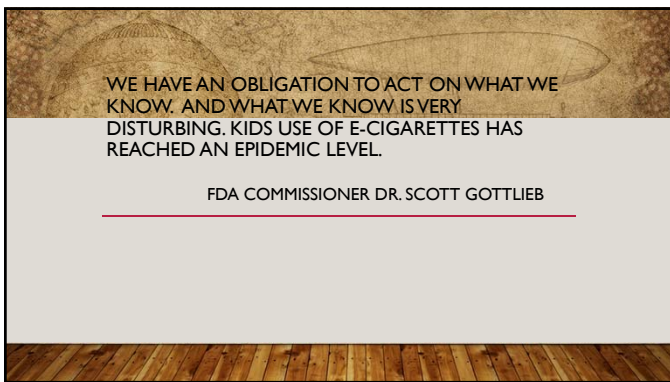




VAPING, JUULING AND E-CIGARETTES

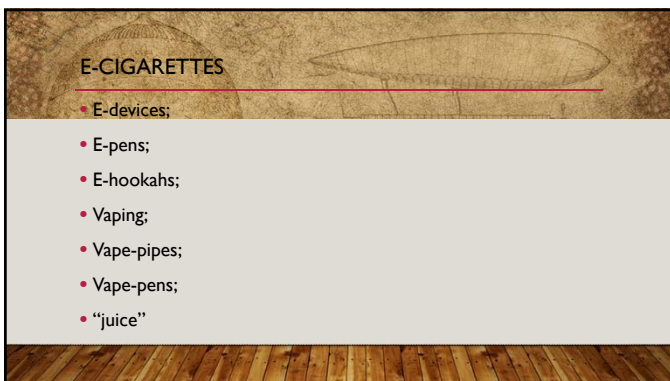


COMPASS MARK
DEB MCCOY | DMCCOY@COMPASSMARK.ORG



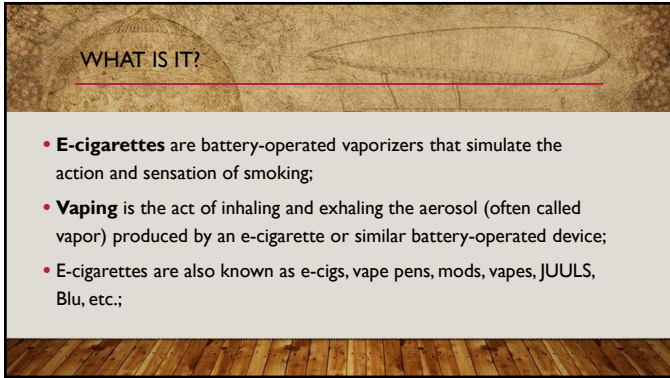
WE HAVE AN OBLIGATION TO ACT ON WHAT WE KNOW. AND WHAT WE KNOW IS VERY DISTURBING. KIDS USE OF E-CIGARETTES HAS REACHED AN EPIDEMIC LEVEL.

FDA COMMISSIONER DR. SCOTT GOTTLIEB



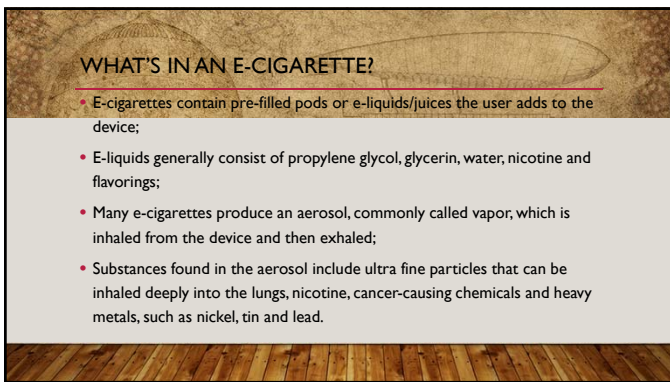
E-CIGARETTES

- E-devices;
- E-pens;
- E-hookahs;
- Vaping;
- Vape-pipes;
- Vape-pens;
- "juice"



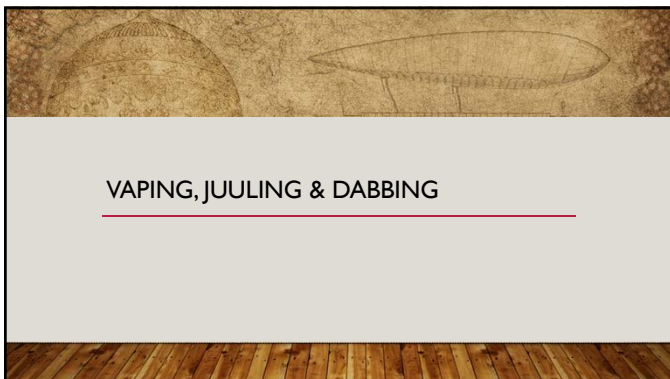
WHAT IS IT?

- **E-cigarettes** are battery-operated vaporizers that simulate the action and sensation of smoking;
- **Vaping** is the act of inhaling and exhaling the aerosol (often called vapor) produced by an e-cigarette or similar battery-operated device;
- E-cigarettes are also known as e-cigs, vape pens, mods, vapes, JUULS, Blu, etc.;



WHAT'S IN AN E-CIGARETTE?

- E-cigarettes contain pre-filled pods or e-liquids/juices the user adds to the device;
- E-liquids generally consist of propylene glycol, glycerin, water, nicotine and flavorings;
- Many e-cigarettes produce an aerosol, commonly called vapor, which is inhaled from the device and then exhaled;
- Substances found in the aerosol include ultra fine particles that can be inhaled deeply into the lungs, nicotine, cancer-causing chemicals and heavy metals, such as nickel, tin and lead.



VAPING, JUULING & DABBING

DISCUSSION

- Name five household chemicals found in some e-cigarettes?
- Why do you think vaping and juuling are so popular with youth?

E-CIGARETTES: DABBING & JUULING

- Battery operated;
- Delivers nicotine, flavor & other chemicals;
- Dabbing: smoking butane hash oil;
- Juuling: vaping with a small device;
- Aerosol inhaled by user.



VAPING ISN'T REALLY VAPING

- The large clouds from vape pens/e-cigarettes give the impression those clouds are from water vapor;
- In reality, the cloud is a mixture of chemicals that were either present in the liquid before or produced during the heating process;
- A vapor is a chemical that has evaporated;
- An aerosol is a mixture of liquid particles suspended in a gas that contains many chemicals;
- Instead of just mixing with the air like a pure gas, aerosols leave drops behind.

1ST GENERATION - 2003

- Designed to look like a cigarette, and generally use cartons;
- User takes a puff a heating coil is activated to vaporize the e-liquid, creating a vapor that can be inhaled;
- Many 1st generation models have a light on the end of the device that also glows when a puff is taken.



2ND GENERATION - 2007

- 2nd generation e-cigarettes are larger and pen-shaped;
- More powerful and longer lasting batteries;
- Have a power button that's pressed to heat the coil;
- Larger variety of flavors and nicotine levels;
- Users can open the device and change how it operates.



3RD GENERATION

- Devices do not resemble a cigarette;
- Batteries come in a variety of shapes and sizes;
- Tank systems larger, requiring refilling less often;
- The flow, thickness and volume of vapor can be controlled.



4TH GENERATION - 2016

- Heat cartridges containing oils, usually flavored, that dissolves into air;
- Resembles USB flash drive;
- Single Juul cartridge is roughly equal to a pack of cigarettes.



CURRENT TRENDS

- NJOY Ace – the “ergonomically designed” vape;
- Battery lasts up to 24 hours;
- Uses nicotine salt formula;
- 4 flavors – watermelon, blueberry, cool menthol and tobacco;
- Devices selling for \$1 in Turkey Hill.



NICOTINE & TEENS

- Because the brain isn't fully developed until the mid-twenties, youth are uniquely at risk for long-term, long-lasting effects of exposure to nicotine;
- Risks include nicotine addiction, mood disorders, and permanent lowering of impulse control;
- Due to changes in the brain, quitting is harder for youth than adults;
- Nicotine can prime the adolescent brain for addiction to other substances;

NOT JUST NICOTINE

<ul style="list-style-type: none"> Propylene glycol Glycerin Flavorings (many) Nicotine NNN NNK NAB NAT Ethylbenzene Benzene Xylene Toluene Acetaldehyde Formaldehyde Naphthalene Styrene Benzo(b)fluoranthene 	<ul style="list-style-type: none"> Chlorobenzene Crotonaldehyde Propionaldehyde Benzaldehyde Valeric acid Hexanal Fluorine Anthracene Pyrene Acenaphthylene Acenaphthene Fluoranthene Benz(a)anthracene Chrysene Retene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene 	<ul style="list-style-type: none"> Benzo(ghi)perylene Acetone Acrolein Silver Nickel Tin Sodium Strontium Barium Aluminum Chromium Boron Copper Selenium Arsenic Nitrosamines, Polycyclic aromatic hydrocarbons 	<ul style="list-style-type: none"> Cadmium Silicon Lithium Lead Magnesium Manganese Potassium Titanium Zinc Zirconium Calcium Iron Sulfur Vanadium Cobalt Rubidium
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E-CIG AEROSOL COMPOSITION

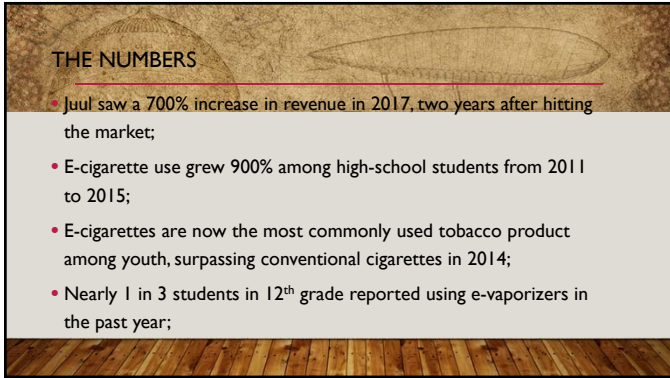
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All of these have been found in e-cig aerosol

Polycyclic aromatic hydrocarbons in yellow are from FDA's Harmful and Potentially Harmful Substances - Established List

CHEMICALS IN AEROSOL

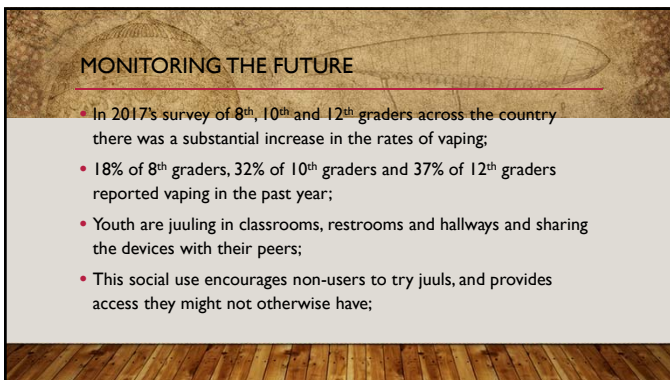
- Propylene glycol** can be found in antifreeze or used to winterize plumbing systems;
- Acetone** is commonly found in nail polish remover or as a paint thinner;
- Ethylbenzene** is often used to make other chemicals, and found in other products, including pesticides, synthetic rubber, varnishes, paints and inks;
- Radium** is used to give fireworks their bright colors;
- Nicotine** is highly addictive even in moderate doses.



THE NUMBERS

Juul saw a 700% increase in revenue in 2017, two years after hitting the market;

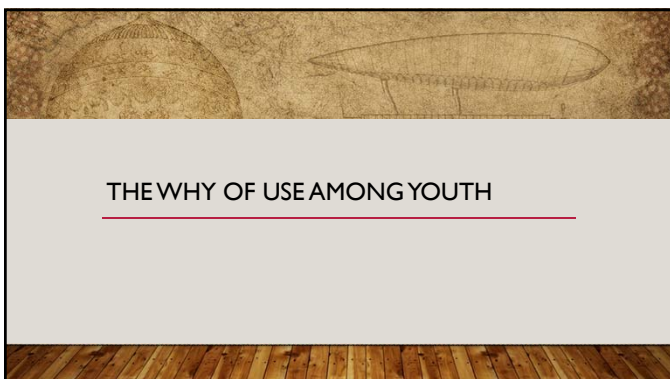
- E-cigarette use grew 900% among high-school students from 2011 to 2015;
- E-cigarettes are now the most commonly used tobacco product among youth, surpassing conventional cigarettes in 2014;
- Nearly 1 in 3 students in 12th grade reported using e-vaporizers in the past year;



MONITORING THE FUTURE

In 2017's survey of 8th, 10th and 12th graders across the country there was a substantial increase in the rates of vaping;

- 18% of 8th graders, 32% of 10th graders and 37% of 12th graders reported vaping in the past year;
- Youth are juuling in classrooms, restrooms and hallways and sharing the devices with their peers;
- This social use encourages non-users to try juuls, and provides access they might not otherwise have;

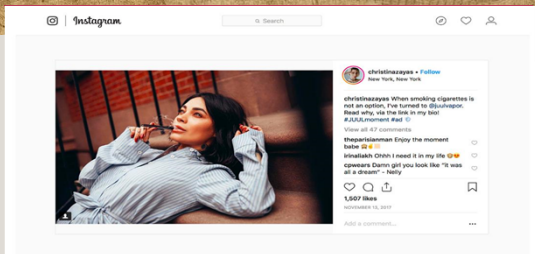


THE WHY OF USE AMONG YOUTH

VAPING & SOCIAL MEDIA

- Youth are seeing vaping throughout social media;
- In a sample of Instagram posts in PA during 2018 with vape-related content, 1 in 6 posts mentioned flavors;
- 1 in 176 posts mentioned nicotine;
- Many youth are unaware of the content of vaping products,
- Social media posts can be very misleading about the danger of vaping products;

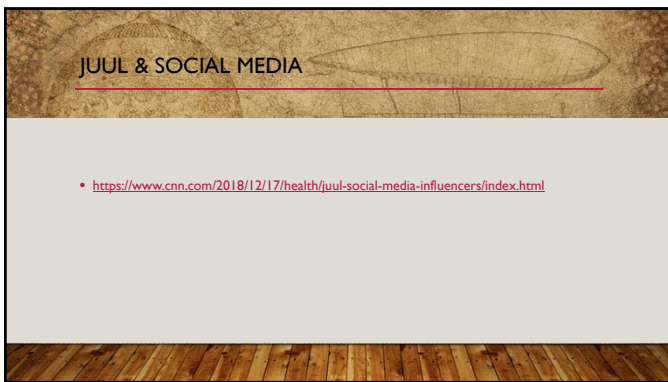
JUULING AND SOCIAL MEDIA



SOCIAL MEDIA

- Juul reached out to social media influencers in 2017;
- Christina Zayas was asked to try Juul's "premium e-cigarette" and share the experience on her blog;
- Juul paid influencers to post on Instagram and blogs;
- Zayas was encouraged to talk about the Juul, the shape of the device and how "cool" it was;
- Also commented on posts, offered discounts on their products and reposted photos of Juuls taken by other users;









• "The FDA has concluded that the level of addiction it is seeing among youthful e-cigarette users is so disturbing and so unprecedented that it needs to at least ask whether we need a solution that goes beyond what we ever did with cigarettes."
Matthew Meyers, President, Campaign for Tobacco-Free Kids

"We were completely surprised by the youth usage of the product."
Ashley Gould, Chief Administrative Officer at Juul Labs

MARIJUANA

DABBING

- Dabs are concentrated doses of cannabis by extracting THC and other cannabinoids using a solvent like butane or carbon dioxide;
- Results in a sticky oil often referred to as wax or budder;
- Heated on a hot surface, usually a nail, and then inhaled through a dab ring;
- Dabs are highly potent, and are popular among youth;

DABS



• <https://www.leafly.com/news/cannabis-101/what-are-cannabis-dabs-and-benefits-of-dabbing-marijuana>

DABBING

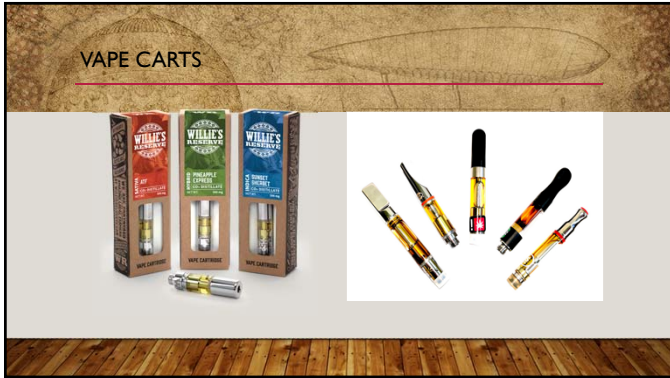
- Dabbing vapor contains several known carcinogens, including methacrolein and benzene;
- Terpenes, a class of organic compounds found in marijuana, are responsible for the resulting carcinogens when smoked or vaporized;
- Commonly occur in plant resins.

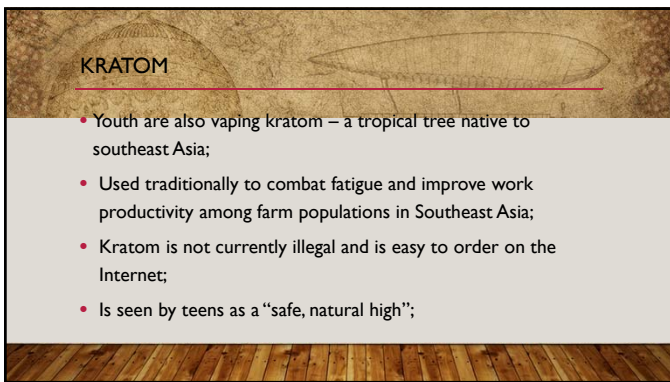
OIL VAPE CARTRIDGES - CARTS

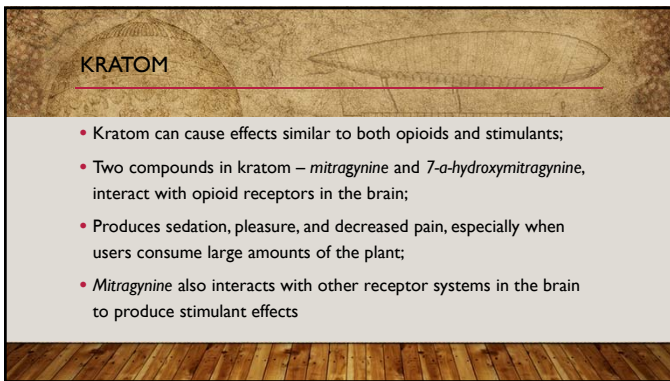
- Vape cartridges, or carts are small attachments to a marijuana e-cigarette or vape pen;
- Are sold pre-filled with cannabis concentrates;
- Most vape carts are high in THC, but some contain CBD or terpenes, the chemicals that give cannabis taste and aroma;

HOW DO THEY WORK?

- Vape carts fit together with a marijuana e-cigarette base;
- The battery powers an atomizer which heats the cannabis oil at a low temperature that turns it into an inhalable mist;
- Carts are easy to use and work fast;
- No smoke since the oil is heated only enough to vaporize it;
- Very little to no odor;







PERFECTLY LEGAL

- Kratom has gained popularity as a "safe" herbal product giving users a legal high – legal and available do not equal safe;
- Is seen as an alternative to other sedatives and stimulants;
- Readily available through Internet, gas stations and mini marts;
- Vaping kratom is gaining popularity among youth;
- Kvape – the kratom extract vape ejuice;

KRATOM & E-CIGARETTES

Kratomite
Adventure Industries' Kratomite is the world's first electronic cigarette to deliver Kratom, a medicinal herb known for its concentration of alkaloids, according to the company. Kratom interacts with opioid receptors, which may offer users relaxing sensations. Unlike tobacco-alternative electronic cigarettes, Kratomite is a personal vaporizer that uses a proprietary, herbal-infused formula, said the maker.

Adventure Industries
Pembroke Park, Fla.
(800) 999-2483, ext. 1287
sales@adventureindustries.com



IMPACT OF VAPING

CDC

- As of 11/01/2019, there have been 2,051 documented lung injuries related to vaping, with 40 deaths;
- Illness known as EVALI
- Illness has led to hospitalizations in intensive care, being placed on ventilators and other measures to assist patients with breathing;
- Most patients have been young males, many teenagers;
- CDC has found a "very strong culprit" in the illnesses;

CDC

- Vitamin E acetate found in the lungs of 29 patients, including 2 who died;
- Vitamin E acetate is sticky, like honey and clings to lung tissue;
- Commonly used as a vitamin supplement in skin lotion;
- Out of the 29 patients, THC was found in 82% of the samples, and nicotine was found in 62% of them;
- Vaping products obtained through "informal sources, like friends, or in-person or online dealers;

CDC

- The CDC is investigating additional cases and is urging people to avoid vaping anything;
- Due to the year-over-year spikes in e-cigarette use among minors, the FDA is expected to soon announce a ban on most flavored e-cigarettes, including mint;
- On 11/07/2019, Juul announced it would discontinue the sale of mint flavored pods, since teens have stated that fruit and mint flavored are their favorites;

REGULATION

- Aides to President Trump reported that vape shops may be exempt from any bans;
- Stated the industry has created a lot of jobs;
- Has been heavy lobbying from the industry, including utilizing a campaign designed to look like a grassroots organization;
- Has said may propose raising the age to purchase e-cigarettes to age "21 or so",

REACHING YOUTH

- Providing youth with accurate information is key to addressing the use of e-cigarettes;
- Strong prevention programs are essential;
- <https://www.fda.gov/tobacco-products/public-health-education-campaigns/real-cost-campaign>
- <https://med.stanford.edu/tobaccopreventiontoolkit/E-Cigs.html>

PREVENTION

- Nida for Teens: <https://teens.drugabuse.gov/national-drug-alcohol-facts-week/order-free-materials>
- DEA – Get Smart About Drugs: <https://www.getsmartaboutdrugs.gov/publications>
- Council on Substance Abuse: <https://cosancadd.org/resources-publications/substance-abuse-prevention-research/>
- Compass Mark: www.compassmark.org
