Vaping and E-cigarettes: What can pediatricians in Ohio do about it?

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Dr. Grace Paul, pulmonologist at Nationwide Children's Hospital, Columbus, OH is the e-cigarette champion for the Ohio AAP. In this article, she addresses questions on the epidemiology of e-cigarette use among adolescents, racial disparities, interplay between COVID-19 and vaping, and discusses suggestions to help with teen and parental education. Popular and successful strategies to help prevention of e-cigarette use and quitting resources that are currently available for youth are discussed.

1. **Is vaping still a problem in the US? What about Ohio?**

As you may have guessed- Yes! It is a still a major problem globally, in the US and in Ohio! This table shows that in Ohio, the rates of smoking any tobacco-product, including e-cigarettes is well above the national data. There is much to do!

	Ohio	US data
High school students who smoke	4.9% (30,000)	4.6%
Male high school students who smoke cigars (female use much lower)	9.7%	5.4%
High school students who use e-cigarettes	29.8%	19.6%
Kids <18 who become new daily smokers each year	4,000	1600
Kids <18 and alive in Ohio who will ultimately die prematurely from smoking	259,000	5.6 million
Adults in Ohio who smoke	20.8% (1,895,700)	

The number of hospitalizations for e-cigarette and vape-related lung injury (EVALI) has also been steadily increasing. Apart from clinical morbidity, the financial and economic burden on the national and state's infrastructure remains extremely high.

Ref: The Toll of Tobacco in Ohio - Campaign for Tobacco-Free Kids (tobaccofreekids.org)

2. **What was the impact of COVID-19 on E-cigarette use?**

From a supply/marketing perspective, despite the lockdown and reduced access to retail stores, e-cigarette use did not decrease due to easy availability of unregulated street vape products and multiple highly marketed online sources. There was significant chatter from vape 'gurus' promoting unvalidated safe use of vape products during the pandemic, discussing illegal and unproven health claims, deceptive online marketing, and encouraging adolescents to use the pandemic as a 'transition' period to quit smoking and start the presumed 'safer' vaping!

Epidemiological data proved higher incidence of SARS-CoV2 infection and deaths among populations with higher tobacco use.

From a medical standpoint, there is conclusive evidence that smoking increases susceptibility for respiratory infections by causing impaired mucociliary clearance and increased mucosal permeability. Studies also revealed higher susceptibility and virulence of SARS-CoV-2 due to upregulation of small airway ACE-2 expression where SARS-CoV-2 specifically adheres to, with subsequent higher pulmonary morbidity. (*Kaur et al. Journal of Inflammation, June 2020)*

As a pediatric pulmonologist, during the earlier phases of the pandemic, it was sometimes difficult to discern the diagnosis of e-cigarette (EVALI) versus COVID-19 related lung injury due to similarities in clinical presentation and CT imaging findings.

3. Are there health disparities in tobacco use and in access to quitting resources?

The tobacco industry's marketing has had a significant negative impact on African American (AA) health and mortality. Tobacco use is the number one cause of preventable death among AA, claiming 45,000 AA lives each year. In contrast to the use of cigars and cigarillos, the use of e-cigarettes is lower among AA youth compared to non-Hispanic white populations (adjusted OR of 0.37). This has been attributed to differences in SES, limited access to vape products as 'quitting' agents, and targeted marketing towards the highly additive menthol products in AA communities (85% of AA smokers use menthol products). The rate of quitting is also lower among AA and Hispanic populations due to strong and early addiction to menthol products, and limited access to quitting resources. Recent advocacy and legislations are addressing these health disparities, with innovative plans to expand and promote availability of tobacco cessation options to the AA community.

4. As pediatricians, what are some prevention strategies to help your patients avoid vaping?

a) First, know the federal and state rules!

- Since 2016, the FDA's tobacco 'deeming' rule confirmed their regulatory authority to all tobacco products, including e-cigarettes, as part of its goal to improve public health.
- And as of October 2019, it is illegal to give, sell, or otherwise distribute cigarettes, other tobacco products, or alternative nicotine products like e-cigarette/vaping products to any person under the age of 21. Ohio: Tobacco 21 rule

b) Improve screening in the office

- The AAP recommends 1) Early screening, even from 11 years of age with age-appropriate conversations, 2) The 5As model to facilitate structured clinical conversations (Ask •Advise • Assess • Assist • Arrange Follow up), and 3) Private and confidential discussions

c) **Acknowledge the power of peer pressure**! Boosting a teenager's self-confidence and offering sufficient guidance to say 'NO!' to even trying e-cigarettes is the first step to prevention. Personal mentorship, family support, and trust remain important.

d) At this time, prevention should focus on **education** on 1) the health risks, 2) the increased risk of severe COVID-19 infection, and 3) the predatory marketing tactics used by nicotine companies to target young people, especially during the pandemic

e) Direct teen and parents to validated national public education prevention campaigns such as the FDA directed campaign "The Real Cost'' The Real Cost Campaign | FDA, the Safer ≠ Safe | truth (thetruth.com) campaign by The Truth Initiative®, and The Campaign for Tobacco-Free Kids (http://www.tobaccofreekids.org/) which is the leading advocacy organization working to reduce tobacco use among children.

f) Developing interventions to foster positive future orientation, i.e., attitudes, beliefs and future goals, parental monitoring (a dynamic and bidirectional construct encompassing open parent–child communication and parental rule-setting), social support, school connectedness, and community cohesion seem to have an inverse relationship with initiation of vaping. *Szoko et al, Pediatrics 2021*

g) Community and school advocacy remain vital towards ensuring the health and safety of the community.

h) Through the Youth Initiatives program, the Campaign for Tobacco-Free Kids fosters young leaders who are striving to make the next generation tobacco-free.

5. **As pediatricians, what resources can you offer parents of children who vape or are exposed to tobacco-products?**

As with anything, prevention is better than cure! Encourage parents to be proactive in talking to children early about potential exposure to e-cigarettes at school and why they are harmful. Current data suggests that at least 10% of middle school and 28% of high school students have ever used a tobacco product. So, it is very likely that our kids are at least aware of vaping and may even know someone who vapes regularly.

How can parents identify vape use?

- Unusual fruity odors and vape clouds
- Recognizing the discrete vape devices
- Identifying mood changes, irritability with vape use and/or withdrawal
- Declining school performance

What suggestions can a pediatrician offer to parents to help their child quit?

- Reassure parents that it is never too late to talk to their child about quitting
- Encourage parents to quit smoking and maintain a tobacco free home. Leading by example is the best intervention!
- Knowledge is power! It is very important for parents to be well-informed before addressing the issue. Learn about the products, listen to your child, and encourage quitting! I would recommend resources from the CDC, ODH or AAP, instead of Google!
- This CDC factsheet is a great resource to offer parents to start the conversation Talk with Your Teen About E-cigarettes: A Tip Sheet for Parents (surgeongeneral.gov)
- Parents can also refer their children for quitting resources. For example, in Ohio, parents can refer their child to the Ohio Quitline Ohio - Family Member or Friend (quitlogix.org) or contact the Parent and Guardian Resources - Ohio (mylifemyquit.org) for further guidance
- As always, a collective approach between child, parent, and physician in a non-confrontational, patient, and systematic manner could ensure a successful and sustained victory against vaping.

6. **How do you encourage your patients to quit? What are the resources available in Ohio?**
During our outreach to high-school children in a suburban school in Columbus, we realized that many teens (users and non-users) are very aware of vape products and some of the consequent medical harm. However, there was a *glaring lack of awareness* of the resources that would help them quit. Students were encouraged to see their guidance counselors, although this resource was rarely utilized.

- Motivational interviewing, ensuring confidentiality, and open communication between the physician and the patient are crucial to success.
- Leading by example is highly motivating!

- It is important to know that the FDA has not approved Nicotine Replacement Therapy (NRT) for youth <18 years old. Given the effectiveness of NRT for adults and the severe harms of tobacco dependence, AAP policy recommends that pediatricians consider recommending off-label NRT prescriptions for youth who are moderately or severely addicted to nicotine and are motivated to quit

As youth value their privacy and confidentiality, and emphasize on peer experiences, the other options to help quit are

- **The Ohio Quitline:** Ohio - Home (quitlogix.org) which is available to all Ohioans of age 18 or older (or younger with parental permission). This program recommends to 'Ask, Advice, and Refer' for further conversations. Patients are *twice* as likely to contact the Quitline if they are referred. The Quitline offers coaching by phone, email, or text, pharmacotherapy (based on age), personalized planning and educational materials**,** membership in an online community, and clinical oversight. They boast one of the highest success rates among US adults, with a 37% responder quit rate (coaching plus NRT) and a 90% participant satisfaction rate.

- **My Life, My Quit:** mylifemyquit.com
  Ohio is one of few states to offer the ***My Life, My Quit*** online coaching program. This program combines best practices for youth tobacco/vaping cessation and new ways to reach a coach using live text messages or online chat. The program includes educational materials designed for teens created by teens, and involves through discussion with subject matter experts and community stakeholders. Specially trained coaches listen and provide personalized support, help navigate social situations and cope with stress, and support development of a tobacco-free identity.

- This is Quitting (truthinitiative.org)
  This is a free and anonymous text messaging program from Truth Initiative®. The first-of-its-kind quit program incorporates messages from other youth who have attempted to, or successfully quit, e-cigarettes. Messages show the real side of quitting, both the good and the bad, to help adolescents feel motivated, inspired, and supported throughout their quitting process. Evidence-based tips and strategies to quit and stay quit are promoted. It is tailored based on age (13 to 24 years old) and product usage, to give teens and young adults appropriate recommendations about quitting. Youth can access the program by texting "DITCHJUUL" to 88709.

Knowledge is power! As pediatricians, we can make a tremendous positive impact on our patients!

Additional References:

1. Centers for Disease Control and Prevention (cdc.gov)
2. American Academy of Pediatrics Home (aap.org)
3. https://e-cigarettes.surgeongeneral.gov/
4. Ohio Department of Health | Ohio.gov