

# Asthma to EVALI: Tobacco Use Is a Pediatric Problem

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Five studies in this issue of *Hospital Pediatrics* address tobacco use and tobacco smoke exposure (TSE) in children, from birth through adulthood.<sup>1–5</sup> The aims of the researchers in the studies may be different, but the take-home message is the same: tobacco use is a pediatric disease. Pediatricians can do much more for this disease, whether caring for a child admitted with an asthma exacerbation with caretakers who smoke or a teenager who is admitted with electronic cigarette or vaping–induced lung injury (EVALI). Thankfully, a review of the data from each of these studies helps us to understand the scope of the problem and define opportunities for practice change.

It is important that hospitalists recognize the impact of TSE on children. TSE more than doubles the odds of hospitalization in children with asthma and worsens the disease severity of those hospitalized with asthma, bronchiolitis, and influenza.<sup>6–9</sup> Infants exposed to intrauterine tobacco smoke have a higher risk of low birth weight, lower respiratory tract infections, and birth defects such as cleft palate.<sup>6</sup> The study conducted by Ezegebe et al<sup>1</sup> in this issue adds to the list of morbidities caused by prenatal TSE. In this longitudinal cohort of >36 000 infants followed for 5 years, those with intrauterine TSE had a 26% higher rate of presentation to the emergency department and a 45% higher rate of admission to the hospital across a range of diagnostic categories, including respiratory, infectious, and psychosocial categories.

Also in this issue, the study conducted by Wilson et al<sup>2</sup> underscores the physiologic impact of TSE on children. Cotinine, a biomarker of nicotine, was found in those hospitalized children with TSE reported by their caretakers, in a dose-dependent manner: higher cotinine was found in those who lived with more smokers or with indoor smokers. Children exposed to tobacco smoke from parents who reported they only smoked outside had lower, but still measurable, levels of cotinine, highlighting the importance of addressing third-hand smoke exposure with caregivers.

The impact of tobacco use is even more relevant when considering the adolescent population. With the precipitous rise in teenager vaping, accounting for almost 20% of high school students in 2020,<sup>10</sup> and the recent EVALI epidemic, hospitalists should screen, treat, and code for nicotine use disorder (NUD). In their retrospective cohort study of adolescents in the Pediatric Health Information System, Masonbrink et al<sup>3</sup> found that coding for NUD increased from 2012 to 2019 from 0.3% to 0.4%. Although this may represent a small percentage of hospitalizations, this study revealed a strong correlation with the increase in electronic cigarette use as reported by National Youth Tobacco Survey data ( $\rho = 0.884$ ) in that same time frame. For many reasons, including the prevalence in adolescents of

[www.hospitalpediatrics.org](http://www.hospitalpediatrics.org)

DOI:<https://doi.org/10.1542/hpeds.2020-003715>

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HOSPITAL PEDIATRICS (ISSN Numbers: Print, 2154-1663; Online, 2154-1671).

**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.

Drs Boykan and Walley conceptualized and drafted the initial manuscript; and both authors approved the final manuscript as submitted.

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mental health disorders, their association with substance use,<sup>11</sup> and the EVALI epidemic, we suspect that the data in this study represent a significant underestimation of the true incidence of NUD.

What are hospitalists' barriers to addressing tobacco use and TSE during this "teachable moment"?

In the study conducted by Dickinson et al,<sup>4</sup> all hospitalists surveyed were aware of the harms from secondhand smoke exposure, and almost all were familiar with third-hand smoke exposure. The majority said they asked about TSE >50% of the time, but only 17% did so all the time. Masonbrink et al<sup>5</sup> found that <50% of hospitalists surveyed reported asking about TSE.

Hospitalists engage with many patients and families during a health care event, such as the birth of an infant in the newborn nursery or hospitalization for asthma or bronchiolitis, and these can serve as teachable moments for teen-aged patients and parents who uses tobacco. Previous studies have revealed that parents are receptive to pediatrician engagement in addressing tobacco use in the inpatient setting.<sup>12–14</sup> Consistent with previous literature,<sup>15,16</sup> in the studies by Dickinson et al<sup>4</sup> and Masonbrink et al,<sup>5</sup> hospitalists surveyed cited perceived lack of parental receptivity as the biggest barriers to addressing tobacco use and TSE, but they also cited lack of time and lack of education.

Performing an intervention for tobacco treatment need not take long; studies in adults have revealed that asking about tobacco use and advising cessation increases quit attempts.<sup>17</sup> Simply educating parents about the harms of third-hand smoke has also been shown to increase quit attempts.<sup>18</sup> For those who feel uncomfortable or unprepared to discuss nicotine addiction with patients or their families, short curricula in motivational interviewing can assist in this barrier; one can be found at [https://www.mededportal.org/doi/10.15766/mep\\_2374-8265.10831](https://www.mededportal.org/doi/10.15766/mep_2374-8265.10831).<sup>19,20</sup> Finally, the hospital setting presents opportunities for a multidisciplinary approach to addressing tobacco use that involves other members of

the care team, such as respiratory therapists, nurses, and social workers.<sup>21</sup> A systems-based approach, such as electronic medical record prompts, templates, and electronic referral to state Quitline services, may standardize care and provide support in a busy environment.<sup>22,23</sup> Strikingly, 57% of hospitalists surveyed by Dickinson et al responded that they were unaware of state Quitline services, despite the fact that tobacco cessation quitlines exist in every state (and are all accessible by calling 1 number: 1-800-QUIT-NOW).

Given the detrimental impact of tobacco use highlighted in these articles as well as many others, addressing parental and patient tobacco use should be standard of care in the inpatient setting. Many opportunities exist to overcome the barriers to providing treatment. In addition to the references cited here, we encourage our colleagues to read the AAP policy statements on addressing nicotine and tobacco, including the policy statement addressing electronic cigarettes and vaping,<sup>24,25</sup> and to visit the AAP Julius B. Richmond Center of Excellence for additional resources: <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Richmond-Center/Pages/default.aspx>.

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*Hospital Pediatrics* 2021;11;106

DOI: 10.1542/hpeds.2020-003715 originally published online December 21, 2020;

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