Chapter 9 Prevention of Conduct Problems in Integrated Pediatric Primary Care



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Conduct problems include disruptive, oppositional, and argumentative behavior; physical, relational, and verbal aggression; and delinquency. Conduct problems are also known as externalizing behavior problems because they involve acting in unwanted ways toward others, such as caregivers or peers (CDC, 2020). The period prevalence of clinically significant externalizing behavior problems in children and youth in the United States is estimated to range from 7% to 19% (Ghandour et al., 2019; Merikangas et al., 2010a, b), with about one in ten children experiencing severe impairment or distress (Ghandour et al., 2019; Merikangas et al., 2010a, Lifetime prevalence estimates suggest that conduct problems are common: one in four individuals in the United States will experience a conduct problem within their lifetimes (Kessler et al., 2005).

Recent data suggest that conduct problems are most common in middle childhood (i.e., elementary school- and early middle school-age children), as opposed to early childhood and adolescence (Ghandour et al., 2019). Research conducted a decade earlier suggests a slightly later median onset of conduct problems and a trend in which older children experience more problems (Kessler et al., 2005; Merikangas et al., 2010a). The band within which onset occurs is relatively narrow, however, with the onset of most conduct problems occurring between the ages of 7

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and 15 (Kessler et al., 2005). This differs from many chronic physical health issues, like diabetes and cardiovascular issues, in which risk for developing the condition increases with age (Kessler et al., 2005).

Of course, for many externalizing behavior problems, both risk factors and subthreshold symptoms appear earlier in life, providing a window for prevention and early intervention. For example, the first manifestation of oppositional defiant disorder (ODD) and conduct disorder (CD) was estimated by one study to occur at ages 2.5 and 5.5, respectively, which is significantly earlier than the median onset typically documented by epidemiological studies (Rowe et al., 2010). Thus, prodromal conduct problems are almost certainly more common than these estimates suggest. Intervening early has the potential to course-correct developmental trajectories associated with harmful and sometimes lifelong consequences. Unsurprisingly, having conduct problems puts individuals at risk for developing a host of psychiatric issues as adults. Individuals with childhood-onset CD are at particular risk of being diagnosed with antisocial personality disorder, which is the adult version of the CD diagnosis (Goldstein et al., 2006). Children with disruptive behavior problems are also at increased risk of developing other personality disorders, substance use disorders, mood disorders, and anxiety disorders (Goldstein et al., 2006; Lahey et al., 2005; Morcillo et al., 2011).

If left untreated, conduct problems can lead to significant short- and long-term problems for the individual and also for society in general. For example, conduct problems in childhood and adolescence are predictive of delinquency, criminal behavior, arrests, and adult antisocial behavior (McMahon et al., 2010; Olino et al., 2010). Individuals who experienced conduct problems as children or teens are more likely to become teen parents, drop out of school, get divorced, be incarcerated, and experience lower life satisfaction, with the driver of many of these problems being continued adult antisocial behavior (Colman et al., 2009; Olino et al., 2010). Youth with conduct problems also experience more academic failure and social rejection than their peers (Glenn, 2019). The accumulation of these experiences is one hypothesized driver of the finding that young children with externalizing behavior problems are at increased risk of later developing comorbid internalizing problems such as anxiety and depression (Colman et al., 2009; Willner et al., 2016). Unsurprisingly, conduct problems put individuals at risk for developing a host of psychiatric issues as adults, including antisocial personality disorder and other personality disorders, substance use disorders, mood disorders, and anxiety disorders (Goldstein et al., 2006; Lahey et al., 2005; Morcillo et al., 2011). The impacts of conduct problems are also felt by society. Estimates have calculated a savings of between \$2.6 million and \$4.4 million per child when initiating prevention with high-risk children from birth and a savings of between \$2.6 million and \$5.3 million when intervening with high-risk youth at the age of 14 (Cohen & Piquero, 2008).

9.1 Conduct Problems

9.1.1 Oppositional Defiant Disorder and Conduct Disorder

ODD is characterized by a profile of argumentative, oppositional, and defiant behavior that is developmentally inappropriate and causes significant problems at home, school, and/or with peers (APA, 2013). The hallmarks of ODD are anger or irritable mood, argumentative or defiant behavior, and vindictiveness. These symptoms and behaviors are more common in interactions with adults whom the child knows well, such as caregivers or teachers. The demonstration of these symptoms across multiple settings is the primary indicator of ODD severity.

Children with CD demonstrate a persistent pattern of behavior that includes aggressive behaviors toward people and animals, destroying property, lying and stealing, and seriously violating rules and norms (APA, 2013). Severity is determined by a combination of the frequency of the conduct problems and the amount of harm they cause to others. The childhood-onset type of CD is present before age 10 and is more common in boys, those who had ODD in early childhood, and those with comorbid attention deficit hyperactivity disorder (ADHD) (Frick & Nigg, 2012; Mohan, 2020). The developmental trajectory for childhood-onset CD is characterized as a process of cascading risk, in which a temperamentally vulnerable child experiences inadequate home and school environments, leading to enduring vulnerabilities including poor interpersonal relationships and psychosocial maladjustment (Frick & Nigg, 2012; Moffitt, 2006). In contrast, the developmental trajectory for adolescent-onset CD, in which symptoms become present after age 10, is conceptualized as an exaggeration of typical adolescent rebellion and independenceseeking behaviors. Thus, the teen's behaviors are more likely to resolve by adulthood, although the consequences of those behaviors may persist (Frick & Nigg, 2012; Mohan, 2020; Moffitt, 2006). The presentation of adolescent-onset CD is also more balanced between boys and girls than childhood-onset CD (APA, 2013).

Children who lack empathy and guilt, which are called "callous-unemotional traits" or "limited prosocial emotions," are particularly at risk for severe, stable, and aggressive behavior (Frick & Nigg, 2012). Ongoing research suggests that the developmental psychopathology of this callous-unemotional subgroup of children may differ in meaningful ways from other children diagnosed with CD and also that treatment may need to be tailored to this group (Frick & Nigg, 2012). For these reasons, boys in middle childhood with CD, callous-unemotional traits, comorbid ADHD, and a history of disruptive behavior or ODD since early childhood require immediate intervention.

ODD and CD differ in that ODD is typically less severe than CD; is characterized by emotional dysregulation such as irritable mood, whereas CD is not; and does not include the aggression toward people and animals, destruction of property, and pattern of deceit or theft that characterizes CD (APA, 2013). The onset of ODD typically occurs during the preschool years, while CD tends to onset in middle childhood or later. Some children with ODD may go on to develop CD (Burke et al., 2005; Rowe et al., 2010). This is especially the case for children who are male with preschool-onset ODD, severe ODD symptoms, and comorbid ADHD and who present primarily with the ODD symptom cluster of defiance, argumentativeness, and vindictiveness (Burke et al., 2005; Rowe et al., 2010). For children whose primary ODD symptoms are angry and irritable mood, ODD is more predictive of anxiety and depression later in life than of CD (Copeland et al., 2009; Rowe et al., 2010).

9.1.2 Attention Deficit Hyperactivity Disorder

Because disruptive behavior is a common feature of ADHD, ADHD is frequently bundled with ODD and CD in studies of childhood behavior problems. ADHD is a neurodevelopmental disorder characterized by inattention, hyperactivity, and impulsivity (APA, 2013). Symptoms must be present before adolescence and are typically identified in middle childhood when children begin to struggle in school. ADHD is typically stable across the life span, though hyperactive behaviors, in particular, may shift from excessive motor movement during early childhood to an internal experience of restlessness or impatience during adolescence and adulthood (Resnick, 2005). ADHD has three subtypes: predominantly inattentive presentation, predominantly hyperactive/impulsive presentation, and combined presentation (APA, 2013). Of note, ADHD symptoms must be present in more than one setting, such as at home and at school, and are often not present in novel, rewarding, and highly interactive situations such as when playing video games or when being interviewed in the clinician's office. Thus, in order to meet the diagnostic criteria requiring symptoms to be present in two or more settings, accurate screening and diagnosis must incorporate the perspective of collateral reporters, typically through the use of a standardized questionnaire (APA, 2013; Weitzman & Wegner, 2015).

Conduct problems are more likely to occur in either the hyperactive/impulsive or combined presentations, because children's externalizing behavior is more closely linked to the social disinhibition and emotion dysregulation features of the diagnosis than the executive functioning challenges (Frick & Nigg, 2012). For example, children's high activity levels and impulsive behaviors, such as grabbing a toy away from another child or interrupting conversations, may cause interpersonal problems with both adults and peers, which compound over time and can lead to social problems and psychological maladjustment. ADHD is also highly comorbid with ODD, the combination of which is a risk factor for later CD (Frick & Nigg, 2012).

ADHD can be treated behaviorally, pharmacologically, or by using a combination approach. Behavioral interventions focus on creating structure to support executive functioning, providing more frequent rewards for prosocial and adaptive behaviors, training lagging social and academic skills, and improving home-school communication (Jensen et al., 2001). Pharmacological interventions rely on stimulant medications such as methylphenidate (Jensen et al., 2001). The combination, when behavioral interventions are implemented with sufficient fidelity and stimulant medication is titrated both initially and over time, as children grow, can be highly effective at managing symptoms, and it is the recommended approach for treating ADHD in children with comorbid disruptive behavior disorders (Jensen et al., 2001). This finding drives the recommendation that children with comorbid ADHD and ODD or CD be treated for ADHD first to try to alleviate psychological distress and remediate symptoms (Lillig, 2018).

9.1.3 Autism Spectrum Disorder, Anxiety Disorders, and Depressive Disorders

Finally, autism spectrum disorder (ASD), anxiety disorders, and depressive disorders may present with features of externalizing behavior problems. In all three cases, children's externalizing problems should remediate at least in part when their primary diagnoses are treated, which emphasizes the importance of screening, appropriate referrals, and accurate diagnosis. Children with ASD, which is a neurodevelopmental disorder like ADHD, tend to be inflexible in their thinking, feel safe in the context of routine, and lack verbal skills (APA, 2013). Taken together, some children with ASD may "get stuck" when their expectations or schedules change unexpectedly or when they feel overwhelmed, appearing defiant and sometimes lashing out aggressively either against themselves (i.e., head banging) or against others. This may be particularly common when children lack the verbal ability to get their needs met through more adaptive channels. Though the treatment plan for ASD should be comprehensive, some strategies and interventions can reduce these other-directed aggressive or oppositional behaviors, including providing advance notice of changes, sticking to routines, training the child's coping skills, and providing the child with alternative means of communication such as a Picture Exchange Communication System (PECS; Bondy & Frost, 2011).

Children with anxiety disorders are distressed by external or internal (i.e., thoughts, physiological experiences) stimuli and lack the coping skills to regulate their emotional responses to the stressors. For example, children worried about separating from their caregivers or taking tests may appear oppositional, defiant, or argumentative in contexts specific to their anxiety. These externalizing features are behavioral expressions of the child's attempts to avoid or, in extreme situations, escape the anxiety-provoking stimuli. Cognitive-behavioral treatment of anxiety disorders is effective (Barrett et al., 2001). It helps decouple previously conditioned responses to anxiety-provoking stimuli and trains children in generic skills for coping with stress. Sometimes true skill deficits underlie anxiety, such as when a child is asked to read in front of the class but does not know how to read. Without understanding and remediating those skill deficits, anxiety and the disruptive and oppositional behaviors that sometimes accompany it will remain. Chapter 7 in this text describes the prevention of anxiety in integrated pediatric primary care in more detail.

Finally, children with depressive disorders often present with irritable mood, in addition to or instead of sad mood, as well as a loss of pleasure, which is known

clinically as anhedonia (APA, 2013). Though irritability may appear across depressive disorders in children, disruptive mood dysregulation disorder (DMDD), in particular, features chronic irritable mood peppered with temper outbursts that include verbal rages or physical aggression, are disproportionate to the situation, and are developmentally inappropriate (APA, 2013). Cognitive-behavioral therapy and interpersonal therapy are both effective psychosocial treatments for depression (Ryan, 2005). The former helps children revise problematic thinking patterns, increase experiences of mastery and pleasure, become more behaviorally activated, and gain coping and other lagging skills such as problem-solving. The latter focuses more heavily on maladaptive interpersonal behavior patterns and is more typically used for teens than for children. Depression is also frequently treated with antide-pressant medication, though there continue to be concerns about the increase in suicidal ideation and attempts in children who are prescribed selective serotonin reuptake inhibitors (Ryan, 2005). The prevention of depressive disorders in pediatric primary care is discussed in more detail in Chap. 6 in this text.

9.2 Risk Factors for Developing Conduct Problems

The theory of developmental psychopathology posits that genetic, individual, family, and social/environmental influences interact over time to promote either typical or atypical developmental outcomes (Achenbach, 2015; Cicchetti, 1984). These interactive influences are sometimes referred to as the biopsychosocial model (George & Engel, 1980), and it can be helpful to remember that key influences exist both within the child and in the child's context, allowing for numerous avenues of intervention (Bronfenbrenner, 1992). Influences that boost developmental trajectories over time are called protective factors or resiliencies and may include, for example, reading to young children at home, responsive parenting with adequate supervision, access to high-quality schools, and learning coping skills to manage stress and regulate emotions. Influences that dampen developmental trajectories over time are called risk factors. Psychological disorders manifest when risk factors outweigh protective factors (Achenbach, 2015; Cicchetti, 1984). The goal of prevention efforts is to reduce or eliminate risk while boosting resilience. In the case of conduct problems, risk and resilience should be evaluated early in life, before any or early indicators of future psychological disorders manifest. When children have risk factors for conduct problems, prevention or early intervention efforts to reduce risk and boost resilience are indicated to reduce the likelihood of developing the full-blown syndrome.

9.2.1 Biological

Biological risk factors include genetic and teratogenic exposures before birth or early in life (Dodge & Pettit, 2003). Genetic factors include being male and having genetic predispositions for characteristics common in conduct problems such as aggression; impulsivity, problems with emotion regulation, and other temperamental vulnerabilities; executive functioning deficits; and low intelligence (Dodge & Pettit, 2003; Frick & Viding, 2009; Ghandour et al., 2019; Kessler et al., 2005; Merikangas et al., 2010a, b; Moffitt, 2006). Temperamental vulnerabilities present early in development and begin the hallmark pattern of cascading developmental risk that underpins conduct problems. For example, babies as young as 6 months old who present with a pattern of being fussy and hard to soothe, overly resistant to control, and difficult are at risk for developing conduct problems later in childhood (Goodnight et al., 2008). Prenatal and early exposures to teratogens through parental smoking, parental use of other substances, and lead introduce similar vulnerabilities (Carter et al., 2008; Dodge & Pettit, 2003). It is thought that together, these biological precursors negatively impact the ways that children sustain attention, process punishment and reward, and regulate mood and behavior, all of which are key drivers of conduct problems (Dodge & Pettit, 2003; Frick & Viding, 2009; Moffitt, 2006; Rogers et al., 2019; van Goozen et al., 2007).

9.2.2 Psychological

Research has focused on callous-unemotional personality traits, which include a lack of guilt, remorse, and empathy, as a highly predictive psychological risk factor for severe and persistent conduct problems (Frick & Morris, 2004; Frick & Nigg, 2012). Many of the other psychological risk factors that have been identified are part of the sequence of cascading developmental risk experienced by children with conduct problems. These psychological vulnerabilities interact with biological risk factors and unsupportive, invalidating, and antisocial environments over time, a process which shapes them to be even more antisocial, harmful, and atypical from a developmental perspective (Dodge & Pettit, 2003; Frick & Viding, 2009; Patterson et al., 1989). Examples include executive functioning challenges, such as fearlessness, lack of behavioral inhibition, impulsivity, poor attention, and lack of persistence (Moffitt, 2006; Nigg, 2000); cognitive or verbal deficits (Moffitt, 2006); problems with emotion regulation and deficits in coping skills; and poor social skills (Daly et al., 2018; Frick & Morris, 2004). Finally, though it is intrapersonal rather than strictly psychological, child physical health is also a risk factor for behavior problems; one in three children with fair or poor physical health also experiences a clinically significant conduct problem (Ghandour et al., 2019).

9.2.3 Social/Environmental

The final element in the model of cascading developmental risk that characterizes children with conduct problems is the social or environmental context. The first risk context, which comes into play during early childhood, is the home. Dysfunctional family environments are risk factors for the development of conduct problems, which include harsh parenting, lack of structure, poor monitoring, extinction of prosocial behaviors (i.e., ignoring regulated or helpful behaviors), reinforcement of antisocial behaviors (i.e., granting requests or providing attention only after explosive or dysregulated behavior), and other ineffective parenting strategies (Dodge & Pettit, 2003; Frick & Viding, 2009). Dysfunctional households predictive of conduct problems also include conflict or interpersonal violence, neglect, abuse, instability, parental psychopathology, and inconsistent caregiving (Bares et al., 2020; Frick & Viding, 2009; Ghandour et al., 2019; Kopp et al., 2007; Rey et al., 2000).

Once children become school-age, school becomes a second risk context. Poorly managed classrooms not only decrease children's opportunities for learning but also increase the likelihood that children with have negative interactions with their teachers, demonstrate behavior problems, and experience punitive or exclusionary discipline, which is the first step in the school-to-prison pipeline (Dodge & Pettit, 2003; Gregory et al., 2016; Reinke et al., 2008; Webster-Stratton et al., 2004). Academic failure and peer rejection in school lead children to associate with deviant peers, which is the third risk context (Dodge & Pettit, 2003; Patterson et al., 1989). These deviant peers increase the child's exposure to and positive reinforcement of antisocial and other risky behaviors, such as delinquency, truancy, early initiation of sex, and substance abuse (Patterson et al., 1989).

The child's developmental trajectory is embedded in the larger societal context (Bronfenbrenner, 1992). Poverty is a key risk factor for conduct problems (Ghandour et al., 2019). Researchers are beginning to tease apart the mechanisms of this effect. For example, children who live in poverty tend to live in neighborhoods with high poverty rates, high rates of violence, low social mobility, and low-quality public education (Eron et al., 1997). These neighborhood stressors interact with biological, psychological, and social factors to increase risk for conduct problems (Bares et al., 2020). Taken together, this transactional model describes a pattern that worsens over time, both because children's negative experiences with family, school, and peers continue to add up and because the consequences of aggression and property damage become more severe as children age (Dodge & Pettit, 2003; Patterson et al., 1989). Thus, even though most conduct problems onset by the mid-teens, individuals with these challenges experience their consequences across the life span via pervasive skill deficits; entrenchment in unsupportive, invalidating, and antisocial environments; and the long-term sequelae of antisocial behavior such as having a criminal record.

9.3 Screening and Prevention of Conduct Problems in Integrated Care

Currently, only about half of those with conduct problems receive treatment from a mental health professional (Ghandour et al., 2019; Merikangas et al., 2010b), with younger children less likely to receive services (Lavigne et al., 2009). Even fewer receive evidence-based interventions (Kazdin, 1997). Older children with severe conduct problems or with comorbid psychiatric conditions such as depression are more likely to receive treatment (Ghandour et al., 2019), a pattern that explicates the US perspective that problems should be treated rather than prevented. Both the risk of developing conduct problems and the challenges inherent in accessing high-quality interventions to treat them are greater in low-income, marginalized communities, which directly contributes to disparities in health and other outcomes (Arnold & Doctoroff, 2003; Smedley et al., 2003). Unsurprisingly, the prevalence and impact of conduct problems, combined with the inadequacy of the status quo with regard to addressing them, has elicited calls for prevention and early intervention is effective screening.

9.3.1 Effective Screening

Research has shown that screening for conduct problems during early childhood (in this case, at age 6) can effectively predict externalizing and delinquent behavior at age 10, school difficulties across middle childhood and adolescence, ADHD diagnoses at 14, cigarette use at 17, and criminal convictions at 25 for children who already had social risk factors such as living in poverty (Hill et al., 2004; Kassing et al., 2019; Racz et al., 2013). The true costs of screening, which could include stigma, psychological distress, and false positives, have not yet been carefully evaluated. However, the bulk of the evidence suggests that the importance of the benefits – preventing and intervening early upon conduct problems – outweighs these costs (Hill et al., 2004). For this reason, screening in pediatric primary care is recommended. The best practice screening is family-centered, which includes careful attention to families' cultures and contexts (AAP, 2012).

Screening can happen universally, in which all children in the practice complete an annual or more frequent screening. One consideration when planning for universal screening is the ethical obligation that the provider will have to follow up with all children who screen into at-risk or clinical levels of problems. It is helpful to have a tiered plan for follow-up assessments and interventions in place before completing the first wave of screenings. Screening can also happen when the provider is concerned either because of the presence of risk factors or of disruptive behaviors. Either way, the goal is to catch disruptive behavior early to prevent children from moving too far down the pathway of cascading developmental risk. Screening should also be initiated at the request of families. Research suggests that about half of the time, parents of young children who are concerned about behavior problems ask their pediatricians for help (Fanton et al., 2008). In those instances, half of the children eventually saw a mental health provider, suggesting that those parents' concerns were valid. However, the most common response from pediatricians was that the behavior was "not a problem." Equally concerning, of the half of parents who did *not* consult with their pediatricians, one third later met criteria for ODD, CD, or ADHD. These cases reflect missed opportunities for prevention. Taken together, it is recommended that integrated pediatric primary care take a proactive approach to screening, which intentionally includes a thorough and thoughtful examination of parents' concerns.

Screening for conduct problems in pediatric primary care is typically completed by asking the parent or primary caregiver to complete a psychometrically validated questionnaire. Children may also complete the questionnaires as long as they are old enough to understand and respond to the items, which is typically during middle childhood. Of note, however, children are typically viewed as underreporters of their own externalizing behavior problems (i.e., Handwerk et al., 1999). For this reason, child-report data should never be used in isolation. Each validated survey will specify the appropriate population, which should be attended to carefully both for caregiver proxy and child reports, since the items are keyed to development, and the scoring typically relies on age- and sometimes gender-referenced norms.

It is almost always useful and sometimes also necessary to obtain a collateral report from a teacher or other caregivers. Evidence that the child demonstrates conduct problems in settings outside the home is an indicator of severity. In addition, for ADHD, it is a requirement of the diagnostic process (APA, 2013). Teachers tend to be more adept than other reporters at identifying nonnormative externalizing behavior (Hinshaw et al., 1992), presumably because they know the child well and they have a large mental set of typically developing children to which they can compare him or her. Finally, the sensitivity of predictions typically improves when data from multiple informants can be triangulated (Hill et al., 2004).

Several screeners with robust psychometric properties are available either for free or for purchase at an affordable price. They tend to be fairly quick and easy to administer, often taking 3–5 min, and straightforward to score either by hand or using accompanying software. With the exception of the SDQ, the measures are typically administered by an individual with at least a master's degree in psychology, counseling, social work, special education, or a related field, though other professionals can also pursue professional development to become certified in this type of psychological assessment. The screeners are often available in English and Spanish, and sometimes they also include additional translations with accompanying norms.

For thorough reviews of available measures, see McMahon and Frick (2005), Severson et al. (2007), and the Mental Health section of the American Academy of Pediatrics website (e.g., AAP, 2012). We will discuss commonly used instruments in the following paragraphs, including the Strengths and Difficulties Questionnaire (SDQ; Goodman et al., 2000); the Swanson, Nolan, and Pelham-IV (SNAP-IV; Bussing et al., 2008); the NICHQ Vanderbilt Assessment Scale (Wolraich et al., 2003), the Conners-3 (Conners, 2008); the Child Behavior Checklist (CBCL) and related instruments (Achenbach, 1999); and the Behavior Assessment System for Children Third Edition (BASC-3; Reynolds & Kamphaus, 2015).

The SDQ is a 25-item screening questionnaire for children aged 2 and up (Goodman et al., 2000). Child-report versions exist for children 11–17 years old, and parent and teacher versions exist for children aged 2 and up. It is freely available online at www.sdqinfo.org, it can be administered by non-clinicians, it takes 3–5 min to complete, and it can be scored using a key or online. The instrument has five subscales, including emotional symptoms (i.e., anxiety and mood), conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. The SDQ can be administered by non-clinicians. The test has been translated into over 75 languages and thus can be used with a multilingual population.

The SNAP-IV is a 26-item screener for children aged 6–18 (Bussing et al., 2008). The SNAP-IV focuses on ADHD and ODD. Some SNAP-IV versions also include additional items relevant to these disorders and other disorders. In line with the recommendation that child-report data are less reliable for externalizing disorders, the SNAP-IV only includes parent and teacher versions. It is freely available online, though more support around scoring is available with an annual subscription at www.myADHD.com.

The Vanderbilt (Wolraich et al., 2003) and the Conners-3 (Conners, 2008) are commonly used in screeners for ADHD. The Vanderbilt, in particular, is favored in pediatric primary care settings (Wolraich et al., 2003). It is an 18-item screener for children aged 6-18 that focuses on ADHD. Similar to the SNAP-IV, the Vanderbilt only includes parent and teacher versions, and some versions include additional items relevant to other disorders. It is available for purchase from the American Academy of Pediatrics' online store at shop.aap.org, where older versions can be downloaded for free. The Conners-3 is a 10-item screener for children aged 6-18 that focuses on ADHD, called the "ADHD Index" (Conners, 2008). Longer versions of the Conners also include items relevant to common comorbid conditions. The Conners includes parent and teacher report versions as well as a self-report version for children aged 8 and up. The flexibility of the Conners and the software package that accompanies it offer advantages for those who are interested in different levels of screening (i.e., ADHD only vs. related issues), prefer easy online scoring, and would benefit from support around creating intervention plans. The Conners is available for purchase at www.wpspublish.com.

Finally, two common "broadband" screeners contain information relevant to a host of problems, including externalizing behavior problems. Each takes 10–20 min for adults to complete and slightly longer for children to complete. They are most commonly used by specialists, such as the behavioral care provider in the integrated care practice. The CBCL and related instruments are a suite of measures that are used to detect behavioral and emotional problems in children and teens beginning at age 18 months (Achenbach, 1999). The CBCL is the parent-report measure, the Teacher-Report Form (TRF) is for teachers, and the Youth Self-Report (YSR) is for children aged 11–18. Additional instruments in the suite can support providers with

progress monitoring, behavioral observation, and clinical interviewing, and all of the tools are available for purchase at www.aseba.org. The BASC-3 suite similarly is designed to assess a range of behavioral and emotional issues. The parent and teacher forms are appropriate for children aged 2 and up, and the self-report forms are appropriate for children aged 6 and up (Reynolds & Kamphaus, 2015). The BASC-3 suite includes a screener called the Behavioral and Emotional Screening System (BESS), which includes parent and teacher forms for children aged 3 and up and child-report forms for children aged 8 and up. Additional instruments in the suite can support progress monitoring, child observations, collection of a developmental history, and intervention development, and the suite is available for purchase at www.pearsonassessments.com. The instruments in these two "broadband" screening suites are, for the most part, comparable to one another (e.g., McClendon et al., 2011), and decisions to opt for one suite over the other are likely based mostly on the training background of the purchaser.

9.4 Evidence-Based Prevention

Evidence-based prevention of conduct problems has been shown to be effective both for the general population and for high-risk groups (David-Ferdon et al., 2016). Evidence-based prevention can target everyone, which is called universal or primary prevention. This type of approach is intended to provide support and education and/or reduce risk before problems arise. In the context of pediatric primary care, providers can provide information about the harms of, for example, lead and prenatal smoking to families. Related to psychological risk, children may have lagging skills in executive functioning, emotion regulation, and other areas that introduce risk. Providers can offer skills training programs to the full population of children or, more commonly, help families find schools that incorporate this sort of education into their curriculum. These child-focused curricula are often referred to as social-emotional learning. Social-emotional learning programs, which typically teach children about emotions, coping, peer relations, and problem-solving, have been shown to prevent behavior problems and emotional distress and promote prosocial behavior and academic achievement (Durlak et al., 2011).

Finally, universal prevention may also target the social/environmental risk associated with unsupportive, invalidating, and antisocial environments. The home environment plays a key role in promoting developmental risk (Dodge & Pettit, 2003; Patterson et al., 1989) and is also the environment most malleable from the perspective of the primary care provider. Pediatricians play an important role in educating families about positive and effective approaches to parenting and discipline. The most common method to teach the full suite of positive parenting strategies is through behavioral parent management training, which is a curriculum designed to teach parents these skills. Later in development, both school and peer environments become more important (Dodge & Pettit, 2003; Patterson et al., 1989). Providers in pediatric primary care may consult with families about finding high-quality schools and reinforcing youth's involvement with prosocial peers. For example, schools that train their teachers to use evidence-based classroom behavior management strategies will have fewer punitive and coercive interactions in the classroom and more opportunities for child prosocial behavior to be rewarded and reinforced (Kellam et al., 2011; Reinke et al., 2008; Webster-Stratton et al., 2008).

Behavioral parent management training and effective teacher classroom behavior management have a lot in common. The training typically teaches parents or teachers how to foster positive relationships with their children/students, proactive parenting skills such as routines and effective commands, and positive discipline strategies such as behavior-specific praise, ignoring, and natural and logical consequences. Behavioral parent management training and effective classroom behavior management can reduce disruptive behavior and increase emotion regulation, social skills, and academic achievement (Dretzke et al., 2009; MacSuga-Gage & Simonsen, 2015; Webster-Stratton et al., 2008).

Selective or secondary prevention is defined as early intervention following screening for either early manifestations of the problems or their risk factors. The goal is to catch disruptive behavior early to prevent children from moving too far down the pathway of cascading developmental risk. We discussed screening extensively in the section above. For this type of prevention, only a subset of the population is targeted based on the presence of risk factors. Thus, this group may be those children who have already started displaying antisocial behaviors such as aggression. Alternatively, it may be those children who have not yet started showing externalizing behavior but have one or several risk factors for developing it, such as early temperamental indicators, physical health problems, or living in poverty. Finally, indicated or tertiary prevention is focused on managing the problem once it has already onset to either reduce its negative impacts or remediate it. Selective prevention is most appropriate for those children who already demonstrate conduct problems. Thus, the subset of the population eligible for indicated prevention is even smaller than that of selective prevention.

The intervention classes described above are also appropriate for both selective and indicated prevention, though the sense of urgency about implementing the interventions, the number and intensity of the interventions, and the level of care used to deliver those interventions are typically greater. For example, although training lagging emotion regulation skills will be universally helpful to children, for children who already experience symptoms relevant to emotional dysregulation (i.e., frequent and intense temper tantrums), a course of outpatient cognitive-behavioral therapy may also be indicated. As the problem becomes more severe, the child may also receive these interventions across home, school, and community settings. Unsurprisingly, researchers often see larger positive effects of intervention for those children in the selective and, even more so, the indicated prevention groups (i.e., Dawson-McClure et al., 2015; Webster-Stratton et al., 2001).

When aggression and other symptoms of conduct problems become severe, the child also becomes more likely to be involved with mental health specialists in addition to pediatric primary care providers. Urgent and more intensive action is specifically recommended when children display more persistent, pervasive patterns of antisocial behavior with functional impairment (see Subsection "Watchful Waiting" for more information) and/or when they have multiple concerning risk factors, such as callous-unemotional traits, comorbid ADHD, and a history of disruptive behavior or ODD since early childhood, and/or are living in poverty. Children with high levels of clinical need may require intensive interventions such as multisystemic therapy (MST; Curtis et al., 2004) and are sometimes prescribed risperidone (Barterian et al., 2017), an atypical antipsychotic often associated with significant side effects including weight gain, in addition to a well-titrated stimulant. These interventions should be managed by specialists.

9.5 Stepped Care Prevention Model for Conduct Problems

In the stepped care prevention model, pediatricians and integrated behavioral health providers collaborate with families to provide preventative interventions along a continuum, from least (i.e., watchful waiting) to most invasive and intensive (i.e., individual treatment) or even inpatient admission. Where to start along the continuum is influenced by whether the child is already displaying antisocial behaviors, which may be learned in the context of screening, and/or whether the child has risk factors for conduct problems.

9.5.1 Watchful Waiting

Not all children with behavior or impulse-control difficulties will go on to develop externalizing behavior problems. In fact, a pattern of behavior that causes functional impairment must be present to diagnose a conduct problem (APA, 2013). On the other hand, it is important from a prevention perspective to catch developmental psychopathology early in its course (Burke et al., 2002). Taken together, in cases where the intensity, frequency, and duration of the child's behavior problems are unclear, and especially if the child is in early childhood, caregivers and providers may opt to undergo a period of watchful waiting. Key constructs to be aware of during watchful waiting include the persistence, quality, and pervasiveness of the problematic behaviors. These constructs can be evaluated in the context of the patient's history. In some cases, asking the caregivers to track and document the child's behaviors may also be helpful.

Persistent behaviors repeat and may escalate over time. The *quality* of the behaviors will also be indicative of a clinical profile (Wakschlag et al., 2007). For example, for noncompliance, whereas low-level defiance followed by compliance after a prompt is normative for young children, active defiance, requiring multiple prompts to meet the expectation, or never meeting the expectation is not. Similarly, with regard to emotion regulation, mild difficulty recovering from being upset or needing a little adult support is normative. Moderate or substantial difficulty recovering even

with the help of an adult is not. Finally, for aggression, low-intensity aggression that seems impulsive is normative, while multiple incidents of mild aggression, moderate aggression, or serious and intense aggression are not. In all cases, more concerning behaviors are those that are more *pervasive*, meaning that they are present across multiple settings such as home, school, and community settings like church or the grocery store (Wakschlag et al., 2007). Of course, this guidance is nested within the child's risk context. Providers may wish to intervene earlier if the child and family present with a lot of risk, even if the persistence, quality, and pervasiveness of the conduct problems are less significant.

During the watchful waiting period, caregivers should be educated on generic strategies that have been shown to boost mood and physical well-being and, through that pathway, decrease conduct problems (Aarons et al., 2008; Penedo & Dahn, 2005). Specific recommendations include engaging in regular physical activity, maintaining a healthy diet, practicing good sleep hygiene, and developing and maintaining strong relationships with family members and other positive social supports (CDC, 2020). Sleep habits are a particularly common sticking point, with many children getting far less sleep at nighttime than is suggested by the American Academy of Pediatrics (AAP, 2016) due to media use, inconsistent bedtime routines, and caregivers' need to work split shifts or shifts in the gig economy. Occasionally, simply increasing sleep to the recommended hours per night can resolve behavior problems characterized by noncompliance and irritability, especially in early childhood.

9.5.2 Psychoeducation

The goal of psychoeducation is to provide education about the problem, including its prevalence, impact, course, risk and protective factors, and associated prevention and intervention options. This effort can also empower caregivers to make the best choices for their children, ease worries, build rapport, engage families in care, and destigmatize the problem. Almost universally, interventions further along the continuum of the stepped care model begin with psychoeducation. Providers interested in finding resources related to psychoeducation can begin with general information such as that provided by the CDC (2020) or the family-friendly guides created by the Child Mind Institute accessible at https://childmind.org/audience/for-families (Child Mind Institute, 2021a).

Alternatively, especially if providers have the appropriate training in behavioral health, they can pull psychoeducation information from the beginning of any of the more intensive interventions described later in this chapter. Psychoeducation can be shared with families verbally during their consultation or sent home in the form of materials to review. Providers should ensure that the material they communicate, either verbally or in written form, is evidence-based, accessible, family-centered, and culturally competent. In some cases, simply providing this guidance to families

can help them make changes to the home or school environment that will resolve the challenging behavior.

9.5.3 Biblio-prevention

Children's books have been demonstrated to help children manage uncomfortable emotions and learn problem-solving and social skills (Hébert & Furner, 1997; Forgan, 2002; McCarty & Chalmers, 1997). They tap into humankind's deep connection with narratives and storytelling and can serve as instruction manuals for children with lagging skills in certain areas, such as emotion regulation or social skills. In addition, when caregivers and children read them together, they provide opportunities to build positive relationships and create a common language. Providers can recommend specific books for caregivers to purchase or can keep some on hand to give away or lend to families with lower incomes. Individual books are rarely evaluated in research as stand-alone interventions; instead, providers learn through experience which books appeal to families, are culturally competent, and align well with theories of psychopathology and evidence-based intervention. We describe several books we personally use below. Early in the continuum of stepped care, providing a book recommendation may be enough to help a child and family. Children's books are also incorporated as one part of larger protocols into the interventions that are situated further down the continuum.

Numerous children's books aim to promote emotional development by teaching children how to identify and cope with uncomfortable emotions. Today I Feel Silly & Other Moods That Make My Day by Jamie Lee Curtis uses playful rhymes to help children identify different feelings that they may experience on a given day. Books focused on anger can be particularly helpful in the prevention of conduct problems. In When Sophie Gets Angry – Really, Really Angry by Molly Bang (2007), readers observe the intensity of Sophie's feelings, how she behaves when she's angry, and, ultimately, how she is able to calm herself down. Coping with anger is also the focus of Tamir and Naya Take on Anger by Prosser Project, (2020) and coauthored by one of the authors of this chapter. Tamir and Naya Take on Anger is a beautifully illustrated story featuring Black children that was written by three mental health professionals who identify as women of color. Notably, Tamir and Naya Take on Anger includes dialogic questions at the end of the book to increase children's engagement with the story as well as three activities (e.g., deep breathing) to help further promote coping skills, prosocial behavior, and positive feelings about Blackness. Tamir and Naya Take on Anger, which was written to address the lack of diversity in traditional publishing, serves as a powerful resource for Black and Brown families who don't often see themselves and their culture positively portrayed in media.

In addition to books that foster emotional development, reading books that focus on building children's problem-solving and social skills can be effective in preventing conduct problems. *Talk and Work It Out* by Cheri Meiners (2005), for example, uses simple language to help children learn conflict resolution. *Join In and Play*, also by Cheri Meiners (2003), teaches appropriate social skills such as how to join in and play with peers, and it emphasizes the importance of cooperation, getting along, and being kind. These books and the others in the Learning to Get Along series include discussion questions, games, and activities that caregivers and providers can use to reinforce what children have learned. Many of the titles are also available in English-Spanish bilingual editions. Finally, *How Do Dinosaurs Play with Their Friends* by Jane Yolen (2006), is another children's book that teaches appropriate social skills. *How Do Dinosaurs Play with Their Friends* is a vibrant, fun story that uses dinosaurs to teach children about friendship and the importance of playing nicely with others. As an added bonus, the names of the dinosaurs are discreetly included in the illustrations.

9.5.4 eHealth Prevention Tools

Online prevention services allow families to access information and support, often at their convenience and from the comfort of their homes, or, in the case of mobile devices and mHealth, from anywhere. The year 2020 brought about a surge in the online and mobile tool space for telehealth and prevention because of the COVID-19 pandemic. Research on many of these tools is ongoing, with most efforts focusing on the development of the applications and the evaluation of their feasibility and acceptability, which has been favorable (Badawy & Kuhns, 2017). First, the Child Mind Institute's website includes a symptom checker (https://childmind.org/symptomchecker/; Child Mind Institute, 2021b). Although it is not a substitute for a clinical diagnosis, the checker can provide a list of disorders or learning problems associated with the symptoms, link families to psychoeducation, and facilitate a focused conversation with a provider. Second, the Fussy Baby Network at the Erikson Institute (2020) helps families with difficult-to-soothe infants and offers free phone consultations via their "warmline," video home visits, parent web groups, and referral information. Online resources that offer suites of preventative interventions via an eHealth or mHealth platform will likely become more common. Finally, it will become increasingly possible to use mobile phones to provide support to parents or older teens either through texting or applications, though scientists have truly just begun to apply mHealth to the prevention of conduct problems and mHealth in and of itself is a new area (i.e., Chu et al., 2019). For example, applications such as CopeSmart, Calm, Headspace, and iMoodJournal offer ways to easily learn and practice coping skills and monitor mood.

9.5.5 Group Programs

Generally, group treatments are highly efficacious while also being cost-effective (Burlingame et al., 2003). Group programs are also flexible enough that they can be used in the context of prevention. Group programs typically span either teach children lagging skills or teach caregivers or teachers how to create more supportive, validating, and prosocial environments.

The programs that target children's lagging skills, such as emotion regulation, are called social-emotional learning curricula. These group-based interventions for the prevention of conduct problems are often available in schools and are rarely delivered in integrated pediatric primary care settings. Therefore, school-based prevention programs will be the focus of this section. School-based prevention programs are delivered at multiple tiers based on students' needs. Universal school-based prevention programs are delivered to all students regardless of their risk, whereas secondary prevention programs provide targeted support to at-risk students.

The most widely used evidence-based universal prevention programs for conduct problems include the Incredible Years Child Training Program (Dinosaur School), Promoting Alternative Thinking Strategies (PATHS), I Can Problem Solve, and Second Step. Each of these prevention programs is designed to reduce conduct problems by promoting social-emotional development (Durlak et al., 2011). There is a strong evidence base for the effectiveness of Dinosaur School (Pidano & Allen, 2015; Webster-Stratton et al., 2008; Webster-Stratton & Reid, 2011), PATHS (Crean & Johnson, 2013; Kam et al., 2004), I Can Problem Solve (Boyle & Hassett-Walker, 2008; Shure & Spivack, 1982), and Second Step (Espelage et al., 2013; Frey et al., 2005; Low et al., 2015) on the prevention of conduct problems in children.

The Coping Power Program (Lochman et al., 2008) and the Friend to Friend (F2F) Program (Leff et al., 2015, 2016) are two evidence-based selective prevention programs for at-risk youth. Coping Power is designed to address deficits in social cognition (e.g., hostile attribution bias), self-regulation, and peer relations and improve positive parental involvement, and it includes child and parent components (Lochman & Wells, 2004). The effectiveness of Coping Power on reducing conduct problems has been demonstrated in several studies (Lochman & Wells, 2004; Muratori et al., 2015). The F2F Program, which is partially based on the Coping Power Program, aims to reduce relational aggression among girls by improving their social problem-solving abilities. Participation in the F2F Program has been shown to reduce aggression, particularly relational aggression (Leff et al., 2015), and increase prosocial behavior (Leff et al., 2016) among girls.

Although group treatments may be a convenient and cost-effective approach for youth with conduct problems, providers should be aware of potential iatrogenic effects of group treatments. In group settings, deviancy training (i.e., the process in which peers reinforce each other's antisocial behaviors) can occur, leading to an increase in antisocial and other problematic behavior rather than a decrease (Dishion et al., 1999). To counteract this problem, the group facilitator should be well trained, closely monitor group interactions, and recruit prosocial peers to join the group.

Trainings for caregivers and teachers related to creating more supportive, validating, and prosocial environments also typically occur in groups. Behavioral parent management training is one of the most substantiated interventions in child mental health, especially for children with significant externalizing behavior problems (Hutchings et al., 2020; Kazdin, 1997; Obsuth et al., 2006). It can be offered in the integrated pediatric primary care setting, typically in partnership with internal or external behavioral health providers. Involving caregivers and family members into the training process is important for decreasing negative behaviors over time, especially when compared with child or parent training alone (Webster-Stratton & Hammond, 1997). For this reason, it is extremely atypical to provide treatment in a clinical setting for externalizing behavior problems without involving the caregivers significantly.

Over the course of about 8–16 sessions, parents learn skills to proactively manage and monitor their children's behavior. The programs focus on improving the child-caregiver relationship, creating structure in the home, reinforcing prosocial behavior, extinguishing antisocial behavior, providing consistent discipline, and generally reshaping the child and caregivers' maladaptive patterns of behavior. Strong evidence exists for the effectiveness of the Incredible Years Parent Program (Leijten et al., 2017; Webster-Stratton & Reid, 2003), including the prevention (as opposed to treatment) version of the protocol. Some efficacious programs more commonly delivered in the individual setting, which we describe in the next section, can also be used in groups.

Finally, teachers can also be trained to create supportive environments that offer rewards for prosocial and regulated behavior and therefore improve children's access to instructional time. One example is classroom contingency management, which involves establishing clear behavior goals and a system to reinforce desired behaviors. For example, in the Good Behavior Game (Flower et al., 2014; Kellam et al., 2011), students are divided into two teams, and a point is given to a team if a team member engages in inappropriate behavior. At the end of the game, the team with the fewest points wins a group reward. If both teams keep their points below a predetermined level, the teams share the reward. Other approaches share many similarities with behavioral parent management training, including the Incredible Years Incredible Beginnings (for early childhood) and Teacher Classroom Management programs (Webster-Stratton et al., 2008). Either type of teacher training program may also be supported by a wraparound coaching model to help translate teachers' didactic learnings into the classroom (i.e., Becker et al., 2013; Reinke et al., 2008). Though these interventions are highly unlikely to occur in integrated pediatric primary care, providers can counsel families around identifying high-quality schools.

9.5.6 Individual Treatment

Individual treatments for conduct problems are easily integrated into pediatric primary care settings, especially when they can be provided by the behavioral care provider. As described above, behavioral parent management training is considered the gold standard treatment for young children with conduct problems (Kazdin, 1997). The goals and course of individual treatment for caregivers mirror that of the group versions of this treatment. In some cases, children and teens may exhibit such extreme antisocial behavior that regular outpatient treatment is not sufficient. In these cases, referrals to higher levels of care such as multisystemic therapy (which is the best practice intervention for youth with this presentation), intensive day treatment, partial hospitalization, or inpatient hospitalization are options (Henggeler & Schaeffer, 2019).

Well-established interventions and caregiver-focused interventions include the Triple P Positive Parenting Program (De Graaf et al., 2008), Defiant Children/ Defiant Teens (Costin & Chambers, 2007), and Parent-Child Interaction Therapy (PCIT; Thomas et al., 2017). PCIT includes many of the elements common in behavioral parent management training but also includes "bug-in-the-ear" coaching, during which providers can help shape caregiver-child interactions in real time. Moreover, although parent management training programs were originally developed as treatments for children with conduct problems, these programs are also effective prevention programs for at-risk children (Gershenson et al., 2010).

Individual, child-focused approaches to the treatment and prevention of conduct problems involve skills training. Children with conduct problems, particularly aggression, have distorted and maladaptive social-cognitive processes (Crick & Dodge, 1996). For example, aggressive children have difficulty generating alternative solutions to problems (Lochman & Curry, 1986). As such, children with conduct problems often benefit from individual skills-based training such as problem-solving skills training. Other skills that are commonly targeted in individual, child-focused interventions include emotion regulation, social skills, and perspective-taking. Either type of individual treatment – behavioral parent management training or child-focused skills training – can be supported by a wraparound assessment and coaching model called the Family Checkup (Dishion & Stormshak, 2007). The Family Checkup works with the full family, uses motivational interviewing to enhance caregiver engagement, and has been demonstrated to effectively prevent early conduct problems (Shaw et al., 2006).

9.6 Lessons Learned

Preventing conduct problems in integrated pediatric primary care is feasible, familycentered, and cost-effective and improves the likelihood that children who need care will be able to access it (Arora et al., 2017; Gleason et al., 2016; Martini et al., 2012). However, several barriers exist to the successful implementation of both integrated pediatric primary care and prevention efforts relevant to conduct problems in these settings. For example, behavioral care needs to be fully integrated into the pediatric primary care practice. One mechanism to improve this integration is to provide opportunities for interprofessional training in primary care, such as that modeled by the Leadership Education in Neurodevelopmental and Related Disabilities (LEND) and Leadership Education in Adolescent Health (LEAH) programs, both funded by the Maternal Child Health Bureau, and other best practice team training and learning community models. Such training may eventually address some of the other common barriers to the successful integration of behavioral care into primary care, including challenges with financing, colocation, staffing, collaboration, and communication (Brady et al., 2020; King et al., 2018; Weitzman & Wegner, 2015).

Preventing and treating conduct problems in integrated pediatric primary care also introduces diagnosis-specific challenges. Providers must be trained in evidencebased practices for disruptive behavior disorders and the most common comorbid disorders. As is clear from this chapter, many of the best practice behavioral interventions target caregivers and teachers. Parent engagement, which includes, among other things, attendance and treatment adherence, is central to the effectiveness of parent management training programs. However, engagement in parent management training programs is an ongoing issue, with studies reporting high attrition rates among families receiving parent management training (Fernandez & Eyberg, 2009; Thomas & Zimmer-Gembeck, 2007), perhaps especially in prevention contexts (Baker et al., 2011). The same dysfunctional family environments that increase risk for conduct problems in the first place can also get in the way of treatment, including parental psychopathology and distrust of systems that failed the caregivers when they, themselves, were children. Similarly, providers must also coordinate effectively with teachers or school-based mental health providers. Because these collateral contacts are critical but are rarely billable, the reimbursement plan for the practice must take this into account.

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