

VAPING: THE REAL STORY

Kevin Christensen, Vapor Retailers and Manufacturers of Delaware

kevin@thechristensengroup.net

302-750-6213

March 1, 2019

“THE RISKS OF VAPING SHOULD NOT BE EXAGGERATED”

Thomas Miller, Iowa Attorney General, writes to FDA Commissioner on November 14, 2018¹

¹ Youth tobacco and nicotine use – proportionate and responsible action. Letter to FDA Commissioner, Scott Gottlieb, from Iowa Attorney General, Thomas Miller, November 14, 2018

https://www.iowaattorneygeneral.gov/media/cms/FDA_Gottlieb_youth_181108_Final_15E951FE7394F.pdf

TEEN VAPING NOT FREQUENT

- Most adolescents who vape, do so infrequently
- The latest published data from 2018 shows less than 3% of age 15-17 teens using e-cigarettes on 10 or more days per month²

²Vallone DM, Bennett M, Xiao H, Pitzer L, Hair EC. Prevalence and correlates of JUUL use among a national sample of youth and young adults. Tob Control; 2018 Oct 29 <https://tobaccocontrol.bmj.com/content/early/2018/10/30/tobaccocontrol-2018-054693>

MOST TEENS WHO VAPE ARE NOT VAPING NICOTINE

- More 8th-12th graders vape just flavoring or marijuana (17.2%) than nicotine (14.2%)⁴
- Past 30 days use of vapor products is significantly higher in 9 out of the 10 states that legalized marijuana (all >20% vs. Delaware 13.6%)⁵
- Teens also vape caffeine, vitamins and melatonin

Past 30 Days Use of Vapor Products Among 8th-12th Graders

	2015	2016	2017	2018	% Chg
Any Vaping	12.8%	9.9%	12.0%	19.2%	+7.3
Nicotine			7.5%	14.2%	+6.8
Marijuana			3.6%	5.7%	+2.1
Just Flavoring			8.0%	11.5%	+3.5

Highest States	Lowest States
26.2% - Colorado**	7.6% - Utah
25.5% - Hawaii*	9.0% - Iowa
24.7% - New Mexico*	9.4% - Nebraska
23.8% - New Hampshire*	10.3% - Texas
22.5% - Montana*	10.6% - Kansas
22.2% - Louisiana*	10.9% - Missouri
22.1% - North Carolina	11.3% - Pennsylvania*
20.6% - North Dakota*	11.5% - Tennessee
20.1% - Massachusetts**	11.6% - Wisconsin
20.1% - Rhode Island*	11.8% - Virginia

⁴ Monitoring the Future Study. University of Michigan. <http://monitoringthefuture.org/data/18data/18drtbl7.pdf>

⁵ Note that 11 States didn't ask this question (AL, GA, IN, MN, MS, NJ, OH, OR, SD, WA, WY) ** Legalized Marijuana; *Legalized RX Marijuana https://www.cdc.gov/healthyouth/data/yrbs/2017_tables/tobacco_use.htm#t66_down

FREQUENT VAPING IS CONCENTRATED AMONG SMOKERS

- The most intensive adolescent vapers are far more likely to have been smokers, seeking healthier alternatives^{6,7}
- 12th grade smokers are far more likely to vape nicotine (61.3%) than non-smokers (18.1%) and never smokers (14.3%)⁸
- Likewise, 12th grade never smokers (76%) and nonsmokers (69.6%) were far more likely than smokers (31%) to vape ‘just flavors’⁸

⁶Shiffman S, Sembower MA. PATH Data: Harm Reduction is Teens' Top Reason for Using e-cigarettes, Poster SRNT, Florence March 2017 <https://www.clivebates.com/documents/ShiffmanFlavorsPosterSRNT2017.pdf>

⁷Collins LK, Villanti AC, Pearson JL, Glasser AM, Johnson AL, Niaura RS, et al. Frequency of youth e-cigarette, tobacco, and poly-use in the United States, 2015: Update to Villanti et al., “frequency of youth e-cigarette and tobacco use patterns in the United States: Measurement precision is critical to inform public health.” Vol. 19, Nicotine and Tobacco Research. Oxford University Press; 2017. p. 1253–4. <https://academic.oup.com/ntr/article/19/10/1253/3748287>

⁸Tam, J. Students' Cigarette Smoking and the Perceived Nicotine Content of Their E-cigarettes. American Journal of Preventive Medicine. September 2018. DOI: <https://doi.org/10.1016/j.amepre.2018.04.034>

TEEN SMOKING DECREASING DUE TO VAPOR PRODUCTS

- Adolescent smoking has sharply declined as youth vaping increased
- Cigarette smoking by 6th-12th graders declined from 2011-2017 by daily smokers (-64%), frequent smokers (-63%), past 30 day smokers (-52%), and ever smoking (-43%)⁹

Days	2011	2012	2013	2014	2015	2016	2017	2018
0	86.6	88.8	89.6	91.8	91.8	93.3	93.4	?
1+	10.6	9.3	8.2	6.1	6.0	5.8	5.6	?
3+	7.3	6.2	5.6	3.8	3.8	3.7	3.3	?
6+	5.8	4.9	4.5	3.0	2.8	3.0	2.4	?
10+	4.8	4.1	3.7	2.4	2.3	2.5	1.9	?
20+	3.5	3.0	2.7	1.8	1.7	1.8	1.3	?
All 30	2.5	2.1	2.0	1.3	1.2	1.3	0.9	?

⁹ Historical NYTS Data and Documentation. Centers for Disease Control and Prevention.
https://www.cdc.gov/tobacco/data_statistics/surveys/nyts/data/index.html

MANY VAPING TEENS ARE 18 YEAR OLD ADULTS

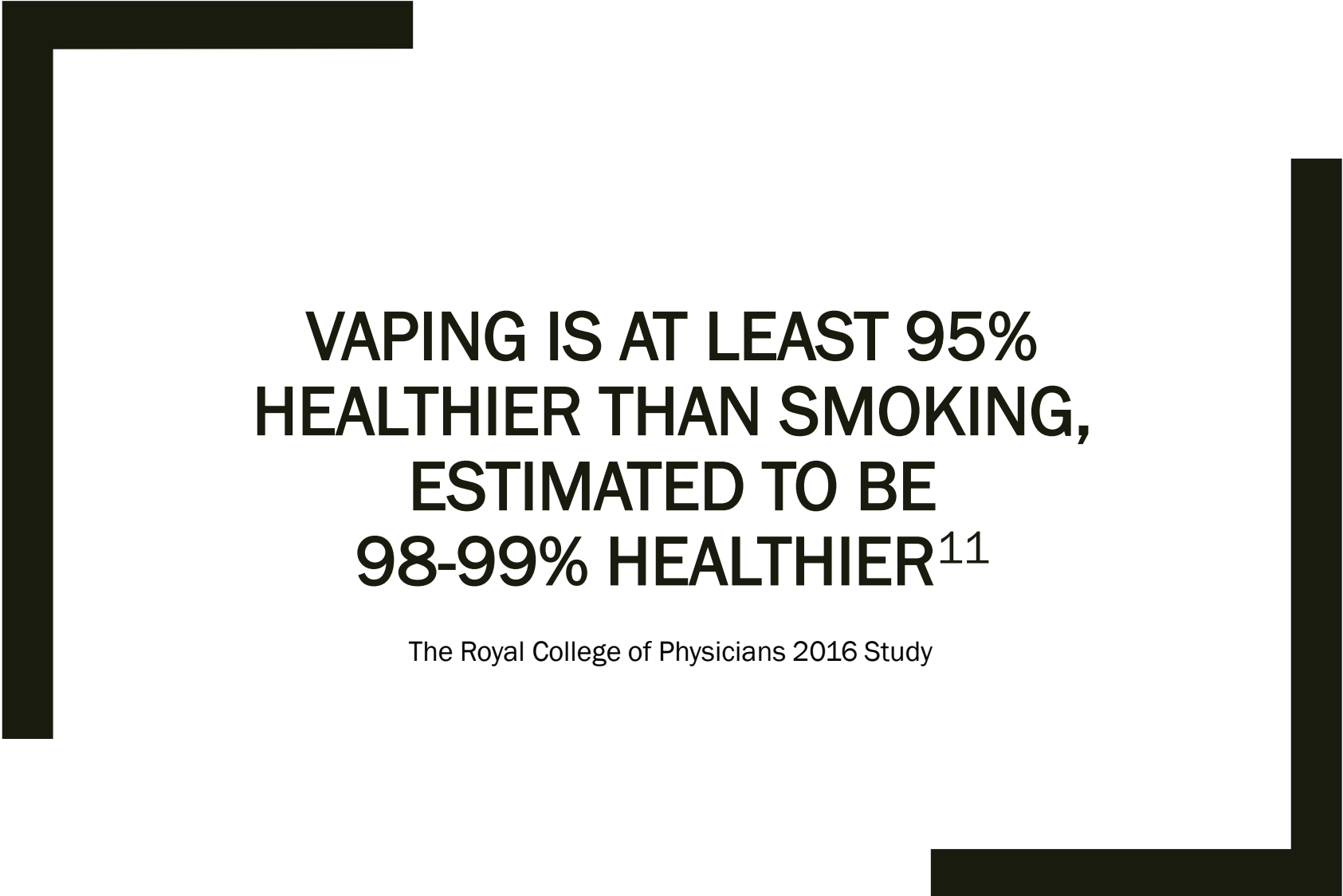
- 34% of high schoolers who used a vapor product in the past 30 days were 18+ adults¹⁰

TABLE 72. Percentage of high school students who usually got their own electronic vapor products by buying them in a store,*— United States, Youth Risk Behavior Survey, 2017

Category	Sex		Sex		Total	
	Female	CI†	Male	CI	%	CI
Total	10.8	(7.1–16.0)	15.6	(11.6–20.7)	13.6	(10.3–17.6)
Race/Ethnicity						
White ^s	12.3	(7.0–20.6)	16.5	(11.6–23.0)	14.8	(10.6–20.1)
Black ^s	— ^q	—	—	—	14.5	(8.1–24.5)
Hispanic	8.3	(3.7–17.7)	12.8	(7.0–22.5)	10.8	(6.4–17.5)
Grade						
9	6.7	(3.3–13.1)	10.0	(6.1–16.2)	8.7	(5.4–13.6)
10	10.8	(4.6–23.4)	12.3	(7.5–19.5)	11.6	(7.1–18.5)
11	9.9	(5.1–18.5)	17.9	(11.9–26.0)	14.3	(9.8–20.3)
12	—	—	25.3	(16.2–37.3)	22.9	(16.0–31.5)

* Such as a convenience store, supermarket, discount store, gas station, or vape store, including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens, during the 30 days before the survey, among the 8.7% of students nationwide who currently used electronic vapor products and who were aged <18 years.

¹⁰ Kann L, McManus T, Harris WA, et al. Youth Risk Behavior Surveillance — United States, 2017. MMWR Surveill Summ 2018;67(No. SS-8):1–114. Note that CDC buried this key finding in a footnote in Table 72 at <https://www.cdc.gov/mmwr/volumes/67/ss/ss6708a1.htm>



**VAPING IS AT LEAST 95%
HEALTHIER THAN SMOKING,
ESTIMATED TO BE
98-99% HEALTHIER¹¹**

The Royal College of Physicians 2016 Study

¹¹ Nicotine Without Smoke Tobacco Harm Reduction, report by the Tobacco Advisory Group of the Royal College of Physicians, April 2016
<https://www.rcplondon.ac.uk/projects/outputs/nicotine-without-smoke-tobacco-harm-reduction-0>

VAPING IS LESS HARMFUL



While e-cigarettes are not without health risks, they are likely to be far less harmful than combustible tobacco cigarettes¹²



E-cigarettes contain fewer numbers and lower levels of toxic substances than conventional cigarettes¹²



The evidence that nicotine harms the developing adolescent brain is weak and based mainly on studies of rodents, which cannot readily demonstrate human impairment¹³



Nicotine is not any more harmful than caffeine. There is no evidence daily nicotine or caffeine use increases health risks¹⁴

¹² National Academies of Science, Engineering and Medicine (US). The Public Health Consequences of E-cigarettes. Washington DC. January 2018. <http://nationalacademies.org/hmd/reports/2018/public-health-consequences-of-e-cigarettes.aspx> Launch presentation summary (slide 44) <https://www.youtube.com/watch?v=vifAY4YcVbQ&feature=youtu.be&t=32m58s>

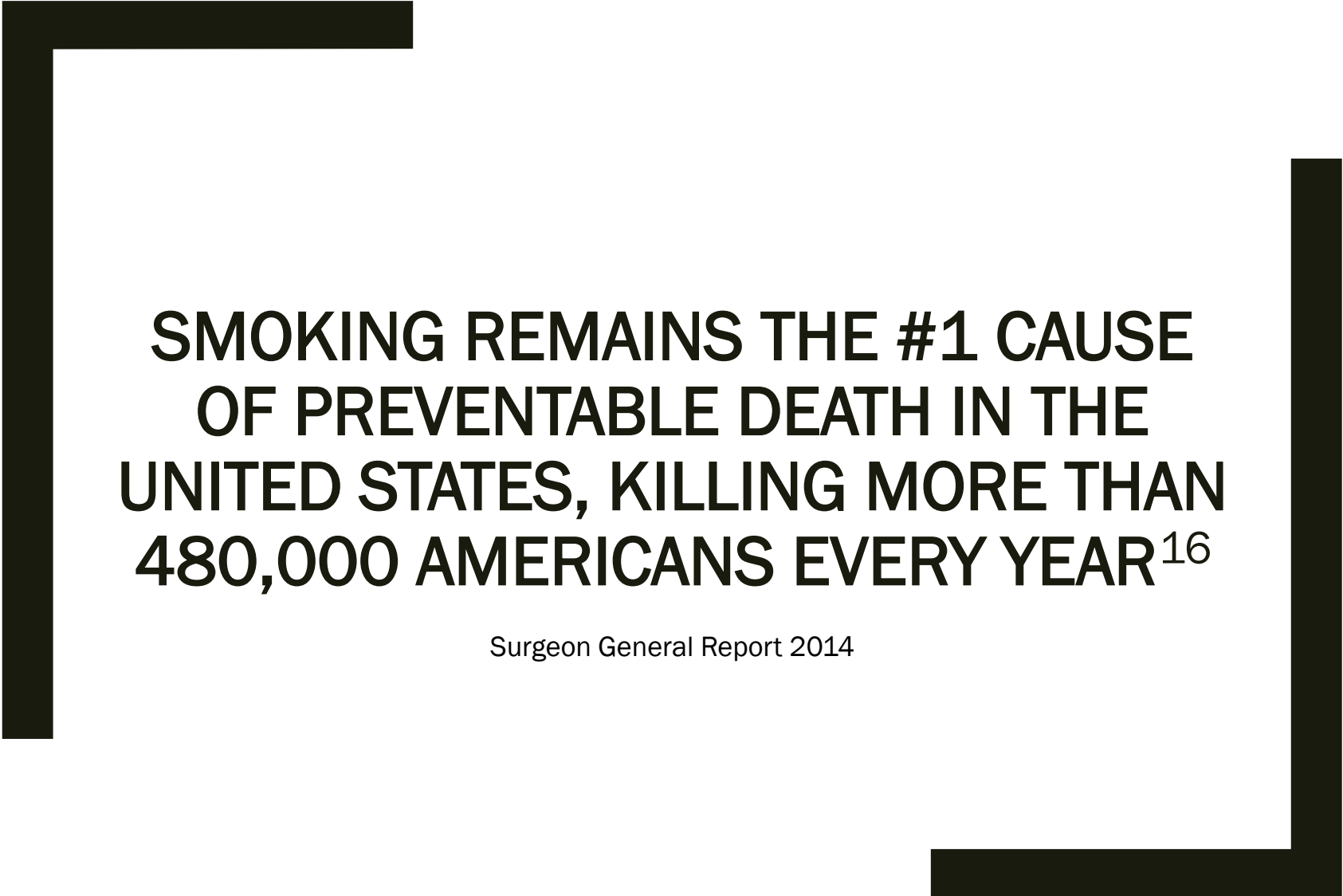
¹³ US Department of Health Human Services. E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. Atlanta: Office of Smoking and Health. December 2016. https://e-cigarettes.surgeongeneral.gov/documents/2016_sgr_full_report_non-508.pdf Though the US Surgeon General emphasized nicotine harms to the adolescent brain in the summary and conclusions of the 2016 report, the body of evidence presented in the substance of the report does not provide compelling support for these headlines.

¹⁴ Royal Society for Public Health. Nicotine No More Harmful to Health than Caffeine. <https://www.rsph.org.uk/about-us/news/nicotine-no-more-harmful-to-health-than-caffeine.html>

VAPING DOES NOT CAUSE CANCER

- E-cigarettes do not contain tobacco¹⁵
- E-cigarettes carry a nicotine-containing liquid which is heated into a vapor and breathed in
- The nicotine satisfies the cravings associated with a smoking addiction, but does not cause cancer¹⁵
- ***In fact one chemical, called NNAL (known to cause lung cancer), was 97% lower in e-cigarette users compared to smokers¹⁵***
- Not only did e-cigarette users have lower levels of these substances compared to smokers, but they were also found to have very similar levels to people using traditional Nicotine Replacement Therapies like gums and patches – something that Shahab is quick to point out is known to be relatively safe
 - *“We have 3 decades of research into the safety of NRT, and we’ve not picked up any significant long-term health issues,” – Dr. Lion Shahab*


¹⁵Shahab, L., et al. (2017). Nicotine, Carcinogen, and Toxin Exposure in Long-Term E-Cigarette and Nicotine Replacement Therapy Users. *Annals of Internal Medicine*. DOI: [10.7326/M16-1107](https://doi.org/10.7326/M16-1107)



**SMOKING REMAINS THE #1 CAUSE
OF PREVENTABLE DEATH IN THE
UNITED STATES, KILLING MORE THAN
480,000 AMERICANS EVERY YEAR¹⁶**


Surgeon General Report 2014

¹⁶U.S. Department of Health and Human Services. [The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General](#). Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014



**E-CIGARETTES AND VAPOR
PRODUCTS ARE 60% MORE
EFFECTIVE THAN ANY OTHER
SMOKING CESSATION PRODUCT IN
HELPING ADULTS QUIT SMOKING¹⁷**

The New England Journal of Medicine February 2019



LIMITING ACCESS TO VAPOR PRODUCTS IS UNETHICAL

- “There is no ethical basis for ignoring public health harm reduction benefits to those under 18.”¹
 - *Iowa Attorney General, Thomas Miller, wrote in a letter to the FDA on November 14, 2018*
- It is hard to see how an approach that denies harm reduction benefits to young people can be ethical or appropriate for the protection of public health¹⁸
- If adolescents become dependent on nicotine and vapor products are removed from the market or more difficult to access, it could lead to an uptick in smoking, causing public harm
- The availability of vapor products results in a net population benefit¹⁹

¹Youth tobacco and nicotine use – proportionate and responsible action. Letter to FDA Commissioner, Scott Gottlieb, from Iowa Attorney General, Thomas Miller, November 14, 2018

¹⁸Kozlowski LT. Minors, Moral Psychology, and the Harm Reduction Debate: The Case of Tobacco and Nicotine. *J Health Polit Policy Law*. Duke University Press; 2017 Dec 1;42(6):1099–112. <https://read.dukeupress.edu/jhpl/article-lookup/doi/10.1215/03616878-4193642>

¹⁹Abrams, D.B., Glasser, A.M., Pearson, J.L., Villanti, A.C., Collins, L.K., Niaura, R.S., 2018. Harm minimization and tobacco control: reframing societal views of nicotine use to rapidly save lives. *Annu. Rev. Public Health* 39, 193–213. <https://www.annualreviews.org/doi/pdf/10.1146/annurev-publhealth-040617-013849>

- Journal of the National Cancer Institute published new evidence in January 2019 which found no evidence that vaping is a gateway to smoking among youth²⁰



VAPING IS
NOT A
GATEWAY TO
SMOKING

VAPING IS MINOR COMPARED TO OTHER TEEN RISKS

- Adolescents engage in many far more harmful behaviors than nicotine use¹⁰
- In this context, e-cigarette use, especially non-daily use, is a relatively minor risk among adolescents

In the past 30 days	High school students
Alcohol use	29.8%
Binge drinking (as defined)	13.5%
Marijuana use	19.8%
Drove after drinking (% of drivers)	5.5%
Drove after marijuana use (% of drivers)	13.0%
Rode with a driver who had been drinking	16.5%
Texted or emailed while driving	39.2%
Carried a weapon (e.g. gun, knife, club)	15.7%
In the past year	High school students
Involved in physical fight	23.6%
Threatened or injured with a weapon	6.0%
Physically bullied on school property	19.0%
Electronically bullied	14.9%
Felt sad or hopeless	31.5%
Considered suicide	17.2%
Made suicide plan	13.6%

¹⁰ Kann L, McManus T, Harris WA, et al. Youth Risk Behavior Surveillance — United States, 2017. MMWR Surveill Summ 2018;67(No. SS-8):1-114. <https://www.cdc.gov/mmwr/volumes/67/ss/ss6708a1.htm>

SECONDHAND VAPOR POSES NO HEALTH CONCERNS

- There is no evidence that vaping produces inhalable exposures to contaminants of the aerosol that would warrant health concerns²¹
- Exhaled e-cigarette particles are smaller than those emitted from conventional cigarette smoke and evaporate almost immediately after exhalation²²
- Conventional cigarette smoke particles are far more stable and linger²²

²¹ Burstyn, Igor, Peering through the mist: systematic review of what the chemistry of contaminants in electronic cigarettes tells us about health risks, *BMC Public Health* 2014 <https://doi.org/10.1186/1471-2458-14-18>

²² O'Connell, Grant PhD, et al. *Nicotine & Tobacco Research*, nty121, June 19, 2018 <https://doi.org/10.1093/ntr/nty121>

JUUL'S EXPLOSIVE GROWTH

- Juul gained ubiquity by partnering with convenience store chains
- Juul is a closed-system device with pre-filled pods, making it easy to use
- Juul provides a high nicotine punch at 50mg with very little vapor released, allowing for concealed vaping
- Teens love the nicotine buzz and slim, compact size which can easily be concealed or misrepresented as a USB drive
- As of June 2018, Juul has 68% market share in the e-cigarette category
- Juul attributes their explosive growth to word-of-mouth²³
 - *"Like many Silicon Valley technology startups, our growth is not the result of marketing but rather a superior product disrupting an archaic industry," Matt David said. "When adult smokers find an effective alternative to cigarettes, they tell other adult smokers."*

²³ Suppe, Ryan, Vaping company JUUL investigated by Massachusetts for allegedly marketing to minors, USA Today, July 25, 2018, https://www.usatoday.com/story/tech/2018/07/25/juul-under-investigation-allegedly-marketing-minors/834760002/?fbclid=IwAR2UQeL4EPe0Ar_ix7GpyAEeG2IvfU4TOcZWP9swL5C880RK81dHurnoYmc

VAPE SHOPS ARE NOT THE ENEMY

- Delaware vape shops have been self-regulating long before the FDA regulations were released and continue to go above and beyond to keep vapor products out of the hands of minors and help the community:
 - *Limiting the age to purchase vapor products to 18+*
 - *Refusing sales to parents or friends purchasing for minors*
 - *Tracking and eliminating bulk purchases which may be resold to minors*
 - *Disapproving and banning brands that marketed to kids*
 - *Rejecting consumers who have never smoked or vaped before, to prevent them from starting the habit*

- Delaware vape shops rejected Juul initially, believing Juul's high nicotine content of 50mg was counterproductive to the mission of the vape industry which is to help people quit smoking and eventually step down their nicotine intake to quit nicotine altogether
 - *At the time Juul launched, the most prevalent nicotine level used was 3mg*
 - *Juul generated demand through convenience stores, NOT vape shops*

- Delaware vape shops continue to dissuade consumers from using Juul and run marketing campaigns to incentivize customers to quit

- **ZERO of the Delaware retailers who sold to minors in 2018 were vape shops²⁴**

²⁴ Compliance Check Inspections of Tobacco Product Retailers, U.S. Food and Drug Administration, 2018

https://www.accessdata.fda.gov/scripts/oc/inspections/oc_insp_searching.cfm?fbclid=IwAR0TVWkw70INJ8qm0U9bbqFTAyRsvd6asco6gwbwlfWGkkGiCR7HJZOYzAs

VAPING
AGE
SHOULD
NOT BE
RAISED TO
21+

- SB 25 would raise the age to purchase and use vapor products to 21+
- Young adults would be restricted from seeking healthier alternatives to smoking and would go back to smoking or continue to smoke traditional cigarettes causing public harm
- Raising the age to vape sends a misleading message to the public that vaping is equivalent to smoking

RAISING THE VAPING AGE LEADS TO AN INCREASE IN TEEN SMOKING

- Studies show that instituting a minimum age to use vapor products may reduce e-cigarette use³²
- However, historical data suggests raising the vaping age increased teen smoking by 1.1 percentage points or +7% on average³²
 - *Half of the increase came from teens who had never smoked previously³²*
 - *Researchers suggest the reason is that cigarettes are easier to attain underage than vapor products*
 - *Historical data is from states where the age to vape and smoke was identical – one has to assume the smoking rates would increase more significantly if the smoking age was lower than the vaping age*
- Preventing youth from legally buying e-cigarettes until age 21 may harden preferences for cigarettes and make quitting at that age more difficult³²
- Researchers suggest raising cigarette laws to 21, but maintaining e-cigarette laws at 18 to encourage youth to quit smoking using e-cigarettes³²

SUGGESTED ALTERNATIVES



Education Programs to Teach Teens About the Dangers of Nicotine Addiction



Limiting Vapor Product Sales to Vape Shops and Other Age-Restricted Retailers



Monitoring Purchase Velocities to Eliminate Straw Purchases



Supporting Vapor Products to Help Delawarrians Quit Smoking



Restrict Closed-System Vaporizers or High Nicotine Content Popular with Teens