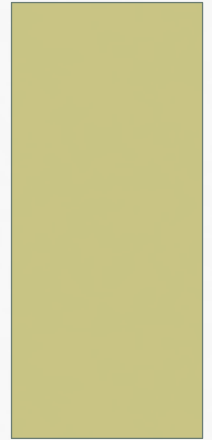


# ELECTRONIC CIGARETTES AND VAPING

January 24, 2019  
Greenville High School Auditorium



# QUESTIONS ASKED

- What is vaping?
- What does vaping do?
- Is there science to support use or non-use?
- Juuls?
- What is happening at the governmental and/or legal level?

Vaping has become the most popular tobacco product among highschoolers

- 2011 – 1.5%
- 2017 – 11.7%

# ELECTRONIC CIGARETTES

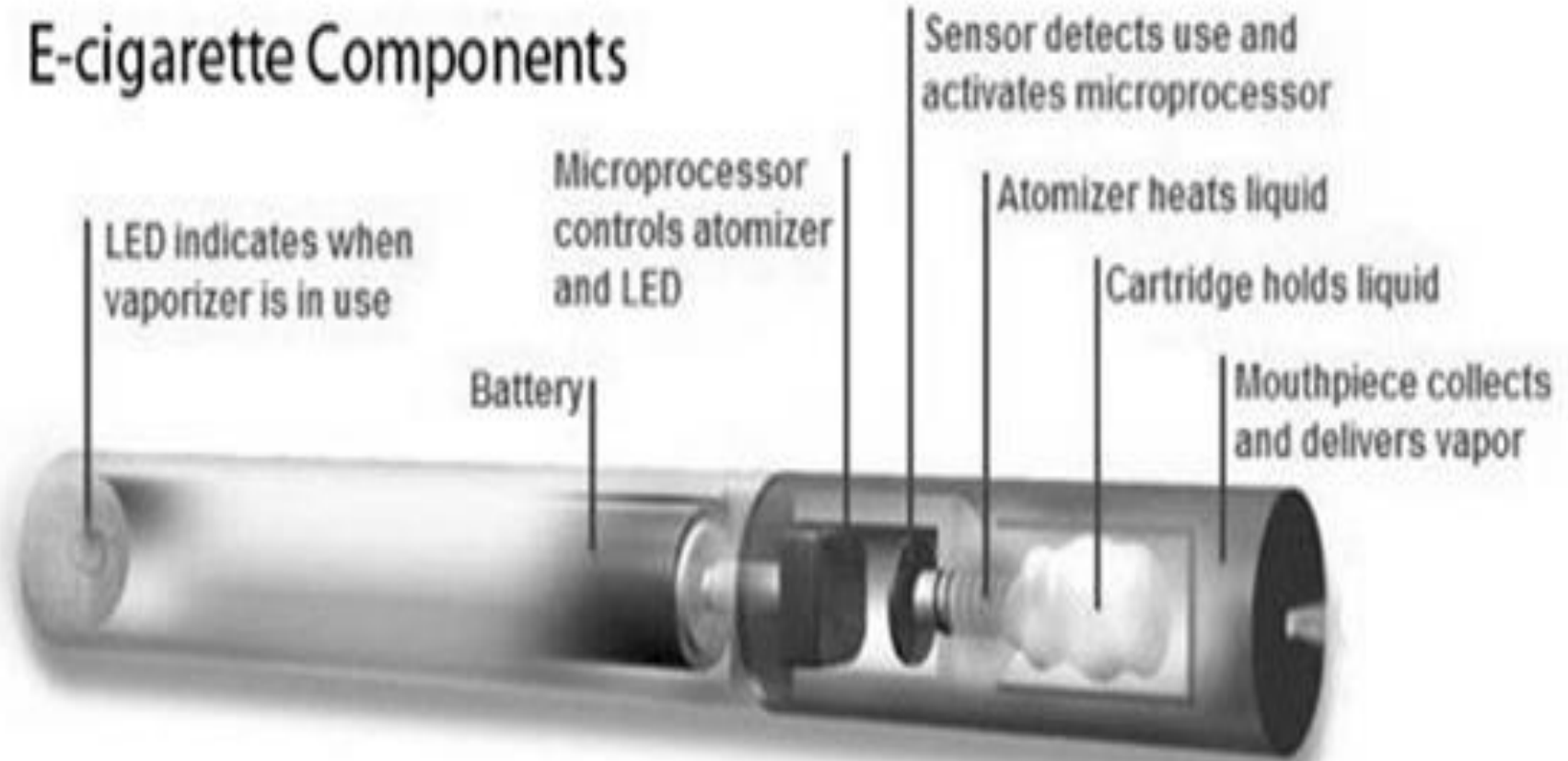
2003: The electronic cigarette was first developed in China by Hon Lik, a 52 year old pharmacist, inventor and smoker.

“an object to provide a safe and harmless means for and method of smoking by replacing tobacco with heated, moist flavored air; or by inhaling warm medication into the lungs in case of a respiratory ailment under the direction of a physician”

Hon Lik, 2003

# ELECTRONIC CIGARETTES

## E-cigarette Components



# CURRENT REALITY

A deliverer of nicotine

# CONCERNS REGARDING NICOTINE

- Nicotine is one of the most addictive substances
  - Especially to the immature brain
  - Nicotine activates the dopamine pleasure process along with other neurotransmitters  
(Brain gets, wants more, gets more, repeat)
  - Enables other addictive substances to easily activate this process - “learned process”
- Nicotine affects maternal and fetal health during pregnancy, with possible adverse outcomes such as low birth weight (30%), preterm delivery, miscarriages and stillbirth.
- High Blood Pressure, wound healing

# SCIENTIFIC EVIDENCE

“A Molecular Basis for Nicotine as a Gateway Drug”

Eric R. Kandel, M.D., and Denise B. Kandel, Ph.D.; Howard Hughes Medical Institute and NIH

N Engl J Med 2014; 371:932-943



# SCIENTIFIC EVIDENCE

National Institute of Health

Institute on Drug Abuse, 2018,  
September 28

“Recent Research Sheds New Light on  
Why Nicotine is So Addictive”

- Conclusion

“Nicotine is the fundamental cause of addiction among tobacco users. Nicotine adversely affects many organs as shown in human and animal studies. Its biological effects are widespread and extend to all systems of the body including cardiovascular, respiratory, renal and reproductive systems. Nicotine has also been found to be carcinogenic in several studies. It promotes tumorigenesis by affecting cell proliferation, angiogenesis and apoptotic pathways. It causes resistance to the chemotherapeutic agents. Nicotine replacement therapy (NRT) is an effective adjunct in management of withdrawal symptoms and improves the success of cessation programs. Any substantive beneficial effect of nicotine on human body is yet to be proven. Nicotine should be used only under supervision of trained cessation personnel therefore its sale needs to be strictly regulated. Needless to say, that research for safer alternative to nicotine must be taken on priority.”

# HISTORY

- June 2009: The Family Smoking Prevention and Tobacco Control Act signed into law, giving the FDA the power to regulate the tobacco industry
- 2014 – FDA Proposed Rules covering e-cigarettes
- 2016 – Proposed final rules – included e-cigarettes as tobacco product
- 2017 – Disclosure of contents, risks, and issues of flavors including use of menthol
- 2018 – Surgeon General outlined measures FDA wants to implement re: flavors, marketing to youth, etc.

# ette Components

icates when  
er is in use

Microprocessor  
controls atomizer  
and LED

Battery

Sensor detects use and  
activates microprocessor

Atomizer heats liquid

Cartridge holds

Mouthp  
and deli



# NEW VOCABULARY

- ENDS – electronic nicotine delivery system
- EDDS – electronic drug delivery system
- Cartomizer – combination of cartridge and heater
- Vaping – action of inhaling vaporized (aerosolized) substance
- E-liquid – “juice” – contained in cartridge
- “Harm reduction” – marketing term
- Dab – concentrated form of THC
- “Pot Pens” , “Kandypens” ,

# NICOTINE AND OUR YOUTH

- ADDICTION, long term and subsequent addictions
- Attention deficit, cognition, less impulse control
- Other health problems, fracture and wound healing
- Childhood poisoning- ER visits nationwide up
  - <1 tbp can kill an adult
  - <1 tsp can kill a child
- Harm to pets

# JUULS

- Captured 68% of the market in two years!
- >60% surveyed did not know JUULS always contained nicotine
- Delivers nicotine in a novel way that increases the absorption and therefore more easy to become addicted - nicotine salts

# JUULS





# STATEMENT FROM JUUL

- “Our company’s mission is to eliminate cigarettes and help the more than one billion smokers worldwide switch to a better alternative. At the same time, we are committed to deterring young people, as well as adults who so not currently smoke, from using our products. We cannot be more emphatic on this point: No young person or non-nicotine user should ever try Juul.”
- Kevin Burns, Juul Labs CEO, April 2018

# JUUL FLAVORS

- Mango\*
  - Fruit\*
  - Cucumber\*
  - Crème brulee\*
  - Mint
  - Menthol
  - Virginia Tobacco
  - Classic Tobacco
- \*not allowed to be sold from gas stations or convenience stores

USA TODAY  
JANUARY 21, 2019  
PAGE 5A

**WARNING: This product  
contains nicotine. Nicotine  
is an addictive chemical.**



More than one million smokers have joined the community.  
**Make the switch.**

**JUUL**

JUUL.com

INTENDED FOR ADULT SMOKERS — NOT FOR SALE TO MINORS  
CALIFORNIA PROPOSITION 85 WARNING: This product contains chemicals known to  
the State of California to cause cancer or other reproductive harm.  
© 2019 JUUL Labs, Inc. ALL RIGHTS RESERVED.





# JUULS



# ON FRONT DOOR OF QT STATION OCTOBER, 2018

**WARNING: This product contains nicotine.  
Nicotine is an addictive chemical.**

FOR SALE TO MINORS  
AND WHERE PROHIBITED  
this product may not be available  
in some states or local jurisdictions.  
Age-restricted product and  
identification is required at sale.

**CALIFORNIA PROPOSITION  
65 WARNING:**  
This product contains chemicals  
known to the State of California  
to cause cancer and birth defects  
or other reproductive harm.  
© 2018 JUUL Labs, Inc.  
ALL RIGHTS RESERVED.  
Protected by issued and/or pending  
US and international patents:  
[www.juulvape.com/](http://www.juulvape.com/)  
[intellectual-property-list](#)



**\$12.99**

DEVICE

the alter

JUUL

JUUL dev  
USB char

JUUL po  
sold  
separat

# WHAT ARE E-CIGS (ENDS, EDDS)

- Not cigarettes at all
- Cigarette contents are heated by burning tobacco
- Nicotine, flavors plus other substances are inhaled
- Electronic cigarettes and similar devices use an electrically heated coil (atomizer) to aerosolize (thermally change) a substance, any substance, which is then inhaled
- Aerosol, not vapor
- FDA considers them “electronic NICOTINE delivery devices” (ENDS)



# WHAT IS IN THE CARTRIDGE?

- Can attempt to aerosolize any substance which may be a liquid, a dry form, or a paste and then inhaled
- Nicotine – plus what ever (flavors)
- Alcohol – alone or within e-liquid (“better throat hit”)
- Menthol – cools, also unique dangers
- Cannabis (THC) – herb, wax, or oil (dab)
  - CBD oil – 0.3%THC
- Cocaine – added or used by itself
- Heroin – added or by itself
- Fentanyl - deadly
- Pills – oxycodone
- Whatever else is up to imagination to be in the aerosol

# CONTENT OF ATOMIZED “VAPOR” AEROSOL

Metallic nano-particles – many carcinogenic or allergenic (chromium, nickle, tin, etc.)

Nicotine +/- other drugs

Propylene glycol (PG) or vegetable glycerin (VG)

Water

Flavoring byproducts after being heated

Odors

There is second and third hand exposure

# FLAVORS

- Meant to help adults switch
  - Biggest reason youth are drawn to e-cigs
  - May be approved for food but not for being heated
  - Diacetyl – butter, crème - “popcorn lung”\*
  - Aldehydes – vanilla, cinnamon, almond
  - Formaldehyde
- 
- \*JUULS states they do not add diacetyl to a flavor pod

# REFILLS AND ADMIXTURES

Some easily and meant to be refilled

Some not so easy and suggested not to be

But are and instructions are available

# NICOTINE E-LIQUIDS

- Very addictive substance
- Solutions are marketed- concentrations not regulated
  - JUUL has approx. 5% nicotine (50mg/ml) (?3%)
- Online - can access 100mg/mL solution
- Multiple flavors or additives
- NO standardized quality control of concentration or content of juice
- Containers now required to be child-proof – 2016
- New nicotine salts – JUULS. Kandypens
- Poisonous – reports to poison control centers >1500%
  - 1 tsp (5mL) of 1.8% (18mg/mL) nicotine can kill a 90kg adult
  - 1 tsp (5ml) of 0.6% (6mg/mL) nicotine can kill a 5 yo child

# CESSATION

Although it makes common sense and there are anecdotal success stories

There is currently no peer-reviewed evidence that ENDS/EDDS promote long-term tobacco cessation or long-term abstinence from nicotine.

FDA has reviewed and approved nicotine replacement therapies (NRT'S) but not e-cigarettes as therapeutic cessation devices

# SAFETY ISSUES

- Delivery of tars and other agents? – yes, safer
- Medical issues from Nicotine? JUULS contain more than most other e-cigs
- Nicotine Addiction? Nicotine - salts?>
- Dual use? > 70%
- Inconspicuous use? (JUULS)
- Illicit Drug use? (EDDS)
- Stronger batteries increase toxin content
- Others – explosions, child safety, second and third hand exposure, airline precautions?

# SAFETY REPORTS

- E-cigarettes have only been around in the US since 2006 - 7
- As more information is developed the consensus is that e-cigs are safer than combustible tobacco
- Only because of absence of tars
  - **BUT NOT SAFE BY ANY MEASURE**



# “MARKETING”



# WHAT IS HAPPENING

- Average age initial tobacco/nicotine use - 10-14yo
- Vaping may start a little later but age is dropping
- Smoking leveled off; Vaping increasing
  - Too often (70+%) are dual users
- Other sources – hookahs, smokeless,

# MARKETING OF E-CIGARETTES

No one that sells an addictive substance for profit has any interest in seeing their customers quit.

Manufacturers and distributors of e-cigarettes are not interested in eliminating Big Tobacco, they are interested in creating a continuous market in order to become Big Tobacco or already are.

Tobacco companies are becoming the manufacturers and distributors of e-cigarettes.

E-Cig industry is currently using Big Tobacco's playbook of "harm reduction" to sell another generation on a supposedly "safe alternative"

# QUESTIONS ABOUT YOUTH AND ENDS

- Progression to conventional smoking? - yes
  - Facilitates continued nicotine addiction? - yes
  - Long term effect/affect of nicotine addiction? - yes
  - The fetus, infant, and maternal are at risk? - yes
  - Facilitates and serves as gateway to other drugs?
    - Data says yes
    - The younger to start, the greater the likelihood
- Addiction is permanent but treatable, not curable  
– avoid triggers
- Addiction is preventable

# ACADEMY OF PEDIATRICS

- The Academy of Pediatrics has many supportive stances and articles regarding the harms of electronic cigarettes for the youthful user.
- All parents must be educated and aware of the hazards of their use.
- Talk to your children, early and often
- Talk with friends, school nurses
- Seek out counseling if felt to be needed
- Facts For Parents About E-Cigarettes & Vaping - 12/28/2018, American Academy of Pediatrics

# SIGNS OF PROBLEMS

- Tolerance
- Cravings
- Difficulty concentrating
- Restlessness
- Withdrawal signs if absent from nicotine
- Within 4 weeks of initiating use

# WITHDRAWAL

- Cravings
- Tingling in hands and feet
- Sweating
- Nausea
- Cramping
- Gas
- Headaches
- Sore throat

# HELP IS AVAILABLE

- Quitline- 1-800-Quit Now (800-784-8669)
- “Just Say Something”, former Greenville Family Partnership, 864-467-4099
- Truthinitiative.org - text QUIT to 202-784-8669
- Medical providers
- Friends
- Those that have quit or wished they had



OTHER PRESENTATION ON NEXT  
SLIDE

# DIFFERENT PRODUCT, SAME SELL

- Sexy then (1997)
- Sexy now (2013)



## Learn how it *Works*

The longest lasting easy to use and best tasting e-cig is finally here! Get the latest in e-cig technology with VAPEX!

WINNER  
2013  
E-CIG  
TASTE TEST

**LASTS 20X  
LONGER**

**EQUAL TO 55 PACKS  
OF CIGARETTES!**



Larger battery lasts longer than any other e-cig in it's class between charges, making the Vapex the ultimate e-cig!

Manual operation gives the user total control over each draw

Coil vaporises e-liquid into a fine mist free of carcinogens that is inhaled by the user

Mouthpiece unscrews to easily refill the cartomizer. Just unscrew and pour it in!



# What's Your Taste?

Choose E-cigarette Cartridge From 7  
Delicious Flavors by XEO E-cigarettes !!

World's Most Powerful E-cigarette  
Available in 7 Flavors!!



Tastes your Mouth Crave For,  
Which Flavor you Smoke?



**XEO**



# Flavor Vapes

Premium Vapes disposable Electronic Cigarettes

**NO TAR**  
**NO ASH**  
**NO SMELL**  
**NO SMOKE**

Tobacco



Menthol



Blueberry



Vanilla



Cherry



Grape



Coffee



Strawberry



E-pipe



E-cigar



Large-size  
tank devices



Medium-size  
tank devices



Rechargeable  
e-cigarette



Disposable  
e-cigarette



## VAPING ADVERTISING

- Typical Convenience Store parking lot



# CHEAP, FLAVORED CIGARS

- Appeal to teens





**JUUL became available for sale  
in the  
United States in 2015.**

**As of December 2017, JUUL is  
the top-selling e-cigarette  
brand in the United States**



**WARNING: This product contains nicotine. Nicotine is an addictive chemical.**

# \$20 OFF

STARTER KIT

MSRP \$49.99 excluding state and local taxes  
Limited Time Offer

the alternative for adult smokers



**JUUL**  
JUUL device  
USB charger  
4 pod multipack  
5% strength

## SWITCH & SAVE

NOT FOR SALE TO MINORS  
GOOD HOUSEKEEPING  
© 2019 JUUL Labs, Inc. ALL RIGHTS RESERVED.

REMOVE TO EXPOSE ADHESIVE

# SURGE IN YOUTH CURRENT E-CIGARETTE USE 2017 TO 2018

- 1.5 Million More Students Used E-Cigarettes in 2018 vs 2017
- 78% Increase Among High School Students (11.7% to 20.8%)
- 48% Increase Among Middle School Students (3.3% - 5.9%)
- **E-CIGARETTE USE SURGE LED TO UPTICK IN OVERALL TOBACCO USE — Reversing Previous Declines**
- **AMONG HIGH SCHOOL CURRENT E-CIGARETTE USERS — Rise in Frequency and Use of Flavors**

Source: 2018 National Youth Tobacco Survey

# WHY ARE YOUTH USING?

- Use by "friend or family member" (39.0%)
- Availability of "flavors such as mint, candy, fruit, or chocolate" (31.0%)
- The belief that "they are less harmful than other forms of tobacco such as cigarettes" (17.1%)

# AS IF IT WASN'T BAD ENOUGH.....

- The JUJU Joint is a sleek, discreet, cannabis vaporizing e-joint.
- Explore the range of experiences through potent, clean, and unique THC combinations.
- Experience cannabis without any of the hassle.



# BEFORE THE TALK

## *Know the facts.*

- Get credible information about e-cigarettes and young people at [E-cigarettes.SurgeonGeneral.gov](http://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](http://smokefree.gov) or call 1-800-QUIT-NOW.

# 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.

# ANSWER THEIR QUESTIONS

## *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.

Source:

[https://e-cigarettes.surgeongeneral.gov/documents/SGR\\_ECig\\_ParentTipSheet\\_508.pdf](https://e-cigarettes.surgeongeneral.gov/documents/SGR_ECig_ParentTipSheet_508.pdf)

# BURNED LEG

- Treated at emergency room in Greenville





***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](http://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.

## CANARY IN THE MINE?

- “To address the potential of future disease development, hundreds of users would need to be followed for a substantial number of years before any conclusions could be made.”
- Vapo News Webpage





# TERRY TAYLOR

MANAGER, TOBACCO USE PREVENTION AND REDUCTION

- **Just Say Something**
- 25 Woods Lake Road, Suite 600
  - Greenville, SC 29607
  - [www.justsaysomething.org](http://www.justsaysomething.org)
  - (864) 467-4099

**JUST SAY**  
**SOMETHING**

conversations about drugs and alcohol