric care, but his behavior is sufficiently out of control to require urgent intervention. In this case, Joey's parents need to be empowered to provide adequate structure and treatment to ensure his safety. They agree to involve Joey's probation officer and to seek the assistance of the juvenile court and its clinic to mandate psychiatric services for Joey. This includes mandated drug and alcohol treatment and group and individual counseling. If outpatient treatment fails, he may need to be hospitalized and possibly placed in a residential school. His parents should meet regularly with a mental health clinician, and family therapy may be appropriate.

The combination of ADHD, substance abuse, conduct disorder, and possible

depression place Joey at very high risk for worsening legal problems, school failure, and injury to himself or others. He requires rapid, comprehensive intervention coordinated among his family, juvenile court, school staff, and physicians.

CONSULTING A PEDIATRIC PSYCHOPHARMACOLOGIST

Traditionally, child psychiatric consultants have provided a broad range of services, including pediatric psychopharmacology, psychotherapy, parent guidance, and liaison with schools and agencies also involved with the child. In recent years, however, numerous forces have led to increasing emphasis on the use of medications in child psychiatry. These forces include the evolution of the Diagnostic and Statistical Manual of Mental Disorders (DSM), yielding increasingly sound diagnostic criteria and structured instruments, as well as recent advances in psychopharmacologic research and the introduction of new psychotropic medications. Managed care and other cost-containment efforts have also led to restrictions on comprehensive care in many settings. As a result, much of child psychiatric clinical practice has shifted toward diagnostic evaluation and psychopharmacologic treatment and away from direct provision of other therapies. As an extension of this trend, in certain academic settings, subspecialty clinics have emerged that combine the clinical and research use of complex psychopharmacologic therapies. Severely impaired children previously refractory to other modes of treatment have benefited from the sophisticated use of combination drug regimens available in these specialized settings. Child psychiatrists and pediatric psychopharmacologists increasingly follow the model of other medical specialties in having brief (15–20 min) follow-up appointments after initial evaluations are complete and providing psychopharmacologic treatment while making referrals for additional treatments, such as psychotherapy, parent guidance, or school liaison work. In addition, child psychiatrists and pediatric psychopharmacologists are increasingly co-managing patients with pediatricians.

Individual referring and consulting physicians, as in other medical specialties, determine how much information is useful to share, depending on individual practice styles and the degree of co-management. In some highly focused subspecialty clinics, a brief background history may suffice, whereas in other settings, more extensive history may be requested. Any specific questions for the consultant, beyond diagnostic assistance and treatment recommendations, should be clarified. It is also important to decide how follow-up care will be provided, that is, by the pediatrician, by the consulting psychiatrist, jointly between them, or by another mental health clinician suggested by the consultant. The consultant's feedback in the form of a summary letter can be included in the child's medical record. Whatever the treatment model, it is essential that the referring pediatrician understand what services can be expected from the consultant, discuss whether more are needed, and explain the agreed-upon approach to the family at the time of referral.

Pediatricians, child psychiatrists, and pediatric psychopharmacologists are increasingly constrained by time pressures and growing clinical demands. All face pressure from managed care that may discourage recognition, hamper referral, or make working collaboratively cumbersome. The risk is to the psychosocial development of children. Pediatricians should be at the forefront of care models and contracts that provide comprehensive care and highlight effective communication between pediatricians and child psychiatric consultants.

Most importantly, pediatricians should maintain their traditional oversight role in treatment, monitoring children's broad functioning and overall development.

SUMMARY

Psychiatric disorders occur in 14% to 20% of American children and adolescents and are a leading cause of disability among them, yet fewer than one in five of these children are recognized. The most common psychiatric disorders presenting to pediatricians include ADHD, anxiety disorders, depression, substance-use disorders, and conduct disorder. Approaches to recognition include screening for psychosocial concerns using specific questions in the clinical interview, and using brief, written questionnaires. Case vignettes illustrate comprehensive treatment planning for children with psychiatric disorders in the primary care context. As psychopharmacologic treatments and the new subspecialty of pediatric psychopharmacology take on growing importance, the traditional oversight role of the pediatrician and effective communication among referring and consulting physicians remain critical to quality care.

References

1. Achenbach TM, Howell CT: Are American children's problems getting worse? A 13-year comparison. *J Am Acad Child Adolesc Psychiatry* 32:1145-1154, 1993
2. American Academy of Child and Adolescent Psychiatry: AACAP official action: Practice parameters for the assessment and treatment of children and adolescents with anxiety disorders. *J Am Acad Child Adolesc Psychiatry* 36(suppl):69-84, 1997
3. American Academy of Child and Adolescent Psychiatry: AACAP official action: Practice parameters for the assessment and treatment of children, adolescents, and adults with attention-deficit/hyperactivity disorder. *J Am Acad Child Adolesc Psychiatry* 36(suppl):85-121, 1997
4. American Academy of Child and Adolescent Psychiatry: AACAP official action: Practice parameters for the assessment and treatment of children and adolescents with conduct disorder. *J Am Acad Child Adolesc Psychiatry* 36(suppl):122-139, 1997
5. American Academy of Child and Adolescent Psychiatry: AACAP official action: Practice parameters for the assessment and treatment of children and adolescents with substance use disorders. *J Am Acad Child Adolesc Psychiatry* 36(suppl):140-156, 1997
6. American Academy of Pediatrics: Classification of Child and Adolescent Mental Diagnoses in Primary Care: Diagnostic and Statistical Manual for Primary Care (DSM-PC), Child and Adolescent Version, 1996
7. Barkley RA: Attention Deficit Hyperactivity Disorder: A handbook for diagnosis and treatment. New York, Guilford, 1990
8. Bernstein GA: Comorbidity and severity of anxiety and depressive disorders in a clinic sample. *J Am Acad Child Adolesc Psychiatry* 30:43-50, 1991
9. Biederman J, Newcorn J, Sprich S: Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety and other disorders. *Am J Psychiatry* 148:564-577, 1991
10. Brandenburg NA, Friedman RM, Silver SE: The epidemiology of childhood psychiatric disorders: Prevalence findings from recent studies. *J Am Acad Child Adolesc Psychiatry* 29:76-83, 1990
11. Cambar R, Millman RB: Alcohol and drug abuse in adolescents. In Lewis M (ed): *Child and adolescent psychiatry: A comprehensive textbook*. Baltimore, Williams & Wilkins, 1991, p 738
12. Conners CK: A teacher rating scale for use in drug studies with children. *Am J Psychiatry* 34:851-867, 1969

13. Costello EJ: Child psychiatric disorders and their correlates: A primary care pediatric sample. *J Am Acad Child Adolesc Psychiatry*, 28:851-855, 1989
14. Costello EJ: Primary care pediatrics and child psychopathology: A review of diagnostic, treatment, and referral practices. *Pediatrics* 78:1044-1051, 1986
15. Costello EJ, Pantino T: The new morbidity: Who should treat it? *J Dev Behav Pediatr* 8:288-291, 1987
16. Costello EJ, Costello AJ, Edelbrock C, et al: Psychiatric disorders in pediatric primary care. *Arch Gen Psychiatry* 45:1120-1127, 1988
17. Costello EJ, Edelbrock C, Costello AJ: Psychopathology in pediatric primary care: The new hidden morbidity. *Pediatrics* 82:415-424, 1988
18. Finch AJ, Saylor CF, Edwards GL: Children's Depression Inventory: Sex and grade norms for normal children. *J Consult Clin Psychol* 53:424-425, 1985
19. Glaser K: Masked depression in children and adolescents. *Ann Prog Child Psychiatry Child Dev* 1:345-355, 1968
20. Goyette CH, Conners CK, Ulrich RF: Normative data on revised Conners parent and teacher rating scales. *J Abnorm Child Psychol* 6:221-236, 1978
21. Hack S, Jellinek MS: Historical clues to the diagnosis of the dysfunctional child and other psychiatric disorders in children. *Pediatr Clin North Am* 45(1):25-48, 1998
22. Jellinek MS: The outpatient milieu. *J Am Acad Child Adolesc Psychiatry* 33:277-279, 1994
23. Jellinek MS: Two wrongs don't make a right: Managed care, mental health, and the marketplace [commentary]. *J Am Med Assoc* 270:1737-1739, 1993
24. Jellinek MS, Murphy JM: The recognition of psychosocial disorders in pediatric office practice: The current status of the pediatric symptom checklist. *J Dev Behav Pediatr* 11(5):273-278, 1990
25. Jellinek MS, Snyder J: Depression and suicide in children and adolescents. In Green M, Haggerty R, Weixman M (eds): *Ambulatory Pediatrics*, ed 5. Philadelphia, WB Saunders, in press
26. Jellinek MS, Little M, Murphy JM, et al: The pediatric symptom checklist: Support for a role in a managed care environment. *Arch Pediatr Adolesc Med* 149:740-746, 1995
27. Jellinek MS, Murphy JM, Robinson J, et al: Pediatric symptom checklist: Screening school-age children for psychosocial dysfunction. *J Pediatr* 112:201-209, 1988
28. Kazdin A: *Conduct Disorders in Childhood and Adolescence*. Thousand Oaks, CA, Sage, 1995
29. Kelleher KJ, Starfield B: Health care use by children receiving mental health services. *Pediatrics* 85:114-118, 1990
30. Kelleher KJ, Wolraich ML: Diagnosing psychosocial problems. *Pediatrics* 95:899, 1995
31. Kessler RC, Foster CL, Saunders WB, et al: Social consequences of psychiatric disorders. I: educational attainment. *Am J Psychiatry* 152:1026-1032, 1995
32. Kessler RC, McGonagle KA, Nelson CB, et al: Sex and depression in the national comorbidity survey. II: Cohort effects. *J Affect Disord* 30:15-26, 1994
33. Koot HM, Verhulst FC: Prediction of children's referral to mental health and special education services from earlier adjustment. *J Child Psychol Psychiatry* 33:717-729, 1992
34. Kovacs M: Rating scales to assess depression in school-age children. *Acta Paedopsychiatri* 46:305-315, 1981
35. Kovacs M, Akiskal HS, Gatsonis C, et al: Childhood-onset dysthymic disorder: Clinical features and prospective naturalistic outcome. *Arch Gen Psychiatry* 51:365-374, 1994
36. Murphy JM, Jellinek M: The recognition of psychosocial disorders in pediatric office practice: The current status of the pediatric symptom checklist. *J Dev Behav Pediatr* 11:273-278, 1990
37. Reynolds CR: Concurrent validity of What I Think and Feel: The revised children's manifest anxiety scale. *J Cons Clin Psychol* 48:774-775, 1980
38. Reynolds CR, Paget KD: Factor analysis of the revised children's manifest anxiety scale for blacks, whites, males, and females, with a national normative sample. *J Cons Clin Psychol* 49(3):352-359, 1981
39. Rhodes JE, Jason LA: *Preventing Substance Abuse Among Children and Adolescents*. New York, Pergamon, 1988, p 1
40. Rutter M: Childhood experiences and adult psychosocial functioning. In *The Child-*

- hood Environment and Adult Disease. Ciba Foundation Symposium 156, Chichester, Wiley & Sons, 1991
41. Smucker MR, Craighead WE, Craighead LW, et al: Normative and reliability data for the children's depression inventory. *J Abnorm Child Psychol* 14:25-39, 1986
 42. Stancin T, Palermo TM: A review of behavioral screening practices in pediatric settings: Do they pass the test? *J Dev Behav Pediatr* 18(3):183-194, 1997
 43. Strauss CC, Last CG, Hersen M, et al: Association between anxiety and depression in children and adolescents with anxiety disorders. *J Abnorm Child Psychol* 16:57-68, 1988
 44. Tarnowski KJ: Disadvantaged children and families in pediatric primary care settings: I. broadening the scope of integrated mental health services. *J Clin Child Psychol* 20:351-359, 1991
 45. Weiss G: Attention Deficit Hyperactivity Disorder. In Lewis M (ed): *Child and Adolescent Psychiatry: A Comprehensive Textbook*. Baltimore, Williams & Wilkins, 1991, p 546
 46. Weller EB, Weller RA: Mood Disorders. In Lewis M (ed): *Child and Adolescent Psychiatry: A Comprehensive Textbook*. Baltimore, Williams & Wilkins, 1991, pp 654-656

Address reprint requests to

Linden J. Cassidy, MD
Charlestown Health Care Center
73 High Street
Charlestown, MA 02129-3096