



# Protecting Children and Adolescents From Tobacco and Nicotine

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Significant strides have been made in reducing rates of cigarette smoking among adolescents in the United States. However, rates of e-cigarette and similar device use among youth are high, and rates of other tobacco product use, such as cigars and hookahs, have not declined. In addition, almost 40% of children 3 to 11 years of age are regularly exposed to secondhand tobacco smoke, and rates of secondhand exposure to e-cigarette aerosol have increased over the last decade. Pediatricians are uniquely positioned to help children, adolescents, and their families live tobacco-free lives. Actions by pediatricians can help reduce children's risk of developing tobacco and nicotine use disorder and reduce children's tobacco smoke and/or aerosol exposure.

## DEFINITIONS

**Tobacco product:** Any product or device that can deliver nicotine to the human brain, whether derived from tobacco or another source, except for safe and effective nicotine replacement therapies approved by the US Food and Drug Administration (FDA) for tobacco cessation. Tobacco products include, but are not limited to, e-cigarettes, cigarettes, cigars, smokeless tobacco, hookahs, pipe tobacco, heated tobacco products, and nicotine "tobacco-free" pouches.

**Secondhand smoke:** Smoke emitted from a tobacco product or exhaled from a person who smokes that is inhaled by a person who does not smoke.

**Thirdhand smoke:** Tobacco smoke that is absorbed onto surfaces and exposes a person who does not use tobacco to its components by direct contact and dermal absorption, ingestion, and/or off-gassing and inhalation. Thirdhand smoke may react with oxidants and other compounds in the environment to yield secondary pollutants.

## abstract

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**Tobacco smoke exposure:** Tobacco smoke exposure among people who do not use tobacco, which includes both secondhand and thirdhand exposure.

**E-cigarettes:** Handheld devices that come in a variety of shapes and sizes. Most have a battery, a heating element, and a container to hold a solution that can contain nicotine, flavorings, and other chemicals. E-cigarettes are known by many different names. They are sometimes called e-cigs, e-hookahs, mods, pods, vapes, vape pens, tank systems, and electronic nicotine delivery systems (ENDS) or referred to by brand name, including Juul or Puff Bar.

**Aerosol exposure:** The emissions from e-cigarettes to which people who do not use e-cigarettes are exposed, including secondhand and thirdhand exposure.

**Tobacco use disorder:** A clinical diagnosis for which treatment is within the scope of practice of pediatric providers. Moderate or severe tobacco use disorder is defined as having 4 or more symptoms that arise from tobacco use (eg, craving; withdrawal; tolerance; increasing use over time; social, occupational, or health consequences from nicotine use).

## INTRODUCTION

This clinical report accompanies a policy statement and technical report<sup>1,2</sup> and builds on, strengthens, and expands recommendations from the 2015 clinical report from the American Academy of Pediatrics (AAP).<sup>3</sup> Although many evidence-based recommendations from the 2015 report remain relevant, this revision expands on and adds clinical recommendations based on new evidence since the last summative review. The approach to the evidence review and grading evidence quality are described in the accompanying

technical report.<sup>2</sup> Clinical recommendations were developed using the evidence-based approach as detailed by the AAP.<sup>4,5</sup> In addition to a “quality of evidence” summary,<sup>2</sup> a brief “strength of recommendation” summary is provided, using the “strong recommendation,” “recommendation,” “option,” or “no recommendation” classification system.<sup>4,5</sup> For a summary of AAP clinical reports, policy statements, and other resources for tobacco and e-cigarettes, see Table 1.

### RECOMMENDED ACTIONS FOR PEDIATRICIANS: PREVENT AND TREAT TOBACCO AND NICOTINE USE AMONG PATIENTS (CHILDREN AND ADOLESCENTS)

#### 1. Screen all Adolescents for Tobacco and Nicotine Use as Part of Health Supervision Visits

*Quality of Evidence: Moderate*

*Strength of Recommendation: Strong*

It is important to screen for tobacco use so that appropriate interventions can be offered to either prevent tobacco use or promote tobacco cessation. Tobacco use screening is recommended as part of the HEADSS (home, education [ie, school], activities/employment, drugs, suicidality, and sex)<sup>6</sup> or SSHADESS (strengths, school, home, activities, drugs/substance use, emotions/eating/depression, sexuality, safety),<sup>7</sup> both of which are psychosocial interview frameworks that assess strengths and risks in adolescents. The AAP clinical report on substance use screening, brief intervention, and referral to treatment discusses the approach to screening and the application of brief interventions based on screening results.<sup>8</sup> The Car-Relax-Along-Forget-Friends-Trouble 2.1+N is a widely used substance use screening tool that can identify tobacco and nicotine use, including e-cigarette use.<sup>9</sup> Overall, there are few well-designed studies examining the utility of screening in detecting tobacco use; however, although not

diagnostic tools, both the Brief Screener for Tobacco, Alcohol, and other Drugs<sup>10</sup> and the Screening to Brief Intervention<sup>11</sup> are scientifically valid screening tools for adolescent tobacco use. A study of 525 adolescents in primary care found that the Brief Screener for Tobacco, Alcohol, and other Drugs had 95% specificity and 97% sensitivity in detecting tobacco use disorder, as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*.<sup>10</sup> Similarly, the Screening to Brief Intervention detects nicotine use disorder with 75% specificity and 98% sensitivity.<sup>11</sup> The US Public Health Service clinical practice guideline “Treating Tobacco Use and Dependence: 2008 Update” recommends that clinicians ask pediatric and adolescent patients about tobacco use and provide a strong message regarding the importance of abstaining from tobacco use.<sup>12</sup>

#### 2. Include Tobacco and Nicotine Use Prevention as Part of Anticipatory Guidance for Children and Adolescents

*Quality of Evidence: Moderate*

*Strength of Recommendation: Strong*

It is much easier to prevent tobacco use initiation among youth than it is to effectively treat tobacco use disorder (as detailed below). The US Preventive Services Task Force (USPSTF) recommends in its 2020 recommendation statement that pediatricians provide education or brief counseling to prevent initiation of tobacco use among school-aged children and adolescents.<sup>13</sup> Prevention interventions, including face-to-face counseling, telephone counseling, and computer-based and print-based interventions, consistently find small but clinically meaningful reductions in smoking initiation. In the USPSTF statement’s accompanying meta-analysis, behavioral interventions were associated with statistically significant reductions in smoking initiation rates compared with controls at 7 to 36 months’ follow-up (13 trials;

**TABLE 1** AAP Policy Statements and Other Resources for Tobacco and E-cigarettes

Resources for Decreasing Tobacco Exposure at the Individual Practice Level	Evidence Base for Tobacco Control	E-Cigarette and Vaping Resources	Advocacy and Policy Resources
CEASE Resources (Massachusetts General Hospital Web site; <a href="http://www.massgeneral.org/children/cease-tobacco">www.massgeneral.org/children/cease-tobacco</a> )	“Protecting Children From Tobacco, Nicotine, and Tobacco Smoke” (AAP technical report)	“E-Cigarettes and Similar Devices” (AAP policy statement)	“Protecting Children From Tobacco, Nicotine, and Tobacco Smoke” (AAP policy statement)
<i>Pediatric Environmental Health</i> (AAP policy manual)		Vaping, JUUL, and E-Cigarettes Presentation Toolkit (Julius B. Richmond Center of Excellence; <a href="http://www.aap.org/en/patient-care/tobacco-control-and-prevention/e-cigarettes-and-vaping/vaping-juul-and-e-cigarettes-presentation-toolkit">www.aap.org/en/patient-care/tobacco-control-and-prevention/e-cigarettes-and-vaping/vaping-juul-and-e-cigarettes-presentation-toolkit</a> )	“Health Disparities in Tobacco Use and Exposure: A Structural Competency Approach” (AAP clinical report)
“Substance Use Screening, Brief Intervention, and Referral to Treatment” (AAP clinical report)			Tobacco Prevention Policy Tool (Julius B. Richmond Center of Excellence; <a href="http://www.aap.org/en/patient-care/tobacco-control-and-prevention/policy-and-advocacy/tobacco-prevention-policy-tool/">www.aap.org/en/patient-care/tobacco-control-and-prevention/policy-and-advocacy/tobacco-prevention-policy-tool/</a> )
Tobacco Use: Considerations for Clinicians resource ( <a href="http://www.aap.org/cessation">www.aap.org/cessation</a> )			Tobacco Education Resources for Kids & Teens (HealthyChildren.org)

$n = 21\,700$ ; 7.4% vs 9.2%; relative risk [RR], 0.82; 95% confidence interval [CI], 0.73–0.92;  $I^2 = 15\%$ ). Further, no specific component of behavioral counseling interventions meaningfully altered intervention effectiveness, including intervention modality, target audience, duration, or setting.<sup>14</sup> On the basis of that information, the USPSTF recommends clinicians provide prevention counseling to all youth, regardless of the presence or absence of risk factors.<sup>13</sup> According to the US Surgeon General, tobacco prevention efforts should focus on both adolescents and young adults,<sup>15</sup> and health care professionals should warn youth of the health risks of e-cigarettes and other nicotine-containing products.<sup>16</sup>

The USPSTF also concluded that the evidence on interventions to prevent cigarette smoking could be applied to prevention of e-cigarette use as well, given the similar contextual and cultural issues currently surrounding the use of e-cigarettes in youth and the inclusion of e-cigarettes as a tobacco product by the FDA.

Similarly, the USPSTF concluded that the evidence could be applied to prevention of cigar use, which includes cigarillos and little cigars.<sup>13</sup>

Tobacco prevention messages should be clear, personally relevant, and developmentally appropriate. Messages can start as soon as children can understand them. Tobacco prevention messaging should start no later than 11 or 12 years of age, as approximately 3% to 7% of middle school students report current tobacco or nicotine product use.<sup>17,18</sup> One of the most important things a child can do to prepare for a healthy life is not starting use of tobacco. Messages that may resonate more with children and adolescents include the effects of tobacco use on appearance, breath, and sports performance; lack of benefit for weight loss<sup>15</sup>; how much money is spent on tobacco use disorder; and how the tobacco industry deceives and tries to manipulate them. The pediatric clinician should ask children and adolescents to make a

commitment to be tobacco free and help them to identify their own reasons for being tobacco free. The AAP policy statement “Improving Substance Use Prevention, Assessment, and Treatment Financing to Enhance Equity and Improve Outcomes Among Children, Adolescents, and Young Adults”<sup>19</sup> recommends that payers provide appropriate coverage and reimbursement for tobacco and nicotine prevention counseling.

### 3. Offer Treatment to Patients Who Use Tobacco Products

#### a. Pediatricians Should Refer Adolescents Who Want to Quit Using Tobacco to Behavioral Interventions.

*Quality of Evidence: Moderate*

*Strength of Recommendation: Strong*

Tobacco use disorder arises from a complex interaction of neurobiologic, behavioral, and social-environmental factors. Behavioral interventions are a cornerstone for tobacco use disorder treatment and can

strengthen skills around coping with emotional, social, and environmental triggers; managing cravings; and coping with withdrawal symptoms. Substantial evidence supports the benefits of behavioral interventions for smoking cessation among adults in primary care.<sup>20,21</sup> Few studies examine the effectiveness of behavioral interventions in children and adolescents. As a result, the USPSTF concluded in 2020 that the evidence is currently insufficient to assess the risks and benefits of primary care-based tobacco cessation interventions for school-aged children and adolescents younger than 18 years.<sup>13</sup> In the USPSTF evidence review, 9 studies examined the effectiveness of behavioral interventions for cigarette smoking cessation. These primary care-based interventions used a variety of modalities, including face-to-face counseling, telephone counseling, text messaging, print materials, and computer-delivered counseling.<sup>14</sup> A meta-analysis of these studies found no statistically significant difference between behavioral interventions versus control conditions in likelihood of continued smoking at 6 to 12 months (9 trials;  $n = 2516$ ; 80.6% vs 84.1%; RR, 0.97; 95% CI, 0.93–1.01;  $I^2 = 29\%$ ).<sup>14</sup> However, limited evidence suggests that physician communication around smoking is associated with more negative attitudes about smoking, increased intention to quit, and more quit attempts.<sup>22–26</sup>

A 2017 Cochrane review presented evidence that group counseling is effective in increasing smoking cessation among adolescents.<sup>27</sup> This systematic review of primary care- and school-based tobacco cessation interventions for young people had broader inclusion criteria than the 2020 USPSTF review. It included trials of a range

of interventions for smoking cessation (eg, behavioral interventions, pharmacotherapy, and complex programs targeting families, schools, or communities) with participants younger than 20 years of age who smoked cigarettes regularly. In the meta-analysis, there was evidence of an intervention effect for group counseling (9 studies; RR, 1.35; 95% CI, 1.03–1.77), but not for individual counseling (7 studies; RR 1.07; 95% CI, 0.83–1.39), mixed delivery methods (8 studies; RR, 1.26; 95% CI, 0.95–1.66), or computer or messaging interventions (pooled RRs between 0.79 and 1.18; 9 studies in total).<sup>27</sup> As a group counseling example, Project EX (an 8-session, school-based clinic tobacco use cessation program for adolescents that includes enjoyable, motivating activities) was highlighted in the review. Although trials evaluating the Project EX program were noted to have a high risk of bias because of notable limitations (eg, institutional and participant-level dropout, high variability in control arm quit rates), several studies, both of Project EX within the United States and internationally, have found a beneficial effect on smoking cessation.<sup>27</sup>

Overall, the 2020 Surgeon General's report on smoking cessation emphasized that smoking cessation is beneficial at any age, reducing the risk of premature death, adding as much as a decade to life expectancy, while also reducing the risk of many adverse health effects.<sup>21</sup> More than half of adolescents who use tobacco products report that they want to quit, and more than half report making at least 1 quit attempt in the past year.<sup>28</sup> It is, therefore, reasonable to offer referral and/or treatment to adolescents who want to stop cigarette smoking, e-

cigarette use, or other tobacco product use.<sup>21</sup> Adolescents who want to stop smoking cigarettes should not be recommended to use e-cigarettes for tobacco cessation (see below for additional information). Best practices in brief intervention, motivational interviewing, and referral to treatment are covered in a separate AAP clinical report.<sup>8</sup>

Further, neither the 2017 Cochrane nor the 2020 USPSTF review identified any studies that examined behavioral interventions for e-cigarette cessation. Recent research, however, has examined text messaging for e-cigarette cessation. A randomized controlled trial (RCT) compared the effectiveness of tailored and intensive text messages (“This is Quitting”) to an attention-only control condition on e-cigarette cessation outcomes among 2588 young adults who used e-cigarettes (mean age, 20.4 years). At the 7-month postrandomization follow-up, 24.1% (95% CI, 21.8%–26.5%) of intervention group participants self-reported abstinence compared with 18.6% (95% CI, 16.7%–20.8%) of control group participants (odds ratio [OR], 1.39; 95% CI, 1.15–1.68;  $P < .001$ ).<sup>25</sup> Thus, for adolescents who want to stop e-cigarette use, it may be reasonable to refer them to text-messaging cessation supports.

*b. Tobacco Use Pharmacotherapy Can be Considered for the Treatment of Moderate to Severe Tobacco Use Disorder in Adolescents Who Want to Quit Tobacco Products.*

*Quality of Evidence: Low*

*Strength of Recommendation: Option*

The “low” quality of evidence rating for this recommendation is largely driven by the availability of only a few well-designed studies that examine the efficacy of

pharmacotherapy for tobacco cessation in adolescents. The limited number of studies to date reflects challenges with enrollment, adherence, and retention of adolescents in well-designed clinical trials.<sup>29,30</sup> It should be noted that the evidence supports the safety of nicotine replacement therapy (NRT) in adolescents.

Only 3 studies in the USPSTF review evaluated the effectiveness of pharmacotherapy for cigarette smoking cessation among adolescents younger than 18 years. These studies included trials of bupropion sustained release versus control in 2 studies and NRT versus control in the third. In all 3 trials, there were no significant differences between intervention and control groups for cigarette smoking quit rates.<sup>14</sup> Additionally, a double-blind RCT comparing varenicline and placebo for cigarette smoking cessation among 157 adolescents found that the varenicline and placebo groups did not differ in the primary outcome of cotinine-confirmed self-reported 7-day abstinence at the end of treatment.<sup>31</sup> The USPSTF review was unable to identify any studies that evaluated primary care-based e-cigarette prevention or cessation interventions for children and adolescents.<sup>14</sup>

Again, the 2020 Surgeon General's report on smoking cessation emphasized that smoking cessation is beneficial at any age. Both the 2020 Surgeon General's report and the USPTF recommend NRT for smoking cessation in adults 18 years and older and that it is most effective when used in combination with behavioral interventions.<sup>21,32,33</sup> The labeling on many over-the-counter NRT products states that an

individual younger than 18 years should consult with their doctor before using the product for tobacco cessation. Given the safety profile of NRT and the well-known consequences of untreated tobacco use, it is reasonable for pediatric providers to recommend and prescribe NRT to adolescents with moderate or severe tobacco use disorder. Moderate or severe tobacco use disorder is defined by the *Diagnostic and Statistical Manual of Mental Disorders, fifth Edition* as having 4 or more symptoms that arise from tobacco use (eg, craving; withdrawal; tolerance; increasing use over time; social, occupational, or health consequences from nicotine use).<sup>34</sup> Tobacco use disorder is a clinical diagnosis for which treatment is within the scope of practice of pediatric providers. Although only a few studies have examined NRT for tobacco cessation in individuals younger than 18 years,<sup>13</sup> NRT is safe with low potential for nonmedical use.<sup>33</sup>

AAP clinical resources for youth tobacco cessation can be found at Tobacco Use: Considerations for Clinicians ([www.aap.org/cessation](http://www.aap.org/cessation)). This guide is based on expert consensus and reflects as robust a review of the current evidence as possible. All of the AAP clinical and policy resources on tobacco are available at [www.aap.org/tobacco](http://www.aap.org/tobacco). Further, the AAP policy statement "Improving Substance Use Prevention, Assessment, and Treatment Financing for Children, Adolescents, and Young Adults"<sup>19</sup> outlines recommendations for adequate coverage and payment of tobacco use disorder treatment of pediatric providers caring for children, adolescents, and young adults. Finally, more information on coding for adolescent tobacco use counseling and treatment can be found at [https://downloads.aap.org/AAP/PDF/coding\\_factsheet\\_tobacco.pdf](https://downloads.aap.org/AAP/PDF/coding_factsheet_tobacco.pdf).

[aap.org/AAP/PDF/coding\\_factsheet\\_tobacco.pdf](https://downloads.aap.org/AAP/PDF/coding_factsheet_tobacco.pdf).

## **RECOMMENDED ACTIONS FOR PEDIATRICIANS: ADDRESS PARENT OR CAREGIVER TOBACCO USE AS PART OF PEDIATRIC HEALTH CARE**

### **1. Inquire About Tobacco Use and Tobacco Smoke Exposure as Part of Health Supervision Visits and Visits for Diseases That May Be Caused or Exacerbated by Tobacco Smoke Exposure and Recommend Tobacco Use Treatment of Caregivers Who Smoke or Use Other Tobacco Products**

*Quality of Evidence: High*

*Strength of Recommendation: Strong*

When parents quit smoking, they significantly increase their own life expectancy,<sup>35,36</sup> eliminate the majority of their children's secondhand smoke exposure,<sup>37-39</sup> and decrease the risk of smoking initiation among their children.<sup>40</sup> The 2021 USPSTF statement on smoking cessation recommends that clinicians ask all adults (18 years or older) about tobacco use, advise them to stop using tobacco, and provide behavioral interventions and FDA-approved pharmacotherapy for cessation to nonpregnant adults who use tobacco.<sup>32</sup> This recommendation is further emphasized by Healthy People 2030,<sup>41</sup> the US Department of Health and Human Services,<sup>12</sup> and the US Surgeon General.<sup>21</sup>

Pediatricians are uniquely positioned to protect children and their parents from tobacco. Parents expect their children's pediatrician to ask about their smoking status and are receptive to pediatrician interventions, including prescribing cessation medications and connecting to treatment resources.<sup>42-44</sup> Questions for parents that can be used to identify tobacco use and exposure include:

- Does your child live with anyone who uses tobacco?
- Does anyone who provides care for your child smoke or use other tobacco products?
- Does your child visit places where people smoke or use tobacco products?
- Does anyone ever smoke or use tobacco products in your home?

Tobacco use treatment messages that emphasize to parents the impact of their smoking on their child may increase acceptance of cessation treatment.<sup>45,46</sup> A 2018 Cochrane systematic review found that parent-facing clinical interventions delivered by pediatric clinicians can reduce children's tobacco smoke exposure and improve children's health. However, there was insufficient evidence to support one strategy over another to reduce the prevalence or level of children's tobacco smoke exposure.<sup>47</sup>

## **2. Implement Systems to Identify, Counsel, Treat, and Refer Caregivers Who Smoke or Use Other Tobacco Products**

*Quality of Evidence: Moderate*

*Strength of Recommendation: Strong*

In adult health care settings, clinic or systemwide approaches can increase the delivery of evidence-based cessation treatment, routinizing identification, treatment, and referral for adults who smoke or use other tobacco products.<sup>21</sup> Strategies that are effective in the adult health care setting, however, have not easily translated to the pediatric setting.<sup>47</sup> To address this issue, practical systems have been developed and validated to address parental tobacco use as part of the child's health care. The Clinical Effort Against Secondhand Smoke Exposure (CEASE) program systematically identifies parents who smoke, actively enrolls them in quitlines, and provides them with printed prescriptions for

nicotine replacement therapy. In a cluster RCT comparing CEASE to standard of care, the CEASE intervention was associated with a practice-level reduction of parental smoking prevalence of 2.7%, a finding that was confirmed by cotinine measurements in individuals who reported quitting.<sup>48</sup> Electronic health record-embedded interventions can also be used to address parental tobacco use.<sup>49–52</sup> Clinician decision support (CDS) systems (electronic health record systems that enhance decision-making in the clinical workflow) have been associated with a 13-fold increase in the proportion of adults who successfully enrolled in smoking cessation treatment through state quitlines.<sup>53</sup> In pediatric settings, CDS systems can help pediatricians screen for secondhand smoke exposure and, similarly, effectively connect parents to treatment, including state quitlines.<sup>54,55</sup> Emerging evidence suggests that pediatric-based CDS systems that incorporate previsit questionnaires can support parent tobacco use screening, counseling, and treatment through more streamlined incorporation into office clinical workflows.<sup>56</sup>

Pediatricians can recommend and prescribe FDA approved medications as part of a treatment plan for parental tobacco cessation.<sup>20,21</sup> A prescription for tobacco cessation medications may be needed for insurance coverage. Breastfeeding people who smoke should be advised to quit tobacco use and connected with behavioral therapy and, if interested, pharmacotherapy.<sup>57</sup> When prescribing, pediatric clinicians should conduct an appropriate assessment of tobacco use, consider possible contraindications to the medications, counsel about risks and benefits, offer

recommendations for follow-up, and provide appropriate treatment. Follow-up is important to monitor for adherence to treatment recommendations, any adverse effects, correct technique for use of the recommended treatments, and adequacy of treatment in controlling nicotine withdrawal symptoms. Pediatricians should follow state regulations and institutional policies for charting on care provided to parents and caregivers to benefit the health of the child. More information on coding for caregiver tobacco use counseling and treatment can be found at [https://downloads.aap.org/AAP/PDF/coding\\_factsheet\\_tobacco.pdf](https://downloads.aap.org/AAP/PDF/coding_factsheet_tobacco.pdf).

## **3. Do Not Recommend E-Cigarettes for Tobacco Cessation**

*Quality of Evidence: Moderate*

*Strength of Recommendation: Strong*

E-cigarettes are not FDA approved for tobacco cessation treatment. According to the 2021 USPSTF recommendation statement, current evidence is insufficient to assess the balance of benefits and harms of e-cigarettes or other vaping devices for tobacco cessation in adults, including pregnant people. Further, the USPSTF recommends that clinicians direct patients who use tobacco to other tobacco cessation interventions with proven effectiveness and established safety.<sup>32</sup> In contrast to the robust evidence on pharmacotherapy and behavioral interventions for smoking cessation, evidence on the use of e-cigarettes as an intervention to quit conventional smoking is lacking. According to the 2020 Surgeon General's report on smoking cessation, there is inadequate evidence to conclude that e-cigarettes, in general, increase smoking cessation and, because e-cigarettes and vaping devices are a heterogeneous group of products, it is difficult to make generalizations

about efficacy for cessation based on clinical trials involving a particular e-cigarette.<sup>21</sup> According to the systematic review conducted for the 2021 USPSTF recommendation statement, no studies on the use of e-cigarettes as tobacco cessation interventions reported health outcomes, and few trials reported on the potential adverse events of e-cigarette use when used in attempts to quit smoking.<sup>20</sup> This lack of evidence is of particular concern because of both the longer-term use of e-cigarettes for cessation compared with FDA-approved pharmacotherapy in the most rigorous trial to date<sup>58</sup> and the nationwide outbreak of e-cigarette or vaping product use-associated lung injury.<sup>59</sup> Further, there is a lack of long-term epidemiologic studies and large clinical trials examining the associations between e-cigarette use and morbidity and mortality.<sup>60</sup> Given the current state of the evidence, pediatricians should not recommend e-cigarettes and instead guide caregivers toward evidence-based, safe, and effective treatments, including behavioral counseling and FDA-approved medications for pharmacotherapy.<sup>61</sup>

#### **4. If The Sources of a Child's Tobacco Smoke or Aerosol Exposure Cannot be Eliminated Through Parent or Caregiver Tobacco Use Treatment, Provide Counseling About Strategies to Reduce the Child's Exposure**

*Quality of Evidence: Low*

*Strength of Recommendation: Option*

Individual family smoking bans in the home and cars and avoiding places where individuals use cigarettes or e-cigarettes should be recommended if parents and caregivers are not ready to stop smoking or start tobacco use treatment. Counseling about smoke-free homes and cars may reduce but is unlikely to eliminate a

child's tobacco smoke exposure as long as household members and caregivers continue to smoke.<sup>46,62</sup>

### **RECOMMENDED ACTIONS FOR PEDIATRIC MEDICAL EDUCATION**

#### **1. Tobacco Prevention and Treatment Should be Included as Part of the Core Pediatric Residency and Medical School Curricula and Assessed on Pediatrics Board Certification and Maintenance of Certification Examinations**

*Quality of Evidence: Moderate*

*Strength of Recommendation: Strong*

Because tobacco use disorder is one of the most common chronic diseases, it is imperative that there be adequate funding to train pediatric clinicians in treating tobacco use disorder. Training in tobacco use treatment enhances both pediatricians' self-efficacy for and likelihood of addressing tobacco prevention and control.<sup>63-65</sup> Many medical schools and pediatric residency programs have made strides in addressing knowledge about harms of tobacco smoke exposure and tobacco use disorder, but they do not promote active learning to teach tobacco intervention skills or encourage use of NRT for adolescents or parents.<sup>66,67</sup> As such, surveys of pediatricians reveal most do not provide quitting materials, discuss quitting techniques, recommend medications, or refer patients or parents who use tobacco to quitlines.<sup>68</sup> Tobacco prevention and treatment should be included as part of the core pediatric residency curriculum and medical school curriculum and assessed on pediatrics board certification and maintenance of certification examinations. This training is especially important for primary care clinicians and for medical subspecialists who treat tobacco-related diseases. Training of physicians and allied health professionals in

tobacco use treatment should be adequately funded.

### **CONCLUSIONS**

Tobacco use almost always starts in childhood or adolescence. The tobacco epidemic takes a substantial toll on the health of all pediatric populations, including infants, children, adolescents, and young adults. Actions by pediatricians can help to reduce the risk of developing tobacco use disorder and reduce tobacco smoke exposure.

For further reading and a summary of AAP clinical reports, policy statements, and other resources for tobacco and e-cigarettes, see Table 1.

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## ABBREVIATIONS

AAP: American Academy of  
Pediatrics

CDS: clinical decision support

FDA: US Food and Drug  
Administration

NRT: nicotine replacement  
therapy

RCT: randomized controlled trial

USPSTF: US Preventive Services  
Task Force

**COMPANION PAPERS:** Companions to this article can be found online at [www.pediatrics.org/cgi/doi/10.1542/peds.2023-061804](http://www.pediatrics.org/cgi/doi/10.1542/peds.2023-061804) and [www.pediatrics.org/cgi/doi/10.1542/peds.2023-061806](http://www.pediatrics.org/cgi/doi/10.1542/peds.2023-061806).

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