

Vaping Toolkit Evaluation

2020-2021 Division of Tobacco Prevention



Image from wvntv.com

West Virginia Prevention Research Center

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Table of Contents

Introduction	5
Health Impact of Vaping	5
Prevalence of Vaping	5
Development of the Youth Vaping Toolkit	6
Evaluation Questions	7
Evaluation Procedures and Design	7
Results	7
Discussion and Recommendations	9
References	10

Introduction

Electronic cigarettes (e-cigarettes) are battery-powered devices that deliver nicotine and artificial flavoring to users as an aerosol. The use of e-cigarettes is commonly referred to as vaping but there are also many different names such as e-cigs, e-hookahs, and vapes among others (CDC, 2021). These products come in a variety of shapes and sizes with some that look like cigarettes. Others may appear to be pipes, cigars, and everyday devices such as pens or flash drives (Figure 1, Image from [CDC](#)). Although JUUL is the most common vaping product in the United States, other companies include MarkTen Elite and the PAX ERA: the PAX ERA looks very similar to JULL products except it is used as a marijuana delivery device (CDC, 2021). These products use a liquid nicotine “pod” that is refillable. Each pod contains nicotine that is equivalent to the amount in a pack of cigarettes.

A primary reason that youth report using vaping products is because they contain flavors such as fruit, mint, menthol, candy, and other sweets (Wang et al., 2020). Many youth also report using vaping products to help them quit smoking cigarettes but there is evidence that young people who vape are more likely to increase their cigarette usage in the future (National Academies of Sciences & Medicine, 2018). It is also problematic that some producers of vaping products do not indicate the presence of nicotine and about two-thirds of JUUL users ages 15 to 25 did not know that these products contain nicotine in 2014.

Figure 1 – Common Vaping Products

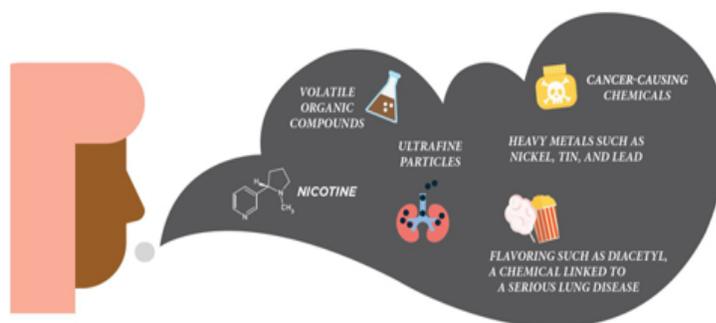


Health Impact of Vaping

The health impacts of nicotine use and addiction are well-documented (CDC, 2021). During adolescence, nicotine exposure impedes neurological development, learning, attention, and memory. The aerosol contained in pods exposes users and bystanders to other harmful substances including volatile organic compounds and heavy metals (Figure 1 (CDC, 2021, Image from [CDC](#))).

The aerosol in e-cigarettes contains acrolein, which is a common herbicide that is thought to cause chronic obstructive pulmonary disorder (COPD), asthma, and lung cancer.

Figure 2 – Potentially Harmful Substances in E-cigarettes

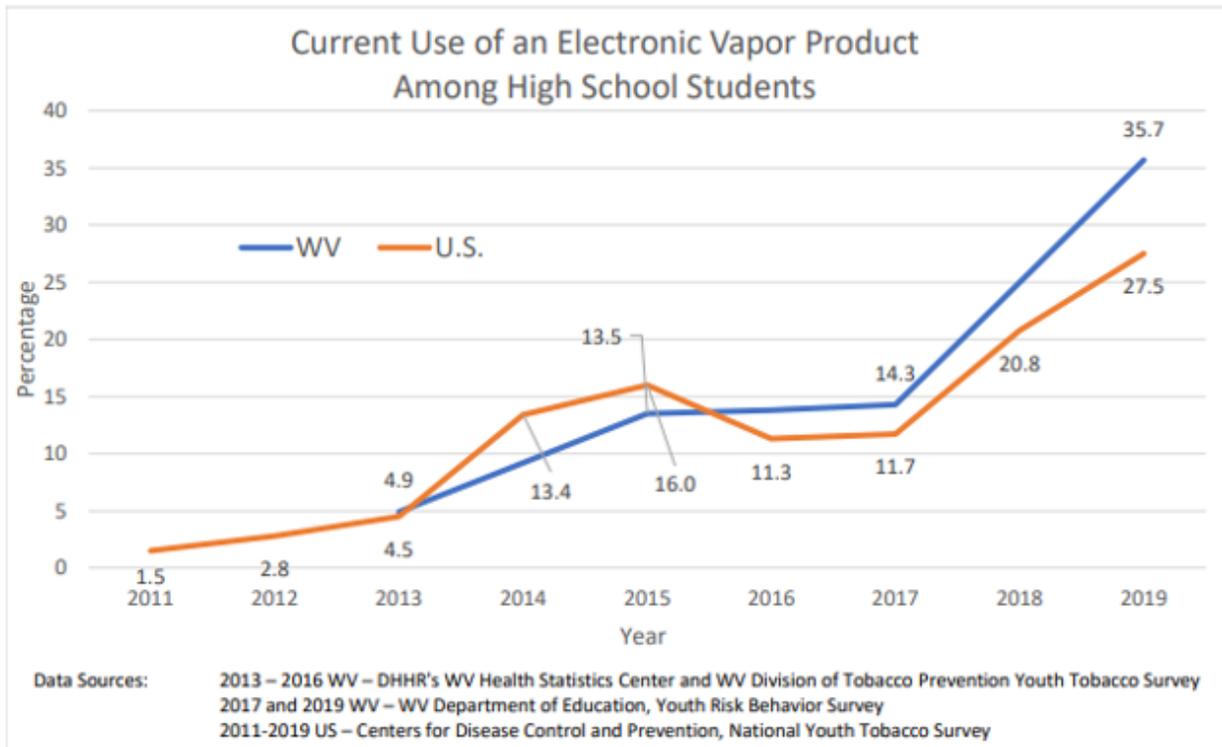


Prevalence of Vaping

In West Virginia, about 35% of high school students report using e-cigarettes (Slemp, 2020). This represents an astounding 150% increase in the use of e-cigarettes among high school students from 2017 to 2019. More than 15% of middle schoolers are current users of e-cigarettes.

The prevalence of e-cigarettes among high school students in West Virginia is well above national rates (Figure 3, Image from Slemp, 2020).

Figure 3 – Trends of Current E-Cigarette Use by High School Students in West Virginia and U.S. |



Development of the Youth Vaping Toolkit

The Bureau for Public Health, under then director Dr. Catherine C. Schlempp, released an extensive report in 2020 on the use of e-cigarettes by youth in West Virginia (Slemp, 2020). Within this report, various recommendations were presented to address the youth vaping epidemic including the development of a youth vaping toolkit. Michele Bowles became the Tobacco Prevention Coordinator in the West Virginia Division of Tobacco Prevention in March 2020. She lead efforts in the development and marketing of the toolkit. She formed a committee to initiate this process. The committee consisted of community members from around the state with expertise in tobacco reduction efforts and included representatives from the American Lung Association, Coalition for a Tobacco Free West Virginia, Community Connections Incorporated, Cabell-Huntington Health Department, the West Virginia Department of Health and Human Resources, Division of Tobacco Prevention, the West Virginia Department of Education, the McDowell County Commission on Aging, Incorporated, and the West Virginia Prevention Research Center. They completed a survey to determine who might be interested in using the toolkit and to provide content suggestions. Members of the committee also reviewed and gained insights from toolkits from the Centers for Disease Control and best practices reported in published scientific literature (DiFranza & Dussault, 2005) and other reputable sources (Alliance of Coalitions for Healthy Communities, No Date). The toolkit was put online and made available on November 10, 2020.

Evaluation Questions

The following evaluation questions were addressed in this report:

1. Who used the toolkit and, more specifically, the sector the respondent represented (education, school personnel, parent, or community).
2. The usefulness of each section of the Toolkit.
3. How much respondents agreed with statements about level of learning, new resources and ability to talk with youth about vaping.
4. Open-ended question about challenges and barriers of using the Toolkit.

Evaluation Procedures and Design

The evaluation design was collaborative, survey-based, and participatory. A member of the evaluation team interviewed Michele Bowles on February 19, 2021 to gain further insights into the history of the Toolkit and evaluation needs. Anyone who downloaded the Toolkit was requested to complete a contact sheet. The contact sheet included a link to the Qualtrics survey with a request to complete the evaluation survey. The evaluation team developed a survey in the Qualtrics Survey Systems (See Survey Questions in Table 1). The first survey question evaluated ease of reading and understanding the toolkit on a scale of 5 (strongly agree) to 1 (strongly disagree). Survey questions about usefulness and learning were on a scale of 5 (extremely useful) to 1 (not useful), or 0 (not applicable). Questions about learning asked respondents to indicate how strongly they agreed or disagreed with each statement on a scale of 5 (strongly agree) to 1 (strongly disagree). Finally, we asked respondents to indicate the likelihood they would put the toolkit into practice and share this information on a scale of 5 (extremely likely) to 1 (extremely unlikely). We averaged participants' ratings for usefulness, learning, and likelihood of sharing information to form total scores for each of these areas of evaluation. Open-ended questions also asked respondents to share information that could help improve the Vaping Toolkit and PowerPoint slides.

Results

There were 96 downloads of the Vaping Toolkit during the evaluation period and ten individuals completed the survey. These included 4 who were school personnel, 3 educators, 2 from community groups, and 1 parent. The first question asked respondents their level of agreement about whether the toolkit was easy to read and understand. As shown in Table 1, the average response was 4.56 out of 5. The standard deviations are presented below because they show the dispersion around this mean and can be influenced by outliers when sample sizes are small. More specifically, one or more individuals who completed the survey were critical which skewed the findings in the opposite direction as would be hoped. Likewise, participants rated the usefulness of the Toolkit and PowerPoint slides very highly. (Table 1).

Table 1 – Usefulness of the Vaping Toolkit and PowerPoint Slides

Usefulness	
1. Toolkit and PowerPoint slides were useful	4.45/1.33
2. Overview of vaping products	4.80/0.63
3. Usefulness for parents	4.67/0.50
4. Usefulness for educators	4.78/0.44
5. Usefulness for school and other healthcare service providers	4.78/0.44
6. Usefulness of resources to help youth quit	4.78/0.44
7. Usefulness of PowerPoint slides	4.67/0.71
Overall Usefulness	4.74/0.06

Table 2 shows the respondents levels of learning from the Vaping Toolkit. As shown, participants rate their learning very highly with the exception of one or more individuals who were not as

enthusiastic.

Table 2 – Learning from the Vaping Toolkit

Learning	
1. Learned new information	4.5/0.97
2. Learned new ways to talk about vaping with youth	4.6/0.52
3. Learned new resources to address youth vaping	4.5/0.97
4. Overall learning	4.53/0.58

Responses about whether the information in the Vaping Toolkit were or will be put into practice were mixed as 5 indicated they would not and 2 stated they would. Seven individuals indicated they have shared the toolkit and its resources with others, while 2 said no. Similarly, 4 individuals indicated they shared the PowerPoint slides with others while 3 had not. Participants indicated they would be somewhat likely to share the Toolkit and PowerPoint slides in the future (Table 3).

Table 3 – Sharing the Toolkit and PowerPoint Slides

Sharing the Toolkit with Others	
1. How likely are you to share the Toolkit with others (n=5)	4.25/0.95
2. How likely are you to share the PowerPoint slides with others (n=6)	4.25/0.96

The open-ended questions about ways to improved the Vaping Toolkit yielded two statements. One respondent stated “The power point especially needs to be more dynamic- it will lose the interest of students and parents quickly.” Another individual suggested “More statistical data from our state compared to others nationwide so students can see how bad vaping can be for their health.”

Discussion and Recommendations

The results overall showed that across the sectors represented, the educators, school personell, community members, and one parent who used the Vaping Toolkit felt it was useful and they learned new information from this resource. They had shared the toolkit to a certain extent or planned to do so in the future. The few suggestions participants offered to improve the toolkit will be discussed further.

While any conclusions drawn here are limited by the small sample size, the pressing public health need to address vaping and encouraging results presented here, warrant continued efforts to disseminate and evaluate the Vaping Toolkit. Specifically, the rates of vaping by youth in West Virginia will continue to rise and, based upon available evidence, and likely lead to future tobacco users (National Academies of Sciences & Medicine, 2018). It is important for public health practitioners in West Virginia to continue efforts at preventing the use of vaping.

As noted in the results, one participant indicated that we should make the Vaping Toolkit and slides more dynamic. We agree with this recommendation and offer the following suggestions for consideration. First, it is possible for the West Virginia Bureau for Public Health to create and embed public service announcements (PSA) into the toolkit as videos. For instance, the Minnesota Department of Health created its own video that can be viewed here [Minnesota Vaping Video](#). This and other YouTube videos can be created and disseminated with relative ease and placed on information stations in public schools, libraries, and other public locations. A cartoon animated PSA was developed by researchers at the University of Central Los Angeles and provides an example of another way to disseminate an animated version of the Vaping Toolkit [UCLA Cartoon Vaping Video](#).

There are also infographics developed by CDC, FDA, and the Surgeon General's Office that could be circulated using electronic or traditional print messaging approaches. One developed for teachers and parents can be found here [CDC Parent and Teacher Vaping Infographic](#).

In terms of evaluation, the West Virginia Prevention Research Center suggests a more concerted effort to disseminate and evaluate who uses the Vaping Toolkit, how it is used, and how many youth are impacted. While this initial evaluation shows promise, a larger sample size is needed for a more robust evaluation. If an increased sample size for those who complete the survey is not possible, semi-structured interviews of school personnel or teachers or parents may yield greater insights about how and under what conditions the Vaping Toolkit is used.

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