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Promoting Optimal Development: Screening for Behavioral and Emotional Problems

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abstract

By current estimates, at any given time, approximately 11% to 20% of children in the United States have a behavioral or emotional disorder, as defined in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. Between 37% and 39% of children will have a behavioral or emotional disorder diagnosed by 16 years of age, regardless of geographic location in the United States. Behavioral and emotional problems and concerns in children and adolescents are not being reliably identified or treated in the US health system. This clinical report focuses on the need to increase behavioral screening and offers potential changes in practice and the health system, as well as the research needed to accomplish this. This report also (1) reviews the prevalence of behavioral and emotional disorders, (2) describes factors affecting the emergence of behavioral and emotional problems, (3) articulates the current state of detection of these problems in pediatric primary care, (4) describes barriers to screening and means to overcome those barriers, and (5) discusses potential changes at a practice and systems level that are needed to facilitate successful behavioral and emotional screening. Highlighted and discussed are the many factors at the level of the pediatric practice, health system, and society contributing to these behavioral and emotional problems.

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SCOPE OF THE PROBLEM AND NEED FOR THIS REPORT

Behavioral and emotional problems during childhood are common, often undetected, and frequently not treated despite being responsible for significant morbidity and mortality. By current estimates, approximately 11% to 20% of children in the United States have a behavioral or emotional disorder at any given time.[1,2] Estimated prevalence rates are similar in young 2- to 5-year-old children. Developmental and behavioral health disorders are now the top 5 chronic pediatric conditions causing functional impairment.[3,4] Even greater numbers of children have

behavioral or emotional problems causing impairment or distress that do not meet criteria of the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* for a disorder. The purpose of this report is to provide pediatricians with a rationale for and guidance to implement screening for behavioral and emotional problems in primary care settings. However, in evaluating and promoting optimal child development and well-being, the domains of development and behavior must be considered together within the context of the family. These domains are not separate constructs but rather parts of a whole. Therefore, this report emphasizes that behavioral screening must always be 1 component of a comprehensive developmental and behavioral screening program that extends through childhood and adolescence.

EPIDEMIOLOGY OF BEHAVIORAL AND EMOTIONAL DISORDERS

It is estimated that 25% to 40% of children with 1 disorder will have at least 1 additional mental health or behavioral diagnosis at a given time.[1,5,6] The most common co-occurring conditions are attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder, but co-occurrence of anxiety and depression is also common.

Between 37% and 39% of children will have a behavioral or emotional disorder diagnosed by 16 years of age, with the most common diagnoses being impulse control/disruptive behavior problems, anxiety, and mood disorders.[1,7,8] Between 23% and 61% of children with a diagnosis at 1 time will have a diagnosis in the future, although it is not always the same diagnosis.[1]

Approximately 50% of adults with behavioral health problems report that their disorders emerged in early adolescence.[9] Anxiety disorders and ADHD are the earliest disorders to emerge, often in the preschool and early school-age years, with substance abuse being the latest to emerge. An approximately 2- to 4-year period between symptom appearance and disorder has been demonstrated, suggesting that there may be opportunities for secondary prevention or early intervention.[6]

FACTORS AFFECTING THE EMERGENCE OF BEHAVIORAL AND EMOTIONAL PROBLEMS

In 2010, more than 1 in 5 children were reported to be living in poverty.[6,10] Economic disadvantage is among the most potent risks for behavioral and emotional problems due to increased exposure to environmental, familial, and psychosocial risks.[11–13] In families in which parents are in military service, parental deployment and return has been determined to be a risk factor for behavioral and emotional problems in children.[14] Data from the 2003 National Survey of Children's Health demonstrated a strong linear relationship between increasing number of psychosocial risks and many poor health outcomes, including social-emotional health.[15] The Adverse Childhood Experience Study surveyed 17 000 adults about early traumatic and stressful experiences. Two-thirds of respondents experienced at least 1 type of childhood psychosocial risk, and 20% experienced more than 3. Adverse early experiences were related to increased rates of health problems in adulthood including obesity and cardiovascular disease as well as substance abuse, mental health problems, and poor health-related quality of life. As the Adverse Childhood Experience Study score increased, so did the number of risk factors for the leading causes of death.[16,17] Shonkoff uses the phrase "toxic stress" to describe high cumulative psychosocial risk in the absence of supportive caregiving[18,19]; this type of unremitting stress ultimately compromises children's ability to regulate their stress response system effectively and can lead to adverse long-term structural and functional changes in the brain and elsewhere in the body. The 2012 American Academy of Pediatrics (AAP) Policy Statement "Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science Into Lifelong Health" advocated viewing the causes and consequences of toxic stress from the same perspective as other biologically based health impairments.[19]

POLICIES IN PLACE

In 2004, the AAP established the Task Force on Mental Health, which "articulated mental health competencies for primary care; developed guidance for addressing systemic and financial barriers to providing mental health care in primary care settings; and provided tools and strategies to assist pediatricians in applying chronic care principles to children with mental health problems."[20] The Task Force also provided guidance (through identifying tools and describing strategies) to providers on adapting current practice to include mental health care. A recent publication articulated an initial blueprint for behavioral and emotional screening in pediatric practice.[21] The current statement supports the Task Force guidance by providing the evidence supporting screening for emotional and behavioral concerns.

CURRENT STATE OF DETECTION OF BEHAVIORAL AND EMOTIONAL PROBLEMS IN PEDIATRIC SETTINGS

Behavioral and emotional problems and concerns in children and adolescents are not being reliably identified or treated in the US health system.[6,22–25] Current estimates suggest that fewer than 1 in 8 children with identified mental health problems receive treatment. Even when a child or adolescent is well known in a pediatric practice, only

50% of those with clinically significant behavioral and emotional problems are detected.[23] Other investigators have found similarly high failure of detection rates ranging from 14% to 40%.[22,24] Surveyed pediatricians, however, overwhelmingly endorse that they should be responsible for identifying children with ADHD, eating disorders, depression, substance abuse, and behavior problems.[26]

Clinicians' ability to identify developmental and behavioral problems in primary care, on the basis of clinical judgment alone in the absence of a standardized measure, has been shown to have low sensitivity, ranging from 14% to 54% and a specificity ranging from 69% to 100%.[27] Providers are less likely to identify problems in minority or non–English-speaking children and adolescents.[25]

In a study of clinicians in more than 200 practices, pediatric providers reported using a standardized measure to assess mental health problems in 20.2% of all visits, with 50.2% of providers reporting never using any formal measure.[28] Fewer than 7% of providers reported using a standardized measure during 50% or more of visits.[28]

BARRIERS TO SCREENING

Pediatricians report a lack of confidence in their training and ability to successfully manage children's behavioral and emotional problems[29] with only 13% of pediatricians reporting confidence.[30] Common barriers to adopting new screening practices in pediatrics include lack of time,[30] long waits for children to be seen by mental health providers, and lack of available mental health providers to refer children.[31,32] Liability issues have been identified as a barrier to screening and managing children with behavioral and emotional problems. Pediatricians have also raised concerns about the increasing

number of mandates outlined in practice guidelines with ever-shrinking time for health maintenance visits as a result of reimbursement pressures.[33]

AVAILABLE TOOLS TO SCREEN FOR BEHAVIOR AND EMOTIONAL PROBLEMS

Behavioral and emotional screening instruments have many of the same advantages and limitations as developmental screening instruments. They involve a time commitment for parents or guardians to complete and for staff and clinicians to score, interpret, and report the results.[32]

Screening instruments can be used to predict risk of a disorder but do not make the diagnosis. There are global (broadband) scales that may screen for several conditions, and there are domain-specific (single-condition) tools are most useful for screening for a specific problem, such as substance use or adolescent depression and suicidality.[32]

Pediatricians should be aware of the sociodemographic characteristics of populations enrolled in validation studies as they make decisions regarding any screening instruments used. Pediatricians need to consider the literacy and health literacy levels of parents, guardians, children, and adolescents completing screens, whether the instrument should be administered in English or another language, and whether the person completing the screen will need additional help.

Pediatricians should be familiar with the psychometric properties of an instrument and under what conditions reported sensitivities and specificities were obtained.[32] Like developmental screening tools, behavioral and emotional screening tools should have a sensitivity and specificity of ≥ 0.70.[34]

Once the patient is old enough to answer reliably, self-report versions can provide information about

feelings not noticed by outside observers, such as those associated with anxiety or depression. Most self-report versions are normed on patients 8 years and older.

The research on behavioral and emotional screening in younger children is more limited than in school-age children, but increasingly, reliable, brief measures suitable for use in primary care exist, and new ones are being developed,[35,36] making it possible to screen children and adolescents from aged 6 months through 18 years of age.

Behavior and emotional screens available in the public domain can be found in Appendix 1.

OVERCOMING BARRIERS TO SCREENING

The policy statement "The Future of Pediatrics: Mental Health Competencies for Pediatric Primary Care" outlined the skills pediatricians need in the area of mental health.[37] The AAP Task Force on Mental Health has developed materials to help pediatricians assess their current practice and readiness to change and to code accurately for mental health screening and services.[38,39] The AAP also developed a Web site providing resources and materials free of charge (http://www2.aap.org/commpeds/dochs/mentalhealth/KeyResources.html)[40] as well as "Addressing Mental Health Concerns in Primary Care: A Clinician's Toolkit,"[41] which is available for a fee.

Professional organizations, including the AAP, Society for Developmental and Behavioral Pediatrics, American Academy of Child and Adolescent Psychiatry, and National Alliance on Mental Illness, provide ongoing continuing medical education and resources.

LESSONS LEARNED FROM DEVELOPMENTAL SCREENING

Many barriers to behavioral and emotional screening are similar to

those identified when developmental screening was proposed as a regular part of pediatric care. In 2006, the AAP policy statement "Identifying Infants and Young Children With Developmental Disorders in the Medical Home: An Algorithm for Screening and Surveillance"[42] was published. Since the publication of the statement, 44.8% of pediatricians reported using standardized developmental screening tools more often, and 72.2% reported using standardized autism screening tools more often.[43] National demonstration projects including the Assuring Better Child Development Screening Academy[44] and the AAP's Developmental Surveillance and Screening Policy Implementation Project[45] achieved high levels of screening in primary care. These projects provided valuable lessons about implementing a screening program (Table 1) and behavioral and emotional screening may follow similar patterns. Similar large-scale initiatives may need to be developed to determine the best practices for implementing a behavioral and emotional screening program.

GUIDANCE FOR PEDIATRICIANS

The following steps and Table 2 are designed to give pediatricians a clear road map to implement behavioral and emotional screening in practice. Although distinct from screening, pediatricians should familiarize themselves with evidence-based programs that have been shown to promote children's social-emotional development through positive parenting,[46–51] possibly preventing the emergence of problems.

1. Readying the Practice. As was seen in developmental screening, front-end work is needed to train and prepare an office to adopt screening practices. It may be helpful to enlist the assistance of local mental health professionals or developmental-behavioral pediatricians in selecting and implementing screening procedures.

2. Identifying Resources. Before initiating a behavioral and emotional screening program, pediatricians need to determine what they will do when a child or parent has a positive screening result. Pediatricians should familiarize themselves with local resources and identify referral sources. In the absence of this, pediatricians are likely to feel frustrated and overwhelmed when they identify children and adolescents in need of services but are unable to find appropriate, high-quality treatment of them. Pediatricians will need to work with the community to advocate for more treatment and intervention services.

Increasing numbers of practices have colocated a mental health provider (eg, psychologist, licensed clinical social worker, licensed therapist) within the practice. These providers are integrated into the practice and can provide timely assistance for behavioral emergencies as well as support the primary care provider in implementing and interpreting the office screening program.

Another model of a successful collaboration program between primary providers and child psychiatrists, the Massachusetts Child Psychiatry Access Project, promotes access to psychiatric consultation for primary care providers through a network of children's mental health collaboration teams. The overall aim is to improve access to treatment of children with mental health concerns (http://www.mcpap.com/about.asp). This type of program currently is being implemented in more than 30 states.

3. Establishing Office Routines for Screening. As with developmental screening, children should be screened at regular intervals for behavioral and emotional problems with standardized, well-validated measures beginning in infancy and continuing through adolescence. Screening beginning in the first year of life can identify disturbances in attachment, regulation, and the parent-child relationship, although the optimal approaches to screening infants and very young children are less clear-cut than screening children at older ages. Ongoing care involves maintaining a good history regarding factors that can influence the early parent-child relationships, such as discipline practice, parenting stress, psychosocial risks, and positive parenting.

Currently, developmental and behavioral/emotional screenings are viewed as separate constructs, and most well-validated measures screen for them independently. Developmental screening is commonly perceived as identifying disordered expressive and receptive language, fine and gross motor skills, self-help skills, and

TABLE 1 Lessons Learned From Implementing a Screening Program

What Promoted Screening Implementation	What Challenges Remained
• Creating an office-wide implementation system	• Consistent referral of children with failed screens
• Dividing responsibility among staff	• Distributing screens to children at screening ages but not to others
• Actively monitoring implementation and continuing to make changes	• Maintaining consistent screening practice during busy times
• Choosing screens perceived to least disrupt clinic flow	• Coping with screening gaps due to staff turnover
• Aligning screening measures with those used in community based programs	• Not screening when surveillance raised concerns
	• Tracking referrals through a distinct implementation system from screening
	• Nonadherence to the 30-mo screen because of expected nonreimbursement

TABLE 2 Steps to Implement Behavioral and Emotional Screening in Practice

1. Readying the practice
   - Describe and evaluate current efforts already in place
   - Identify a practice champion
   - Train all staff
   - Consider incremental screening and actively monitor implementation
   - Develop a screening roadmap from providing the screen through the referral process
   - Add behavior and emotional problems to the problem list and update this at each visit
   - Problem solve challenges that arise across the entire practice
   - Determine how to best publicize new screening practices to families
   - Consider additional costs for procuring screening tools, etc
   - Prepare for psychiatric emergencies that may present in the office
2. Identifying resources
   - Identify referral resources that include the following:
     - Areas of expertise
     - Hours of operation
     - Payment methods
     - Ability to treat non–English speakers
   - Develop a plan for bidirectional communication
   - Learn about emergency mental health services
   - Partner with adult providers and community resources to help parents with identified psychosocial risk
3. Establishing office routines for screening and surveillance
   - Implement screening in the first year of life and at regular intervals throughout childhood and adolescence
   - Incorporate screening for family psychosocial risks and strengths
   - Determine appropriate screening intervals for the practice (combined with or distinct from developmental screening intervals) based on things such as clinic flow, allotted time to discuss screening results, etc
   - Partner with parents to formulate a plan when there is a failed screen
   - Identify strengths of the child and communicate these to the family
   - Screen when the child, family, or provider has concerns
   - Establish a registry of children with positive screens and family psychosocial risk
   - Monitor children with significant risk factors with heightened surveillance and more frequent screening
4. Tracking referrals
   - Develop a mechanism to track progress of children referred for assessment or treatment (eg, successful referral, evaluation or initiation of treatment)
   - Collect information about families' experience with referral resources
5. Seeking payment
   - Familiarize the practice with appropriate CPT codes for screening, care plan oversight, face-to-face and non–face-to-face services and reimbursement by different insurance companies
   - Track billing and reimbursement for screening efforts
6. Fostering collaboration
   - Explore colocated or other innovative models of care and partnerships with mental health professionals

cognitive milestones, whereas behavioral and emotional screening identifies problems in areas including social-emotional regulation, mood and affect, attention, and interpersonal skills. There is a significant yet incomplete overlap between developmental and behavior problems. Studies have revealed that children with cognitive, language, and social impairments and developmental disabilities, in general, are far more likely to manifest behavioral and emotional problems.[12]

Beginning in early adolescence, screening for substance use should be implemented.[21,52] Substance use and dependence have consistently been found to be 1 of the most prevalent behavioral health diagnoses in adolescents. Identifying and treating a behavioral or emotional problem without detecting and treating co-occurring substance use will likely lead to ineffectual treatment. The US Preventive Services Task Force recommends screening all adolescents (12–18 years of age) for depression, when systems are in place, to ensure accurate diagnosis, treatment, and follow-up.[53] Pediatricians should use targeted screening for other problems, such as suicidality or anxiety, if there is concern raised by the provider, patient, or parent or the child is at high risk.

Children's behavioral and emotional problems are frequently associated with family psychosocial risk. Family psychosocial screening can provide important information about potential protection or lack thereof for a child who may or may not yet show signs of behavioral or emotional problems. Early detection and treatment of family psychosocial risk may potentially avert the emergence of problems in the child. Only a limited number of well-validated screens suitable for use in primary care for broad screening of family psychosocial risk and family support and functioning are available, although a few show promise.[54–56] There are screening measures for specific psychosocial stressors, such as maternal depression, and these have been shown to be feasible in pediatric settings.[57,58] Family screening for psychosocial risk within pediatric settings, however, raises a number of dilemmas, including concerns about liability and payment and who is responsible for an adult's well-being after a problem is detected.[59]

4. Tracking Referrals. If the child was referred for services after screening, it is important for pediatricians to inquire as to whether referrals were completed and services were obtained or understand what barriers parents have experienced and how these can be overcome. Furthermore, it is important for pediatricians, with parental permission, to obtain information from the referral and to learn whether services obtained were effective and whether symptoms in the child have been reduced or eliminated.

This follow-up may require a separate office system than screening procedures.

5. Seeking Payment. One of the biggest "systems" hurdles facing pediatricians is the difficulty obtaining payment for screening patients for behavioral and emotional problems and for screening families for psychosocial risk and functioning. The adoption of the proposed screening and surveillance practices, may lengthen visit time to discuss results without additional payment to support that time and create significant non–face-to-face work.[60] This includes referring patients and families to appropriate resources, tracking referrals, communicating with other professionals (which may require reviewing lengthy reports and school plans), and following up with children and families. Overcoming this critical barrier is fundamental to transforming pediatric practice to a medical home model. With the advent of reimbursable billing codes for screening, including *Current Procedural Terminology* (CPT) codes 96110 and 99420, some practices are beginning to see some financial payment for the addition of screening programs. Additionally, a new CPT code for brief behavioral assessment, 96127, has been included in *CPT 2015* to allow the separate reporting of this service.

6. Fostering Collaboration. Innovative collaborations have been well described and include colocation and integrated and consultative models, such as the Massachusetts Child Psychiatry Access Project, the North Carolina Chapter AAP/NC Pediatric Society (ICARE), and the Washington Partnership Access Line.[61–64] Innovative means of consultation and collaboration will continue to evolve with emerging technology.[65] These relationships help build the capacity of pediatricians to manage various

behavioral and emotional problems in the office. This is particularly true for the management of subthreshold problems not meeting the severity level warranted to refer for treatment.

FUTURE DIRECTIONS

As medical practice continues to shift into more electronic formats, standardized screening instruments will need to be formatted for electronic health record systems, to facilitate a wide implementation of screening. Automating guidelines and scoring of screening measures, providing decision support that is integrated into electronic health records, and providing patients with opportunities for greater participation in their health care via portals into their electronic medical record have already shown promise.[66,67] Paper-and-pencil screening methods will need to be transformed into Web-based versions, smartphone apps, and waiting room tablets to successfully harness available technology.[65,68] These changes will be critical areas needing further evaluation to determine best practices.[69] Additional system challenges that will need to be addressed are included in Appendix 2.

SUMMARY

Evaluating and promoting optimal child development and well-being includes assessing developmental and behavioral domains in the context of the family. Behavioral and emotional problems are common, persistent, and cause significant functional impairment for many children and adolescents. A 2- to 4-year window may exist between initial presentation of symptoms and the development of a disorder, suggesting an opportunity to intervene before problems become more serious in children.[6] In recent years, many pediatricians have taken advantage of more widely disseminated public

domain screening tools and have used emerging computer technology to facilitate behavioral/emotional screening. There have been many examples of colocated practices, and national organizations, such as the AAP, have strongly advocated for payment for these integrated practice models. The lessons learned through developmental screening implementation have been used to make behavioral and emotional screening a more routine component of pediatric health supervision. The investments described in this report, financial and otherwise, are critical to ensure a future of thriving and strong infants, children, and adolescents who will mature into healthy adults.

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APPENDIX 1 Behavioral and Emotional Screening Measures for Use in Primary Care in the Public Domain[a]

Category	Screening Tool	Age Group	No. of items	Available Forms	Reported Psychometrics/Other	Link
				General Behavioral Screens		
Young children (0–5)	Baby Pediatric Symptom Checklist	2–17 mo	12	Parent completed	Retest reliability and internal reliability >0.7	https://sites.google.com/site/swycscreen
	Preschool Pediatric Symptom Checklist	18–60 mo	18	Parent completed		https://sites.google.com/site/swycscreen
	Strengths and Difficulties Questionnaire	3–17 y	25 items	Parent/teacher 3(4)-y-old; parent/teacher 4–10-y-old; parent/teacher follow-up forms available	Variable across cultural groups; sensitivity: 63%–94%, specificity: 88%–96%; available in >70 languages	http://www.sdqinfo.org
School-age and adolescent children	Strengths and Difficulties Questionnaire	3–17 y	25 items	Parent/teacher 4–10-y-old; parent/teacher 11–17-y-old; youth self report 11–17-y-old; parent/teacher/self follow-up forms available	Variable across cultural groups; sensitivity: 63%–94%, specificity: 88%–96%; available in >70 languages	http://www.sdqinfo.org
	Pediatric Symptom Checklist—17	4–16 y	17 items	Parent completed; youth self-report >10 y; pictorial version available	Variable psychometrics for detection of psychiatric problems; available in multiple languages	http://www.massgeneral.org/psychiatry/services/psc_home.aspx
	Pediatric Symptom Checklist—35	4–16 y	35 items	Parent completed; youth self-report >10 y; pictorial version available	Sensitivity: 80%–95%, specificity: 68%–100%; available in multiple languages	http://www.massgeneral.org/psychiatry/services/psc_home.aspx
				Psychosocial Screens		
	WE-CARE (Well-Child Care Visit, Evaluation, Community Resources, Advocacy, Referral, Education)	Parent	10 items	Parent completed		http://pediatrics.aappublications.org/content/120/3/547.full#sec-1
	Family Psychosocial Screen	Parent	~50 items	Parent completed	Variable psychometrics for detection of specific psychosocial problems; cut points for various domains recommended	http://depts.washington.edu/dbpeds/Screening%20Tools/FamPsychoSocQaire.pdf
	Survey of Wellbeing in Young Children	Parent	9 items	Parent completed	Preliminary findings show promise	https://sites.google.com/site/swycscreen/parts-of-the-swyc/family-questions
	Adverse Childhood Experience Score	Parent	10 items	Parent completed	Increasing score associated with many adverse physical and mental health outcomes	http://acestoohigh.com/got-your-ace-score
				Screens for Specific Disorders		
Parental or adolescent depression	Edinburgh Maternal Depression	Parent (mother)	10 items	Parent self-report	Sensitivity 86%; specificity 78%	http://www.fresno.ucsf.edu/pediatrics/downloads/edinburghscale.pdf
	2 Question Screen (Modification of the Patient Health Questionnaire—2	Parent, adolescents	2 items	Parent or adolescent self-report	Sensitivity: 83%–87%; specificity: 78%–92%	http://www.uphp.com/Two_Question_Screen.pdf; http://www.cqaimh.org/pdf/tool_phq2.pdf
	Patient Health Questionnaire (PHQ)—9	Parent	9 items	Parent or Adolescent self-report	Sensitivity: 88% for major depression; specificity: 88% for major depression	http://www.integration.samhsa.gov/images/res/PHQ%20-%20Questions.pdf

Category	Screening Tool	Age Group	No. of items	Available Forms	Reported Psychometrics/Other	Link
				General Behavioral Screens		
	Center for Epidemiologic Studies Depression Scale	Parent; adolescents >14 y (modified version for children as young as 6 available)	20 items	Parent completed; youth self-report	Coefficient α >.9; sensitivity 91%; specificity 81%. Psychometrics for children <14 indicate measure may not discriminate well between depressed and nondepressed youth.	http://cesd-r.com
	Mood and Feelings Questionnaire	Has been used about children as young as 7	Short version; 9 items; long version: 34 items	Parent completed; youth self-report	Parent report version has shown a sensitivity of 75%–86% and specificity of 73%–87%	http://devepi.mc.duke.edu/mfq.html
Substance abuse	CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble)	11–21 y old	Three screener questions, then 6 items	Interview of youth; youth self-report version available	Sensitivity 76%–93%, specificity 76% to 94%; available in multiple languages	http://www.ceasar-boston.org/CRAFFT
	CAGE-AID	Adolescents	4 items	Youth self-report	One or more positive answers is associated with a sensitivity of 79% and specificity of 77%, ≥2 answers 70% and 85%	http://www.integration.samhsa.gov/images/res/CAGEAID.pdf
Anxiety	Screen for Child Anxiety Related Disorders (SCARED)	≥8 y	41 items	Parent completed; youth self-report	Coefficient α: .9	http://www.psychiatry.pitt.edu/research/tools-research/assessment-instruments
	Spence Children's Anxiety Scale (SCAS)	2.5–6.5 y and 8–12 y	45 items	Parent completed 2.5–6.5 y; youth self-report 8–12 y	High internal consistency and adequate test–retest reliability in adolescents	http://www2.psy.uq.edu.au/~sues/scas
ADHD	Vanderbilt ADHD Diagnostic Rating Scales	4–18 y	55-items parent scale; 43-items teacher scale	Parent, teacher completed; follow-up forms available	Sensitivity 80%, specificity 75%, retest reliability >0.80	http://www.nichq.org/toolkits_publications/complete_adhd/03VanAssesScaleParent%20Infor.pdf; http://www.brightfutures.org/mentalhealth/pdf/professionals/bridges/adhd.pdf
	Strengths and Weaknesses of ADHD Symptoms (SWAN)	6–18 y	30 items (18-item available)	Parent, teacher completed		http://www.adhd.net
	SNAP-IV	6–18 y	90 items (18-item version available)	Parent, teacher completed	Coefficient α >.90; available in multiple languages	http://www.adhd.net

CAGE-AID, CAGE Questions (Cut Down, Annoyed, Guilty and Eye Opener) adapted to include drug use; Swanson, Nolan and Pelham Questionnaire, Version IV (SNAP-IV).

[a] This list is not meant to be exhaustive but representative of a range of screening instruments suitable for primary care that are in the public domain. Psychometrics may vary based on the findings of different studies and there is considerable variability in the strength of psychometric reliability between measures.

APPENDIX 2 System Challenges

Resources	• Identify national programs to assist parents and pediatricians in identifying mental health resources such as Help Me Grow,[69] which has established a centralized call center
	• Advocate for a greater workforce of mental health providers and developmental-behavioral pediatricians
	• Advocate for additional community mental health services and ensure they are of high quality
Screening	• Develop additional well-validated screens to identify psychosocial risk
	• Develop and validate screens appropriate for use in low-literacy and non–English-speaking populations

Payment	• Advocate for payment for
	  behavioral, emotional, and substance abuse screening
	  non–face-to-face time including care plan oversight, complex chronic care coordination and prolonged services

	• Evaluate enhanced payment systems for medical-home practices and monitor financial viability of hiring care coordinators
	• Consider payment incentives for medical homes that include potentially enhanced reimbursement for behavioral and emotional screening, family psychosocial, or substance use screening and all follow-up care, case management, care plan oversight, and prolonged services in their capitation calculations.
	• Evaluate cost savings associated with the detection and treatment of behavioral and emotional problems
Collaboration	• Establish payment for collaborative care models that include telephone communications between providers, etc.
	• Develop efficient methods to ensure that results of community-based screening are reported to the medical home
Other	• Develop quality improvement initiatives related to behavioral and emotional screening as a part of maintenance of certification
	• Develop electronic health records that incorporate screening but maintain patient privacy regarding behavioral and emotional problems and family psychosocial stressors