

West Virginia Youth and Vaping: A Surveillance Update



Youth Risk Behavior Survey (YRBS)

The Youth Risk Behavior Survey (YRBS) has been conducted among a representative sample of West Virginia high school and middle school students since 1993. This survey, developed by the CDC, asks students about a variety of risky and protective behaviors including the use of tobacco and tobacco related products. The biennial YRBS first asked two questions about electronic tobacco product use in 2015¹. The 2017 and 2019 surveys contained three questions about trying, using, and obtaining electronic vapor products, provided a definition, and listed popular name brands. As a reflection of consumer trends, the definition of electronic vapor products and example brands have changed somewhat over the last two data collections. Most notably, the 2019 survey added JUUL as a brand exemplar. The following tables and graphs highlight multiple statistically significant differences and other interesting trends between the 2017 and 2019 data.

High School YRBS Results

As seen in the table below, the percentage of high school students who ever tried and smoked (at the time of the survey) cigarettes has decreased slightly from 2017 to 2019. While reduction in cigarette smoking is a move in the right direction, statistically significant increases were seen in the use of vaping products. Students reported substantial gains in having ever tried vaping, increasing from 44.4% in 2017 to 62.4% in 2019. The percent of those who used vaping products went from 14.3% in 2017 to 35.7% in 2019. An increase was also seen among those who smoked cigarettes or used vapor products, rising from 21.3% in 2017 to 38.0% in 2019. Moreover, the prevalence of students who used vapor products frequently experienced a percent increase of more than 430% - moving from 3.1% in 2017 to 16.7% in 2019. Similarly, those who reported daily use of vaping products underwent a percent change of just above 400% - from 2.5% in 2017 to 12.6% in 2019.

Data also indicate a small decrease, from 10.1% in 2017 to 7.7% in 2019, in students who purchased their vaping products in a store. Further analysis may provide insight as to where students acquire these products. Cessation attempts increased from 2017 to 2019 – among those who used any type of tobacco product, 53.0% attempted to quit in 2019, as compared to 47.4% in 2017.

High School YRBS by Year		
<i>Percent (%) of students who . . .</i>	2017	2019
Ever tried cigarette smoking	39.5	38.5
First tried cigarette smoking before age 13	15.0	12.7
Smoked cigarettes (1 or more days per month)	14.4	13.5
Ever used electronic vapor products	44.4	62.4*
Used electronic vapor products (1 or more days per month)	14.3	35.7*
Used electronic vapor products frequently (20+ days per month)	3.1	16.7*
Used electronic vapor products daily	2.5	12.6*
Smoked cigarettes or used electronic vapor products	21.3	38.0*
Bought electronic vapor products in a store	10.1	7.7
Tried to quit using all tobacco products within the past year	47.4	53.0

Data source: West Virginia Department of Education, Youth Risk Behavior Survey

**Indicates statistically significant change (p<0.05) from 2017 to 2019*

¹The 2015 questions did not provide a definition or give name brand examples.

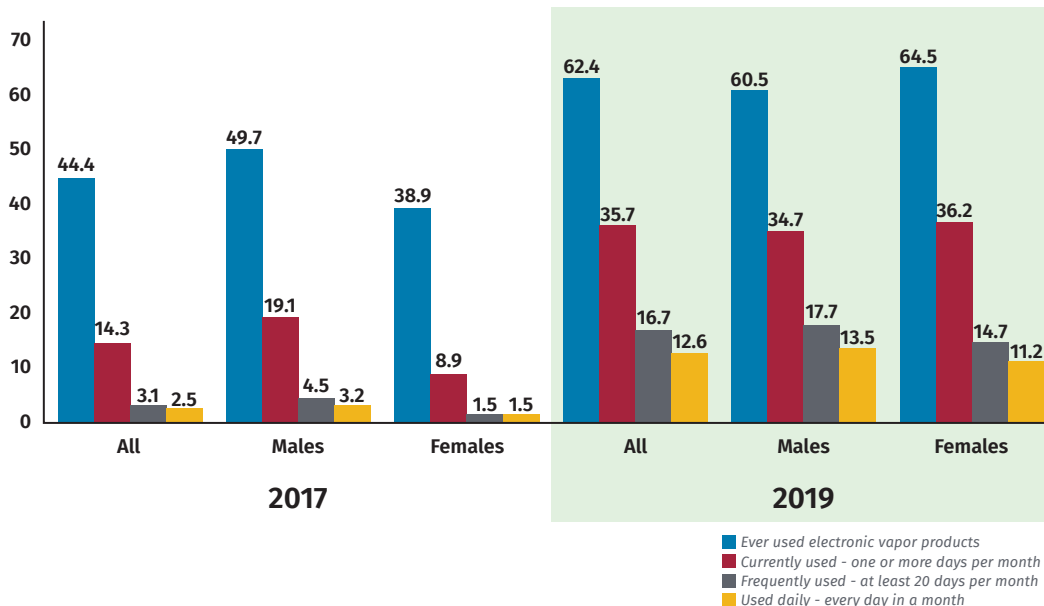
There were noteworthy differences between males and females when examining 2017 and 2019 YRBS data. Indicated in the table below, the percentage of males who smoked cigarettes is a little higher than the percentage for females in both survey years. Yet, when looking at the percentage of those who smoked cigarettes or used electronic vapor products, females reported a percentage in 2019 (35.7%) that was statistically significantly higher than the percentage in 2017 (15.0%). Among those who attempted to quit tobacco products within the last year, females reported a marginally higher percentage than their male counterparts in 2019 (53.4% and 52.2%, respectfully).

Percent (%) of students who . . .	Males		Females	
	2017	2019	2017	2019
Ever tried cigarette smoking	41.8	41.3	37.1	35.2
First tried cigarette smoking before age 13	16.7	14.2	12.8	10.4
Smoked cigarettes (1 or more days per month)	17.7	14.5	10.3	12.1
Smoked cigarettes or used electronic vapor products	26.8	37.7	15.0	37.5*
Tried to quit using all tobacco products within the past year	46.9	52.2	49.3	53.4

Data source: West Virginia Department of Education, Youth Risk Behavior Survey
**Indicates statistically significant change (p<0.05) from 2017 to 2019*

Results of the YRBS vaping related questions have begun to show a curious shift between the male and female subgroups. In 2017, more males reported they ever tried (49.7%), used (19.1%), frequently used (4.5%), and used daily (3.2%) electronic vaping products than their female classmates. However, in 2019 as compared to males, a larger percentage of females reported they ever tried (64.5%) and used (36.2%) vaping products. Males continue to report a higher percentage of frequent and daily use. Each of the survey items displayed in the graph below saw statistically significant gains from 2017 to 2019, including the all group and the male and female subgroups.

Electronic Vapor Product Use by Year and Subgroup Among West Virginia High School Students



Middle School YRBS Results

Survey results from the middle school YRBS indicate an increase in use of vapor products, while the use of cigarettes has remained about the same. As seen in the table below, all items concerning the use of electronic vapor products experienced statistically significant increases from 2017 to 2019. Of those surveyed in 2017, 18.5% stated they had ever tried an electronic vapor product; by 2019, the percentage rose to 30.9%. Those reporting they used vaping products rose from 5.9% in 2017 to 15.3% in 2019. Between 2017 and 2019 those claiming frequent use of vapor products increased from 0.8% to 2.9% - a percent change of slightly more than 260%. Furthermore, the percent of students reporting daily use went from 0.5% in 2017 to 1.8% in 2019 – representing a percent increase of 260%.

Middle School YRBS by Year		
Percent (%) of students who . . .	2017	2019
Ever tried cigarette smoking	14.6	15.7
First tried cigarette smoking before age 11	5.5	5.4
Smoked cigarettes (1 or more days per month)	3.5	3.5
Ever used electronic vapor products	18.5	30.9*
Used electronic vapor products (1 or more days per month)	5.9	15.3*
Used electronic vapor products frequently (20+ days per month)	0.8	2.9*
Used electronic vapor products daily	0.5	1.8*
Bought electronic vapor products in a store	5.1	5.2

Data source: West Virginia Department of Education, Youth Risk Behavior Survey

*Indicates statistically significant change ($p < 0.05$) from 2017 to 2019

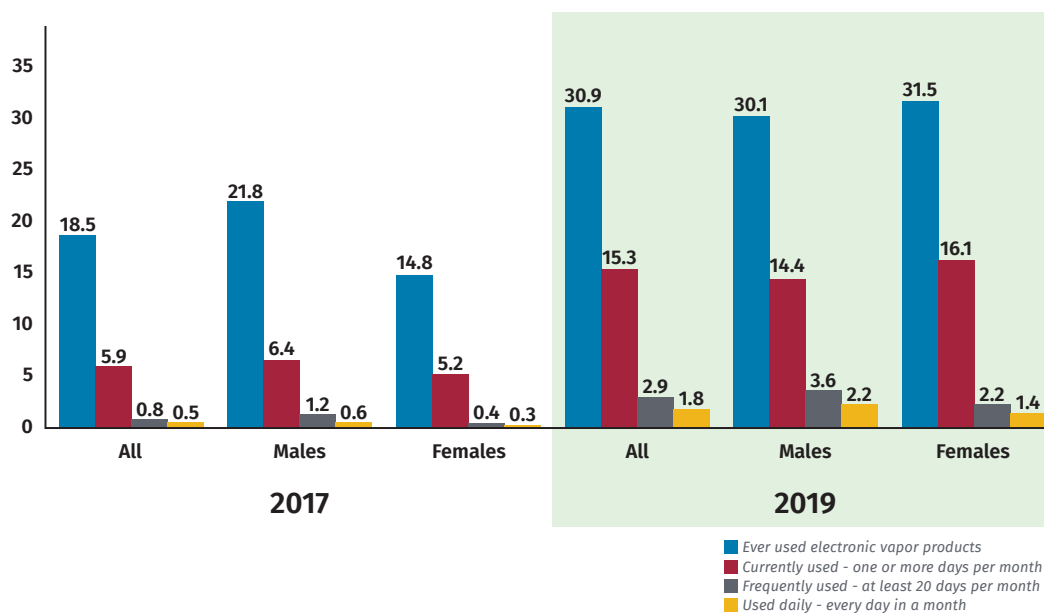
Subgroup analysis also indicate no major shifts among middle school males and females regarding trying and using cigarettes (see table below).

Middle School YRBS by Year and Gender				
Percent (%) of students who . . .	Males		Females	
	2017	2019	2017	2019
Ever tried cigarette smoking	16.5	15.9	12.3	15.2
First tried cigarette smoking before age 11	5.7	6.0	5.3	4.6
Smoked cigarettes (1 or more days per month)	4.1	3.6	2.6	3.0

Data source: West Virginia Department of Education, Youth Risk Behavior Survey

Comparable to the results of the high school YRBS, an interesting pattern may be emerging among males and females and their use of electronic vapor products. A higher percentage of males reported they ever tried (21.8%), used (6.4%), frequently used (1.2%), and used daily (0.6%) electronic vaping products than females in 2017. In 2019, more females reported they ever tried (31.5%) and used (16.1%) vapor products than males. Among those reporting frequent and daily usage, the percentage remains higher for males as compared to females. Each of the survey items displayed in the graph on the next page underwent statistically significant gains from 2017 to 2019 among the subgroups, except one. There was not a significant difference in the percentage of females who used vapor products daily from 2017 to 2019.

Electronic Vapor Product Use by Year and Subgroup Among West Virginia Middle School Students



2018 School Health Profiles

The School Health Profiles (Profiles) is a complementary survey to the YRBS. It is administered every other year to high school and middle school administrators and their lead health educators. Like the YRBS, the data are a representative sample of schools across the state. West Virginia first participated in the Profiles in 2000 and has produced weighted results every other year since 2006. These surveys were also developed by the CDC.

Profiles survey questions focus on school policies and practices, including school health policies related to tobacco-use prevention. The table on the next page displays tobacco related results from the 2018 Profiles for West Virginia. Of the schools surveyed, nearly all (97.6%) required students to take at least one class that includes tobacco use prevention curriculum. Likewise, almost all schools have adopted a policy prohibiting tobacco-use (98.9%) and most have a specific policy against the use of vapor-related products (97.6%). The majority of schools have implemented a “tobacco-free environment” policy that applies to students, staff, and visitors and includes all school buildings, property, and vehicles. Forty percent (40%) of schools reported providing tobacco-use prevention information to the families of their students. Finally, of the educators surveyed, just under 30% reported they had received tobacco cessation training within the past two years, and nearly 60% stated they would like to receive professional learning on tobacco-use prevention.

2018 School Health Profiles

Percentage (%) of schools with required courses on . . .

Tobacco use prevention	97.6
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Percentage (%) of schools with the following supports . . .

Provided parents and families with tobacco-use prevention information	40.2
Used the School Health Index to assess tobacco-use prevention policies and activities	57.8
Posted signs marking a tobacco-free school zone	92.7
Followed a policy mandating a “tobacco-free environment”	83.0
Have a tobacco-use prevention policy (for students and staff) specifically for electronic vapor products	97.6
Adopted a policy prohibiting tobacco use	98.9

Percentage (%) of lead health teachers...

Receiving training the past 2 years on tobacco use prevention	29.4
Who would like to receive professional development on tobacco-use prevention	58.4

Data source: West Virginia Department of Education, School Health Profiles

West Virginia Education Information System (WVEIS) Data

The WVDE also tracks some data that may be informative to this report. Within the WVEIS system there are two data points related to tobacco usage. The first counts the number of incidents where a student is caught having or using a substance containing tobacco or nicotine. The number of incidents has more than doubled over the last three school years, from 2,664 incidents to 5,834 (see table below). The second data point is a count of the number of referrals to a tobacco cessation program given to students. Similar to the number of incidents, the number of referrals has increased exponentially from 2017 (120 referrals) to 2019 (323 referrals).

Behavior Data		2017	2018	2019
Incident type (#)	Possession/Use of Substance Containing Tobacco and/or Nicotine	2,664	3,191	5,834
Action (#)	Referral to tobacco cessation program	120	148	323

Data source: West Virginia Department of Education, WVEIS

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