



West Virginia Youth and Vaping: A Dangerous Combination

Summary Report and Recommendations

INTRODUCTION

E-cigarettes were first introduced more than a decade ago when tobacco use among youth was continuing to decline in West Virginia and across the U.S. Vaping among youth was present, but markedly lower than use of combustible cigarettes. With the development of small, readily disguisable, and flavored products introduced and marketed by the industry in recent years, youth nicotine use has skyrocketed to the dismay of parents, school officials, health officials, and others. With the absence of U.S. Food and Drug Administration (FDA) regulation of vapor products and promotion by targeted social media, youth nicotine use has reached epidemic proportions among students in West Virginia and across the country according to the U.S. Surgeon General. Adult and youth tobacco use in West Virginia has historically exceeded national levels. E-cigarette use is no exception. Youth use of and exposure to nicotine-based products in West Virginia has escalated in the past two years. This trend is alarming given the irreparable adverse impact of nicotine use during adolescence, a time of rapid and continuing brain and social development, making youth susceptible to lifelong addiction, and potentially promoting addiction to other substances that can result in permanent brain and behavioral changes.

On December 20, 2019, federal legislation raised the minimum age for tobacco sales to 21. The regulation of retail sales of tobacco and tobacco products is largely enforced by the FDA, which plans to promulgate rules related to enforcement of the new law and regulation of youth-oriented flavored vaping products in 2020.

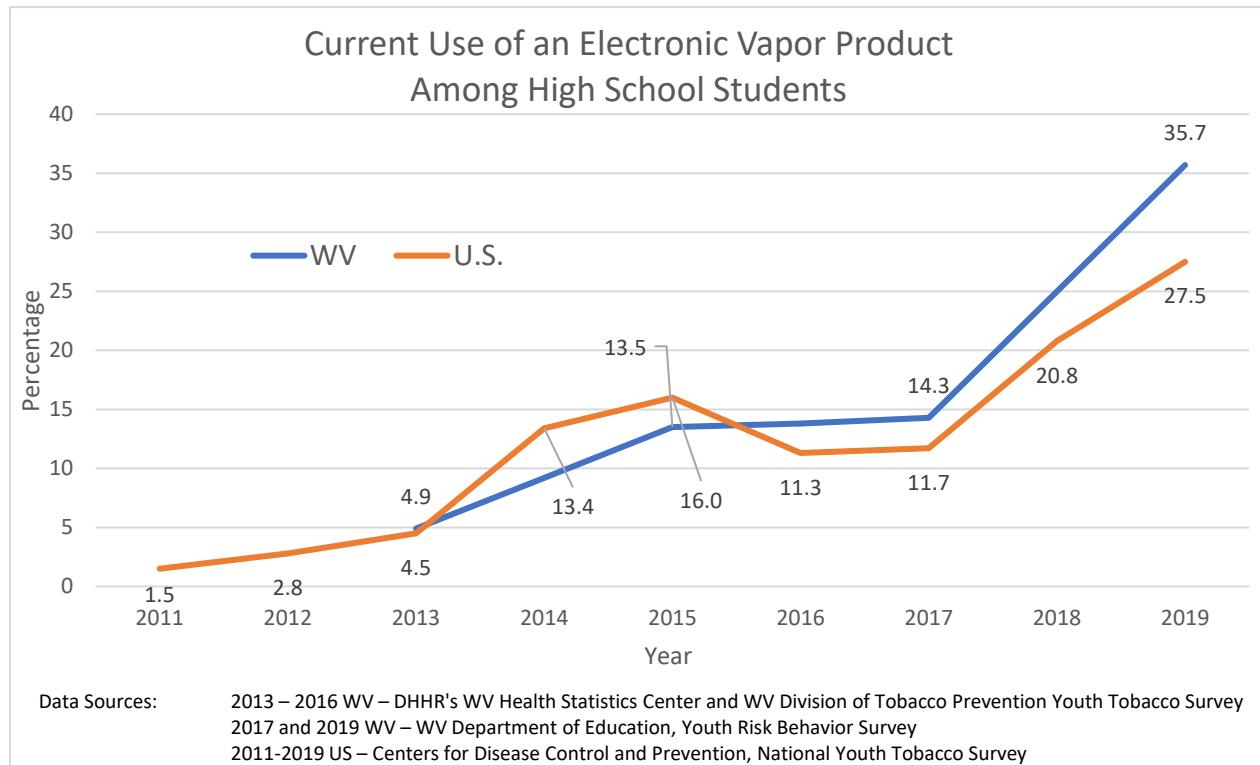
Prior to federal action, and in response to its ongoing investigation of the outbreak of e-cigarette, or vaping, product use-associated lung injury, the West Virginia Department of Health and Human Resources (DHHR), Bureau for Public Health, launched an interdisciplinary study of youth vaping in West Virginia. The results of the study are summarized in the pages that follow.



VAPING BY YOUTH IN WEST VIRGINIA

- E-cigarette use, or vaping, among youth is an epidemic in West Virginia. Vaping use rates are rising faster in West Virginia than rates across the nation. (Figure 1)
 - More than 1 in 3 (35.7%) West Virginia high school students report current use of e-cigarettes. This is a 150% increase from 2017 to 2019 alone.¹
 - In 2019, over 60% of high school students (62.4%) report having tried e-cigarettes. This is up from 44.4% in 2017.¹
 - Since 2017, West Virginia high school students who report frequent use of vaping products (20+ days a month) increased by almost 440% from 3.1% to 16.7%.¹
 - Nationally, 27.5% of high school students report regular use of vaping products, a 135% increase from 2017.²
 - E-cigarette use by adults is proportionally much smaller than among adolescents. In 2017, only 5.7% of adults reported currently using e-cigarettes while 26% reported using cigarettes.³ Among adults, electronic cigarette use is highest among young adults – 18 to 24 years old (10.9%, 2017). Adults often use multiple forms of tobacco. In 2017, almost 40% of 18 to 24-year-olds in West Virginia reported using some form of tobacco.

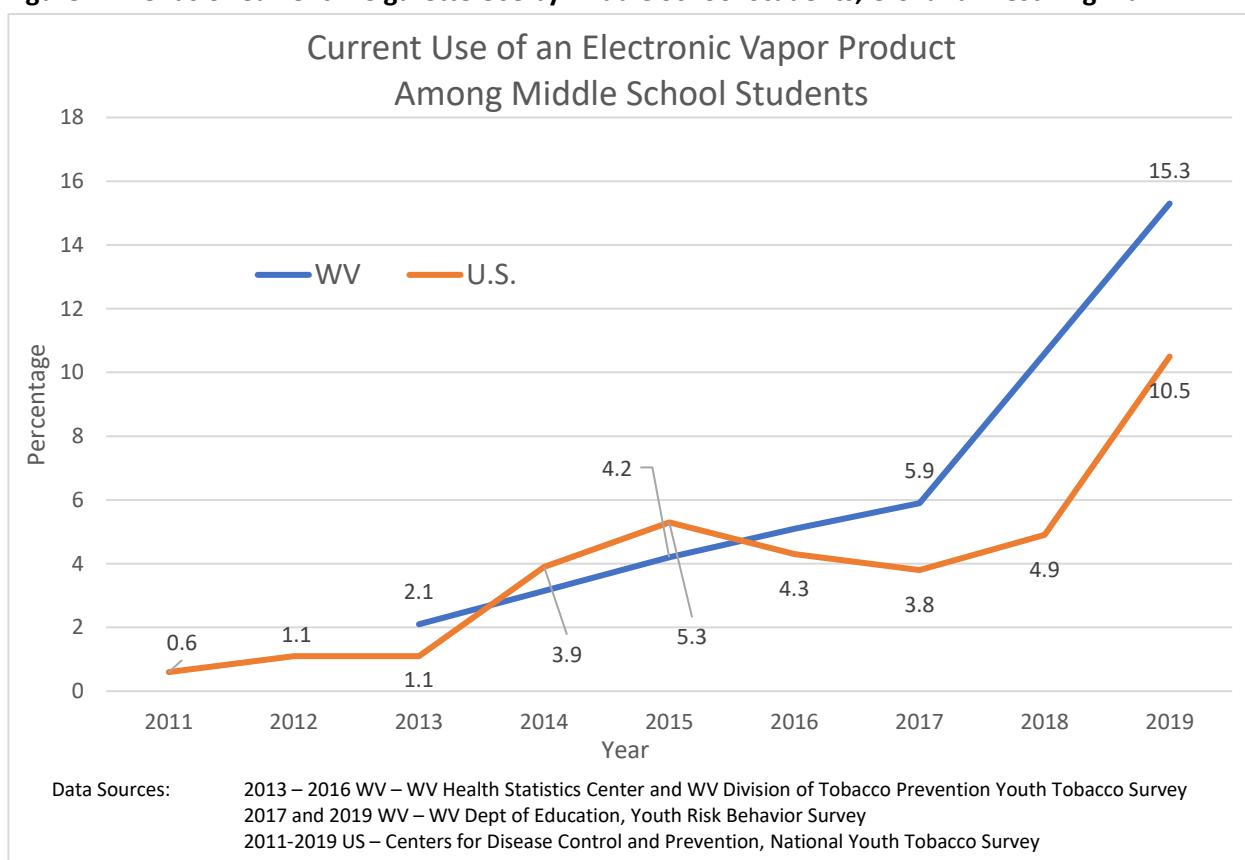
Figure 1: Trends of Current E-Cigarette Use by High School Students, U.S. and West Virginia



- **Younger West Virginia students are using e-cigarettes as well and use is increasing. (Figure 2)**

- More than 1 in 6 (15.3%) West Virginia middle school students are current users of electronic vapor products. This is an increase of almost 160% since 2017.¹
- Middle schoolers reporting frequent use has also increased by more than 260%, from 0.8% to 2.9%.¹
- Nationally, 10.5% of middle school students report regular use of vaping products, a 114% increase from 2017.²

Figure 2: Trends of Current E-Cigarette Use by Middle School Students, U.S. and West Virginia

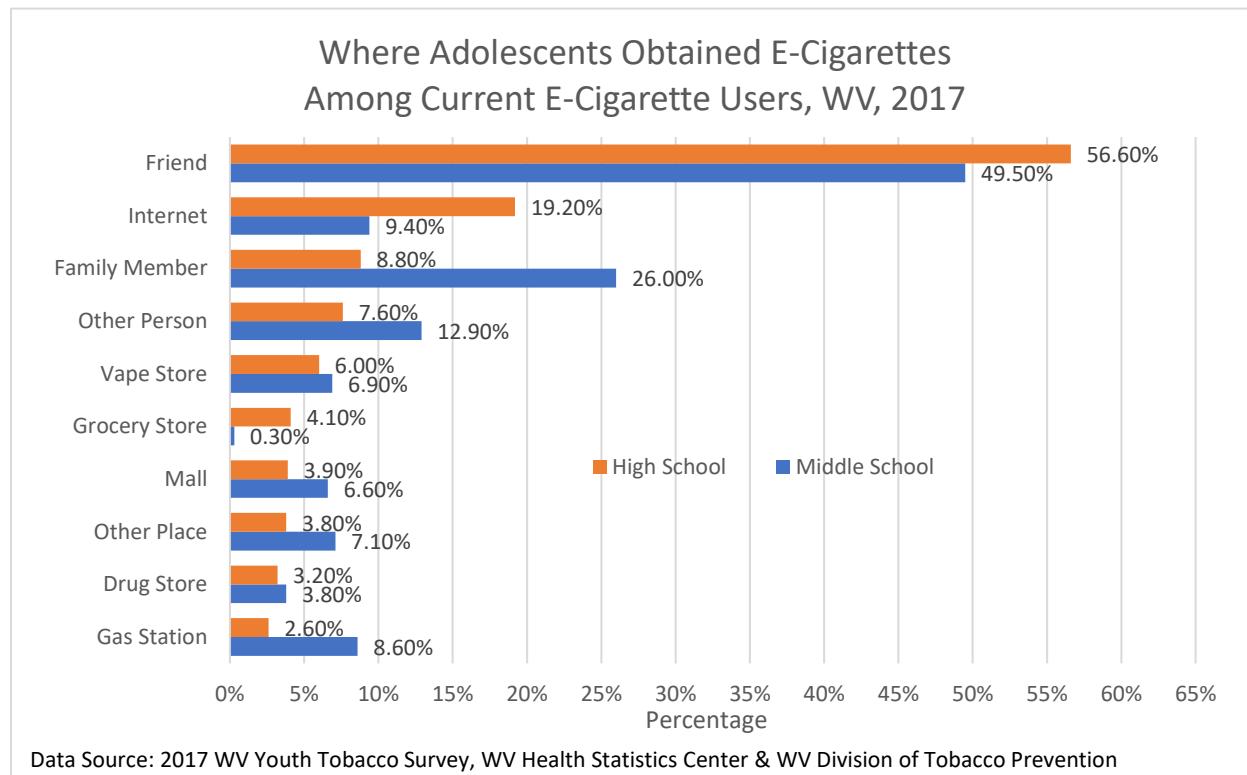


- In general, vaping is increasing faster among females than males in West Virginia. In 2019, more females than males reported they have vaped or currently vape. Males more commonly report daily or frequent use.
- The percentage of high school students who have tried or use vaping products is increasing faster among females than among males in West Virginia. In 2019, more females reported vaping than males (16.1% vs 14.4%).¹

- Daily or frequent use is still more common among males than females.
- **Vaping use has increased despite various school-based and community policies addressing vaping. The increases in youth vaping coincide with the rise in small, easily disguisable, and flavored electronic nicotine delivery systems (ENDS).**
 - Communities in 35 of West Virginia's 55 counties have modified their clean indoor air ordinances to include use of vaping related products.⁴ Others are considering such ordinances.
 - Of schools surveyed:
 - 97.6% report requiring students to take at least one class that includes tobacco use prevention curriculum.
 - 98.9% have policies that prohibit tobacco use, and 97.6% have a specific policy against the use of vapor related products.
 - 40% report providing tobacco use prevention information to families of students.
 - 30% of educators report having received tobacco cessation training in the past two years and 60% report they would like to receive professional learning on tobacco use prevention.¹
- **Students report obtaining e-cigarettes from various sources, most commonly from friends, but also from family, and the internet.⁵ (Figure 3)**
 - In 2017, the most recent survey available, 56% of high school students reported obtaining vapor products from friends. Half (50%) of middle school students obtained their e-cigarettes from friends. Friends are the most common source of vapor products.
 - The second most common source for high school students (19.2%) was the internet. The second most common source for middle schoolers (26%) was a family member.

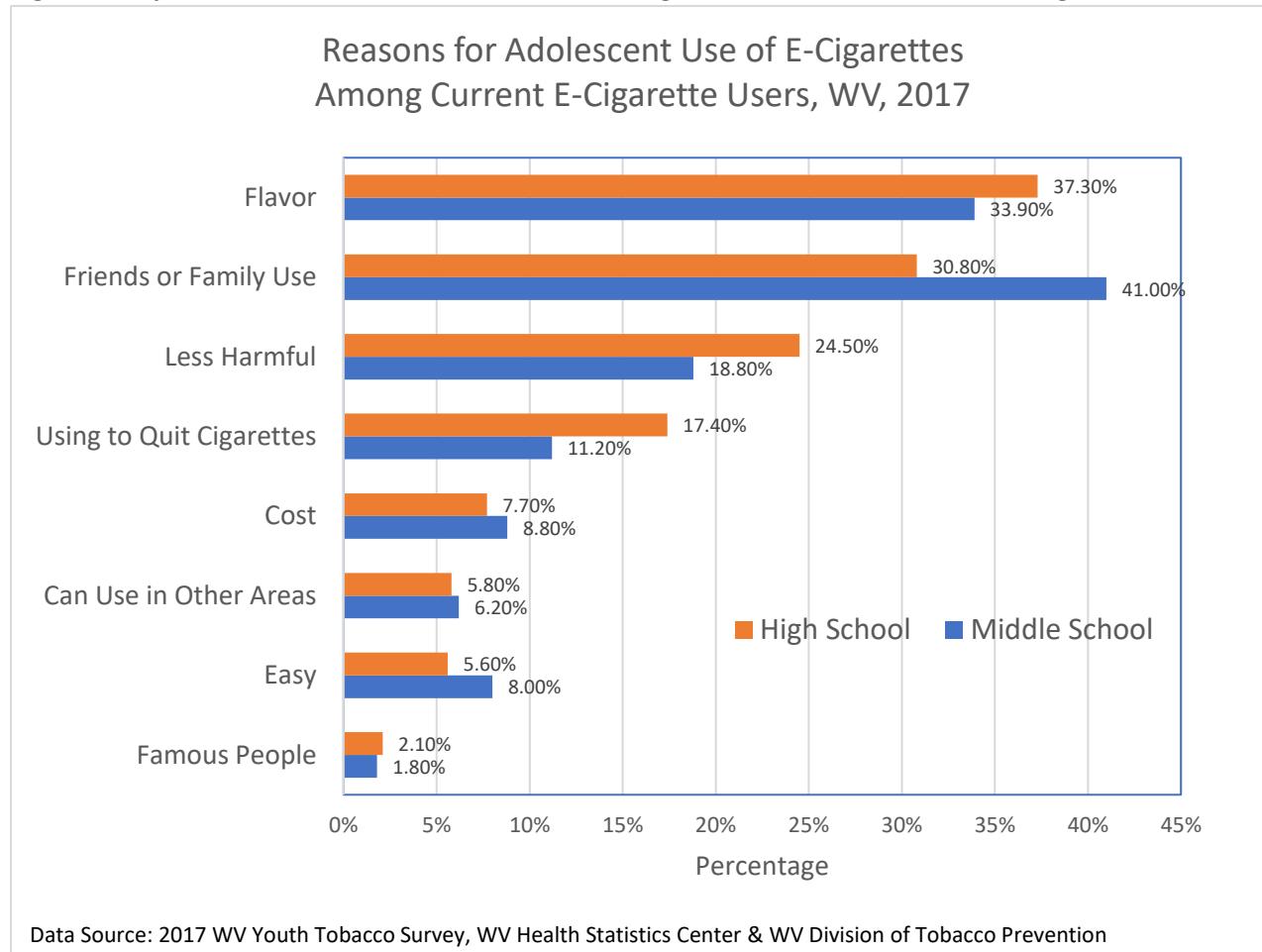


Figure 3: Where Adolescents Obtain E-cigarettes, Current E-Cigarette Users, West Virginia, 2017



- **Youth report use of e-cigarettes for a variety of reasons, most commonly flavor; use by friends or family; and a belief that the product is safer than combustible tobacco.⁵ (Figure 4)**
 - In 2017, more than 1 in 3 high school students who used e-cigarettes in West Virginia reported doing so because of the flavor (37%), which is the driving force behind initially trying the product. The second most common reason was friends or family use. (31%).
 - The most common reason for use among middle school students in 2017 was that friends or family used the product (41%), followed by flavor as the second most common reason (34%).
 - Both middle (19%) and high school students (25%) cite a belief that e-cigarettes are safer than combustible tobacco products as a reason for use. Many report not knowing associated health risks or even that e-cigarettes contain nicotine.

Figure 4: Reported Reasons for Adolescent Use of E-Cigarettes, Current Users, West Virginia, 2017



- Many youth report that they want to stop using tobacco (all products).
 - Over half of West Virginia high school students (53%) using tobacco report they tried to quit all tobacco products in 2019, up from 47.4% in 2017.¹
- E-cigarette devices, given their refillable nature, are also being used by some West Virginia youth as a new drug delivery tool for illicit drugs.⁶
 - Students have been seen in emergency departments or hospitalized in West Virginia related to vaping of synthetic cannabinoids purchased from the internet (causing seizures), heroin laced vaping cartridges (through direct exposure and through second-hand vapor exposure), and a novel synthetic phenethylamine product.
 - Vaping of tetrahydrocannabinol (THC) was seen to be a common practice among many who use e-cigarettes in the recent CDC and state investigation of the outbreak of e-cigarette, or

vaping, product use-associated lung injury. (Additional information on the CDC investigation of the national outbreak is available at https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html.) “Counterfeit” vaping devices specifically designed to burn THC are available for purchase on the internet or in pop-up shops and some specialty shops. THC is known to be particularly damaging to the developing brain.

NICOTINE USE IN ADOLESCENCE CAN HAVE LIFELONG EFFECTS

- Nicotine is a neuroteratogen, meaning it can cause long-term effects during critical stages in brain development. Until young adulthood (early to mid-20s), the brain has not completed its maturation. The prefrontal cortex, the area responsible for decision making and attention performance, is one of the last to mature. This makes youth more likely to experiment with e-cigarettes or other drugs and makes them more susceptible to their addictive effects. Exposure to nicotine at this stage in brain development results in permanent changes to the brain that can impact cognitive ability, mental health, and predisposition to addiction for a lifetime.⁷
- A review by the National Academies of Science, Engineering, and Medicine concluded that there is substantial evidence that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults.⁸
- Current use of e-cigarettes appears to be an independent risk factor for respiratory disease in addition to combustible tobacco smoking.⁹
- Other effects of chronic nicotine exposure in adolescence include diminished cognitive function, decreased attention span, greater impulsivity, and adult depression. In addition, chronic use of nicotine in adolescence results in behavioral susceptibility to later use of drugs that promote abuse.¹⁰
- Vaping creates secondary aerosols that impact others.
 - Vaping increases airborne concentrations of particulate matter and nicotine in indoor environments.
 - Beyond nicotine, the characteristics of potentially toxic substances emitted from e-cigarettes are highly variable and depend on the device, liquid used, how operated, etc.

WHY IS THIS A CRITICAL ISSUE FOR WEST VIRGINIA AND WEST VIRGINIA’S FUTURE?

- No use of vaping products is safe, especially for youth or pregnant women.
- West Virginia already has some of the nation’s highest tobacco use rates in the nation. West Virginia loses an estimated 4,200 West Virginians a year to tobacco-related diseases that rob the economy of more than \$1 billion. Youth vaping has created a new addiction for West Virginia’s next generation with the potential to impair, if not cripple, West Virginia’s future health and economy.

- West Virginia is in the midst of a substance use epidemic involving opioids, nicotine, and the rising use of methamphetamine. Nicotine addiction at adolescence can change the brain's reward center and increase the risk of future addiction to other drugs. This creates difficult and daunting challenges for a state already dealing with a critical substance use crisis and its many secondary effects.
- In December 2018, the U.S. Surgeon General issued an advisory on e-cigarette use among youth, officially declaring e-cigarette use among youth an epidemic in the United States and calling for "*aggressive steps to protect our children from these highly potent products that risk exposing a new generation of young people to nicotine.*"¹¹

TOBACCO POLICY IN WEST VIRGINIA: SUMMARY OF WEST VIRGINIA'S CURRENT TAXATION, REGULATORY FRAMEWORK, PREVENTION, AND CESSATION EFFORTS

Registration as an entity that sells tobacco and electronic vaping products is performed through the West Virginia Tax Department. There is not a full licensing or permitting system in place for tobacco retailers.

Tobacco products are taxed at a significantly higher rate than electronic vaping products in West Virginia. In July 2016, the tax on combustible cigarettes was increased in West Virginia. Taxation of e-cigarette products is complex and not on par with cigarette or other tobacco product taxes.

Although variable, West Virginia receives an estimated \$235.5 million in tobacco revenue per year (taxes and settlement funds).¹²

Internet sales of electronic vaping products in West Virginia is largely unregulated with regard to age restrictions.

Manufacture of electronic vaping liquids is largely unregulated in West Virginia due to a lack of FDA oversight or enforcement. FDA has signaled its intent to implement new federal regulations requiring manufacturers to register with the FDA and to apply for FDA approval of their products.

Enforcement of age-appropriate retail sales of tobacco products requires the issuance of a magistrate court citation, which can pose challenges in sanctioning businesses or corporations that sell tobacco products to children.

Enforcement of age restricted access to tobacco and electronic vaping products is performed by DHHR's Bureau for Behavioral Health in cooperation with law enforcement through retailer education and on-site inspections, under both the Substance Abuse and Mental Health Services Administration (SAMHSA) Synar program, which requires states to have and enforce laws prohibiting the sale and distribution of tobacco products to minors, and the FDA Family Smoking Prevention and Tobacco Control program.

State law currently prohibits the possession or use of tobacco and electronic vaping products on school property in most circumstances under W. Va. Code §16-9A-4 and related state policies.

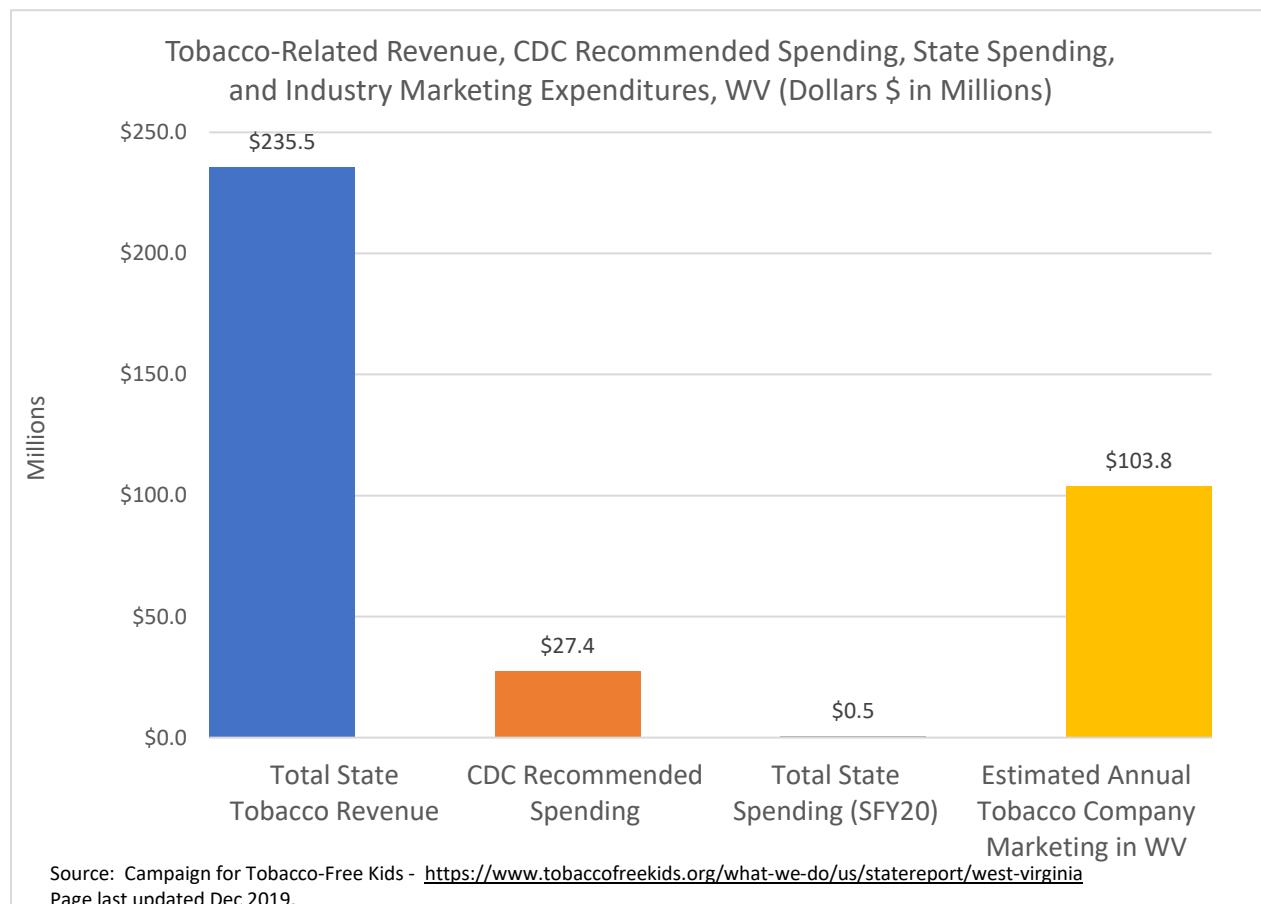
In 1999, West Virginia agreed to a Tobacco Master Settlement Agreement (MSA) estimated to be worth more than \$1.8 billion over the life of the payments. However, in 2007, the state securitized the rights to

those payments to bondholders for \$911 million, using more than \$800 million of that bond sale to shore up the critically underfunded Teacher's Retirement System.

West Virginia settlement-related funds are not used to support tobacco prevention or cessation. Instead, state funding has historically been used for these efforts. In recent years, due to funding and secondary staffing restrictions, tobacco prevention and cessation efforts in West Virginia have significantly diminished. Following peak state funding levels averaging \$5.65 million annually from 2002 through 2013, annual budget cuts reduced these funds to just over \$3 million by Fiscal Year (FY) 2017. In FY 2018, just as youth vaping was escalating, all state funding for prevention and cessation efforts was eliminated and remained unfunded in FY 2019. State funding was resumed in FY 2020 at \$500,000.

The tobacco industry is estimated to spend \$103.5 million annually in West Virginia on marketing (2017 estimate).¹¹ The ratio of industry marketing expenditure to state tobacco prevention expenditure is 221:1,¹¹ the 4th highest ratio in the nation.

Figure 5: Tobacco-Related Revenue, CDC Recommended Spending, State Spending, and Industry Marketing Expenditures



With funding declines, one of the most critical losses was a strong, community-based network of tobacco prevention and cessation specialists across the state working with schools, worksites, community organizations, etc. Using primarily federal funds, West Virginia has maintained the West Virginia Quitline

and an active grass roots youth tobacco prevention effort, RAZE. Funds to support other community level prevention and cessation work have been limited.

There is significant room to strengthen efforts to address the epidemic of youth vaping in West Virginia. Most effective in redressing this challenge will be both federal and state policy changes. Implementing these is a critical opportunity to invest in both West Virginia's present and future economy and in the health and wellbeing of our next generation.

POLICY RECOMMENDATIONS

Tobacco policy changes are most effective when multi-pronged efforts are integrated into a comprehensive approach – e.g., pricing, enforcement, cessation, education, preventing youth and young adult initiation, and reducing environmental exposure. Evidence shows that this is far more effective than using any one single approach.^{13,14}

Amending West Virginia Code to Reflect New Federal Law

1. Update West Virginia code to reflect recent changes to federal law related to tobacco and electronic cigarettes.

Taxation

2. Establish parity of tax treatment between tobacco and electronic vaping products by raising the tax on vaping liquids.
 - a. The excise tax on tobacco in West Virginia is presently \$1.20 per pack of 20 cigarettes (34th in the nation).
 - b. The excise tax on e-cigarettes, including pods, is 7.5 cents per milliliter of vape liquid, and has not changed since it was first implemented in 2016. This is far below parity with the cigarette tax.
 - c. In many states, taxation of e-cigarettes is calculated based upon price, readily allowing for rates more on par with taxation of cigarettes.
 - d. Such would increase clarity, decrease youth use, allow for increases in state revenue, and potentially provide a source from which to fund prevention and cessation efforts.

3. Address internet sales of tobacco products by enforcing age restrictions and assure appropriate taxation and collection efforts.

Enforcement

4. Permit the issuance of administrative penalties by agency personnel and law enforcement personnel engaged in compliance activities.
 - a. Authorize the Bureau for Behavioral Health to promulgate legislative rules to impose fines against firms, corporations, or business entities that sell, give, furnish, or distribute tobacco, tobacco-derived products, alternative nicotine products, or cigarette papers to any person under the age of 21.

- b. Authorize the Bureau for Behavioral Health to promulgate legislative rules to impose fines against firms, corporations, or business entities that make tobacco, tobacco-derived products, alternative nicotine products, or cigarette papers independently accessible by individuals under the age of 21, except for a store clerk.
- 5. Require warning information to be posted alongside any electronic vaping products in retail establishments consistent with evolving FDA regulation.

Youth Access

- 6. Require checks on sales of vaping products to youth through in-person retail transactions as opposed to self-service or vending machine-facilitated sales.
 - a. Require transactional parity with other tobacco sales under FDA rules. Vaping products should not be more accessible to youth in West Virginia than combustible cigarettes and other tobacco-related products.
 - b. In person retail sales of vaping products will support retailer compliance with FDA requirements to minimize youth access and theft.
 - c. With stronger and more consistent checks against illegal youth access, it is likely that fewer youth will transition to menthol or other tobacco products, especially as FDA begins to approve and regulate flavored product manufacturing and sales.

Youth Prevention and Cessation

- 7. Restore funding for tobacco prevention and cessation efforts.
 - a. Rebuild critical infrastructure to support and expand local tobacco prevention and cessation efforts through schools, in communities, and with parents in workplaces and other venues.
 - b. Consider dedication of revenue from proposed parity related tax increase on e-cigarette product sales to support prevention and cessation efforts.
 - c. Strengthen school policies and implementation options related to the use and possession of tobacco and vaping products on school property by proposed amendments to W. Va. Code §16-9A-4.
- 8. Strengthen youth, parent, and community outreach and education related to youth tobacco use, especially vaping. DHHR and the West Virginia Department of Education, in partnership with applicable stakeholders, should undertake at minimum, the following:
 - a. Compile evidence-based prevention and cessation resources for use by families, schools and communities.
 - b. Make available a prevention and cessation “toolkit” of materials for use by schools and communities tailored to West Virginia.
 - c. Develop a social and other media campaign focused on addressing youth tobacco use, especially youth vaping.

9. Expand access to tobacco cessation services by assuring all insurers, both public and private, fully cover tobacco cessation services in accordance with national guidelines.



ENDNOTES

¹ WV Department of Education and Centers for Disease Control and Prevention. Youth Risk Behavior Survey, 2019

² Centers for Disease Control and Prevention. Youth Tobacco Survey, 2019, (2019 YRBS data for US is not yet available).

³ WVDHHR, Bureau for Public Health, Health Statistics Center. Behavioral Risk Factor Surveillance System. 2017.

⁴ WVDHHR, Bureau for Public Health, Office of Community Health Systems and Health Promotion, Division of Tobacco Prevention.

⁵ WVDHHR, Bureau for Public Health, Health Statistics Center in partnership with Centers for Disease Control and Prevention. Youth Tobacco Survey, WV 2017.

⁶ WV Poison Center

⁷ *Cold Spring Harb Perspect Med.* 2012 Dec; 2(12): a012120. doi: [10.1101/cshperspect.a012120](https://doi.org/10.1101/cshperspect.a012120)

⁸ NASEM, Public Health Consequences of E-Cigarettes, 2018.

⁹ Bhatta and Glantz, AJPH, Association of E-Cigarette Use with Respiratory Disease Among Adults: A Longitudinal Analysis. <https://www.sciencedirect.com/science/article/pii/S0749379719303915> accessed 12/17/19.

¹⁰ Yuan M. Nicotine and the Adolescent Brain. *The Journal of Physiology.* May 2015. <https://doi.org/10.1113/JP270492>

¹¹ Office of the Surgeon General, "Surgeon General's Advisory on E-Cigarette Use Among Youth," December 18, 2018, <https://ecigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf>

¹² Coalition for Tobacco Free Kids. State Report. 2018. <https://www.tobaccofreekids.org/what-we-do/us/statereport> accessed 01/13/2020.

¹³ The Community Guide. Tobacco Use and Secondhand Smoke Exposure: Comprehensive Tobacco Control Programs. <https://www.thecommunityguide.org/findings/tobacco-use-and-secondhand-smoke-exposure-comprehensive-tobacco-control-programs>.

¹⁴ Centers for Disease Control and Prevention. Tobacco Control Interventions. What are Effective Statewide Tobacco Interventions. <https://www.cdc.gov/policy/hst/hi5/tobaccointerventions/index.html>.

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