



Families Affected by Parental Substance Use

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Children whose parents or caregivers use drugs or alcohol are at increased risk of short- and long-term sequelae ranging from medical problems to psychosocial and behavioral challenges. In the course of providing health care services to children, pediatricians are likely to encounter families affected by parental substance use and are in a unique position to intervene. Therefore, pediatricians need to know how to assess a child's risk in the context of a parent's substance use. The purposes of this clinical report are to review some of the short-term effects of maternal substance use during pregnancy and long-term implications of fetal exposure; describe typical medical, psychiatric, and behavioral symptoms of children and adolescents in families affected by substance use; and suggest proficiencies for pediatricians involved in the care of children and adolescents of families affected by substance use, including screening families, mandated reporting requirements, and directing families to community, regional, and state resources that can address needs and problems.

INTRODUCTION

In the course of providing health care services to children, pediatricians often encounter families affected by substance use, distribution, manufacturing, or cultivation that ultimately places parents and their children at risk. Substance use can include illicit substances such as marijuana, heroin, cocaine, and methamphetamine (eg, crystal meth), as well as misuse of alcohol and prescription medications. As defined by the National Alliance for Drug Endangered Children, drug-endangered children are those who are at risk for suffering physical or emotional harm as a result of their caregiver's substance use, possession, manufacturing, cultivation, or distribution.^{1,2} Children also may be endangered when parents' substance use interferes with their ability to raise their children and provide a safe, nurturing environment.¹ Parents' substance use may affect their ability to consistently prioritize the child's basic physical and emotional needs over their own need for substances. Cigarette smoking often accompanies substance use and can

abstract

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DOI: 10.1542/peds.2016-1575

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1099-4275).

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FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

To cite: Smith VC, Wilson CR, AAP COMMITTEE ON SUBSTANCE USE AND PREVENTION. Families Affected by Parental Substance Use. *Pediatrics*. 2016;138(2):e20161575

pose additional hazards to children (www2.aap.org/richmondcenter). Furthermore, the home environment may be unsanitary or unsafe, particularly if illegal or legal drugs, chemicals, or paraphernalia are accessible or if drugs are being cultivated or manufactured in the home. Such conditions can lead to poor child health and developmental outcomes or child maltreatment and even child death.

Children exposed to a parent's substance use commonly experience educational delays and inadequate medical and dental care.³ Almost a quarter of children of mothers with identified substance use disorders (SUDs) do not receive routine child health maintenance services in their first 2 years of life.³ Children of parents with SUDs are also at greater risk of later mental health and behavioral problems, including SUDs.^{4,5} Pediatricians have an opportunity to help break multigenerational cycles of child abuse and neglect and substance use by being informed about the effects of parental substance use on children, intervening when necessary, and collaborating with the family, other health care providers, and appropriate government agencies to address the issues involved.

Pediatricians are in a unique position to identify and assess a child's risk in the context of a parent's SUD and intervene to protect the child. Research has shown that a majority of parents are accepting of their child's pediatrician asking them about their own substance use.⁶ Pediatricians can include questions about the extent of family substance use as part of the routine family assessment during health supervision visits or when clinically indicated.⁷ Given the risks to health and development, children in families with known or suspected parental SUDs may warrant more frequent appointments with their pediatrician for close medical follow-up or

developmental evaluation. For example, children may have their ears examined for chronic otitis media because of greater exposure to smoke or large breathable particulates in their homes or for more frequent developmental assessments, given risks of emotional and behavioral disorders, delays in expressive language, and mental illness.

Pediatricians who help identify substance use problems in a child's family members are not expected to solve, manage, or treat these problems; rather, they can assist families by working in partnership with other professionals to provide access to state, regional, and local resources available to families. Being familiar with effective harm reduction strategies and being prepared to inform public debate on how to use evidence-based strategies to protect and advocate for children whose parents have SUDs are important roles that the pediatrician can assume. In addition, medical professionals are mandatory reporters of suspected child maltreatment and may be the only professionals who have the opportunity to recognize that a child, especially one of preschool age, has been abused or neglected.

The purposes of this clinical report are to review some of the short-term effects of maternal substance use during pregnancy and long-term implications of fetal exposure; describe typical medical, psychiatric, and behavioral symptoms of children and adolescents in families affected by substance use; and suggest proficiencies for pediatricians involved in the care of children and adolescents of families affected by substance use, including screening families, mandated reporting requirements, and directing families to community, regional, or state resources that can address needs and problems. Throughout this report, the term parent is used, but

the discussion could apply to any primary adult who cares for a child, including guardians, grandparents, and foster parents.

EPIDEMIOLOGY OF SUBSTANCE USE IN THE UNITED STATES

A 2013 national government survey on drug use and health reported that more than 9.4% of the US population 12 years and older uses psychoactive substances.⁸ In 2013, an estimated 24.6 million Americans 12 years or older had used an illicit substance in the 30 days before the survey.⁸ The total annual societal cost of substance use in terms of lost goods, lost productivity, treatment, and medical services in the United States is estimated to be \$510.8 billion.⁹ This estimate includes costs related to alcohol and drug treatment and prevention services; substance use-related medical condition management and sequelae; lost earnings attributable to premature death, substance use-related illness, and loss of employment; goods and services associated with substance use-related crime, criminal justice, motor vehicle crashes, property damage, and fires; and police, fire department, adjudication, and sanctioning expenses.⁹

Exposure to substances begins prenatally for many infants. Specifically, a study by Patrick et al¹⁰ of a nationally representative sample of infants demonstrated that in 2012, approximately 22 000 infants were diagnosed with neonatal abstinence syndrome. Neonatal abstinence syndrome includes a combination of physiologic and neurobehavioral signs that include such things as sweating, irritability, increased muscle tone and activity, feeding problems, diarrhea, and seizures and is the result of prenatal exposure to opioids followed by withdrawal at birth.¹¹ This problem persists, as evidenced by a recent study that showed among 112 029 pregnant

women, 31 354 (28.0%) were prescribed at least 1 opioid pain reliever during pregnancy.¹²

It is estimated that 1 in 5 children grows up in a home in which someone uses drugs or misuses alcohol.⁷ The exact number of children living with adults with SUDs is unknown¹³; however, an estimated 8.3 million children younger than 18 years (12%) were residing with at least 1 substance-dependent or substance-using parent between 2002 and 2007.¹⁴

IMPLICATIONS OF FETAL EXPOSURE SECONDARY TO MATERNAL SUBSTANCE USE

Detailed discussions of short- and long-term effects of prenatal substance use on the exposed fetus are available elsewhere.^{11,15-17} A brief description follows (Table 1).

Short-term Medical Effects of Fetal Exposure

The detrimental effects of fetal exposure to alcohol are well documented.^{11,15,17} Fetal alcohol spectrum disorders, fetal alcohol effects, prenatal complications (eg, prematurity, low birth weight), and prolonged postnatal hospitalization all are associated with alcohol use during the prenatal period, but a full review is beyond the scope of this report.

Because there is passive diffusion across the placenta of substances smaller than 500 dalton (d), most illicit and some other substances used by a pregnant woman will directly affect the fetus (eg, methamphetamine = 149 d, buprenorphine = 467 d, tetrahydrocannabinol [THC] = 314 d).¹⁸ Exposure to substances during the first trimester can affect the structure of the developing fetal brain, and exposure during the second and third trimesters may affect brain function.¹⁸ Marijuana crosses the placenta, and its psychoactive

TABLE 1 Short- and Long-term Effects of Fetal Substance Exposure

Effect	Alcohol	Marijuana	Opiates	Cocaine	Methamphetamine
Short-term effects or birth outcome					
Fetal growth	+++	+/-	+	+	+
Anomalies	+++	-	-	-	-
Withdrawal	-	-	+++	-	Unknown
Neurobehavior	+	+	+	+	-
Long-term effects					
Growth	+++	-	-	+/-	Unknown
Behavior	+++	+	+	+	Unknown
Cognition	+++	+	+/-	+	Unknown
Language	+	-	Unknown	+	Unknown
Achievement	+++	+	Unknown	+/-	Unknown

Adapted with permission from Behnke et al (2013).¹¹ +++, strong effect; +, effect; +/-, no consensus about effect; -, no known effect.

constituents are fat soluble and can bind to cannabinoid receptors in the fetal brain.¹⁹ Newborn infants can have small-for-gestational-age head circumference after prenatal exposure to cannabis.¹⁹ Fetal exposure to cannabis has been associated with subtle neurobehavioral disturbances (ie, exaggerated and prolonged startle reflexes and increased hand-mouth behavior), high-pitched cries, and sleep cycle disturbances with electroencephalographic changes in the newborn period.^{11,19} Repeated fetal exposure to cannabis disrupts endocannabinoid signaling, particularly the temporal dynamics of the CB1 cannabinoid receptor, and alters fetal cortical circuitry development.¹⁶ Interference with the endocannabinoid system disrupts normal neurobiological development, particularly of neurotransmitter maturation and neuronal survival.¹⁹

Effects of fetal cocaine and opioid exposure may appear during the newborn period as any of the following symptoms of withdrawal: irritability, poor and irregular feeding patterns, frequent crying, tremulousness, increased respiratory and heart rates, hypertonia, an exaggerated startle response, vomiting, frantic sucking, and difficulty being consoled.^{6,11} Prenatal cocaine exposure can have effects on neurobehavior, which may manifest clinically as lability of state, decreased behavioral

and autonomic regulation, and poor alertness and orientation.¹¹ Prenatal cocaine exposure also may hinder fetal growth.¹¹ Similarly, prenatal methamphetamine exposure can inhibit fetal growth and alter neurobehavior (ie, poor movement quality, decreased arousal, and increased stress).¹¹ Prenatal buprenorphine exposure causes fewer withdrawal symptoms and, similar to methadone, has a longer duration of action than other opioids.²⁰

Long-term Medical Effects of Fetal Exposure

Children with prenatal drug exposure are more likely to develop disruptive behavioral disorders such as oppositional defiant disorder; impaired intellectual and academic achievement; and cognitive problems, such as delayed language development, poor memory, and the inability to learn from mistakes.^{2,6} Children who were exposed to drugs prenatally also have a higher risk of developing an SUD.^{2,6} Prenatal drug exposure is associated with increased rates of anxiety and mood disorders, lower self-esteem, and perceived lack of control over their environment.⁶ Fetal alcohol exposure continues to affect growth, cognition, behavior, language, and achievement throughout life.^{11,17} Children exposed in utero to cannabis may have a small-for-age head circumference well into their teenage years and

permanent neurobehavioral, cognitive, and intellectual deficits that vary depending on the timing and degree of in utero exposure.^{16,19} Specifically, heavy use (defined as more than 1 joint, or approximately 10 mg of THC, per day) during the first trimester has been associated with lower verbal reasoning skills in the child, whereas second trimester use was associated with impairments of the child's composite short-term memory.¹⁹ Children exposed prenatally to heavy amounts of cannabis often struggle with tasks requiring visual memory, analysis, and integration; acquire language skills slowly; show increased levels of aggression; and display poor attention span.¹⁹

Mothers who have heroin addiction or are receiving medication-assisted treatment with methadone may have infants who exhibit increased activity as well as poorer coordination during childhood than children of similar age without prenatal opioid exposure.⁴ Children with prenatal heroin exposure have more behavioral problems (including hyperactivity, brief attention span, sleep disturbance, and temper outbursts) at 12 to 24 months of age; language delay at 24 to 32 months of age; and, overall, more difficulties learning when compared with their age-matched peers.⁴ Similarly, children of mothers treated prenatally with methadone maintenance are more impulsive, immature, and irresponsible than their unexposed peers and also perform poorly on intelligence tests at 3 to 7 years of age.⁴ Information about the long-term developmental outcomes of prenatal buprenorphine exposure is limited, and many of the reports have conflicting findings.²⁰ Several studies have found that children with fetal exposure to prescribed buprenorphine score lower on Bayley cognitive and language scales compared with children who were not exposed

TABLE 2 General Warning Signs for Child Abuse

Frequent injuries, bruising, welts, or burns that cannot be sufficiently explained (eg, cigarette burns, bruises on the face, lips, and mouth or on several surface planes at the same time).
Withdrawn, fearful, or extreme behavior.
Clusters of bruises, welts, or burns, indicating repeated contact with a hand or instrument.
Injuries appear to have a pattern (eg, straight lines or circles) such as marks from a hand, belt, or electric cord.
Any bruise without a plausible explanation in an infant who is not yet cruising is suspicious for abuse.
Unusual injuries on children where children do not usually get injured (eg, the torso, back, neck, buttocks, or thighs).
Is always watchful and "on alert," as if waiting for something bad to happen.
Shies away from touch, flinches at sudden movements, or seems afraid to go home.

Adapted from www.mass.gov/eohhs/gov/departments/DCF/child-abuse-neglect/warning-signs.html. The list presents some general warning signs but is not comprehensive. The criteria for abuse and neglect may vary by region or state. Pediatricians should check their state and local laws for more detailed information.

prenatally.²⁰ There is also some evidence of decreased myelination and disrupted striatal cholinergic activity in children of women who received buprenorphine during pregnancy.²⁰ Prenatal exposure to cocaine may result in behavior, cognition, and language deficits in children.¹¹ Children who were exposed to crystal methamphetamine prenatally may have developmental delays in communication, personal and social skills, fine and gross motor skills, and problem-solving skills as well as aggressive or withdrawn behaviors.²¹

PSYCHOSOCIAL IMPACT OF LIVING IN A FAMILY AFFECTED BY PARENTAL SUBSTANCE USE

Parental substance use is associated with myriad family and social problems.²²⁻²⁷ Whether secondary to inconsistency in parenting, disruption or lack of healthy family routines and rituals, or parental conflict and stress, children of substance-using parents typically are denied the security that is associated with structure and stability provided by appropriate parenting. The parent's SUD and the violent and erratic behavior that may be associated place the child at higher risk of being abused or neglected (Tables 2 and 3).^{21,28-31} Children whose parents use substances and misuse alcohol are 3 times as likely to be physically,

emotionally, or sexually abused and 4 times as likely to be emotionally or physically neglected.^{21,32} Higher rates of neglect have been noted in rural populations.³³ The neonatal period, when infants are the most vulnerable, is the period of highest risk of harm.³² Parenting impairment varies to different degrees depending on which substances parents use.³⁴ Mandatory involvement of child protective services helps ensure a child's safety but may result in the child being placed in an alternate living situation with a relative (ie, kinship care) or unrelated caregiver.³⁵ Nonetheless, transition into foster care may be necessary to protect a child's physical safety.

The home environment may lack appropriate childproofing safety measures because of transience of housing and parents being distracted by substance use or alcohol misuse. The use of open flames or lighters for the consumption or production of drugs may increase the dangers of accidental burns, fires, and explosions where children live. Children are at increased risk of acquiring infectious diseases because of exposure to needles and drug paraphernalia.²¹ Because of the significant cost of illicit substance use, household funds may be more limited, and parents with an SUD may struggle to meet their household financial demands.³ Homes used to produce crystal methamphetamine may be unsafe and uninhabitable because of the presence

of toxic ingredients and byproducts, including mercury, lead, and other large breathable particulates that settle close to the floor.²¹ Home production of butane-extracted cannabis may lead to explosions or house fires. Children living in these chaotic home environments may be at risk for having contact with people in their house using or buying drugs; witnessing criminal behavior and interacting with criminals; ingesting or inhaling drugs or chemicals; being exposed to deplorable living conditions, including human waste, vermin, insects, clutter, garbage, and filth; and being subjected to sexual abuse and trafficking.

Because of potential for abuse, neglect, and a hazardous home environment, children whose parents have SUDs tend to come to the attention of child welfare agencies at a younger age than other children and are more likely than other children to be placed and remain in foster care.³⁶ Many families receiving child welfare services are affected by parental substance use.³⁷⁻³⁹ The US Department of Health and Human Services concluded that parental substance abuse is a contributing factor for one-third to two-thirds of children being involved with the child welfare system.³⁷ This estimate is based on very old data, and as noted by a recent review, parental SUD prevalence rates based on these older data may no longer be representative of current trends, but more current data are lacking.³⁸

Despite early maternal intentions and supportive interventions, 27% of children born to women with significant SUDs needed the involvement of child protective services during the preschool years.⁴⁰ An estimated 20% of substantiated cases of child abuse or neglect were associated with an SUD in the caregiver, and nearly 10% involved a caregiver with an alcohol use disorder.⁴¹

Although the link between child abuse and neglect and substance use is well

TABLE 3 General Warning Signs for Child Neglect

Lack of medical or dental care
Lack of personal care or hygiene (eg, unbathed, matted and unwashed hair, lice or scabies, or noticeable body odor)
Clothes are ill-fitting, filthy, or inappropriate for the weather
Missing key pieces of clothing (eg, underwear, socks, shoes)
Poor school attendance or frequent tardiness
Lack of supervision (eg, young children left unattended or with other children too young to protect or care for them or being left alone or allowed to play in unsafe situations and environments)
Lack of proper nutrition
Lack of adequate shelter
Lack of primary medical care, dental care, or immunizations as well as untreated illnesses or injuries
Self-destructive feelings or behavior

Adapted from www.mass.gov/eohhs/gov/departments/dcf/child-abuse-neglect/warning-signs.html. The list presents some general warning signs but is not comprehensive. The criteria for abuse and neglect may vary by region or state. Pediatricians should check their state and local laws for more detailed information.

documented, it is not necessarily a direct causal relationship, because a significant portion of adults with SUDs also have concurrent mental illness, including anxiety, depression, and posttraumatic stress disorder.³² Parents with SUDs often experience financial instability, food and housing insecurity, a chaotic living environment, inconsistent employment, domestic violence, social stigma or isolation, incarceration, and stress.^{3,32} Parental substance use has been linked with negative parental behaviors that include lower levels of parental involvement, limited or absent parental monitoring, ineffective control of children's behaviors, and poor discipline skills including use of coercive control, harsh discipline, and failure to follow through.⁴² Collectively, these factors all contribute to substance use and child mistreatment. Any single factor, such as prenatal substance exposure, may be less salient to the overall developmental outcome of these children than the cumulative effects of exposure in the context of multiple home environmental and circumstance risks.

MEDICAL, PSYCHIATRIC, AND BEHAVIORAL SYMPTOMS OF CHILDREN AND ADOLESCENTS IN FAMILIES AFFECTED BY PARENTAL SUBSTANCE USE

Children and adolescents of parents with SUDs are at greater

risk of having problems ranging from serious medical conditions to psychobehavioral difficulties. Compared with their peers whose parents do not have SUDs, they are twice as likely to sustain serious injuries, increasing the risks of missed time from school, hospitalization, or surgical treatment.⁴³⁻⁴⁷ A recent study found that 23% of children whose mothers were substance users were not engaged with routine child health services at any point during the first 2 years of life.³ Mothers of drug-exposed newborn infants may be ill equipped to cope with their infants' health care needs.⁶ Youth whose parents have SUDs are more likely to be neglected, and chronic neglect has more long-term implications for a child's mental health and development than do abuse and other forms of maltreatment.⁴⁸

Mental health problems experienced by children of parents with SUDs can include anxiety disorders, attention-deficit/hyperactivity disorder, depression, oppositional defiant disorder, conduct disorder, truancy, and trauma and stress-related disorders.^{49,50} It has been noted recently that among children whose parents have SUDs, children in rural populations have a greater risk of mental health problems.³³ Adverse childhood experiences include abuse (eg, emotional, physical, or sexual), neglect

(eg, emotional or physical), and household dysfunction (eg, substance abuse, mental illness, intimate partner violence, incarceration, or separation or divorce), and these events may exceed the child's coping mechanisms, resulting in permanent changes in the developing brain.^{51,52} These brain changes can manifest as behavior problems, violence, and substance use health risk behaviors by the child through the life span.⁵²

Educational problems are especially common in children exposed to substance use.⁵³ These educational problems may be secondary to baseline cognitive limitations as a result of perinatal substance exposure or external distraction from a chaotic and unstructured home environment. Children affected by parental substance use may have a high absenteeism rate and impaired attention, compromising their academic productivity. Behavior problems place children at greater risk of suspension or expulsion from school.

Children are often distressed by their parents' substance use.⁵⁴ Children may blame themselves for the parents' behavior and may feel responsible for its cure. Children's prolonged exposure to inappropriate modeling of substance use increases their vulnerability to future substance use.⁵⁵ Children of alcoholics are nearly 4 times more likely to have an alcohol use disorder, with rates of hazardous use starting in the adolescent years and continuing into adulthood.⁵⁶⁻⁵⁸

METHODS TO ASSESS AND ENGAGE THE FAMILY AFFECTED BY PARENTAL SUBSTANCE USE

Pediatricians have a unique opportunity to identify and engage families affected by substance use. The opportunities for pediatricians to engage with a family begin with the transition of the mother from prenatal care to delivery of an infant. If the mother and family

interact with a health care provider who demonstrates empathy and knowledge regarding the effects of prenatal substance use, the process of engagement has a better start. Many times, the likelihood of engagement depends on the confidence the family has that the health care providers meeting them at the intense period of birth will continue comprehensive care and that their issues will be incorporated into a care plan.

As an approach to engaging families, pediatricians may want to first ask about subjects remote from the substance use issue. Inquiring about other topics such as, "Do you have any medical problems? Are there any mental health problems such as depression or anxiety disorders in the family?" before moving to questions like, "Do you or anyone in your home smoke? Do you or anyone in your home drink alcohol? Do you or anyone in your home use drugs?" may be better received by parents, because it allows the provider to establish an initial rapport with parents around portions of their health that may be perceived as less threatening.

In the nursery setting, a new mother typically has a great interest in discussing all health issues that might affect her infant. Taking a history that includes questions such as, "Before you knew you were pregnant, how would you describe your use of alcohol?" and then asking, "After you knew of your pregnancy, how would you describe your use of alcohol?" allows the mother to discuss the changes she attempted and provides information to the pediatrician about either assisted or self-initiated harm reduction. Similarly, inquiring about tobacco, prescription medications with attention to opioids and sedative hypnotics, marijuana, cocaine, methamphetamine, and heroin could be included.

In the office setting, during the newborn period and first months

of contact, pediatricians generally ask about feeding methods. Providing information to a mother with a history of substance use about possible transmission of substances, including ethanol, into human milk may open the door to a deeper discussion of the mother's substance use. Medically prescribed buprenorphine or methadone is not a contraindication to breastfeeding. Recommendations regarding the support of breastfeeding and potential effects on the newborn brain from passage of these substances warrant additional investigation and consensus.⁵⁹

In a perfect health care system, the mother's health history would include sequential screening for alcohol, tobacco, and substance use throughout the pregnancy, and obstetric providers would communicate concerns to the pediatric team caring for the infant. With potentially concerning information, the discharging medical team might offer the mother resources to support her intentions of becoming a good parent for the infant with substance exposure. Those services might include home visiting, direction to home- and community-based services such as those that exist in Indian Health Service units, insurance company case managers, specialized clinics, developmental follow-up, and primary care settings that embrace the care of mothers with SUDs and infants with prenatal exposure.

Incorporating a short screening tool and directing parents who screen positive back to either their own primary care physician or a specialist is a practical approach. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*⁶⁰ recommends developmental screening by a standardized instrument, such as the Ages & Stages Questionnaires, Third Edition (ASQ-3), matched with the clinical examination,

to assess developmental delays possibly related to prenatal substance exposure or neglect of the child's nutrition and socioemotional needs.⁶¹ For example, reports by parents of advanced communicative development may not be substantiated by verbal communication or capacity noted during the examination. In addition, attention to growth trends, particularly weight patterns, provides important information in early infancy about adequacy of feeding, particularly if the mother has initiated breastfeeding. Between 9 and 24 months of age, deceleration of weight gain can indicate family system stresses and inattention to the child's feeding in the home.

Some pediatricians can feel overwhelmed by what they perceive as their inability to screen parents and react to a positive screen successfully during a 15-minute appointment. To help, some brief screening questions could be incorporated into a routine health surveillance office visit. The National Institute on Alcohol Abuse and Alcoholism recommends the use of a single screening question to accurately identify unhealthy alcohol use. The question, "How many times in the past year have you had *X* or more drinks in a day?" (in which *X* is 5 for men and 4 for women, and a response of >1 is considered positive) has shown good sensitivity and specificity for detection of unhealthy alcohol use in a primary care population.⁶² The National Institute on Drug Abuse (NIDA) has a single-question drug screen: "How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?"⁶³ If the answer is "Never" for all drugs, NIDA recommends that the physician reinforce abstinence. However, if the answer is for any use of illegal or prescription drugs for nonmedical reasons, the parent needs to be

screened by a more comprehensive substance use instrument, probably by his or her primary care physician.

Once a parent has screened positive, a provider may use the time as a teaching moment to engage the parent, explain the results, express concern, provide a more structured brief intervention incorporating nonjudgmental, motivational interviewing-informed interactions, and suggest a more complete evaluation by the parent's primary care physician. If the results of a screen are positive and the parent would like more information about treatment locations, the Substance Abuse and Mental Health Services Administration has a searchable database of treatment locations throughout the United States (<http://findtreatment.samhsa.gov>).

As a reference, several short tools are available to screen for substance use by family members. The Alcohol Use Disorders Identification Test Consumption questions for alcohol and the Drug Abuse Screening Test for drugs are 2 tools that are short but garner vital information.⁶⁴⁻⁶⁶ NIDA also provides a resource guide for substance use screening in the general medical setting that includes sample scripts.⁶³ As with the single-question screening tools, pediatricians using the short tools to screen need to be prepared to direct parents who screen positive to their primary care physician or another specialty provider for a more standardized brief intervention.

It is difficult to anticipate a parent's reaction to a discussion about their substance use. Therefore, providers are encouraged to secure a supportive and safe environment for the conversation to occur. When engaging in the conversation, a nonjudgmental, nonaccusatory tone will help to convey to parents the pediatrician's concern for them and their child. Objectively sharing the facts of the screen results and other observations will decrease

the opportunity for disagreement. Parents can be directed back to their primary care physician for management and services. Pediatricians may find it efficient to have a prepared list of community, regional, state, and national resources from which to choose and to offer to parents. Likewise, options for adult primary care physicians can be helpful for parents without an established medical home.

Parent screening for medical, psychiatric, psychosocial, and substance use disorders can help identify problems. If present, possible signs and symptoms associated with acute substance intoxication (eg, pinpoint pupils, frequent yawning, slurred speech, excessive attention to external stimuli, ataxic gait, or incoherent thought patterns) can be objectively documented in the child's medical record. Office staff could be encouraged to report any of these signs or symptoms to the pediatrician.⁶⁷ Additional guidance on dealing with the judgment-impaired parent in the pediatric office can be found in another clinical report from the American Academy of Pediatrics.¹³ Indications of abuse or neglect would require a mandatory report to the child protective services agency.

Research has shown that parents who screened positive for substance use were open to the pediatrician discussing their use with them and presenting the parents with follow-up options.⁶⁷ With supportive care, parents often are willing to enter drug treatment or engage in harm reduction on behalf of their children. Even when parents do not go to treatment, they may reduce use of the substances that they view as more threatening, such as methamphetamine, but increase marijuana or tobacco use. Parents may also decrease their substance use even if they do not completely abstain. Therefore, pediatricians can feel empowered to address

these topics when speaking with the parent.

In addition to screening of parents, a careful physical examination of the child should be performed in all situations in which abuse or neglect is suspected, because important cutaneous findings can be concealed easily by clothing (Tables 2 and 3). Although skin findings alone are not specific for maltreatment, their presence and the particular characteristics of findings, such as bruises, lacerations, abrasions, burns or thermal injuries, and bite marks, could raise suspicion for abuse. Any bruise without a plausible explanation or a skeletal injury in an infant who is not yet cruising can raise suspicion for abuse.⁶⁸ Bruises are common on young ambulatory children, with the most common sites being the anterior tibia or knee, forehead, scalp, and upper leg (ie, anterior surfaces and bony prominences). It is far less common for children to have bruising over posterior surfaces, the chest, the face (except for forehead), the buttocks, or hands.^{68,69} Bruising in these areas as well as protected areas, such as the abdomen, genitalia, and ears, in infants and toddlers, although still nonspecific, is suspicious for inflicted trauma.⁶⁸⁻⁷⁰ Patterned bruises might suggest a device or implement was used to cause the injury. Children struck with linear objects (eg, rods, rulers, belts) may present with linear configured scars. Likewise, flexible implements that are doubled over (eg, ropes, cords, chains) can leave a loop-configured bruise, abrasion, or scar at the site of contact. Slap marks may appear as a negative image such that an outline of the handprint is created on the skin as a result of blood extravasation from vessels into the surrounding interstitial space. Binding devices (eg, wires, ropes, cords) may manifest as circumferentially configured bruises, lacerations, or abrasions involving the neck, wrists, ankles, or oral

commissure. The combined presence of patterned cutaneous or skeletal injury appearing over unusual locations (eg, posterior surfaces, soft tissues, genitalia) may indicate additional inquiry or investigation to establish or allay suspicions of possible physical abuse and/or an underlying medical condition.^{71,72} Similarly, any abnormality noted on physical examination of the genitals or anal area that is consistent with trauma may indicate additional inquiry to allay suspicion for possible sexual abuse.⁷³ However, in all states, suspected child abuse or neglect requires the filing of a mandated report with the state child protective services agency. All health care professionals need to become familiar with the specific reporting laws governing their state and know what exactly to report.

When a mandatory report to child protective services is necessary, health care professionals can engage the families in this process with a transparent and caring direct approach. To set the stage for a transparent interaction up front, a health care professional can discuss all of the following: the risks to and effects on children related to parental substance abuse, the requirements for mandated reporting to child protective services, the resources and services available to the family, and how child welfare can be a support to the family.

SUGGESTED PROFICIENCIES FOR PEDIATRICIANS INVOLVED IN THE CARE OF CHILDREN AND ADOLESCENTS OF FAMILIES AFFECTED BY SUBSTANCE USE

In 1999, Adger et al⁷⁴ defined potential levels of proficiencies for pediatricians that varied depending on their experience with substance use treatment. For the purpose of this report, those recommendations are updated and supplemented on the basis of more recent literature focusing on a reasonable level

of proficiency for a primary care provider who is not primarily managing substance use. Additional proficiencies are suggested (Table 4) for health care providers who accept responsibility for prevention, assessment, intervention, and coordination of care and those who accept responsibility for long-term treatment of children and adolescents in families affected by substance use.

Level 1 is a basic understanding of the biology of addiction, including recognition that drug and alcohol addiction are chronic and relapsing neurologic disorders that result from various drug effects on the brain's reward circuitries and neurotransmitter systems.⁷⁶ Chronic drug exposure may ultimately impair the function of brain regions involved with motivation and self-control.⁷⁶ Awareness of the medical, psychiatric, and behavioral signs and symptoms of substance use may assist health care providers in identifying affected families.⁷⁴

Substance use screening that is age, sex, and culturally appropriate can be included in routine pediatric health maintenance care.⁷⁵ By using motivational interviewing techniques (asking screening questions, developing discrepancy, expressing empathy, avoiding argumentation, rolling with resistance, and supporting patient self-efficacy), a provider can assist families in identifying problems substance use can cause and reasons a person may want to quit or cut back.⁷⁵ Substance use screening could include review of the mother's prenatal medical information and screening by history and, when indicated, urine toxicologic testing in the newborn period before hospital discharge. It is helpful for the pediatrician to understand the interpretation of positive urine drug screens in the mother and infant. In addition, it is helpful for pediatricians to provide brief interventions to adolescent

patients with positive screens for substance use.^{75,77,78} Be able to direct families to community, regional, or state resources available for children and adolescents in families with substance use. Discussing identified concerns with the family and offering information, support, and follow-up are components of quality pediatric care.⁷⁴ It is important for pediatricians to develop respectful, compassionate approaches regardless of condition, ethnicity, age, or sexual orientation.⁷⁵

Because health care providers are mandated reporters, they should understand obligatory child abuse reporting laws in their states and should know how to make a report to the responsible agency that investigates cases of alleged child abuse or neglect in their jurisdiction.⁷³

COLLABORATING WITH OTHER PROVIDERS

Using a multidisciplinary approach, providers can do much to protect drug-endangered children when they work together across specialties and disciplines. It is important for the various professionals who have the opportunity to recognize a child at risk to understand their role in protecting and providing services to that child and the role of other professionals who may be involved with the same family. Reaching outside the silos of one's profession in a collaborative fashion greatly increases the chance for more informed decision-making regarding families affected by parental substance use.

SUMMARY

Substance use is a major public health concern in the United States, and substance use disorders are common. Pediatricians are likely to encounter families affected by parental substance use. Pediatricians are encouraged to screen parents for substance use,

TABLE 4 Suggested Proficiencies for Pediatricians

Level I: For all health professionals with clinical responsibility for the care of children and adolescents:
Be aware of the medical, psychiatric, and behavioral syndromes and symptoms with which children and adolescents in families with substance use present and of the potential benefit to both the child and the family of timely and early intervention.
Be familiar with and able to direct families to community, regional, and state resources available for children and adolescents in families with substance use.
As part of the general health assessment of children and adolescents, health professionals include appropriate screening for family history and current use of alcohol and other drugs by parents.
Use motivational interviewing techniques (asking screening questions, developing discrepancy, expressing empathy, avoiding argumentation, rolling with resistance, and supporting patient self-efficacy), assist families in identifying problems substance use can cause and reasons a person may want to quit or cut back. ⁷⁵
Assist parents who screen positive and identify treatment options.
Offer information, support, and follow-up for parents who screen positive.
Understand state mandatory child abuse reporting laws and know how to make a report to the responsible investigating agency.
Level II: In addition to Level I proficiencies, health care providers accepting responsibility for prevention, assessment, intervention, and coordination of care of children and adolescents in families with substance use may:
Apprise the family of the nature of SUDs and their effects on all family members and strategies for achieving optimal health and recovery.
Recognize and treat, or refer, all associated health problems in the child.
Evaluate resources (physical health, economic, interpersonal, and social) to the degree necessary to formulate an initial management plan.
Determine the need to involve extended family and other support people in the initial management plan.
Develop a long-term management plan in consideration of the above standards and with the child's or adolescent's participation.
Level III: In addition to Level I and II proficiencies, the health care provider with additional training, who accepts responsibility for long-term treatment of children and adolescents in families with substance use, may:
Acquire knowledge, by training or experience, in the medical and behavioral treatment of children in families affected by substance use.
Throughout the course of health care treatment, continually monitor and treat, or refer for care, any health needs or psychiatric or behavioral disturbances of the child or adolescent.
Acquire knowledge, by training or experience, of the recovery process and gain an understanding of how to establish and evaluate screening, brief intervention, and referral to treatment systems in practice. ⁷⁵
Request consultation as needed.
Be available to the child or adolescent and the family, as needed, for ongoing care and support.

Adapted with permission from Adger et al (1999).⁷⁴

and for parents who screen positive, discuss options for access to treatment from their primary care physician or an appropriate specialist; be alert for signs of child abuse or neglect in children and families affected by substance use; monitor children for developmental delays and other academic difficulties; and be familiar with mandatory reporting requirements for suspected child abuse and neglect.

Government Web Sites

National Institute on Drug Abuse:
www.drugabuse.gov

National Institute on Alcohol Abuse and Alcoholism: www.niaaa.nih.gov

Substance Abuse and Mental Health Services Administration: www.samhsa.gov

Massachusetts Department of Health and Human Services: www.mass.gov/eohhs/gov/departments/dcf/child-abuse-neglect

Child Welfare Information Gateway: www.childwelfare.gov

Drug Endangered Children: www.whitehouse.gov/ondcp/dec-info

National Web Sites

Monitoring the Future: www.monitoringthefuture.org

Youth Risk Behavior Surveillance: www.cdc.gov/HealthyYouth/yrbs

National Survey on Drug Use and Health: www.samhsa.gov/data/population-data-nsduh

National Resource Center for In-Home Services, *In-Home Programs for Drug Affected Families*: <https://nrcihs-stage.icfwebservices.com/sites/default/files/drugaffectedmemo.pdf>

Children and Family Futures: www.cffutures.org

National Alliance for Drug Endangered Children: www.nationaldec.org

National Association for Children of Alcoholics: www.nacoa.org
Bright Futures: brightfutures.aap.org

Street Drug Name Web Sites

www.drug-slang.com

www.streetlightpublications.net/misc/ondcp.htm

www.urban75.com/Drugs/drugterm.html

Office Safety Web Sites

Occupational Safety and Health Administration (OSHA): www.osha.gov

Treatment Locations

A searchable directory of 12 000 facilities with treatment programs for drug and alcohol abuse throughout the United States: <http://findtreatment.samhsa.gov>

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ABBREVIATIONS

NIDA: National Institute on Drug Abuse

SUD: substance use disorder

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AND PREVENTION
Pediatrics originally published online July 18, 2016;

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Pediatrics originally published online July 18, 2016;

The online version of this article, along with updated information and services, is
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