

The Role of the School Nurse in Creating a Vape-Free School

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Electronic, or “e”-cigarette use has been adopted by an alarming number of teens in recent years. E-cigarettes are neither legal for youth nor considered safe for use by youth. E-cigarette companies have targeted youth in their marketing strategies and developed appealing flavors with high nicotine content to ensure dependence on their products. Schools lack adequate resources and capacity to address e-cigarette use, relying mostly on punitive sanctions for what is essentially a health issue. School nurses can help their districts and schools by navigating appropriate consequences for vaping, providing accurate information and education, providing cessation resources, advocating for student support, and informing stakeholders on population health strategies to prevent initiation and reduce youth e-cigarette use.

Tobacco prevention and control advocacy and shifting societal norms have significantly reduced youth cigarette use over the past 20 years. However, electronic cigarette (e-cigarette) use has increased rapidly among youth. In the United States in 2019, more than one in four high school students (27.5%) and one in ten (10.5%) middle school students reported current use of e-cigarettes, compared to 11.7% and 3.3% in 2017 (Cullen et al., 2019; Wang et al., 2018). From 2017 to 2018, the prevalence among high school students increased 78%. This shocking increase prompted the U.S. Surgeon General, Jerome Adams, to issue an advisory in December 2018 to inform the public of the risks of e-cigarettes and declare youth vaping to be an epidemic (U.S. Department of Health and Human Services, [USDHHS], 2018). Addressing this

epidemic has been challenging for the public health community and educational institutions because of the constantly evolving stream of information and lack of specific youth vaping prevention resources. Although all school personnel have a role, the school nurse has unique expertise within school settings to help combat this challenging public health issue. The role that school nurses play in addressing youth vaping relates directly to the skills outlined in the key principles of the Framework for 21st Century School Nursing Practice.

E-cigarettes, also known as vapes, have a variety of names, shapes and sizes. Juul, a brand widely used by youth in recent years and with a considerable share of the e-cigarette market, resembles a USB flash drive. These types of e-cigarettes are rechargeable and have a disposable pod that snaps into an atomizer, creating an

aerosol. They are small, produce limited exhaled aerosol, and generally have either no odor or a pleasant smell, making them easier to conceal and use frequently without detection (Truth Initiative, 2019). The aerosol (not ‘water vapor’) produced by e-cigarettes almost always contains nicotine, flavorings and other chemicals. Vaping devices can also be used to inhale marijuana and other drugs. The Centers for Disease Control and Prevention (CDC, 2019a) states that “the use of e-cigarettes is unsafe for kids, teens and young adults” (para. 1).

E-cigarettes received increased national attention because of the E-cigarette, or Vaping, product use Associated Lung Injury (EVALI) outbreak first documented in March 2019. This outbreak progressed to over 2,500 hospitalized cases in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands by December 27, 2019. Among the 2,159 hospitalized patients with data on age (as of December 3, 2019), 16% of patients are under 18 years old, and 78% of patients are under 35 years old. There is a median age of 24 years with ages ranging from 13 to 77 years. In addition to these cases, 55 deaths are confirmed in 27 states and the District of Columbia as of December 27, 2019 (CDC, 2019b). Parents, school staff, and teens themselves have become more aware that vaping is a risky behavior because of this media attention.

Many ask, how did we get back to this point of youth tobacco use? Although there are several contributing factors, the short answer is marketing, appealing flavors, and the creation of a more efficient vehicle for nicotine addiction.

The Ingredients to the Vaping Epidemic: Marketing, Flavors and Nicotine

Nearly 90% of smokers begin smoking before the age of 18 (USDHHS, 2012). Youth exposure to conventional cigarette advertising causes the initiation and continuation of smoking among youth (USDHHS, 2014). Similarly, researchers are finding that youth who are exposed to more e-cigarette marketing are more likely to use the product than youth who are not exposed to e-cigarette marketing (USDHHS, 2019). Unlike conventional cigarettes, vape products do not have many federal regulations on their advertisement. According to USDHHS (2019):

In 2018, more than 5 in 10 middle school and high school students – more than 14 million youth – said they had seen e-cigarette advertising. Retail stores were the most frequent source of this advertising, followed by the internet, TV and movies, and magazines and newspapers (para. 6).

E-cigarette brands use the same marketing techniques as conventional cigarette advertising did in its heyday: sexual imagery, implied harm reduction claims and customer satisfaction (USDHHS, 2016). E-cigarette companies, experiencing increasing investments from the traditional global tobacco companies, employ extensive use of social media, sponsor music festivals and related events, and even provide student scholarships (Truth Initiative, 2018). These marketing practices have been criticized in recent months and the most obvious ones have disappeared. Juul and its imitators have found success focusing on product design and packaging that appeals to the youth market (USDHHS, 2019).

Most notably, vape manufacturers have marketed candy, fruity, and similarly appealing flavors to youth (USDHHS 2019). Flavoring in products can mask inhalation harshness and make the vapor seem less harmful. The Food and Drug Administration

(FDA) banned flavored tobacco in conventional cigarettes in 2009. However, menthol was exempt as were flavored non-cigarette tobacco products such as e-cigarettes (Public Health Law Center, 2019a). Many localities have taken matters into their own hands in the wake of the EVALI outbreak. Various jurisdictions have implemented e-cigarette flavor bans in an effort to reduce the availability and appeal of vape products to youth.

E-cigarette companies have developed innovative ways of delivering nicotine to users. Juul’s addictive formula uses nicotine salts, allowing its high level of nicotine to be inhaled more efficiently and with less irritation than the free-base nicotine used in most other e-cigarettes and tobacco products. Even more alarming is that many students and parents do not know that Juul always contains nicotine. According to Juul Labs, each 5% pod is manufactured to contain the same amount of nicotine as a pack of conventional cigarettes or 200 puffs (Truth Initiative, 2019). It is the nicotine that keeps youth dependent on vape products even when they face multiple consequences or punishments. Lastly, it is important to note that nicotine is harmful to the developing brain. Nicotine can impact attention, learning, memory, and other cognitive functions as the brain continues to develop into young adulthood (USDHHS, 2016).

FDA was granted regulatory authority over all deemed tobacco products in 2016, including e-cigarettes, but there are currently no enforced regulations on e-cigarettes. FDA has stated that all tobacco products authorized for the market will only receive approval after undergoing thorough scientific review (Sharpless, 2019). In September 2019, the Secretary of Health and Human Services, Secretary Alex Azar, announced that FDA would finalize a guidance document to ban all flavors, other than natural tobacco flavor (Trump,

Azar, & Sharpless, 2019). In December 2019, federal legislation was signed raising the federal minimum age of sale of tobacco products from 18 to 21 years. It is now illegal for a retailer to sell any tobacco product, including cigarettes, cigars and e-cigarettes, to anyone under 21 years (U.S. Food and Drug Administration, 2020). Upon implementation, these regulations could potentially limit the number of vape products and flavors sold in the U.S. in the future.

How Do School Nurses Contribute to a Vape-Free School?

There is no doubt that schools have been burdened by the e-cigarette epidemic. Many districts have strengthened their tobacco policies to include e-cigarettes and expanded policies to encompass all school grounds and school-sponsored events. School districts are also examining their policies for addressing violations. Appropriate violation procedures should include product confiscation, parent notification, information for parents and students (Public Health Law Center, 2019b), and at the very least, a referral to the state quitline, 1-800-QUIT-NOW. Quitlines are telephone and web-based counseling services available for free to U.S. residents who are trying to quit using tobacco products (CDC, n.d.). All state quitlines offer specific services for youth.

School districts often have existing alcohol, tobacco, and other drug policies which have suspension, expulsion and referral to law enforcement as disciplinary measures. There is evidence that these punitive measures are applied disproportionately to minority students and have long-term negative consequences (Public Health Law Center, 2019b). The school nurse can exercise leadership by advocating for non-punitive procedures for

these types of violations. As the school's health professional, nurses have an opportunity to educate administrators that addiction is a complex disease and compulsion to use a substance is not a willful defiance of school rules. If a student is dependent on nicotine or another substance, they need treatment interventions, not further isolation with the increased opportunity to engage in unhealthy behaviors (Public Health Law Center, 2019b). This is in line with schools shifting to whole child approaches and trauma-informed schools.

Vaping is a long-term issue which will not be solved by a one-time presentation. The school nurse should deliver, or coordinate vape education to staff and parents on a regular basis. This practice is essential in elementary and middle schools when most kids start experimenting and should not be limited to just high schools. In addition, nurses can participate in reviewing current curriculum content about alcohol, tobacco and other drugs and determine what updates need to be made. Many expensive vaping curricula are currently being marketed to schools, but credible free resources are also available. Curriculum sets should always be evidence-based. Table 1 lists vaping prevention and cessation resources for schools to consider.

As the school administration considers internal procedures for addressing policy violations, the school nurse should advocate for screening, brief intervention, and treatment referral as an evidence-based practice to identify, reduce and prevent student e-cigarette and other substance use (National Research Council, 2001). If possible, students who have violated the tobacco or other substance use policies should be referred to the school nurse or another licensed professional within the school who has training in motivational interviewing. Treatment guidelines

for young people who want to quit tobacco and vaping have not been established by medical professionals because there has not been sufficient study. The American Academy of Pediatrics (2015) strongly recommends tobacco dependence treatment in the form of behavioral counseling, including quitline referral (para. 3) for adolescents who want to stop using tobacco. The school nurse can ensure that whoever is dealing with student violations has the state's quitline materials and information about locally available counseling options. It is best to contact local organizations first to ask if they have the capacity for potential school referrals. There are emerging no-cost programs for text-based cessation help as well (Table 1). Cessation referrals should also be made for parents and staff who use tobacco products and want to quit.

School culture is strengthened by students developing positive social norms. If students perceive that most of their peers do not use tobacco or vape, then they are less likely to initiate tobacco use (USDHHS, 2012). School nurses can encourage coaches and other influential school personnel to discuss the harms of tobacco and vaping with teams and classes. Nurses can also sponsor or support clubs and peer leadership programs that seek to raise awareness around the dangers of tobacco and substance use and work to change school norms. The majority of students do not use tobacco products and often welcome support in resisting target marketing and daily peer pressure.

Finally, all school staff, including school nurses, can advocate for state initiatives and local policies that have been shown to prevent and reduce youth tobacco use. These include increasing taxation on tobacco products, prohibiting smoking in public places, and enforcing the minimum age of sale for tobacco products to 21 years

Figure 1. Roles of the School Nurse in a Vape-Free School

Roles of the School Nurse in a Vape-Free School					
<p>Advocate for non-punitive procedures for student violations of the school's tobacco policy.</p> 	<p>Deliver and/or coordinate tobacco and e-cigarette education to parents and staff on a regular basis.</p> 	<p>Participate in reviewing curriculum content about alcohol, tobacco and other drugs.</p> 	<p>Ensure that students, staff and parents who are interested in quitting are referred to treatment.</p> 	<p>Support or sponsor clubs and student programs that raise awareness around the dangers of tobacco and substance use.</p> 	<p>Advocate for state initiatives and local policies that have been shown to prevent and reduce youth tobacco use.</p> 
<p>Suggestion: Educate administrators on the nature of addiction and provide information on cessation intervention and referral.</p>	<p>Suggestion: Include all buildings: elementary, middle, and high school. Credible handouts and graphics have already been developed. <i>See Table 1.</i></p>	<p>Suggestion: Determine what updates need to be made and provide guidance on the need for evidence-based resources.</p>	<p>Suggestion: Provide appropriate cessation resources, including the state quitline.</p>	<p>Suggestion: Advocate for student support in resisting marketing and peer pressure and setting positive social norms.</p>	<p>Suggestion: Consult with others in the school district who may focus on policy initiatives and advocate as the school-based health professional.</p>

(National Academies of Sciences, Engineering, and Medicine, 2015; USDHHS, 2012). Often, someone from the district is a member of a local health coalition which can be consulted on local policy initiatives. In addition, the district's federally mandated student wellness committee may be a source of information.

Conclusion

We all have a part to play in curbing the youth e-cigarette epidemic and it will not happen with public health outcry or legislation alone. Schools, and especially school nurses, are integral to reversing the alarming increases in overall youth tobacco use. As the licensed health professional in the school setting, school nurses can provide the leadership that is needed to create a vape-free school. See Figure 1 for an overview of the outlined leadership roles.

E-cigarette companies have

targeted youth in their marketing strategies and developed appealing flavors with high nicotine content to ensure dependence on their products. Schools are concerned but overwhelmed, and many rely on excessive punishment for what is a health issue. School nurses can help their districts and schools by navigating appropriate consequences for vaping, providing accurate information and health education, providing cessation resources, advocating for student support, and educating others about population health strategies to prevent initiation and reduce youth tobacco use. •

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Table 1. Vaping Prevention and Cessation Resources for Schools

CDC Office on Smoking and Health (CDC/OSH) e-cigarette resources		
E-Cigarettes: Talk to Youth About the Risks	Evidence based messaging about e-cigarettes. Includes a presentation for youth.	https://www.cdc.gov/tobacco/features/back-to-school/e-cigarettes-talk-to-youth-about-risks/index.html
Quick Facts on the Risks of E-cigarettes for Kids, Teens, and Young Adults	Includes resources for learning more about the youth vaping epidemic, including a toolkit for partners.	https://www.cdc.gov/tobacco/basic-information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html
E-cigarette focused curriculum		
The Real Cost of Vaping school-based curriculum	Free, evidence-based curriculum for Grades 6-12 developed by Scholastic and the FDA.	www.scholastic.com/youthvapingrisks
The University of Texas Health Science Center at Houston Catch My Breath Youth E-Cigarette and JUUL Prevention Program	Free program that uses a peer-led teaching approach for ages 10-18 and meets National and State Health Education Standards.	https://catchinfo.org/
The Stanford Medical School Tobacco Prevention Toolkit	Free, evidence-based resources, including an Alternative-to-Suspension Curriculum.	https://med.stanford.edu/tobaccopreventiontoolkit.html
The American Lung Association INDEPTH™: Intervention for Nicotine Dependence: Education, Prevention, Tobacco and Health	Free training/curriculum offers an alternative to suspension or citation for infractions of school tobacco-free policies.	https://www.lung.org/stop-smoking/helping-teens-quit/indepth.html
Tobacco-free school policy		
The Public Health Law Center	Model policies and other resources on addressing student commercial tobacco use as part of school tobacco-free policies.	https://www.publichealthlawcenter.org/ Student Commercial Tobacco Use in Schools: Alternative Measures Commercial Tobacco-Free K-12 School Model Policy
Kansas Department of Health & Environment Kansas Vape-Free Schools Toolkit	Contains information and resources to help schools effectively implement, clearly communicate, regularly enforce and support a tobacco-free and e-cigarette-free campus.	http://www.kdheks.gov/tobacco/download/Vape_Free_Schools_Toolkit.pdf
E-cigarette cessation for youth		
State Tobacco Quitline	All states have free, evidence-based quitlines with trained counselors. Hours of operation and services vary from state to state.	Call this number to connect directly to your state's quitline. 1-800-QUIT-NOW (1-800-784-8669)
The Truth Initiative "This is Quitting"	A youth/young-adult focused E-cigarette Quit Program that uses text messaging.	Youth and young adults can access the e-cigarette quit program by texting "DITCHJUUL" to 88709. Parents and other adults looking to help young people quit should text "QUIT" to (202) 899-7550. https://truthinitiative.org/thisisquitting
The National Cancer Institute's SmokefreeTeen	Includes information on how to quit vaping.	https://teen.smokefree.gov/quit-vaping

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