

North Salem High School
Parent Presentation
Vaping, E-cigs and the Health
of Our Youth

Richard Stumacher, MD, FCCP
January 10, 2018

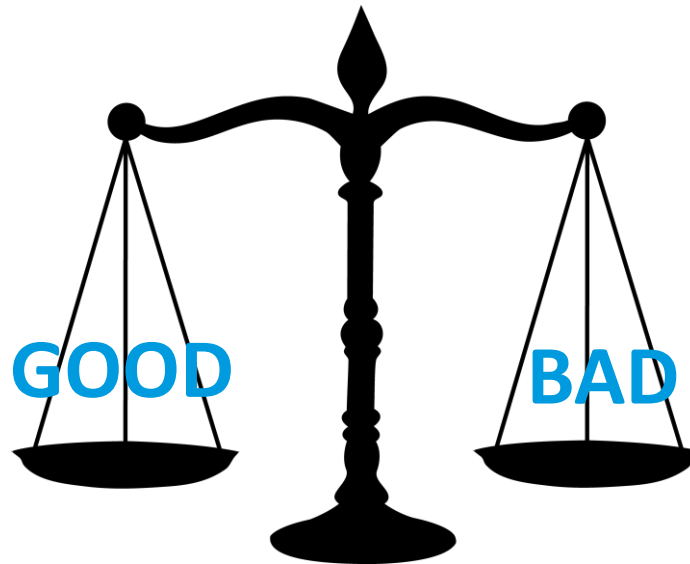


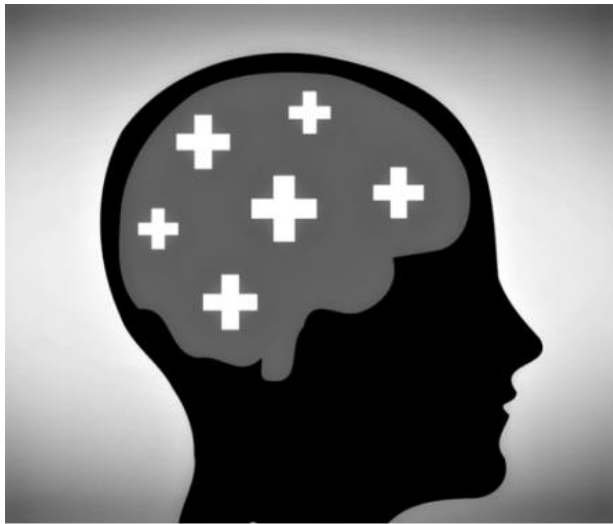
Northern Westchester Hospital
Northwell HealthSM

Vaping, E-Cigs and the Health of Our Youth

- Are Vaping, E-cigs healthy?
- Are Vaping, E-cigs harmful?

ENDS- Electronic **Nicotine** Delivery Systems





ISN'T WHAT
CREATES
THE ADDICTION

THE
TRUTH
ABOUT **VAPING**

VAPING IS NOT....



IF THERE WAS A VERSION
OF THIS WITH NO CANCER RISK,
WOULD YOU SWITCH?



WE DID, THANK YOU.

About 440,000 Americans die each year from diseases related to smoking.
90% of them started as teen smokers.



truth
THE TRUTH.COM

**IT'S THE NEXT
GENERATION
CIGARETTE.***
***FOR THE NEXT
GENERATION
OF ADDICTS.**



*
StillBlowingSmoke.org

Research and analysis

E-cigarettes: an evidence update

From: [Public Health England](#)
Part of: [Electronic cigarettes and Smoking](#)
Published: 19 August 2015
Last updated: 28 August 2015, [see all updates](#)

An expert review of the latest evidence concludes that e-cigarettes are around 95% safer than smoked tobacco and they can help smokers to quit.

Documents



[E-cigarettes: an evidence update](#)

Ref: PHE publications gateway number: 2015260
PDF, 2.07MB, 113 pages

This file may not be suitable for users of assistive technology. [Request an accessible format.](#)



 Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

CDC Features

CDC Features

Data & Statistics

Diseases & Conditions

Emergency Preparedness & Response

Environmental Health

[CDC](#) > [CDC Features](#) > [Healthy Living](#)

E-Cigarettes and Young People: A Public Health Concern



Talk with teens and young adults you know about the dangers of e-cigarette use.



NICOTINE

Nicotine is a powerful mood-altering substance that is extremely toxic and addictive

Facts about Nicotine

- Found only in the tobacco leaf.
- At low doses it can stimulate nerve cells.
- At high doses it is a poison that has been used as an insecticide.
- Two to three drops of pure nicotine can kill a person.



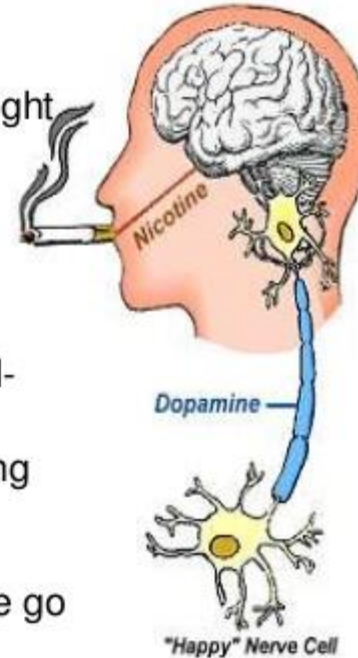
What does Nicotine do?

Takes 7 seconds for 1/4 of the nicotine to go straight to the brain.

Causes your brain to release a chemical called Dopamine.

It's Dopamine that gives you a false sense of well-being, and soon the body wants more and more Dopamine on a regular basis. This is the beginning of an addiction.

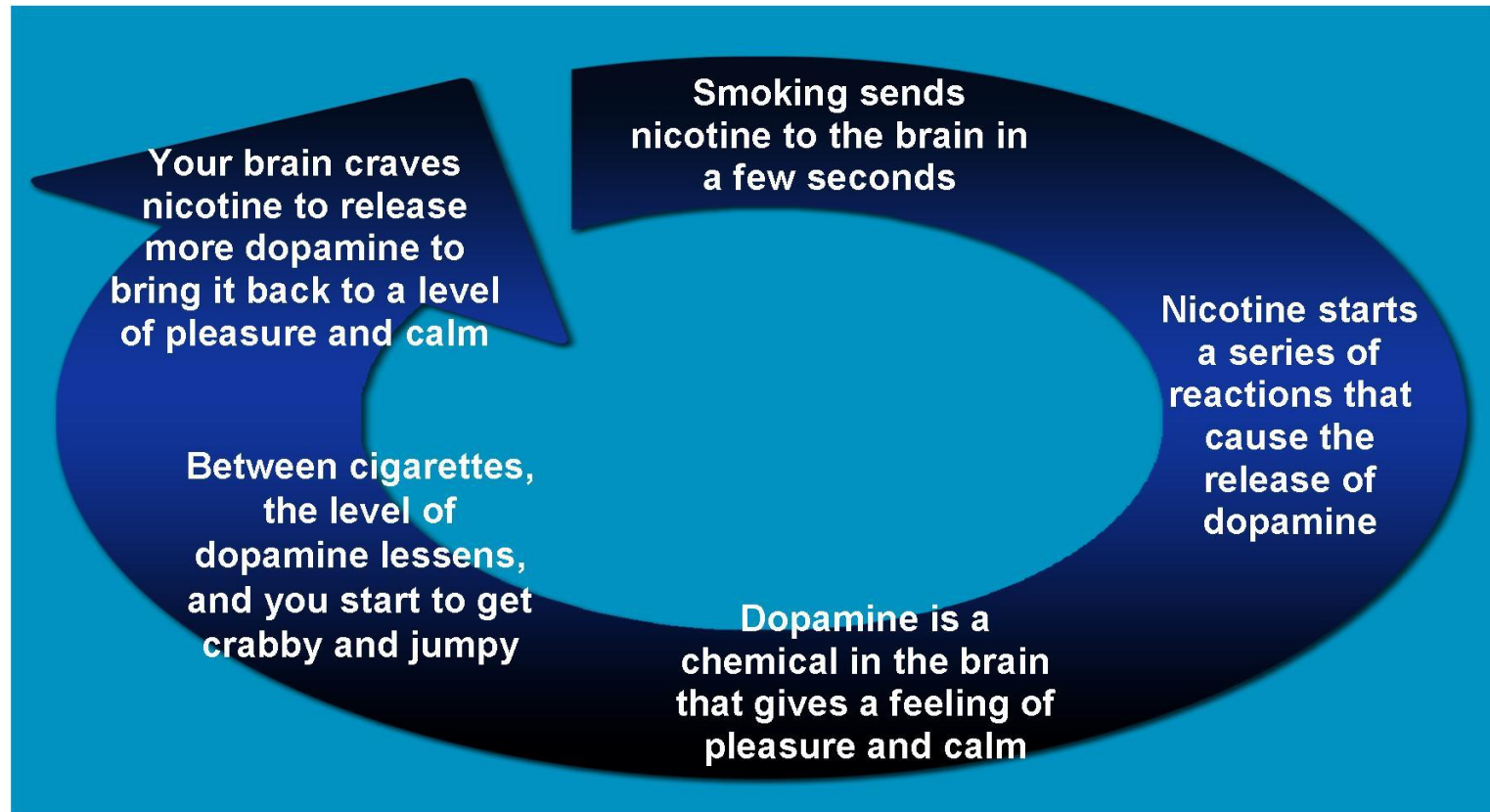
80% of young people who try 2 cigarettes or more go on to battle a life-time of addiction.



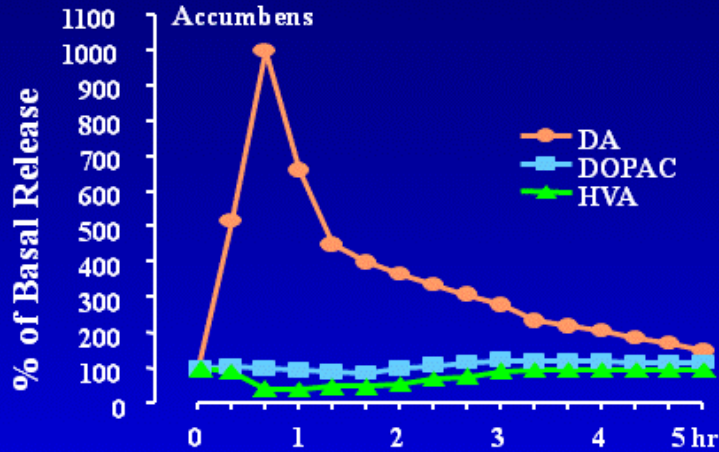
<http://www.finaismoke.com/howitworks.html>

Why It's So Hard to Quit

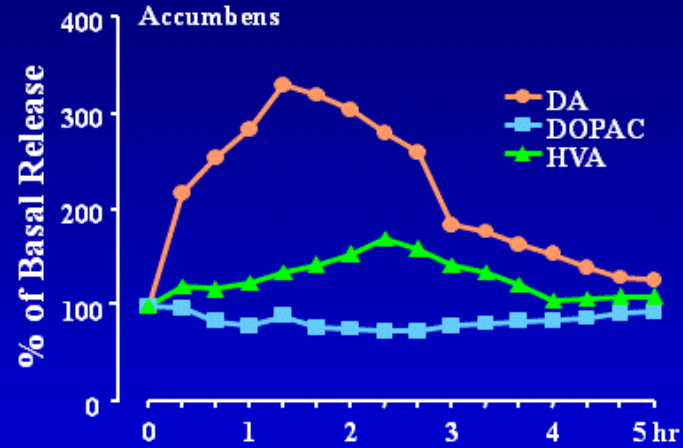
1. Physical addiction – comes from brain chemistry



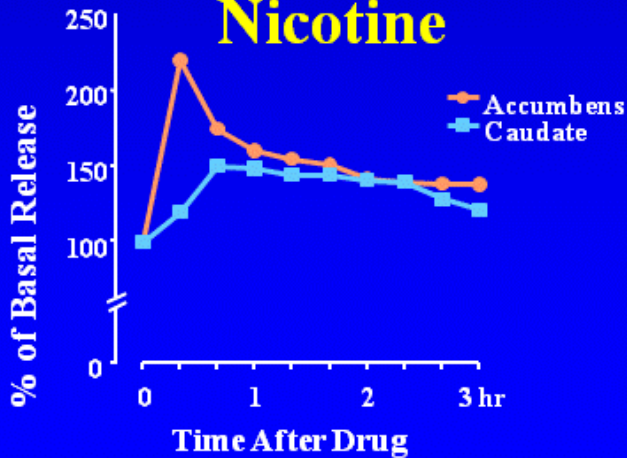
Amphetamine



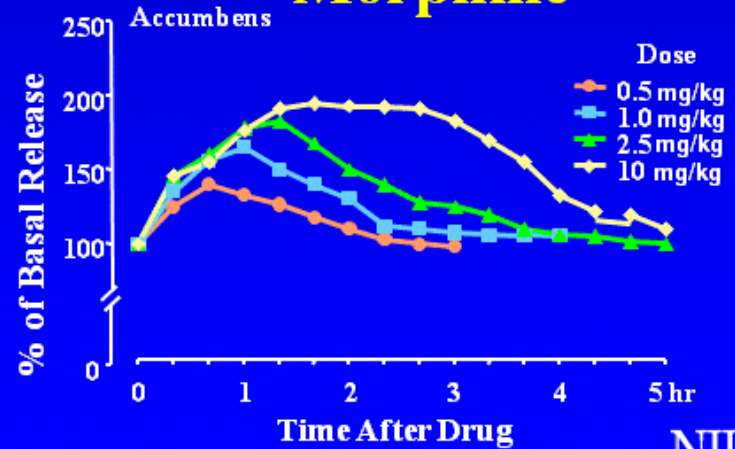
Cocaine



Nicotine



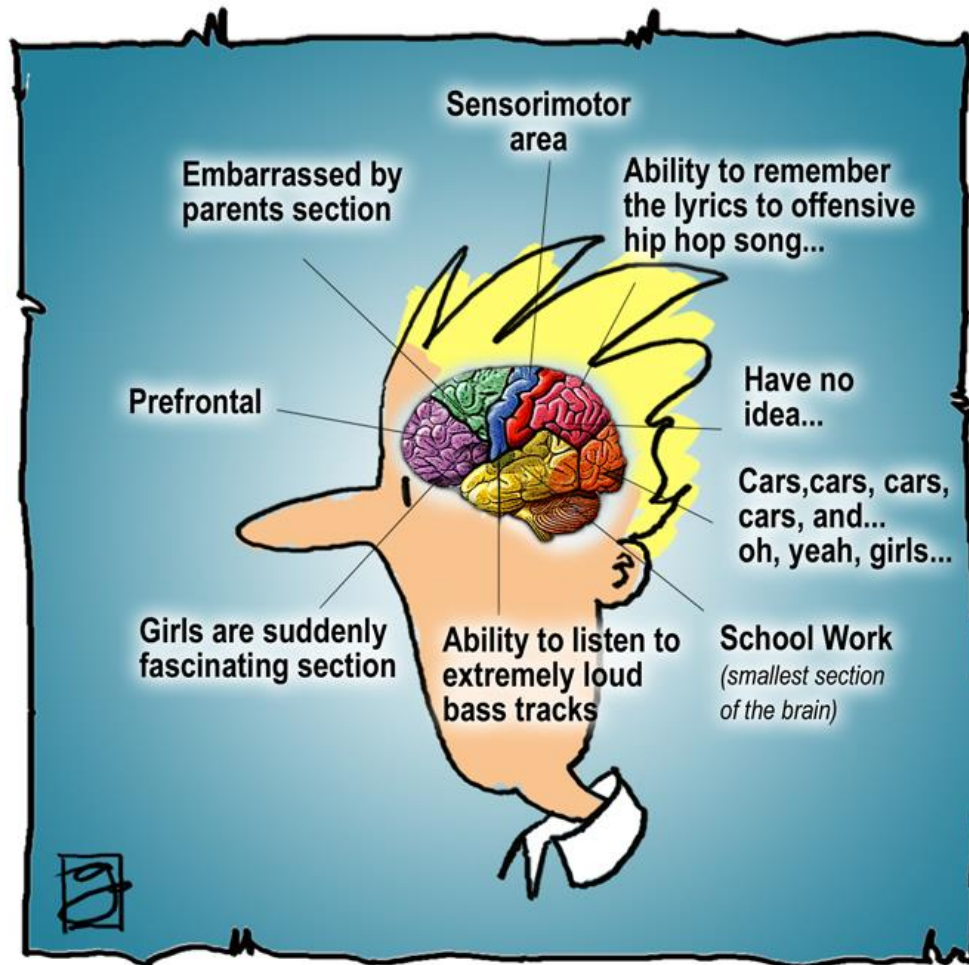
Morphine



Di Chiara and Imperato, PNAS, 1988

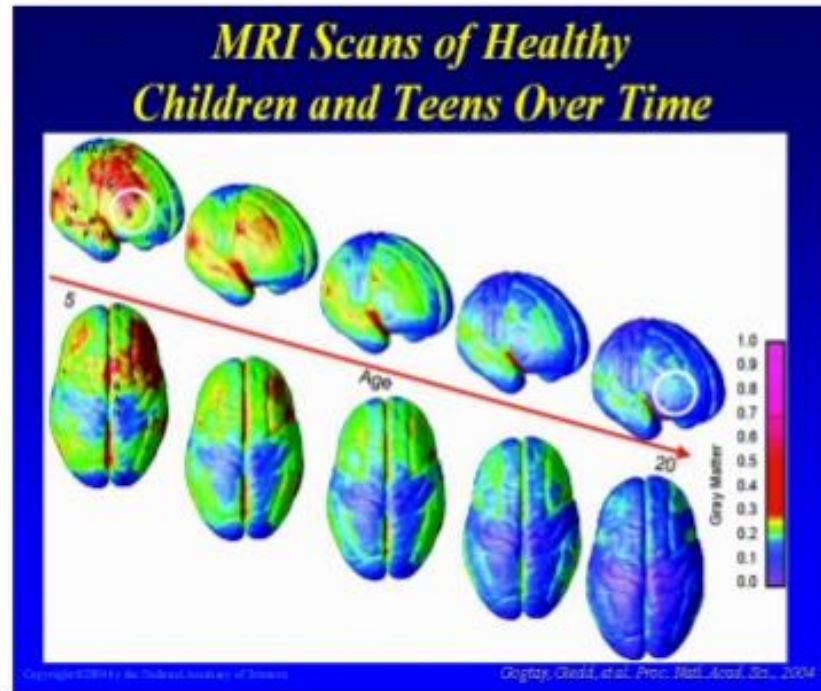
NIDA

Nicotine and the Adolescent/Teen Brain



Anatomy of a Teenager's Brain

The prefrontal cortex (white circle), which governs judgment and decision-making functions, is the last part of the brain to develop. This may help explain why teens, who are more prone to participating in risk-taking behavior, are particularly vulnerable to drug abuse



[Pharmacol Ther](#). Author manuscript; available in PMC 2010 May 1.

PMCID: PMC2746456

Published in final edited form as:

NIHMSID: NIHMS100350

[Pharmacol Ther](#). 2009 May; 122(2): 125–139.

Published online 2009 Mar 5. doi: [10.1016/j.pharmthera.2009.02.003](https://doi.org/10.1016/j.pharmthera.2009.02.003)

The Dynamic Effects of Nicotine on the Developing Brain

[Jennifer B. Dwyer](#), [Susan C. McQuown](#), and [Frances M. Leslie](#)

[Author information](#) ► [Copyright and License information](#) ►

- Can disrupt the growth of brain circuits that control attention, learning, and susceptibility to addiction

[Cold Spring Harb Perspect Med](#). 2012 Dec; 2(12): a012120.

PMCID: PMC3543069

doi: [10.1101/cshperspect.a012120](https://doi.org/10.1101/cshperspect.a012120)

EMSID: [EMS51138](#)

Short- and Long-Term Consequences of Nicotine Exposure during Adolescence for Prefrontal Cortex Neuronal Network Function

[Natalia A. Goriounova](#) and [Huibert D. Mansvelder](#)

[Author information](#) ► [Copyright and License information](#) ►

- Increase risk of psychiatric disorders, cognitive impairment, and attention deficit

[J Physiol](#). 2015 Aug 15; 593(Pt 16): 3397–3412.

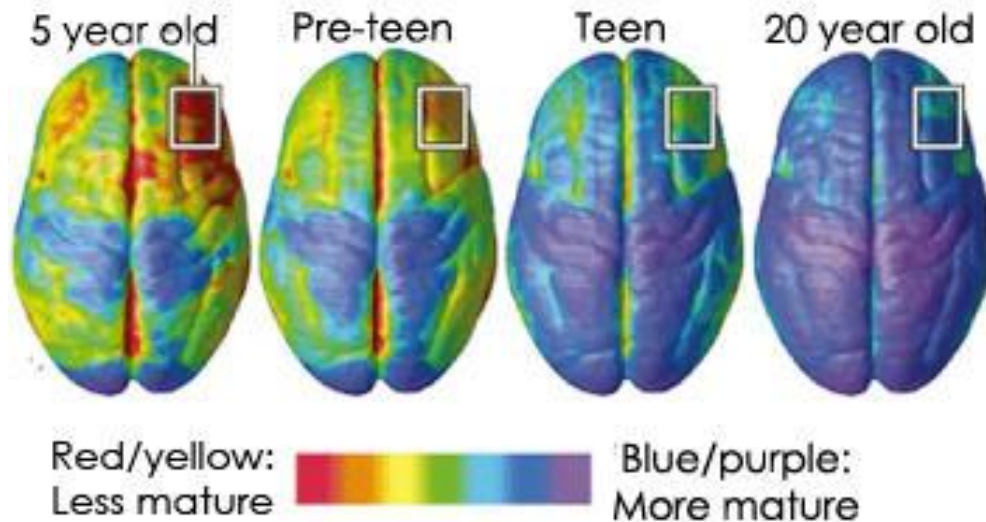
PMCID: PMC4560573

Published online 2015 May 27. doi: [10.1113/JP270492](https://doi.org/10.1113/JP270492)

Nicotine and the adolescent brain

[Menglu Yuan](#),¹ [Sarah J Cross](#),² [Sandra E Loughlin](#),¹ and [Frances M Leslie](#)^{1,2}

[Author information](#) ► [Article notes](#) ► [Copyright and License information](#) ►



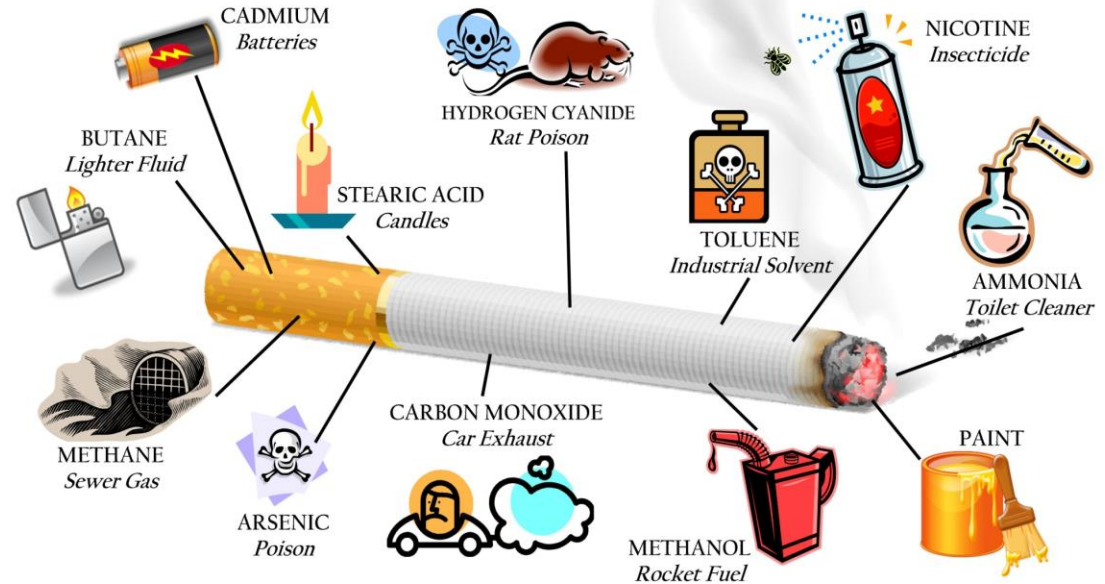
- Nicotine can disrupt the growth of brain circuits that control attention, learning, and susceptibility to addiction
- Increase risk of psychiatric disorders, cognitive impairment, and attention deficit

Are Vaping, E-cigs harmful ?

Vaping, E-cigs

- Medical Community
 - Divided over data
 - Known chemicals in liquids that do cause diseases
 - No definitive research linking diseases to vaping (yet?)
- 2015- Science News-
“Dangers of Vaping”
- Mice lung studies-
 - Increase in inflammation and precancerous transformations
 - Decrease in immune response

What's in a Cigarette?



- > 7000 chemicals in cigarettes
- 79 harmful carcinogens in cigarettes

Harmful Chemicals in Electronic Cigarettes

While a limited number of studies have been conducted on electronic cigarettes to date and more studies are necessary, scientific studies have identified hundreds of chemicals in the vapor of mainstream smoke (inhaled by the person smoking) or in the secondhand side stream. Some of these are known to cause health effects, are toxic, or may cause cancer. A Greek study found cotinine — a byproduct of nicotine — samples in the blood of people exposed to electronic cigarette vapors had “similar nicotinic impact to tobacco cigarettes.” Like tobacco, the only way for cotinine appears in the blood of nonusers is through secondhand exposure. Based on the research to date, GASP of Colorado believes there is enough evidence to recommend that the public avoid exposure to secondhand electronic cigarette smoke.

Forty-Two Chemicals Identified in Electronic Cigarettes

✓ = exposure can be especially harmful to the health. Chemicals in red are emitted in secondhand smoke.

2-butanone (MEK)	Butyl hydroxyl toluene	Limonene	Potassium
2-furaldehyde	Cadmium ✓	m,p-Xylen	Propanal ✓
Acetaldehyde ✓	Chromium ✓	Magnesium	Propylene Glycol ✓
Acetic acid	Copper	Manganese	Sulfur
Acetone ✓	Crotonaldehyde	Nickel ✓	Tin ✓
Acrolein ✓	Diethylene Glycol ✓	Nicotine ✓	Toluene ✓
Aluminum	Formaldehyde ✓	N-Nitrosornicotine ✓	Valeraldehyde
Barium	Glyoxal	o-Methylbenzaldehyde ✓	Zinc
Benzene ✓	Iron	p,m-Xylene	Zirconium
Boron	Isoprene ✓	Phenol ✓	
Butanal	Lead ✓	Polycyclic Aromatic Hydrocarbons ✓	

Specific Dangers of Some Electronic Cigarette Chemicals

- Harvard researchers- of 51 brands tested- 92% carried at least 1 chemical known to cause serious lung damage
- **Flavorants**- Diacetyl and Acetyl Propionyl- ‘Safe for Food Consumption’ (? Safe for Inhalation)
 - Diacetyl- Causes Popcorn Lung (used in microwave popcorn)- Bronchiolitis Obliterans
- Propylene Glycol (plastics and food processing) and Glycerin
- Breakdown products are carcinogenic (Formaldehyde and Acetaldehyde)

Products, Ingredients & Components > Vapes, E-Cigs, Hookah Pens, and other Electronic Nicotine - Microsoft Internet Explorer p

https://www.fda.gov/TobaccoProducts/Labeling/ProductsIngredientsComponents/ucm45661


File Edit View Favorites Tools Help

Northwell Health Live Chat Northwell Health - Employee... Welcome to Ingenious Med Statit Easy Online Meetings With ... New Search Google Yahoo Performance Dashboards

Plant to Product to Puff

- Cigars, Cigarillos, Little Filtered Cigars
- Dissolvable Tobacco Products
- Flavored Tobacco
- Harmful and Potentially Harmful Constituents (HPHCs)
- Hookah Tobacco (Shisha or Waterpipe Tobacco)
- Menthol Cigarettes
- Nicotine Gels
- Pipe Tobacco
- Roll-Your-Own Tobacco Products
- Smokeless Tobacco Products, Including Dip, Snuff, and Chewing Tobacco
- Vapes, E-Cigs, Hookah Pens, and other Electronic Nicotine Delivery Systems (ENDS)

Vapes, vaporizers, vape pens, hookah pens, electronic cigarettes (e-cigarettes or ecigs), and e-pipes are some of the many terms used to describe electronic nicotine delivery systems (ENDS).



These products use a liquid "e-liquid" that may contain nicotine, as well as varying compositions of flavorings, propylene glycol, vegetable glycerin, and other ingredients. The liquid is heated into an aerosol that the user inhales.

ENDS may be manufactured to look like conventional cigarettes, cigars, or pipes. Some resemble pens or other everyday items. Larger devices, such as tank systems or mods, bear little or no resemblance to cigarettes.

On this page, you can find:

- [Statistics about Electronic Nicotine Delivery System Use](#)
- [FDA Regulation of Electronic Nicotine Delivery Systems and E-Liquids](#)
- [Manufacturing Electronic Nicotine Delivery Systems and E-Liquids](#)
- [Required Nicotine Addictiveness Warning on Packages and Advertisements](#)
- [Retail Sales of Electronic Nicotine Delivery Systems and E-Liquids](#)
 - [Vape Shops That Mix E-Liquids or Modify Products](#)
- [Importing Electronic Nicotine Delivery Systems and E-Liquids](#)
- [Report a Problem with a Tobacco Product or Potential Tobacco Product Violations](#)

Statistics about Electronic Nicotine Delivery System Use

- More than 2 million middle and high school students were current users of e-cigarettes in 2016.^{1,2}
- 11% of high school and 4.3% of middle school students were current users of e-cigarettes in 2016.¹
- E-cigarette use rose from 1.5% to 16.0% among high school students and from 0.6% to 5.3% among middle school students from 2011 to 2015.¹
- In 2013-2014, 81% of current youth e-cigarette users cited the availability of appealing flavors as the primary reason for use.³

FDA Regulation of Electronic Nicotine Delivery System

In 2016, FDA finalized a rule extending CTP's regulatory authority to cover all tobacco products, including electronic nicotine delivery systems (ENDS) that meet the definition of a tobacco product. FDA now regulates the

100%

Start

2:32 PM
8/23/2017

E-cigs lead to Cigarette Use

Vaping as a Catalyst for Smoking? An Initial Model on the Initiation of Electronic Cigarette Use and the Transition to Tobacco Smoking Among Adolescents

Sven Schneider, Dr Phil, Katharina Diehl, Dr Phil

Nicotine & Tobacco Research, Volume 18, Issue 5, 1 May 2016, Pages 647–653,
<https://doi.org/10.1093/ntr/ntv193>

Published: 18 September 2015 **Article history** ▼

The JAMA Network[®]

JAMA[®] Journals Enter Search Term

This Issue Views 3,859 Citations 1 Altmetric 1483

PDF More Cite Permissions

Research Letter FREE

November 8, 2016

Association of e-Cigarette Vaping and Progression to Heavier Patterns of Cigarette Smoking

Adam M. Leventhal, PhD¹; Matthew D. Stone, BA¹; Nafeesa Andrabi, BA¹; et al

> Author Affiliations | Article Information

JAMA. 2016;316(18):1918-1920. doi:10.1001/jama.2016.14649

Pediatrics
July 2016, VOLUME 138 / ISSUE 1

E-Cigarettes and Future Cigarette Use

Jessica L. Barrington-Trimis, Robert Urman, Kiros Berhane, Jennifer B. Unger, Tess Boley Cruz, Mary Ann Pentz, Jonathan M. Samet, Adam M. Leventhal, Rob McConnell

Article Figures & Data Supplemental Info & Metrics Comments

Download PDF



Contents lists available at ScienceDirect

Addictive Behaviors

journal homepage: www.elsevier.com/locate/addictbeh



Electronic cigarette use and uptake of cigarette smoking: A longitudinal examination of U.S. college students



Tory R. Spindle ^{a,d,*}, Marzena M. Hiler ^{a,d}, Megan E. Cooke ^b, Thomas Eissenberg ^{a,d},
Kenneth S. Kendler ^e, Danielle M. Dick ^{c,d,f,g,**}

^a Center for the Study of Tobacco Products, Virginia Commonwealth University, Richmond, VA, United States

^b Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University, Richmond, VA, United States

^c Department of African American Studies, Virginia Commonwealth University, Richmond, VA, United States

^d Department of Psychology, Virginia Commonwealth University, Richmond, VA, United States

^e Department of Psychiatry, Virginia Commonwealth University, Richmond, VA, United States

^f Department of Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA, United States

^g College Behavioral and Emotional Health Institute (COBE), Virginia Commonwealth University, Richmond, VA, United States

HIGHLIGHTS

- E-cig and cigarette use has not been studied in college students longitudinally.
- Ever and current e-cig use increased non-smokers chances of trying cigarettes.
- Historically internalizing/externalizing factors predict cigarette uptake strongly.
- Most internalizing/externalizing factors examined did not predict e-cig uptake.
- Males and marijuana users were more likely to initiate e-cig use.

Drug and Alcohol Dependence 163 (2016) 261–264



Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep



Short communication

E-cigarette use and subsequent cigarette and marijuana use among Hispanic young adults



Jennifer B. Unger ^{*}, Daniel W. Soto, Adam Leventhal

University of Southern California Keck School of Medicine, 2001 N. Soto St., SSB 302, Los Angeles, CA 90089, United States

RESEARCH

Electronic cigarette use and smoking initiation among youth: a longitudinal cohort study

David Hammond PhD, Jessica L. Reid MSc, Adam G. Cole MSc, Scott T. Leatherdale PhD

■ Cite as: *CMAJ* 2017 October 30;189:E1328-36. doi: 10.1503/cmaj.161002

ABSTRACT

BACKGROUND: The influence of e-cigarette use on smoking initiation is a highly controversial issue, with limited longitudinal data available for examining temporal associations. We examined e-cigarette use and its association with cigarette-smoking initiation at 1-year follow-up within a large cohort of Canadian secondary school students.

METHODS: We analyzed data from students in grades 9–12 who participated in 2 waves of COMPASS, a cohort study of purposefully sampled secondary schools in Ontario and Alberta, Canada, at baseline (2013/14) and 1-year follow-up (2014/15). We assessed cigarette

smoking and e-cigarette use at baseline and follow-up using self-completed surveys. We used generalized linear mixed-effects models to examine correlates of past 30-day e-cigarette use at baseline and smoking initiation between waves within the longitudinal sample.

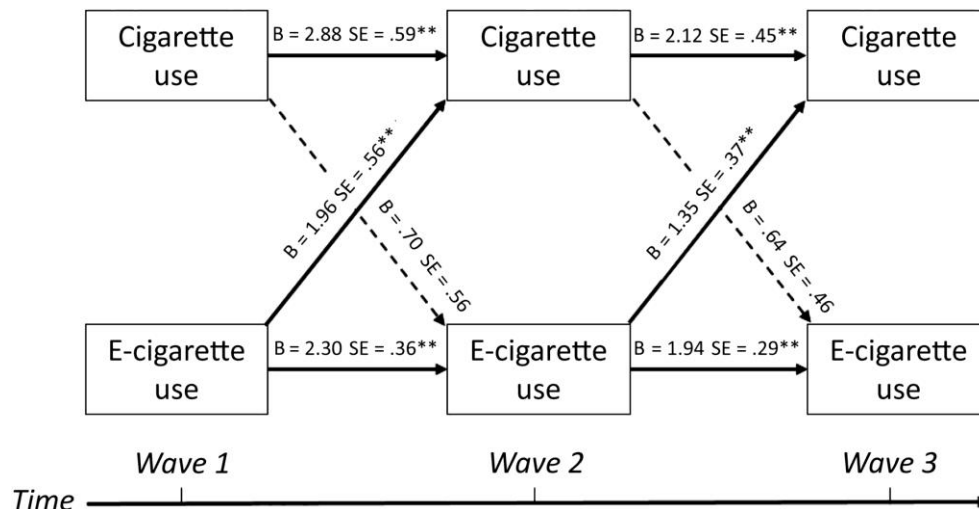
RESULTS: Past 30-day e-cigarette use increased from 2013/14 to 2014/15 (7.2% v. 9.7%, $p < 0.001$), whereas past 30-day cigarette smoking decreased slightly (11.4% v. 10.8%, $p = 0.02$). Among the 44 163 students evaluated at baseline, past 30-day e-cigarette use was strongly associated with smoking status and smoking susceptibility. In the longitudinal

sample ($n = 19\,130$), past 30-day use of e-cigarettes at baseline was associated with initiation of smoking a whole cigarette (adjusted odds ratio [OR] 2.12, 95% confidence interval [CI] 1.68–2.66) and with initiation of daily smoking (adjusted OR 1.79, 95% CI 1.41–2.28) at follow-up.

INTERPRETATION: E-cigarette use was strongly associated with cigarette smoking behaviour, including smoking initiation at follow-up. The causal nature of this association remains unclear, because common factors underlying the use of both e-cigarettes and conventional cigarettes may also account for the temporal order of initiation.

Trajectories of E-Cigarette and Conventional Cigarette Use Among Youth

Krysten W. Bold, Grace Kong, Deepa R. Camenga, Patricia Simon, Dana A. Cavallo, Meghan E. Morean, Suchitra Krishnan-Sarin



CONCLUSIONS: E-cigarette use was associated with future cigarette use across 3 longitudinal waves, yet cigarette use was not associated with future e-cigarette use. Future research needs to examine mechanisms through which e-cigarette use leads to cigarette use. E-cigarette regulation and prevention programs may help prevent future use of cigarettes among youth.

Trajectories of E-Cigarette and Conventional Cigarette Use Among Youth

Krysten W. Bold, Grace Kong, Deepa R. Camenga, Patricia Simon, Dana A. Cavallo, Meghan E. Morean, Suchitra Krishnan-Sarin

Discussion

This study is the first to examine reciprocal relationships between past-month e-cigarette and cigarette use among high school youth using 3 waves of matched longitudinal data. We found that e-cigarette use is prospectively associated with a greater risk of future conventional cigarette use, while controlling for the autoregressive effects of stability of use over time. Importantly, we also observed that this risk is unidirectional, such that cigarette use was not significantly associated with e-cigarette use over time. The observed relationships were consistent across unadjusted models and when including covariates known to relate to cigarette and e-cigarette use (eg. sociodemographic characteristics, other tobacco use). Furthermore, rates of past-month cigarette and e-cigarette use increased significantly across our 3 waves of assessment, indicating more youth were using these products over time, which is consistent with epidemiologic evidence of higher rates of tobacco use as youth age.^{1,21} The rising frequency of recent e-cigarette use among youth over time is concerning, especially in light of evidence that e-cigarette use is a significant risk factor for future conventional cigarette use.

HEALTH

Marijuana and Vaping Are More Popular Than Cigarettes Among Teenagers

By JAN HOFFMAN DEC. 14, 2017



The Juul brand e-cigarette, which resembles a flash drive, is popular among underage vapers. Conventional cigarette smoking has dropped so sharply among American teenagers that marijuana use and vaping are now more common. Suzanne Kreiter/The Boston Globe, via Getty Images

RELATED COVERAGE



THE NEW SMOKE
A Hot Debate Over E-Cigarettes as a Path to Tobacco, or From It FEB. 22, 2014



F.D.A. Delays Rules That Would Have Limited E-Cigarettes on Market JULY 28, 2017



E-Cigarette Use by U.S. Teenagers Rose Last Year, Report Says APRIL 14, 2016



New York State Bans Vaping Anywhere Cigarettes Are Prohibited OCT. 23, 2017



- [Drugs of Abuse](#)
- [Related Topics](#)
- [Publications](#)
- [Funding](#)
- [News & Events](#)
- [About NIDA](#)

[Home](#) » [News & Events](#) » [News Releases](#) » **Vaping popular among teens; opioid misuse at historic lows**

Vaping popular among teens; opioid misuse at historic lows

Print Share

- News Releases**
- 2017 ▼
- 2016 ▼
- 2015 ▼
- 2014 ▼
- 2013 ▼
- 2012 ▼
- 2011 ▼
- 2010 ▼

NIH's 2017 Monitoring the Future survey shows both vaping and marijuana are more popular than traditional cigarettes or pain reliever misuse

December 14, 2017

Nearly 1 in 3 students in 12th grade report past year use of some kind of vaping device, raising concerns about the impact on their health. What they say is in the device, however, ranges from nicotine, to marijuana, to "just flavoring." The survey also suggests that use of hookahs and regular cigarettes is declining. These findings come from the 2017 Monitoring the Future (MTF) survey of eighth, 10th and 12th graders in schools nationwide, reported today by the director of the National

PDF
(166KB)

[Cite this article](#)

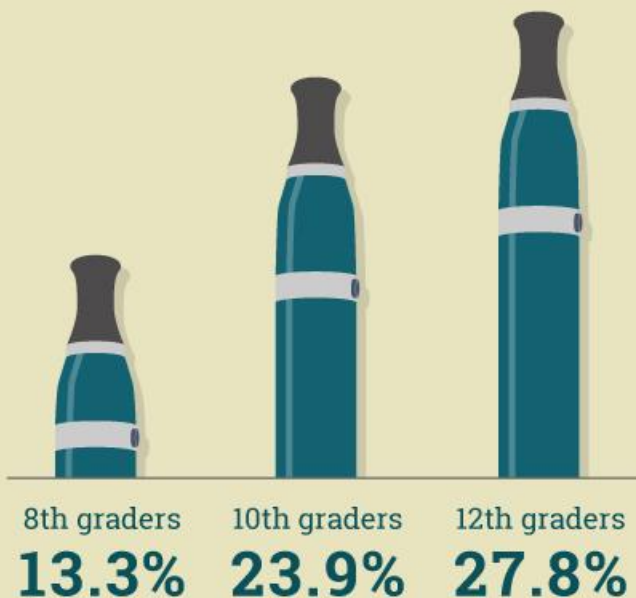
Receive Latest Science Articles in your Email!

Resources for the Media

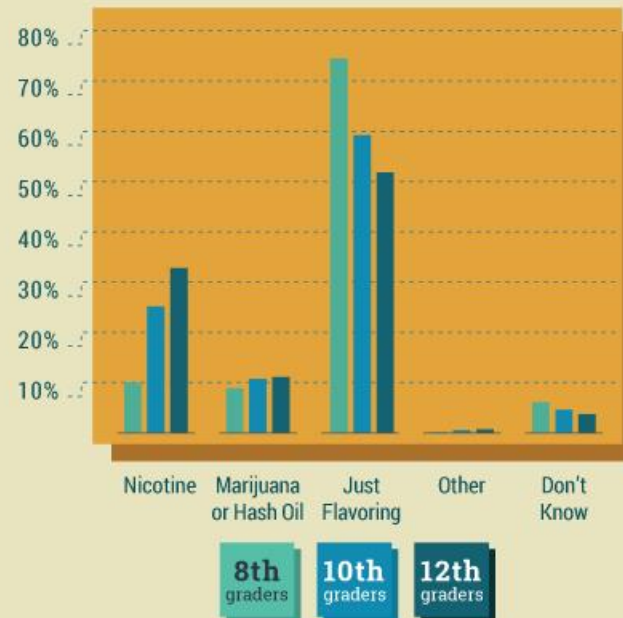


NIDA Media Guide

PAST-YEAR E-VAPORIZER USE AND WHAT TEENS ARE INHALING



When asked what they thought was in the e-vaporizer mist students inhaled the last time they smoked, these were their responses:



NEARLY 1 IN 3 STUDENTS IN 12TH GRADE REPORT PAST-YEAR USE OF E-VAPORIZERS, RAISING CONCERNS ABOUT THE IMPACT ON THEIR LONG-TERM HEALTH.





New Online

Views **990** | Citations **0** | Altmetric **85**

Original Investigation

ONLINE FIRST

FREE



January 2, 2018

More ▾

Association of Noncigarette Tobacco Product Use With Future Cigarette Smoking Among Youth in the Population Assessment of Tobacco and Health (PATH) Study, 2013-2015

Shannon Lea Watkins, PhD¹; Stanton A. Glantz, PhD²; Benjamin W. Chaffee, DDS, PhD³

Design, Setting, and Participants In this prospective cohort study of the Population Assessment of Tobacco and Health (PATH) waves 1 (September 12, 2013, to December 14, 2014) and 2 (October 23, 2014, to October 30, 2015), a nationally representative sample of youths who never smoked a conventional cigarette at baseline and completed wave 2 follow-up (N=10 384) was studied. PATH retention at follow-up was 87.9%.

Exposures Ever use and past 30-day use of electronic cigarettes (e-cigarettes), hookah, noncigarette combustible tobacco, or smokeless tobacco at baseline.

Main Outcomes and Measures Ever use and past 30-day use of cigarettes at follow-up.

Results The present analysis was based on the 10 384 PATH youth respondents who reported never having smoked a cigarette in wave 1 and whose cigarette ever or past 30-day use was reported in wave 2 (mean [SD]

Conclusions and Relevance Any use of e-cigarettes, hookah, noncigarette combustible tobacco, or smokeless tobacco was independently associated with cigarette smoking 1 year later. Use of more than 1 product increased the odds of progressing to cigarette use.

Medical Community's Opinion

E-cigs, Vaping

- Harm Reduction- ENDS result in less harm than cigarette use
- ENDS maybe a useful as a tool in smoking cessation
- There are chemicals in ENDS products known to cause diseases
- There is very little evidence to date of specific diseases caused by ENDS use
- Risk of fire from the electrical elements of ENDS
- ENDS use leads to increase likelihood of smoking cigarettes/THC

Nicotine

- Nicotine can be dangerous if ingested in very high quantities
- Nicotine is one of the most addictive substances known
- Nicotine crosses the placenta and affects fetal and postnatal development
- Nicotine use affects the developing brain
 - Can disrupt the growth of brain circuits that control attention, learning, and susceptibility to addiction
 - Increase risk of psychiatric disorders, cognitive impairment, and attention deficit

NICOTINE MORE HARMFUL THAN YOU THINK

NO AMOUNT IS SAFE FOR YOUTH

It's highly addictive.



It harms the health of unborn children.



It can harm adolescent brain development.



What is an electronic cigarette?

- Heats a nicotine solution to create an aerosol for inhalation



Read the fine print...

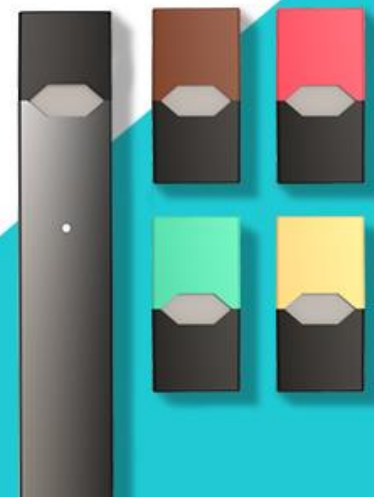
How many cigarettes = 1 pod?

“One JUULpod is approximately equivalent to 1 pack of cigarettes or 200 puffs.”

Are you going to make non-nicotine juice?

“At this time *all our JUULpods include nicotine.*”

JUUL
SMOKING EVOLVED



Read the fine print...

JUUL
SMOKING EVOLVED



Can you speak to the health and safety of this product?

“No tobacco or e-liquid product should ever be considered "safe". We encourage consumers to do their own research regarding vapor products and what is right for them.”

“Inhalation of e-vapor may aggravate existing respiratory conditions. If you do not currently use nicotine-containing products, we recommend that you do not start.”

“JUUL incorporates several consumer protections, including a sophisticated temperature control system which is optimized to maintain the temperature needed for optimal vaporization and is designed **to avoid combustion.**”

What is Vaping: Vaping Safety Tips

Here are a few things you can do to ensure the safety of yourself as well as others around you:

- ▶ If you don't already smoke, do *not* start vaping now.
- ▶ Choose the best vaping gear from the most renowned manufacturers because low-quality vaporizers can pose several threats and risks to your health that may not even be related directly to vaping.
- ▶ Avoid vaping in places where smoking is prohibited.
- ▶ For a healthier lifestyle, eliminate nicotine from your e-liquids. Most manufacturers allow you to choose a nicotine strength, which makes it easy to gradually cut down the intake and eventually vape e-liquids with 0% nicotine.
- ▶ Always prefer child-proof bottles for your e-juices, and keep them out of reach of children and pets because if an e-liquid contains nicotine, it can be poisonous if ingested.
- ▶ Take precautionary measures to ensure battery safety, especially if you are using the 18650 vape batteries. Don't use a charger other than the one recommended by the manufacturer; don't overcharge or over-discharge the batteries; store the batteries which are not in use in a safe place (preferably in a plastic case); and don't carry loose batteries in your pocket.



Vaping and the dangers we know!!!!



Marijuana Wax: (Dabbing)

Derived directly from marijuana and is commonly known as Butane Hash Oil (BHO), honey oil, budder, and shatter.

Contains a higher concentration of (THC) extract than cannabis, which is the chemical responsible for the psychological effects on the brain.

- Impaired judgment
- Poor concentration
- Short-term memory loss
- Impaired motor skills
- Suppression of the immune system
- Personality and mood changes
- Reduced sexual capacity
- Sensory distortion
- Vomiting
- Severe withdrawal symptoms
- Paranoia
- Anxiety
- Severe psychological symptoms

The butane left in the substance poses various health risks including:

- Permanent damage to the brain and central nervous system
- Increased heart rate
- Loss of consciousness

THE FACTS ABOUT MARIJUANA CONCENTRATES

WHAT ARE MARIJUANA CONCENTRATES?

Also known as: *710* (the word “OIL” flipped and spelled backwards), wax, ear wax, honey oil, budder, butane hash oil, butane honey oil (BHO), shatter, dabs (dabbing), black glass, and errl.

WHAT IS IT?

A marijuana concentrate is a highly potent THC- (Tetrahydrocannabinol) concentrated mass that looks like honey or butter. For that reason, it's often called “honey oil” or “budder” on the street.



HOW POTENT IS THIS FORM OF MARIJUANA?

Marijuana concentrates contain extraordinarily high THC levels ranging from 40 to 80 percent THC amounts. This form of marijuana can be up to four times stronger in THC content than high grade or top shelf marijuana, which normally measures around 20 percent THC levels.

HOW IS IT ABUSED?

One form of abuse occurs orally by infusing marijuana concentrates in various food or drink products. Smoking remains the most popular form of ingestion by use of water or oil pipes.

Many abusers of marijuana concentrates also prefer using an e-cigarette/vaporizer because it is smokeless, odorless and easy to hide. The user takes a “dab” of the concentrate, then heats the substance using the e-cigarette/vaporizer, producing vapors that ensure an instant high.

Using an e-cigarette/vaporizer to ingest marijuana concentrates is commonly referred to as “dabbing” or “vaping.”

WHAT ARE THE EFFECTS OF USING MARIJUANA CONCENTRATES?

Being a highly concentrated form of marijuana, the effects upon the user may be more psychologically and physically intense than plant marijuana use.

To date, long term effects of marijuana concentrate use are not yet fully known; but, we do know the effects of plant marijuana use. These effects include **paranoia, anxiety, panic attacks,** and **hallucinations**.

Additionally, the use of plant marijuana increases one's heart rate and blood pressure. Plant marijuana users may also experience withdrawal and addiction problems.

Dr. Stumacher's Opinion

- Are Vaping, E-cigs healthy? Are Vaping, E-cigs harmful?
 - *Distractor Questions*- intended to draw focus from (in my opinion) the most important question
- *Should we allow our youth to Vape?* The answer is **NO**.
- THERE IS NO ACCEPTABLE REASON ANY YOUTH/ADOLESCENT SHOULD BE VAPING.

Dr. Stumacher's Opinion

- Vape's/E-cigs are an acceptable tool to use for smoking cessation or as a substitute for smoking in those who have *failed smoking cessation*
- Non-nicotine ***flavored vaping liquid*** is a gross and obvious ***gateway product*** aimed at youth to enter into the nicotine addiction market place
- There is a significant amount of money to be made to turn your child into a nicotine addict
- You should protect your child from becoming enslaved by nicotine, the most addictive substance known. Your loved one will spend an incredible amount of time, money, and emotion battling this addiction over the course of their lives.

Dr. Stumacher's Opinion



What can YOU do?

- Educate yourselves
- Have open, honest CONVERSATIONS with your kids
- Meet with school leadership
- Local government- legislation

JUUL STARTER KIT VAPING MADE EASY



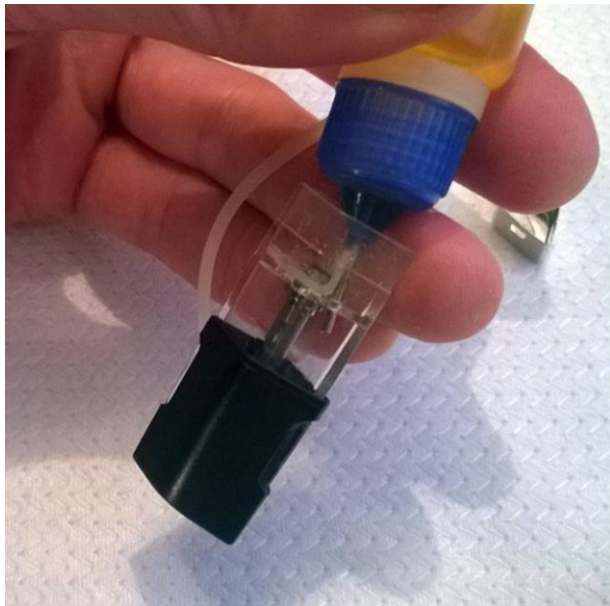
**JUUL PODS
BACK IN STOCK**

• 2/3/2017 • VAPE PKWY • LIMITED SUPPLY

 CREME BRULEE	 COOL MINT
 FRUIT MEDLEY	 MANGO COMING SOON!



PHIX





Talk with Your Teen About E-cigarettes: A Tip Sheet for Parents



BEFORE THE TALK

Know the facts.

- Get credible information about e-cigarettes and young people at E-cigarettes.SurgeonGeneral.gov.

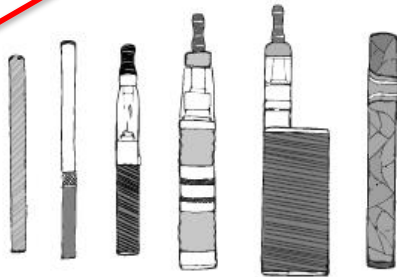
Be patient and ready to listen.

- Avoid criticism and encourage an open dialogue.
- Remember, your goal is to have a conversation, not to deliver a lecture. ★
- It's OK for your conversation to take place over time, in bits and pieces.

Set a positive example by being tobacco-free.

- If you use tobacco, it's never too late to quit. For free help, visit smokefree.gov or call 1-800-QUIT-NOW.

Ask- Don't Tell



START THE CONVERSATION

Find the right moment.

- A more natural discussion will increase the likelihood that your teen will listen. Rather than saying "we need to talk," you might ask your teen what he or she thinks about a situation you witness together, such as:
 - » Seeing someone use an e-cigarette in person or in a video.
 - » Passing an e-cigarette shop when you are walking or driving.
 - » Seeing an e-cigarette advertisement in a store or magazine or on the internet.



Ask for support.

- Not sure where to begin? Ask your health care provider to talk to your teen about the risks of e-cigarettes.
- You might also suggest that your teen talk with other trusted adults, such as relatives, teachers, faith leaders, coaches, or counselors whom you know are aware of the risks of e-cigarettes.
- These supportive adults can help reinforce your message as a parent.

ANSWER THEIR QUESTIONS

Here are some questions and comments you might get from your teen about e-cigarettes and some ideas about how you can answer them.

Why don't you want me to use e-cigarettes?

- Science shows that e-cigarettes contain ingredients that are addictive and could harm different parts of your body.
- Right now, your brain is still developing, which means you are more vulnerable to addiction. Many e-cigarettes contain nicotine, and using nicotine can change your brain to make you crave more nicotine. It can also affect your memory and concentration. I don't want that for you!
- E-cigarettes contain chemicals that are harmful. When people use e-cigarettes, they breathe in tiny particles that can harm their lungs.

- The cloud that people exhale from e-cigarettes can expose you to chemicals that are not safe to breathe.

What's the big deal about nicotine?

- Your brain is still developing until about age 25. The Surgeon General reported that nicotine is addictive and can harm your brain development.
- Using nicotine at your age may make it harder for you to concentrate, learn, or control your impulses.
- Nicotine can even train your brain to be more easily addicted to other drugs like meth and cocaine.

- I don't say this to scare you, but I want you to have the facts because nothing is more important to me than your health and safety.

→ *Aren't e-cigarettes safer than conventional cigarettes?*

- Because your brain is still developing, scientific studies show that it isn't safe for you to use any tobacco product that contains nicotine, including e-cigarettes.
- Whether you get nicotine from an e-cigarette or a cigarette, it's still risky.
- Some e-cigarette batteries have even exploded and hurt people.

→ *I thought e-cigarettes didn't have nicotine—just water and flavoring?*

- I used to think that too. But many e-cigarettes have nicotine. There are also other chemicals in them that can be harmful.
- Let's look at the Surgeon General's website on e-cigarettes (E-cigarettes.SurgeonGeneral.gov) together so you can see for yourself.

→ *I (or my friends) have tried e-cigarettes and it was no big deal.*

- I appreciate your honesty. In the future, I hope you (or your friends) will stay away from e-cigarettes and other tobacco products, including cigarettes. Science shows that e-cigarettes contain ingredients that are addictive and could harm different parts of your body.
- Next time we go to the doctor, let's ask about the risks of nicotine, e-cigarettes, and other tobacco products.

→ *You used tobacco, so why shouldn't I?*

- If I could live my life over again, I never would have started smoking. I learned that people who smoke cigarettes are much more likely to develop, and die from, certain diseases than people who don't smoke. This was really scary, so I quit smoking.
- Quitting was really hard, and I don't want you to go through that. The best thing is to not start at all.



KEEP THE CONVERSATION GOING

Many parents find that texting is a great way to reach their teens. Here are some suggestions for text messages that might catch your teen's attention. And, you can easily share pages of the website (E-cigarettes.SurgeonGeneral.gov) with your teen.



Look for this symbol, click it, type in the message you want or use the message provided, and share with your teen via Facebook, Twitter, or email.

Connect and encourage.

- You always liked science. Check out the science about e-cigarettes and young people. E-cigarettes.SurgeonGeneral.gov
- Getting off nicotine is hard but I'm so happy I quit. Don't make that mistake and get addicted. Smoking and tobacco use, including using e-cigarettes, are unsafe for young people.

Remind and repeat.

- Most teenagers don't use e-cigarettes. E-cigarettes with nicotine can mess with your brain, and your brain is still developing until you are at least 25.
- You might be tempted by e-cigarette flavors, but inhaling certain flavorings that have been found in some e-cigarettes can be harmful.

Share facts and resources.

- Just learned that many e-cigarettes have nicotine in them. That's the drug that makes cigarettes so addictive. Nicotine can also mess with your brain development.
- Just saw a report from the Surgeon General that e-cigarettes can mess with how your brain develops and might even affect your mood and focus. Please don't use any products that contain nicotine.
- Hope none of your friends use e-cigarettes around you. Even breathing the cloud they exhale can expose you to nicotine and chemicals that can be dangerous to your health.



Centers for Disease Control and Prevention
Office on Smoking and Health





Governor Cuomo Proposes More Disclosure for Online Political Ads in New York



How Cuts in Basic Subway Upkeep Can Make Your Commute Miserable



Janet Elder, a Top Editor at The Times, Is Dead at 61

PAID POST: NORTHERN TRUST
How to Build a Financial Legacy



Feliça Ferioj! Toasting the Holidays in Esperanto

N.Y. / REGION

New York State Bans Vaping Anywhere Cigarettes Are Prohibited

By SARAH MASLIN NIR OCT. 23, 2017



46

POLICY SOLUTIONS TOBACCO / E-CIG MARKETING

Maureen Kenney

POW'R Against Tobacco

The American Lung Association



WHAT TOBACCO/E-CIG SALES LOOKS LIKE:



CURRENT NEW YORK STATE TOBACCO/ E-CIGARETTE LEGISLATION (VAPING)

- **Clean Indoor Air Act (CIAA)**
 - prohibits the smoking of tobacco (i.e., cigarettes, cigars, pipe or any other matter or substance containing tobacco) in nearly all indoor and certain outdoor public and work places. Effective November 22, 2017, the law also applies to vaping, which is the use of electronic cigarettes and similar devices.
- **Smoking and Vaping Prohibited on Hospitals and Residential Health Care Facilities Grounds**
 - This amendment to the New York State Public Health Law prohibits smoking outdoors on the grounds of hospitals and residential health care facilities. Smoking is prohibited within 15 feet of a building entrance or exit and within 15 feet of the entrance to or exit from the grounds. Effective November 22, 2017, the law also prohibits vaping (use of electronic cigarettes and similar devices).
- **Smoking and Vaping Prohibited at Playgrounds**
 - This amendment to the New York State Public Health Law prohibits smoking at New York playgrounds (as defined by the law) between sunrise and sunset when anyone under the age of twelve is present. Effective November 22, 2017, the law also prohibits vaping (use of electronic cigarettes and similar devices).
- **Liquid Nicotine Sales and Packaging**
 - Prohibits the sale of liquid nicotine to minors (under the age of 21 in New York City and Albany, Cattaraugus, Chautauqua, Cortland, Orange, Schenectady, Suffolk, Sullivan and Tompkins counties, under age 19 in in Nassau and Onondaga counties and under 18 in the rest of the state).



POLICY SOLUTIONS

- **Local governments can limit potential exposure to secondhand vapors simply by amending the definitions of smoke and smoking in local smoke free laws to include e-cigarettes and e-cigarette vapor.**
- **Alternatively, communities may create new laws specifically to limit where e-cigarettes may be used.**

It is important for communities to have strong tobacco-free outdoor air policies in place!



POLICY SOLUTIONS

Communities can regulate tobacco sales by requiring such businesses to have a tobacco retailer license in order to sell tobacco and e-cigarettes. The number of tobacco retail stores can be reduced by:

- capping the number of licenses available in a community,
- restricting the sale of tobacco in a certain type of store such as pharmacies,
- and restricting tobacco sales near schools or other youth centers. (ie: No tobacco sales within 1,000 feet of a school or youth center)

This helps state and local governments ensure that retailers comply with restrictions on e-cigarette sales, as well as regulations on the sale of other tobacco products like traditional cigarettes, cigars, and smokeless tobacco.



For more information on policy solutions and to show your support please visit:

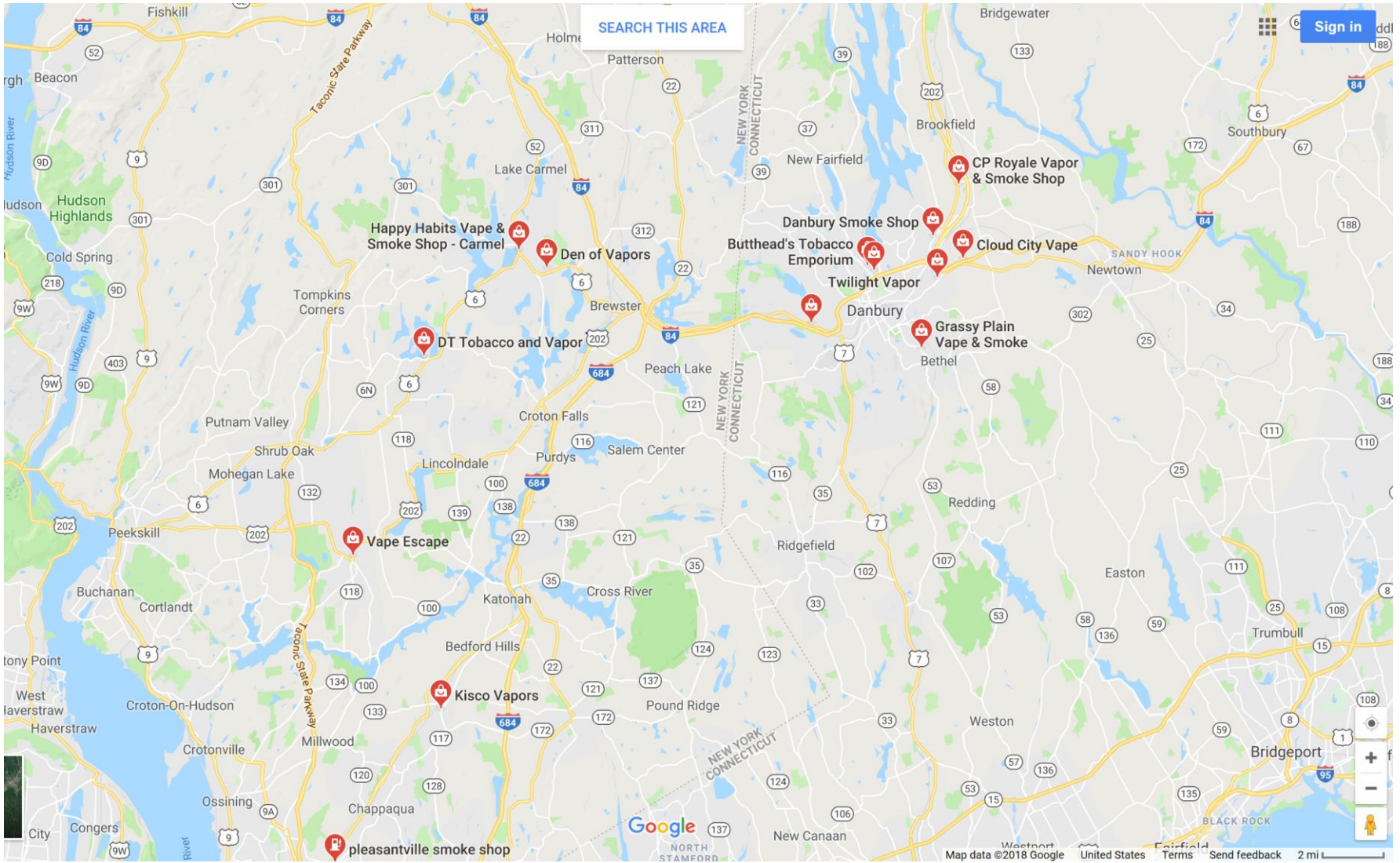
SeenEnoughTobacco.org

Maureen Kenney, Director POW'R Against Tobacco

Maureen.Kenney@lung.org

PowerAgainstTobacco.org





Thank You



What is Marijuana Wax?

Derived directly from marijuana and is commonly known as Butane Hash Oil (BHO), honey oil, budder, and shatter.

Contains a higher concentration of (THC) extract than cannabis, which is the chemical responsible for the psychological effects on the brain.

What are the Health Risks?

Low-quality alcohol → faster and cheaper process to make it → serious side effects and extreme harm to the consumer such as irreversible brain damage.



E-Cigarette Use Among Youth and Young Adults

A Report of the Surgeon General

Fact Sheet

This Surgeon General's report comprehensively reviews the public health issue of e-cigarettes and their impact on U.S. youth and young adults. Studies highlighted in the report cover young adolescents (11-14 years of age); adolescents (15-17 years of age); and/or young adults (18-25 years of age). Scientific evidence contained in this report supports the following facts:

E-cigarettes are a rapidly emerging and diversified product class. These devices typically deliver nicotine, flavorings, and other additives to users via an inhaled aerosol. These devices are referred to by a variety of names, including "e-cigs," "e-hookahs," "mods," "vape pens," "vapes," and "tank systems."

- E-cigarettes are battery-powered devices that heat a liquid into an aerosol that the user inhales.
- The liquid usually has nicotine, which comes from tobacco; flavoring; and other additives.
- E-cigarette products can also be used as a delivery system for marijuana and other illicit drugs.

E-cigarettes are now the most commonly used tobacco product among youth, surpassing conventional cigarettes in 2014. E-cigarette use is strongly associated with the use of other tobacco products among youth and young adults, including cigarettes and other burned tobacco products.

- In 2015, more than 3 million youth in middle and high school, including about 1 of every 6 high school students, used e-cigarettes in the past month. More than a quarter of youth in middle and high school have tried e-cigarettes.
- Among high school students, e-cigarette use is higher among males, whites, and Hispanics than among females and African-Americans.
- There is a strong association between the use of e-cigarettes, cigarettes, and the use of other burned tobacco products by young people. In 2015, for example, nearly 6 of 10 high school cigarette smokers also used e-cigarettes.
- Research has found that youth who use a tobacco product, such as e-cigarettes, are more likely to go on to use other tobacco products like cigarettes.

E-cigarette use among youth and young adults has become a public health concern. In 2014, current use of e-cigarettes by young adults 18-24 years of age surpassed that of adults 25 years of age and older.

- Among young adults 18-24 years of age, e-cigarette use more than doubled from 2013 to 2014. As of 2014, more than one-third of young adults had tried e-cigarettes.
- The most recent data available show that the prevalence of past 30-day use of e-cigarettes was 13.6% among young adults (2014) and 16.0% among high school students (2015).
- The most recent data available show that the prevalence of past 30-day use of e-cigarettes is similar among middle school students (5.3%) and adults 25 years of age and older (5.7%).
- Among young adults, e-cigarette use is higher among males, whites and Hispanics, and those with less education.

The use of products containing nicotine poses dangers to youth, pregnant women, and fetuses. The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe.

- Many e-cigarettes contain nicotine, which is highly addictive.
- The brain is the last organ in the human body to develop fully. Brain development continues until the early to mid-20s. Nicotine exposure during periods of significant brain development, such as adolescence, can disrupt the growth of brain circuits that control attention, learning, and susceptibility to addiction.
- The effects of nicotine exposure during youth and young adulthood can be long-lasting and can include lower impulse control and mood disorders.
- The nicotine in e-cigarettes and other tobacco products can prime young brains for addiction to other drugs, such as cocaine and methamphetamine.

Fact Sheet (continued)

- Nicotine can cross the placenta and affect fetal and postnatal development. Nicotine exposure during pregnancy can result in multiple adverse consequences, including sudden infant death syndrome (SIDS).
- Ingestion of e-cigarette liquids containing nicotine can cause acute toxicity and possible death if the contents of refill cartridges or bottles containing nicotine are consumed.

E-cigarette aerosol is not harmless. It can contain harmful and potentially harmful constituents including nicotine. Nicotine exposure during adolescence can cause addiction and can harm the developing adolescent brain.

- The constituents of e-cigarette liquids can include solvents, flavorants, and toxicants.
- The aerosol created by e-cigarettes can contain ingredients that are harmful and potentially harmful to the public's health, including: nicotine; ultrafine particles; flavorings such as diacetyl, a chemical linked to serious lung disease; volatile organic compounds such as benzene, which is found in car exhaust; and heavy metals, such as nickel, tin, and lead.

E-cigarettes are marketed by promoting flavors and using a wide variety of media channels and approaches that have been used in the past for marketing conventional tobacco products to youth and young adults.

- E-cigarettes are an estimated \$3.5 billion business in the United States. In 2014, e-cigarette manufacturers spent \$125 million advertising their products in the U.S.
- In 2014, more than 7 of 10 middle and high school students 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.
- The 2012 Surgeon General's Report on tobacco use among youth and young adults found that tobacco product advertising causes young people to start using tobacco products. Much of today's e-cigarette advertising uses approaches and themes similar to those that were used to promote conventional tobacco products.
- E-cigarettes are available in a wide variety of flavors, including many that are especially appealing to youth. More than 85% of e-cigarette users ages 12-17 use flavored e-cigarettes, and flavors are the leading reason for youth use. More than 9 of 10 young adult e-cigarette users said they use e-cigarettes flavored to taste like menthol, alcohol, fruit, chocolate, or other sweets.

Action can be taken at the national, state, local, tribal and territorial levels to address e-cigarette use among youth and young adults. Actions could include incorporating e-cigarettes into smokefree policies, preventing access to e-cigarettes by youth, price and tax policies, retail licensure, regulation of e-cigarette marketing likely to attract youth, and educational initiatives targeting youth and young adults.

- The Food and Drug Administration (FDA) now regulates the manufacturing, importing, packaging, labeling, advertising, promotion, sale, and distribution of e-cigarettes.
 - In August 2016, FDA began enforcing a ban on vending machine sales unless in adult-only facilities and a ban on free samples and sales to minors.
- Parents, teachers, health care providers, and others who influence youth and young adults can advise and inform them of the dangers of nicotine; discourage youth tobacco use in any form, including e-cigarettes; and set a positive example by being tobacco-free themselves.

Citation: U.S. Department of Health and Human Services. *E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General—Executive Summary*. Atlanta, GA: 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, 2016.

Website: E-cigarettes.Surgeongeneral.gov

U.S. Department of Health and Human Services



MARIJUANA USE & EDUCATIONAL OUTCOMES

Studies show that marijuana interferes with attention, motivation, memory, and learning. Students who use marijuana regularly tend to get lower grades and are more likely to drop out of high school than those who don't use. Those who use it regularly may be functioning at a reduced intellectual level most or all of the time.

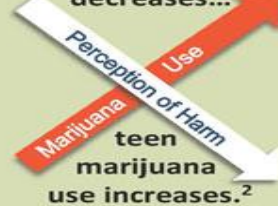
MOST MARIJUANA USE BEGINS IN ADOLESCENCE



78%

of the 2.4 million people who began using in the last year were aged 12 to 20.¹

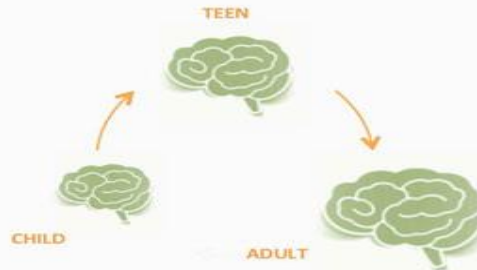
As perception of harm decreases...



EVERY DAY,
3,287 TEENS
USE MARIJUANA
FOR THE
FIRST TIME¹

MARIJUANA MAY HURT THE DEVELOPING TEEN BRAIN

The teen brain is **still developing** and it is especially vulnerable to drug use.



IQ

Regular heavy marijuana use by teens can lead to an IQ drop of up to **8 points**³

HEAVY MARIJUANA USE BY TEENS IS LINKED TO⁴:

Educational Outcomes



lower grades and exam scores



less likely to graduate from HS or college



less likely to enroll in college

Life Outcomes



lower satisfaction with life



more likely to earn a lower income



more likely to be unemployed



National Institute on Drug Abuse

1. NSDUH, SAMSHA, 2014; 2. MTF Survey; 3. Meier et al 2012; 4. MTF Survey; Cobb-Clark et al, 2013; Silins et al 2014; Tucker et al 2005; Homel et al, 2014; Volkow et al 2014; Fergusson and Boden 2008; Brooks et al 2013



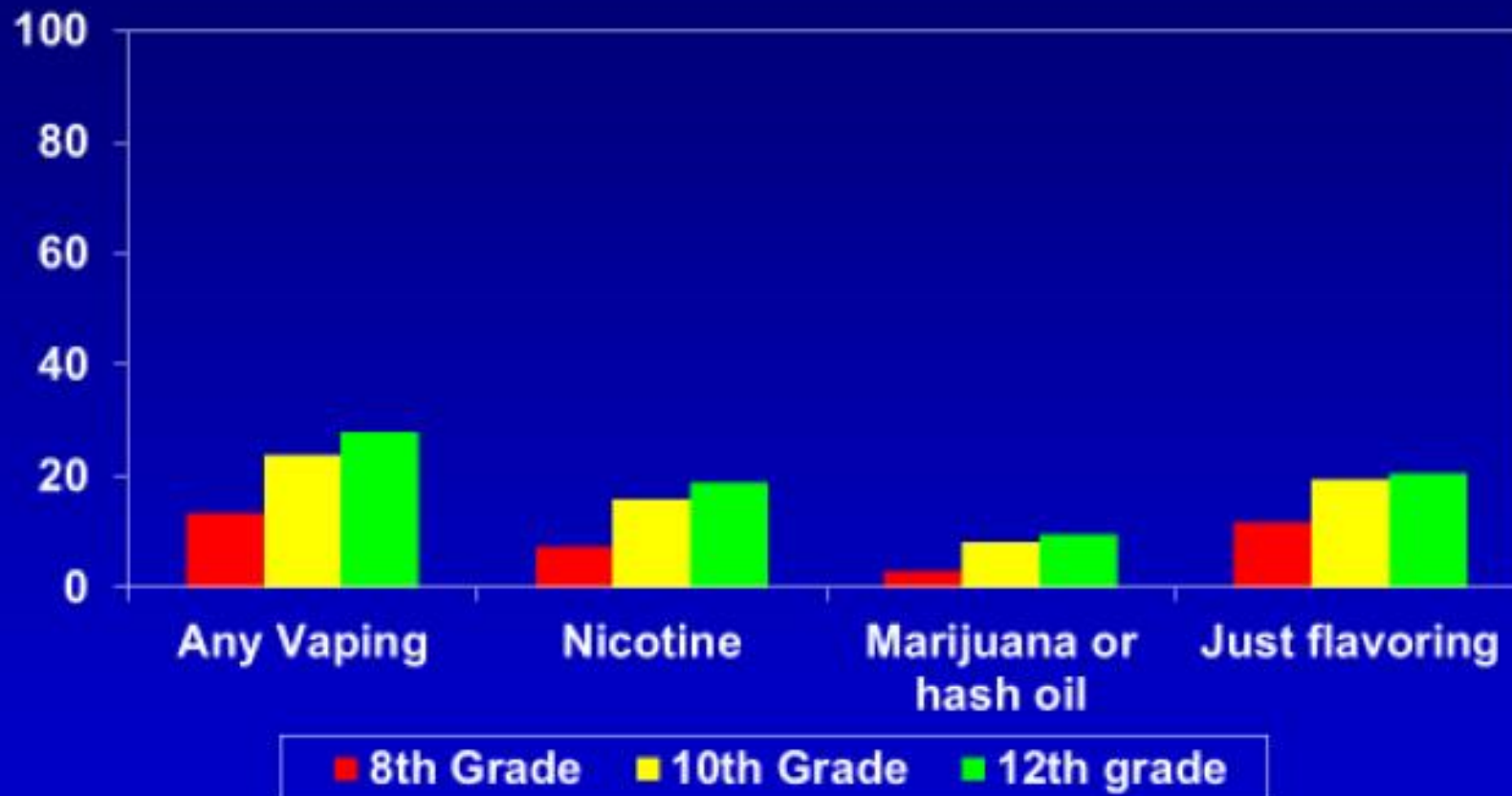
Research

JAMA Pediatrics | [Original Investigation](#)

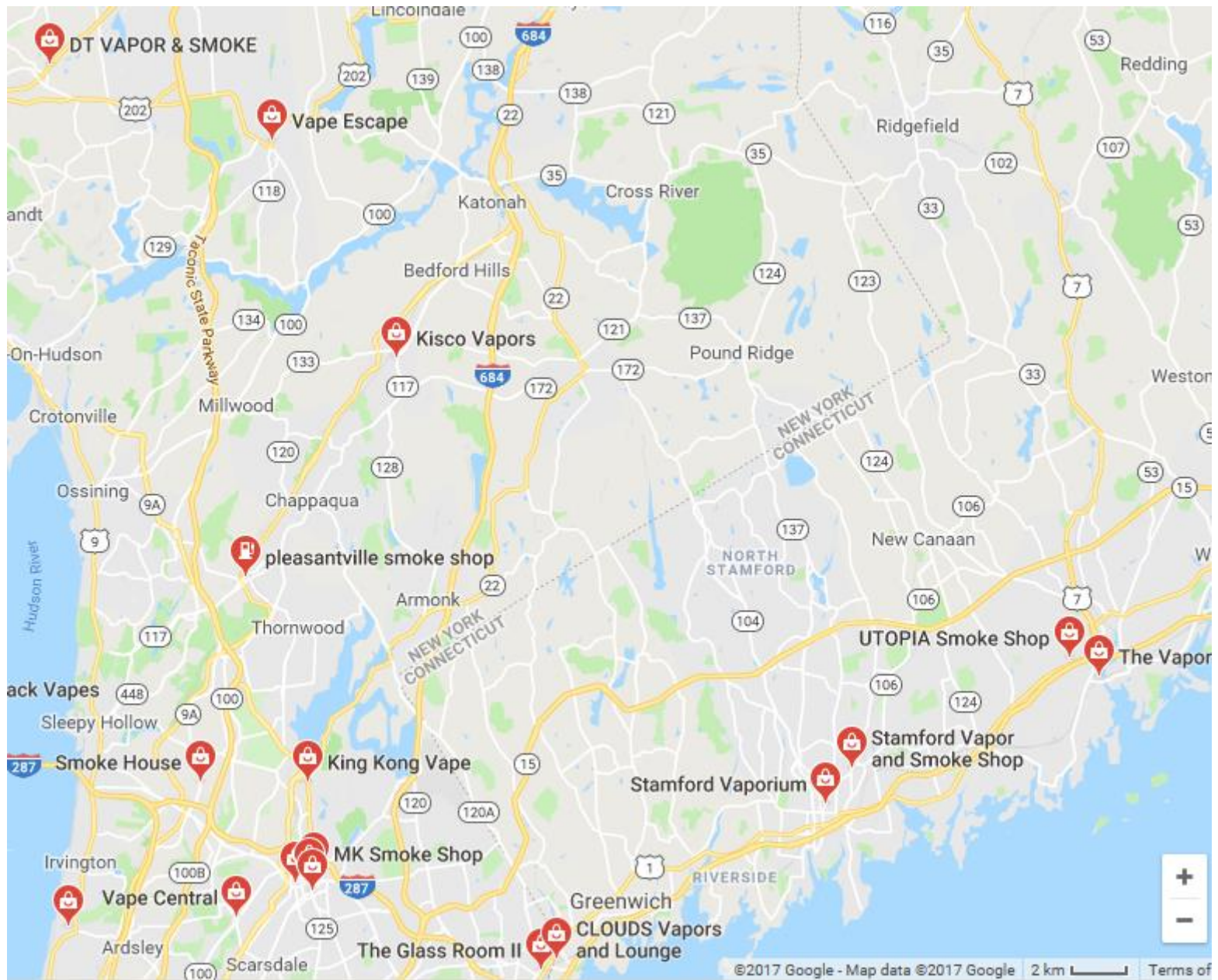
Associations of Electronic Cigarette Nicotine Concentration With Subsequent Cigarette Smoking and Vaping Levels in Adolescents

Nicholas I. Goldenson, BA; Adam M. Lerventhal, PhD; Matthew D. Stone, BA;
Rob S. McConnell, MD; Jessica L. Barrington-Trimis, PhD

Percent of Students Reporting Vaping in Past Year, by Type and Grade



SOURCE: University of Michigan, 2017 Monitoring the Future Study



Marijuana Use Edges Upward

ANN ARBOR—*Marijuana use* among adolescents edged upward in 2017, the first significant increase in seven years. Overall, past-year use of marijuana significantly increased by 1.3% to 24% in 2017 for 8th, 10th, and 12th graders combined. Specifically, in 8th, 10th, and 12th grades the respective increases were 0.8% (to 10.1%), 1.6% (to 25.5%) and 1.5% (to 37.1%). The increase is statistically significant when all three grades are combined.

“This increase has been expected by many” said Richard Miech, the Principal Investigator of the study. “Historically marijuana use has gone up as adolescents see less risk of harm in using it. We’ve found that the risk adolescents see in marijuana use has been steadily going down for years to the point that it is now at the lowest level we’ve seen in four decades.”

The results come from the annual Monitoring the Future study, now in its 43rd year. About 45,000 students in some 380 public and private secondary schools have been surveyed each year in this U.S. national study, designed and conducted by research scientists at the University of Michigan’s Institute for Social Research and funded by the National Institute on Drug Abuse. Students in grades 8, 10 and 12 are surveyed.

This increase in marijuana drove trends in *any illicit drug use* in the past year. In both 12th and 10th grade this measure increased (although the increase was not statistically significant), while use of *any illicit drug use other than marijuana* declined (although the decrease was not statistically significant). In 8th grade neither of these drug use measures significantly changed, although they both increased slightly.

First-Ever U.S. Standard Estimates for Vaping of Nicotine, Marijuana, and Flavoring

The 2017 survey also reports first-ever national, standard estimates of *nicotine vaping, marijuana vaping, flavoring-only vaping, and any vaping*. Previously, no national study has published estimates for vaping of specific substances for the standard time periods of past 30 days, past year, and lifetime.

Levels of *marijuana vaping* are considerable. One in ten 12th grade students vaped marijuana in the past year, and levels were 8% and 3% for 10th and 8th grade students, respectively. These annual levels are about the same as the levels for *lifetime prevalence*¹ of vaping marijuana use, indicating that almost all marijuana vaping had occurred within one year of the survey.

Levels of *nicotine vaping* are also considerable, with 19% of 12th grade students vaping nicotine in the past year. The annual prevalence levels were 16% and 8% for 10th and 8th grade students, respectively. It is also possible that additional students are getting nicotine in what they vape but are not aware of it, so these are lower bound estimates.

Levels of *overall vaping* were similar in 2017 to their previous levels in 2016, although the measures are not directly comparable. Updated vaping questions in 2017 asked about vaping of specific substances, while in previous years vaping questions were about any vaping in general. With this caveat, the percentage of students in 2017 who reported vaping flavoring, marijuana, or nicotine was similar to those who reported that they had vaped anything in 2016, with the two respective percentages for use in the past 30 days at 17% in 2017 and 13% in 2016 among 12th grade students, 13% and 11% for 10th grade students, and 7% and 6% for 8th grade students.

“These findings emphasize that vaping has progressed well beyond a cigarette alternative,” said Richard Miech. “Vaping has become a new delivery device for a number of substances, and this number will likely increase in the years to come.”

Cigarettes and Several Other Tobacco Products Decline in Use

Cigarette smoking by teens continued to decline in 2017. For the three grades combined, all measures (lifetime, 30-day, daily, and half-pack/day) are at historic lows since first measured in all three grades in 1991. Since the peak levels reached in the mid-1990s, lifetime prevalence has fallen by 71%, 30-day prevalence by 81%, daily prevalence by 86%, and current half-pack-a-day prevalence by 91%. The prevalence of smoking a half-pack-per-day in the 30 days before the survey now stands at just 0.2% for 8th graders, 0.7% for 10th graders, and 1.7% for 12th graders.

“The health implications of these dramatic declines in smoking are enormous for this generation of young people” says Lloyd Johnston, the previous director of the study. “Long-term increases in perceived risk and personal disapproval of smoking have accompanied these changes, as has a long-term drop in the perceived availability of cigarettes to these age groups.”

Lifetime prevalence and daily prevalence both fell significantly in 2017; 30-day prevalence fell, but not significantly, and half-pack-a day prevalence held steady at low levels.



December 14, 2017

Contacts: Nicholas Prieur, 734-763-5043, nfp@umich.edu

Tables summarizing estimates for the drugs discussed below, as well as additional drugs, are here:
<https://goo.gl/w78A5e>

The findings summarized here will be published by the end of January in a forthcoming volume.

National Adolescent Drug Trends in 2017: Findings Released

HEALTH

Marijuana and Vaping Are More Popular Than Cigarettes Among Teenagers

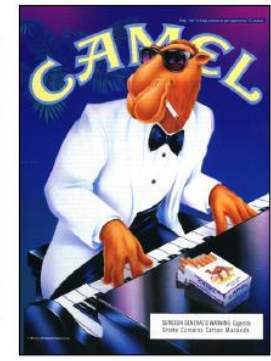
By JAN HOFFMAN DEC. 14, 2017



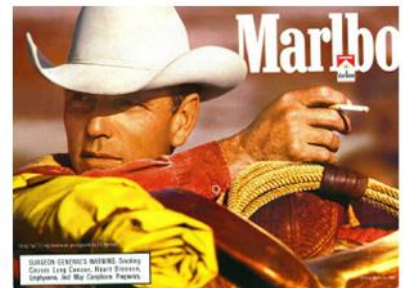
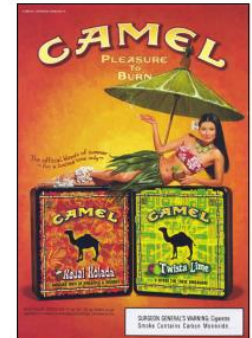
The survey shows that 27.8 percent of high school seniors reported “vaping” in the year prior to the survey, which was taken in the beginning of 2017. When asked what they thought was in the mist they inhaled the last time they used the vaping device, 51.8 percent of 12th graders said, “just flavoring,” 32.8 percent said “nicotine,” and 11.1 percent said “marijuana” or “hash oil.” The survey also asks about vaping with specific substances during the past month. Among 12th graders, more than 1 in 10 say they use nicotine, and about 1 in 20 report using marijuana in the device.

Past Month Use	8th Graders	10th Graders	12th graders
Any vaping	6.6%	13.1%	16.6%
Vaping Nicotine	3.5%	8.2%	11.0%
Vaping Marijuana	1.6%	4.3%	4.9%
Vaping “Just Flavoring”	5.3%	9.2%	9.7%

“We are especially concerned because the survey shows that some of the teens using these devices are first-time nicotine users,” said Nora D. Volkow, M.D., director of NIDA. “Recent research suggests that some of them could move on to regular cigarette smoking, so it is critical that we intervene with evidence-based efforts to prevent youth from using these products.”



Don't be fooled...



VAPING is marketed as SAFE. WHY?

Companies want to make money, not keep you healthy.



What are the Dangers of Dependency?

The potency of THC and the euphoria experienced → dependency and abuse → search of the “next big high” and swept up into the drug culture.

Effects of Marijuana on Activities of Daily Life

- difficulties in daily life and/or worsen a person's existing problems
- marijuana users generally report lower life satisfaction
- reduced mental and physical health
- more relationship problems
- less academic and career success
- higher likelihood of dropping out of school
- workplace tardiness and absence
- increased job turnover.



**E-CIG RISK:
TEENS
WHO VAPE
MORE LIKELY
TO START
SMOKING**

What are the health effects of VAPING?

Addiction!!!!!! And more addiction!!!

Impact on brain development

Cancer – just like regular cigarettes...

Popcorn lung or bronchiolitis obliterans

Linked with the diacetyl, this is a serious and irreversible condition in which the tiny air sacs in the lungs become scarred.

UNKNOWN EFFECTS

For years scientists said smoking was safe. FDA just started regulating c-cigs in 2016!!!

There is so much we just don't know...

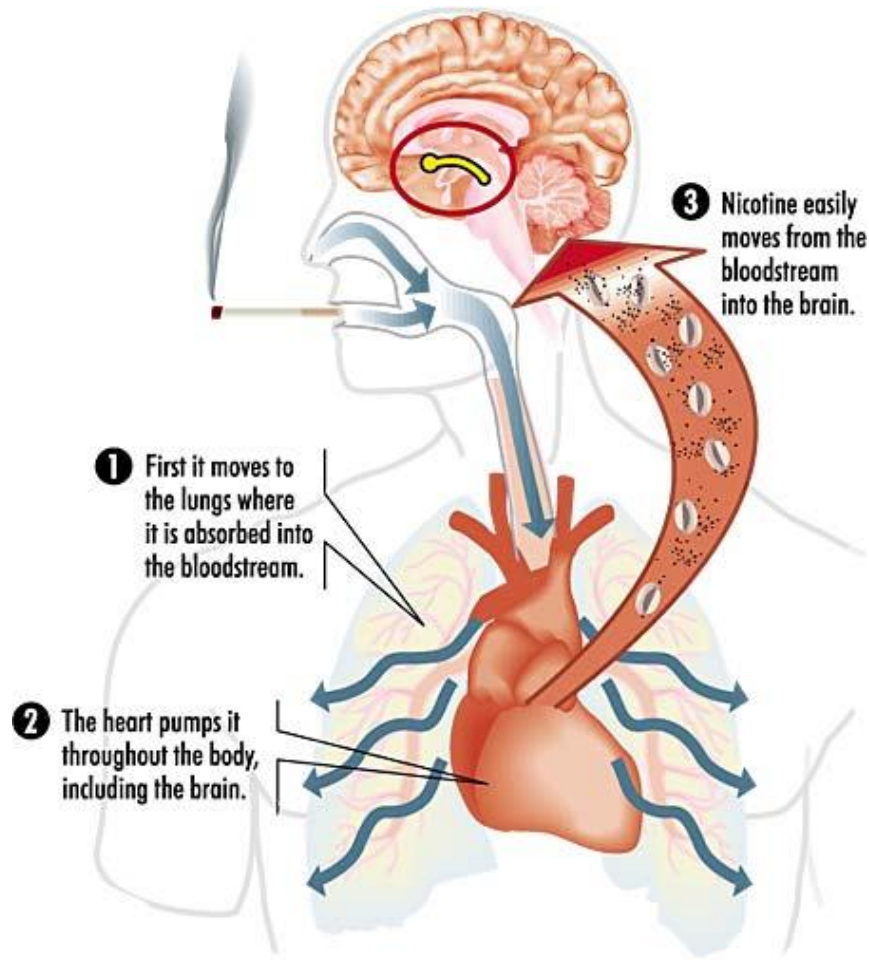
And...Effects have been shown on second hand vaping too...just like cigarettes...

What about **VAPING?**

AKA. Juuling, E-Cigs



Why is nicotine dangerous?



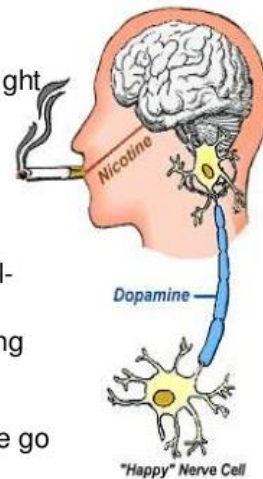
What does Nicotine do?

Takes 7 seconds for 1/4 of the nicotine to go straight to the brain.

Causes your brain to release a chemical called Dopamine.

It's Dopamine that gives you a false sense of well-being, and soon the body wants more and more Dopamine on a regular basis. This is the beginning of an addiction.

80% of young people who try 2 cigarettes or more go on to battle a life-time of addiction.



<http://www.finaismoke.com/howitworks.html>



Vaping safe?

Think again.

Think that's just water vapor? Here's what e-cig vapors can also carry into your lungs:

- ▶ *solvents*
- ▶ *flavorings*
- ▶ *preservatives*
- ▶ *additives*
- ▶ *formaldehyde
(at highest voltage)*
- ▶ *tiny (nano) particles of metals*

Liquid Nicotine

If the e-cig contains liquid nicotine, it is highly addictive and can be toxic.

© ToucanEd Inc. (888) 386-8226 www.toucaned.com

WHAT'S IN A CIGARETTE?

600 ingredients

AND

4,000 chemicals are released when burned

Acetone: Found in nail polish remover

Acetic Acid: An ingredient in hair dye

Ammonia: A common household cleaner

Arsenic: Used in rat poison

Benzene: Found in rubber cement

Butane: Used in lighter fluid

Cadmium: Active component in battery acid

Carbon Monoxide: Released in car exhaust fumes

Formaldehyde: Embalming fluid

Hexamine: Found in barbecue lighter fluid

Lead: Used in batteries

Naphthalene: An ingredient in moth balls

Methanol: A main component in rocket fuel

Nicotine: Used as insecticide and is incredibly addictive

Tar: Material for paving roads

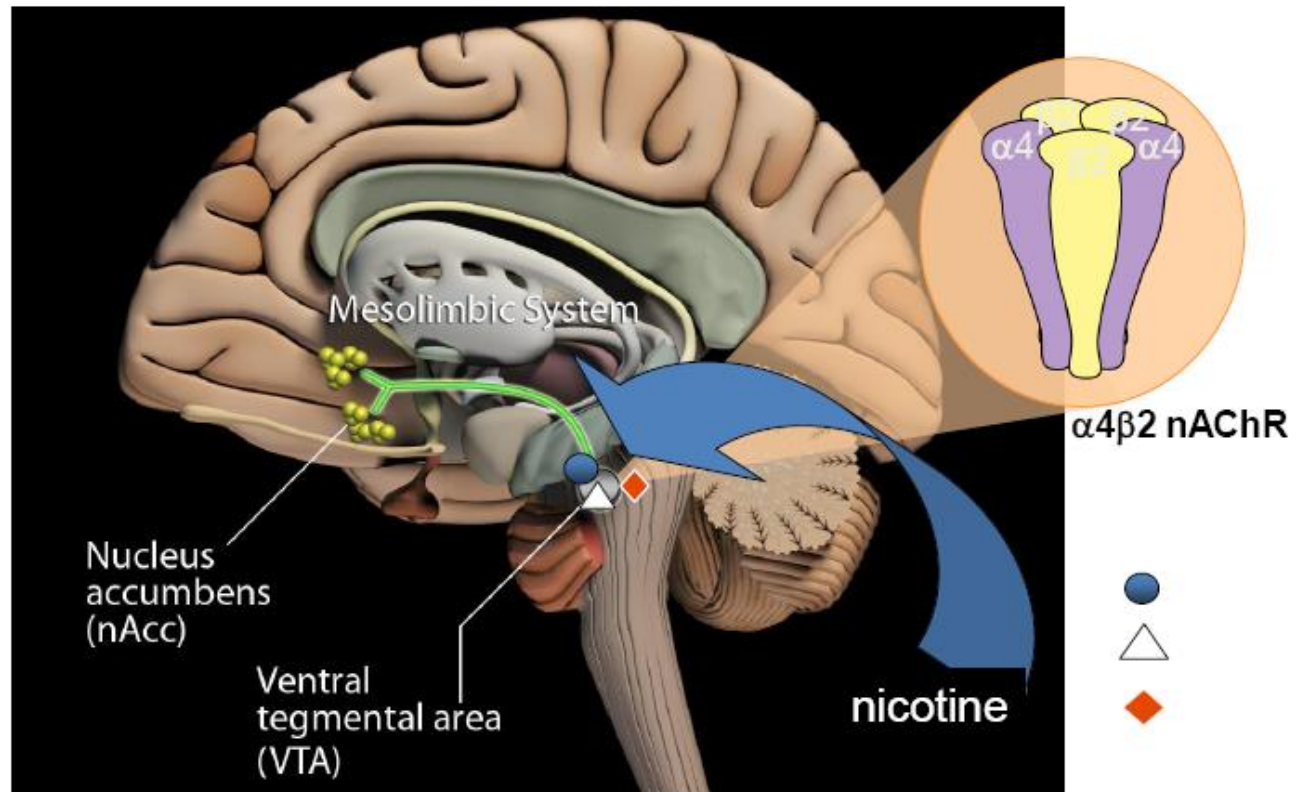
Toluene: Used to manufacture paint

Additives



Tobacco smoke contains more than 4,000 chemicals, many of which are toxic to the body. Several of these chemicals – at least 60 – are carcinogens, which means that they have been proven to cause cancer in humans.

Nicotine Addiction: Reinforcing Behavior



- Nicotine activates nAChRs on DA and GABA neurons (VTA) and Glu neurons
- Net result of stimulatory and inhibitory effects and differential desensitization of nAChRs is enhanced DA release in the n. accumbens
- Studies in transgenic mice: crucial role of $\alpha 4$ and $\beta 2$ nAChR subunits

The
FACTS

VAPING AMONG U.S. ADOLESCENTS

A 2015 Nationally Representative Study of 8th, 10th, and 12th Graders Found:

53 %

of students vape to experiment and see what it's like

37.2 %

vape because it tastes good

23.5 %

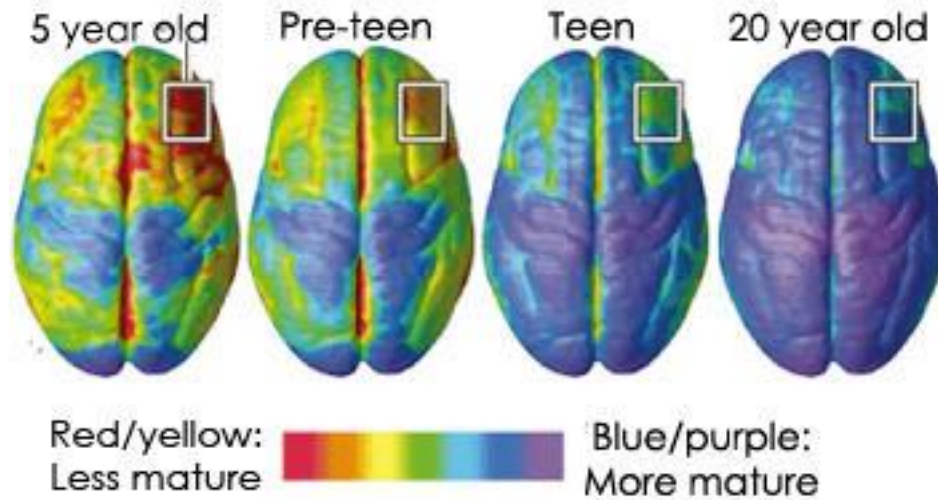
of students report vaping because they are bored

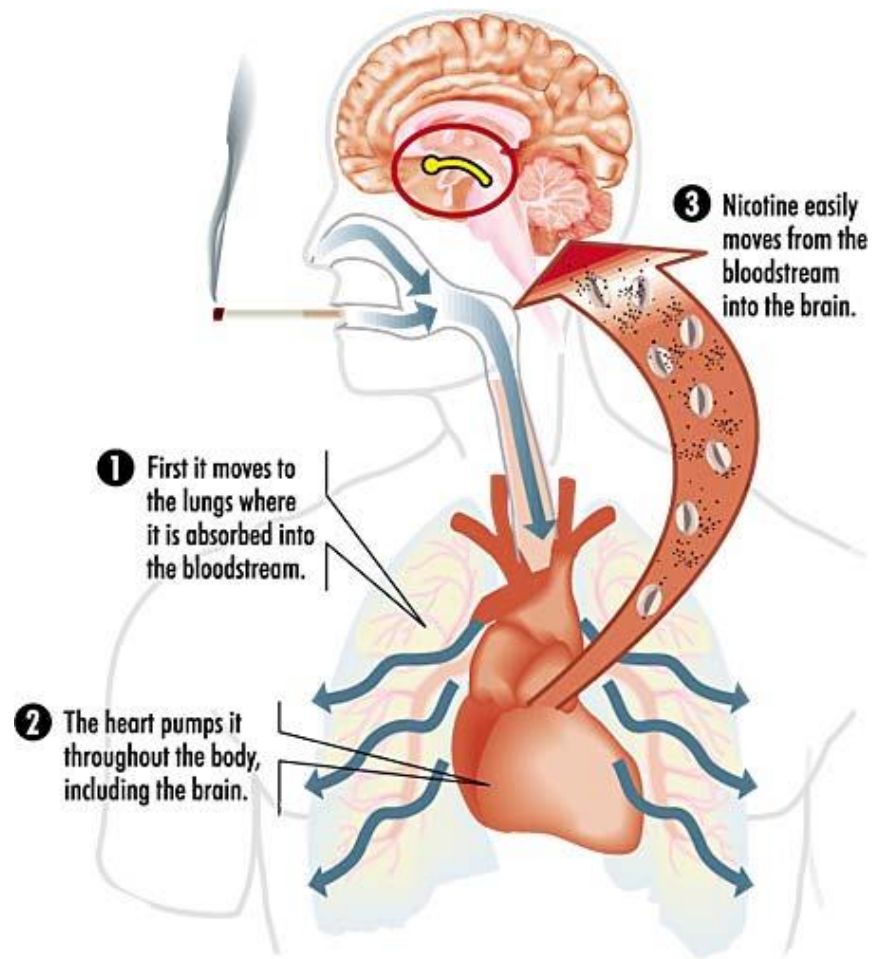
14.3 %

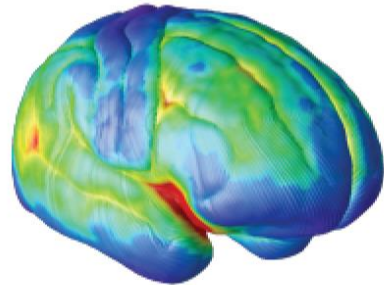
of 8th graders vape because "it looks cool"

SOURCE: Patrick, M.E., Miedl, R.A., Carlier, C., O'Malley, P.M., Johnston, L.D., Schlenker, J.E. (2016). Self-reported reasons for vaping among 8th, 10th, and 12th graders in the US: Nationally-representative results. *Drug and Alcohol Dependence*. doi:10.1016/j.drugalcdep.2016.05.017

Youth and Social Issues Program, Institute for Social Research, University of Michigan

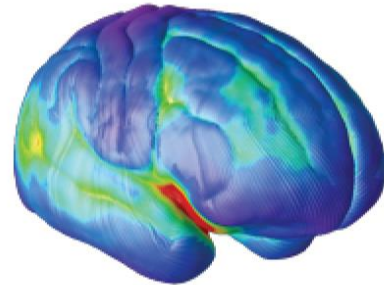






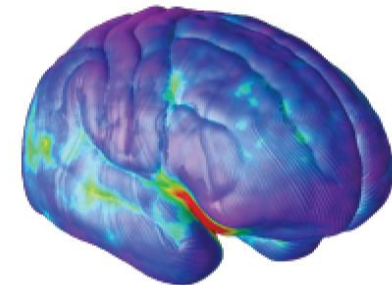
Age 12

During adolescence, the brain goes through a lot of changes. Gray matter diminishes as connections between neurons are cut back.



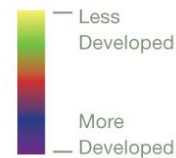
Age 16

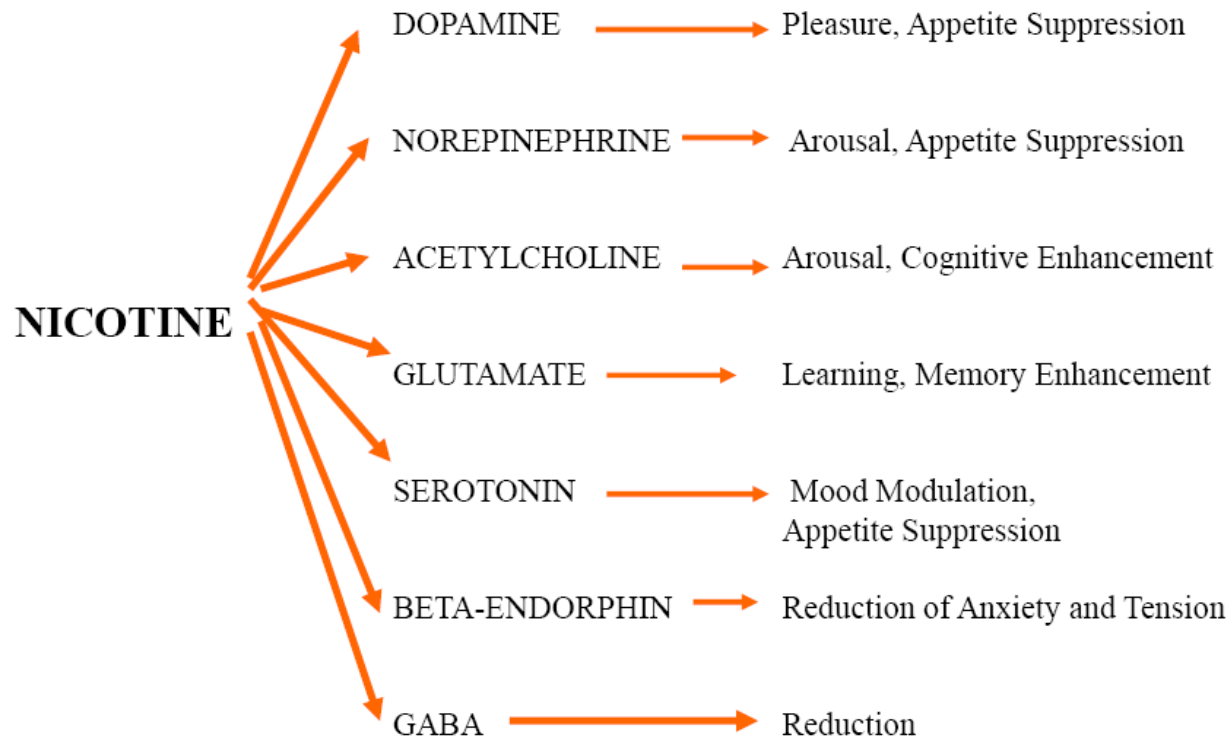
Because the brain is still developing, it is more sensitive to the effects of drugs.



Age 20

By adulthood, the changes caused by beginning drug use are less likely to “stick” and become hardwired as addiction.





Why It's So Hard to Quit

Withdrawal effects

Some withdrawal effects you might feel when you first stop smoking

- Constipation
- Coughing or sore throat
- Cravings
- Disturbed sleep
- Headaches
- Dizziness or tingling
- Hunger
- Crabby or short-tempered

These effects can lessen over time as your body adjusts to the lack of nicotine.





Vaping Medical Marijuana

CDC Newsroom

- Newsroom Home
- Press Materials
- CDC Newsroom Releases
- Archived Releases
- E-cigarette use triples among middle and high school students in just one year**

[CDC](#) > [Newsroom Home](#) > [Press Materials](#) > [CDC Newsroom Releases](#)

E-cigarette use triples among middle and high school students in just one year

Hookah use doubles; no decline seen in overall tobacco use among middle or high school students



Language:

This website is archived for historical purposes and is no longer being maintained or updated.


Press Release

Date: Thursday, April 16, 2015, 1:00 PM ET

[Relations](#)

Stumacher, Richard

- CoActiv EXAM-PACS
- Snipping Tool
- Calculator

- 
- Stumacher, Richard
- Documents

Annals of the American Thoracic Society

Home > All AnnalsATS Issues > Vol. 11, No. 2 | Feb 01, 2014

Electronic Cigarettes. Potential Harms and Benefits

M. Bradley Drummond¹ and Dona Upson²

+ Author Affiliations

<https://doi.org/10.1513/AnnalsATS.201311-391FR> PubMed: 24575993

Received: November 11, 2013 Accepted: December 20, 2013

[Comments](#)

Abstract

Full Text

References

Suppl. Materials

Cited by

PDF

Abstract

Use of electronic cigarettes, devices that deliver a nicotine-containing vapor, has increased rapidly across the country and globally. Perceived and marketed as a “healthier alternative” to conventional cigarettes, few data exist regarding the safety of these devices and their efficacy in harm reduction and treatment of tobacco dependence; even less is known about their overall impact on population health. This review highlights the recent data regarding electronic cigarette toxicity, impact on lung function, and efficacy in smoking reduction and cessation. Studies show that the vapor generated from electronic cigarettes has variable amounts of nicotine and potential harmful toxins, albeit at levels lower than in conventional cigarettes. The long-term carcinogenic and lung function effects of electronic cigarettes are not known. Although some data demonstrate that electronic cigarettes may be effective in reducing conventional cigarette consumption, there are no data demonstrating the efficacy of electronic cigarettes as a tool to achieve cessation. Until robust longitudinal evaluations demonstrate the safety of electronic cigarettes and efficacy in treatment of tobacco dependence, their role as a harm reduction tool is unclear.

THERE'S
A LOT
THEY **AREN'T**
TELLING YOU ABOUT
VAPING

FOR MORE INFORMATION VISIT
THETRUTHABOUTVAPING.COM

- Good
 - Harm Reduction- in active smokers (British Council of Health- definitely less harmful than cigarettes)
 - Conflicting research if beneficial tool in smoking cessation
- Bad
 - Marketing aimed at youth
 - Youth brains definitively negatively affected
 - ADDICTION
 - Possible/likely gateway to cigarette use
 - Possible/likely use of THC/cannabinoids
 - Battery malfunctions



Nicotine Addiction

- Over 7,000 different chemicals in a cigarette
- Nicotine is in the cigarette and causes you to be addicted
- Nicotine is a normal chemical in the body and brain and is part of your nervous system
- When additional nicotine gets into your brain and hits your nicotine receptors - it causes a release of **Dopamine** (chemical in the brain) that is responsible for pleasure



A Correction Has Been Published >

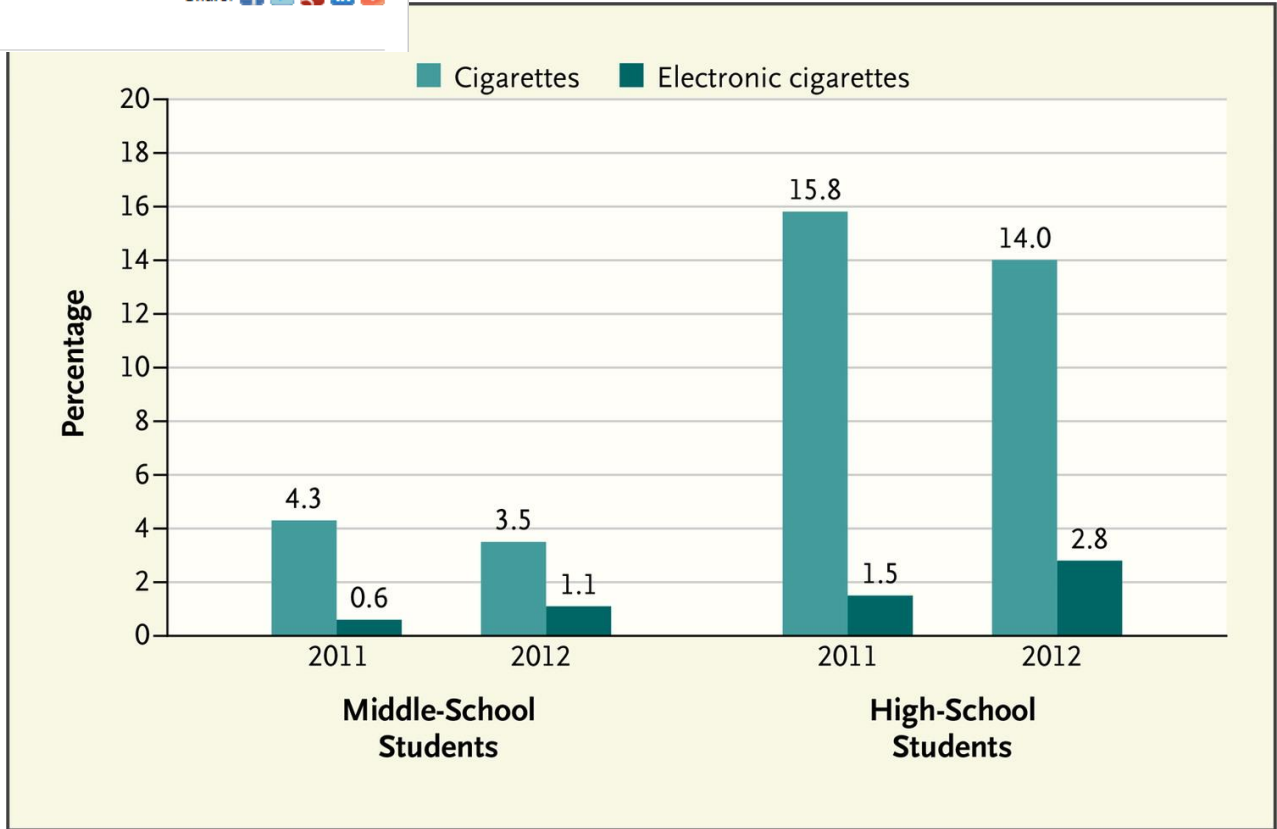
Perspective

The Renormalization of Smoking? E-Cigarettes and the Tobacco “Endgame”

Amy L. Fairchild, Ph.D., M.P.H., Ronald Bayer, Ph.D., and James Colgrove, Ph.D., M.P.H.
N Engl J Med 2014; 370:293-295 | January 23, 2014 | DOI: 10.1056/NEJMp1313940

Share:

- Article
- References
- Citing Articles (88)
- Metrics



Topics

1. Nicotine addiction
2. Nicotine and Adolescent Brain
3. Debate over health effects of E-cigs

IT'S **NOT** JUST "HARMLESS WATER VAPOR"

E-cigarette aerosol contains
at least **10 chemicals** on
California's Prop 65 list of
chemicals known to cause
**cancer, birth defects or other
reproductive harm.**



TOLUENE
ACETALDEHYDE
CADMIUM BENZENENE
FORMALDEHYDE
ISOPRENE
LEAD NICKEL
NICOTINE
N-NITROSONORNICOTINE

