

# ELECTRONIC SMOKING DEVICES

Critical Issues in Tobacco Control

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Carmel Valley Middle School
10/20/15







Building Better Health

Living Safely

**Thriving** 

#### **AGENDA**



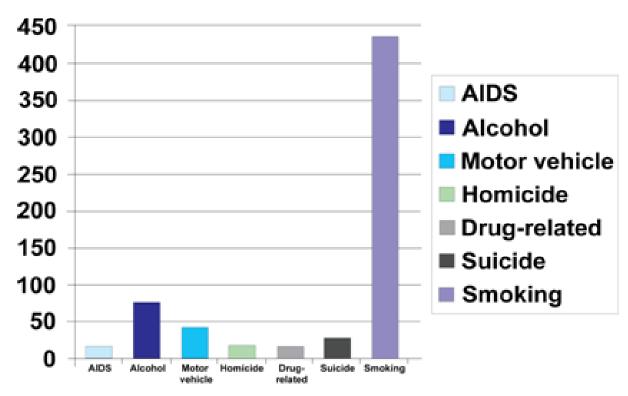
Acknowledge CA Youth Advocacy Network, Prevention Partners,
 Campaign for Tobacco Free Kids, CDPH-CA Tobacco Control
 Program

- What's the Problem with Electronic Smoking Devices?
- Overview and Use of ESDs
- Summary of science on ESDs
- Policy Recommendations & Solutions





#### Comparative Causes of Annual Deaths in the United States



**Sources:** (AIDS) *HIV/AIDS Surveillance Report*, 2004; (Alcohol) CDC. (2004). *MMWR*, 53(37), 866-870; (Motor vehicle) National Highway Transportation Safety Administration. (2005); (Homicide) NCHS. *Vital statistics*, 2002; (Drug-related) Mokdad, A.H., Marks, J. et al. (2004). Actual causes of death in the U.S., 2000. *JAMA*, 29(10),1242; (Suicide) NIMH. (2003 [updated 2006]). *In harm's way—Suicide in America*;

#### TOBACCO – 480,000 DEATHS/YR



#### THE PROBLEM IS...

- Leading cause of preventable death in the U.S. still
  - Kills more than have died in all US wars combined every year
    - Cost US \$133 billion/yr in direct medical cost. (CDC Sep 2014)
  - "Pediatric Disease" over 90% of smokers started before the age of 1



- Lawyers fight policies, protections, and progress
- Media Advertising, promotions, sponsorships, defeat tax increases
- 'Researchers' "Tobacco Institute"





## BIG 3 TOBACCO COMPANIES NOW IN E-CIGARETTE BUSINESS



#### In 2013:

Altria developed and began selli
 MarkTen (limited market)



- British American Tobacco developed and began selling Vype
- Imperial Tobacco acquired Dragonite
   International



#### In 2012:

- Lorillard bought Blu
- RJ Reynolds created Vuse (limite)
- Swisher Sweets developed e-cigarillos (e-swisher)





The National Youth Tobacco Survey is the only nationally representative survey of middle and **high school students** focusing exclusively on patterns of tobacco use.

More than

## 4.6 million

students reported being current tobacco users.

use of tobacco product(s) within the past 30 days.

high school



1 in 13 middle school students







Of the current tobacco users,



reported being current users of two or more types of tobacco products.

Of the current tobacco users,



For the first time in NYTS, **e-cigarettes** were the most commonly used tobacco product among students, followed by hookah (1.6 million), cigarettes (1.6 million), and cigars (1.4 million).

#### TOBACCO USE TRENDS—HIGH SCHOOL STUDENTS

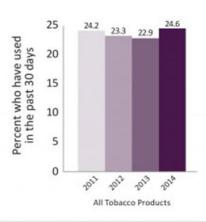


among high school students increased nearly 800% and



hookah use more than doubled.

there was **no decline**in overall tobacco use
by students.

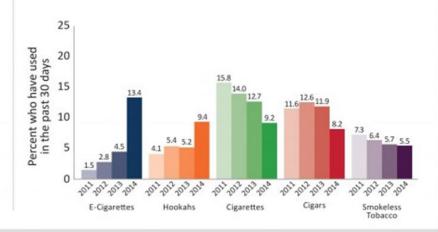


Between 2011
and 2014, the percentage
of students
reporting current
use of cigarettes
decreased from



### Student use of e-cigarettes and hookah offset the decrease in use of

traditional products such as cigarettes and cigars.

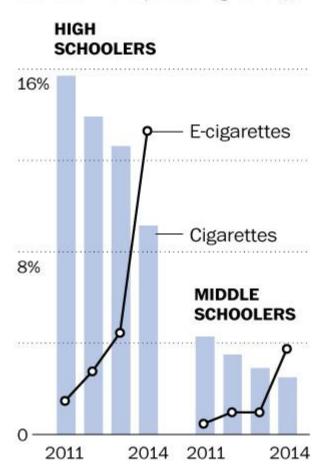






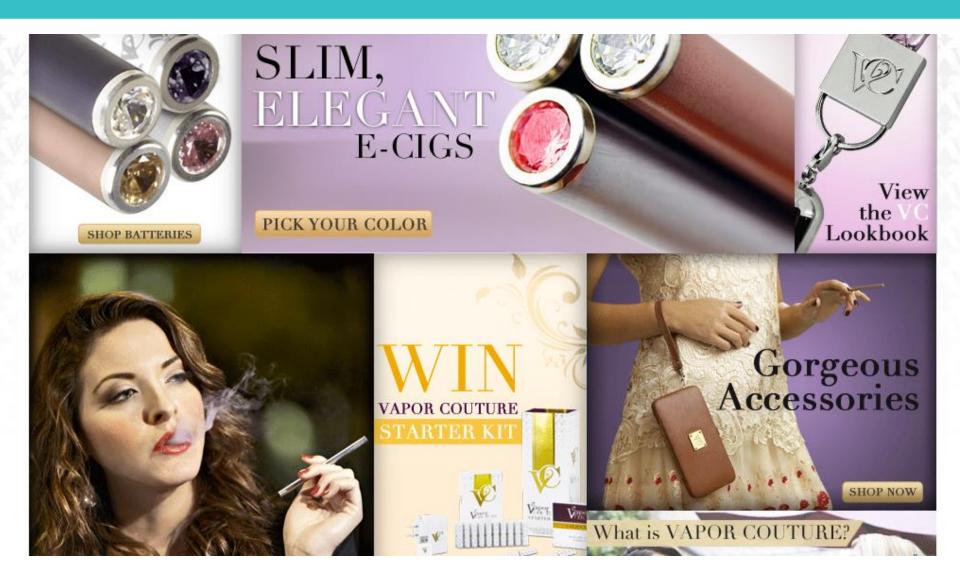
## Teen e-cigarette use triples from 2013-2014

Estimated percentage of high school students who used tobacco in the preceding 30 days



Source: National Youth Tobacco Survey 2011–2014, and Centers for Disease Control and Prevention THE WASHINGTON POST



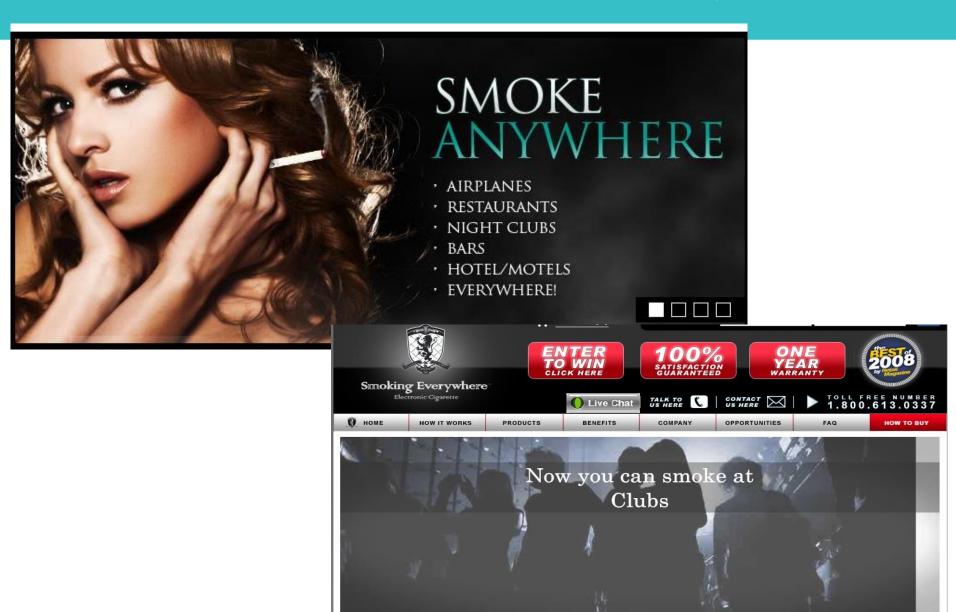


#### PLACED NEXT TO CANDY









#### Vapor Cigarette Cartridges

AVAILABLE NOW



Bombshell

This exotic blend is rich, smooth and a great fit for Turkish tobacco lovers!



Rodeo Drive

The perfect hearty and rich, traditional All-American tobacco flavor.



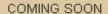
Fresh Mint

Our wonderful and invigorating menthol is fresh, cool and delicious.



**Passion Fruit** 

Fun, fruity, and delightful, this flavor will tickle your sweet tooth.





Strawberry Champagne

Fruity and bold, this is a full-bodied flavor treat with a hint of passion.



Arctic Mint

Cool your lips with sensuous Arctic blace of this minty flavor storm.





## COUNTY OF SAN DIEGO'S LONG-TERM INITIATIVE



#### LIVE WELL SAN DIEGO



## THE PROBLEM WITH E-CIGS IS...ERODES PROGRESS



#### **NO RULES**

- Advertise
- Flavors
- No taxation
- Singles
- No licensing, tracking, monitoring
- No regulations for manufacturing,
   labeling
- Outdated and non-existent policies (School Districts, Businesses, Municipalities, States)



- NOT well known (to parents, educators, law enforcement, policy makers)
- Used for marijuana
- Myths "Its just water"
- Exponential growth
- Nicotine Addiction, Poisonings
- Who's in charge?
  - Monitoring, compliance checks

## THE PROBLEM WITH ESD IS ... 1 STEP FORWARD, 2 STEPS BACKWARD



#### **BACKWARD**

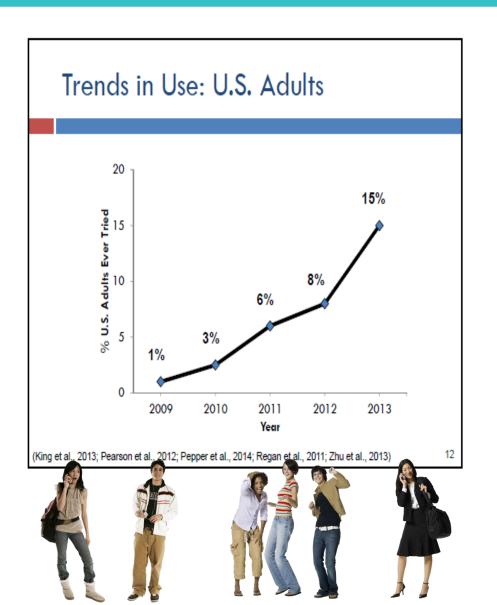
- Initiation
- Dual Use
- Former Smokers
- Delays Quit Attempts
- Enforcement complexities
- Erosion of cultural norm

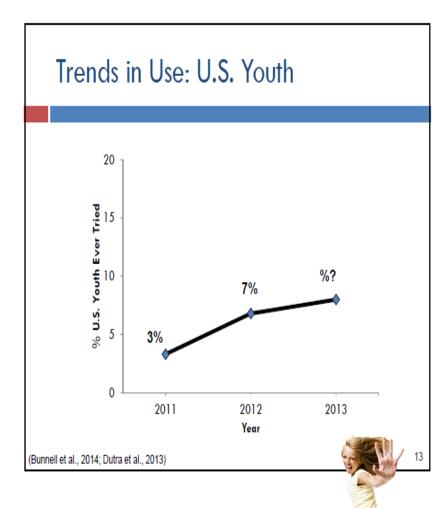




#### **USE HAS TRIPLED 2012-13**









e-cigarette use has

**TRIPLED** 

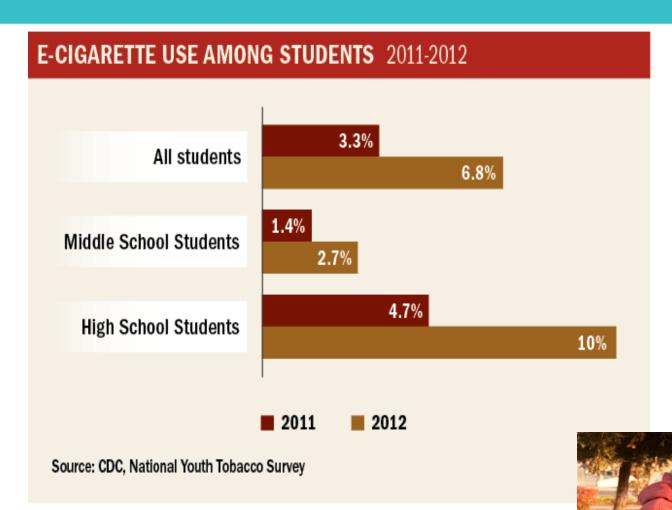
among
high school
students





#### YOUTH E-CIGARETTE USE





#### USE: ADULT USE ESTIMATES



- 2012 National estimates:
  - Ever-use prevalence of 11.4% for smokers
  - 2% for former smokers
  - 0.8% for never smokers
- Suggest that in absolute numbers
  - Roughly 5 million smokers and more than 1 million former and never smokers have ever used e-cigs

"E-cigarette use is growing rapidly. There is still a lot we don't know about these products, including whether they will decrease or increase use of traditional cigarettes."

CDC Director Tom Frieden, MD, MPH



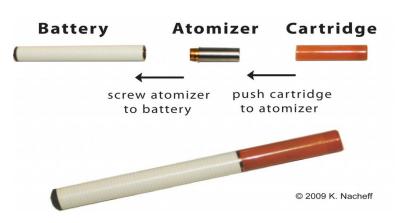
#### WHAT ARE E-CIGARETTES?



#### **ELECTRONIC SMOKING DEVICES**

- Electronic vapor (aerosol) emitting devices.
- Do not contain tobacco, however nicotine is derived from tobacco.
- Solution contains 3 main ingredients:
  - Propylene Glycol: safety data warns that heating/burning it may form toxic gases
  - Nicotine: promotes clot formation that may lead to heart attacks and strokes
  - Flavoring (fruit, candy, coffee, bacon, mix and match)
- Variations (e-cigars, e-hookahs, cigarillos, vape pens,
   M-cigs. etc.) /no nicotine disposable or

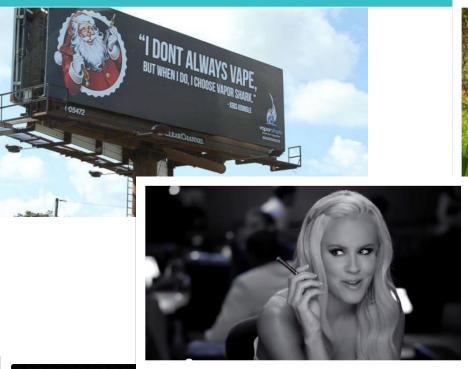






#### **MARKETING TSUNAMI**







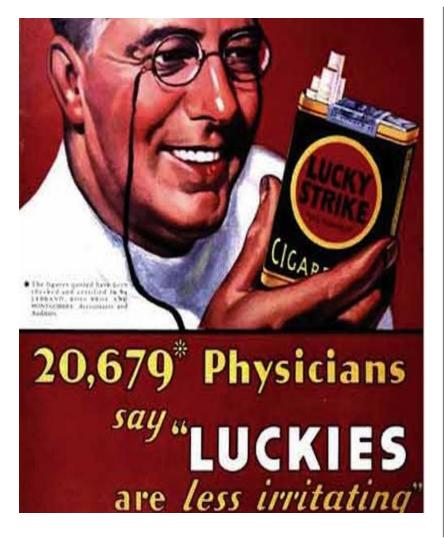




## USING THE OLD TOBACCO PLAYBOOK



#### **THEN**



#### NOW



## OTHER NAMES



#### E-cigarettes are also called:

- E-cigs
- E-hookahs
- Vapor pens
- Vapes
- Vape pens
- Vape pipes
- MOD's
- APV's



#### VARIATIONS OF THE SAME THEME







#### **BASIC COMPONENTS:**

#### 1) BATTERY, 2) E-LIQUID, 3) ATOMIZER

- Pen style with tank
- E-hookah, E-Pipe













E-cigarettes are now being paired with cellphones



Vaporizer Case Bundle for iPhone 5 or 5s with Oil Cartridge and Oil

\$49.99 BUY! VALUE DISCOUNT YOU SAVE \$133.47 63% \$83,48 LIMITED TIME ONLY! O 9 days 10:31:08 LIMITED CUANTITY AVAILABLE 1 2 bought ☑ f 💆 P 🖪 🗆 (29)



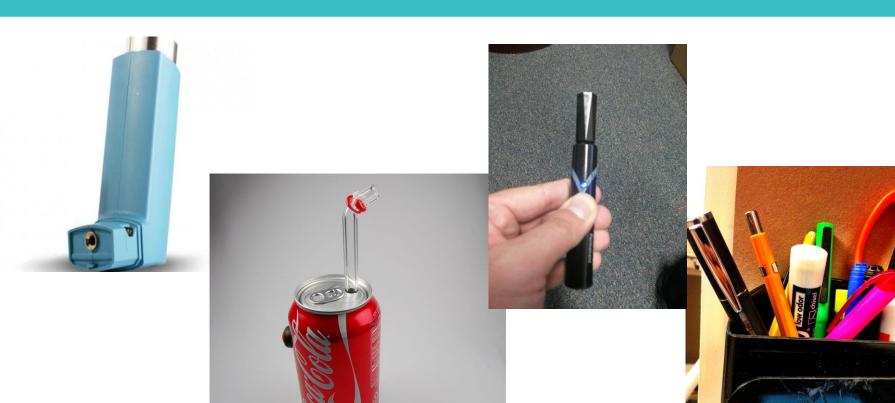












■ E-cigarettes have been fashioned to look like other products such as asthma inhalers, beverage containers, and other common products.





#### 6-Pack of NutriCig Energy, Slim, or Sleep Fortified E-Cigarettes from NutriCig



#### Available E-Cigarettes

- Six-pack of Energy e-digarettes in cherry, menthol, or tobacci
- Stx pack of Slim e-cigarettes in chocolate, menthol, or tobacc
- . Six pack of Sleep e-cigarettes in chocolate, menthol, or tobac

Warning for California residents regarding Proposition 65: Nutrici cigarettes contain nicotine, a chemical known to the State of Call birth defects or other reproductive harm.

After purchasing this deal, you will need to visit the website lister Groupon voucher to complete redemption. See voucher for more

#### NutriCig Fortified E-Cigarettes

- 4 1.8% nicotine by volume
- Disposable fortified e-cigarettes
- Blends to help you suppress appetite, increase energy, or rela
- Supplements such as hoodia, peppermint, B vitamins, and me
- VaporFlo technology for smooth vapor and flavor
- Silicone mouthpiece and LED tip
- Recreates the look and feel of a regular cigarette
- One e-cigarette lasts about as long as two packs of regular ci
- . Microcomputer, battery, atomizer, and cartridge all within a or
- Ash-, odor-, and smoke-free







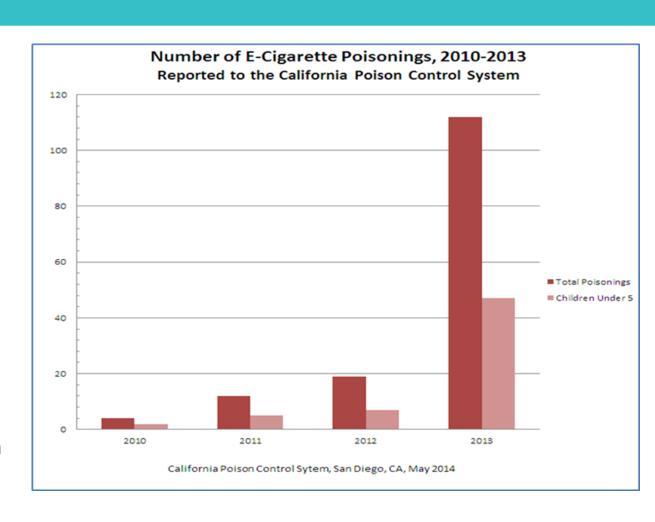
#### NICOTINE POISONING



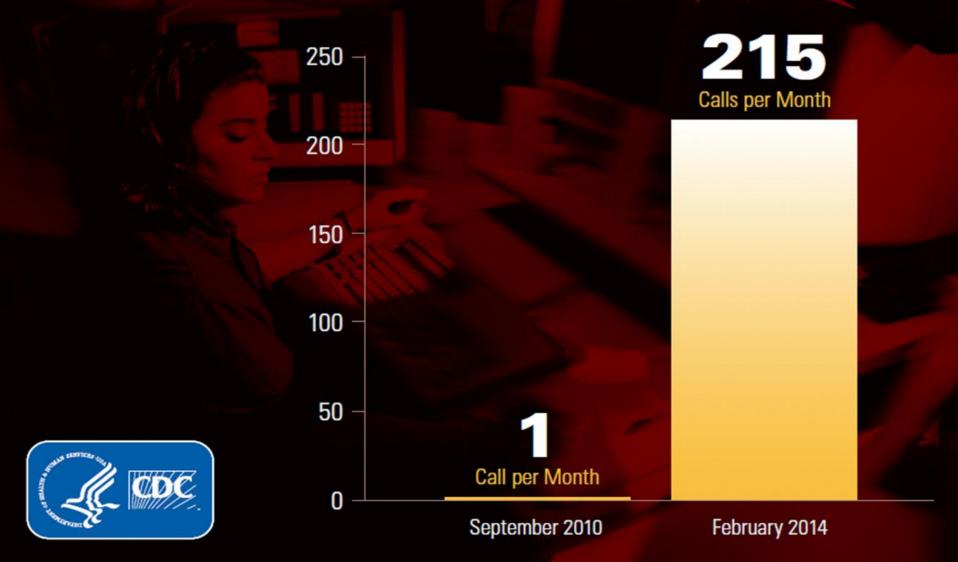
- Fruit and candy flavors entice children
- Children may drink these liquids or spill them on themselves



- E-liquid can cause nicotine poisoning through ingestion and skin or eye contact
- Even a small fraction of eliquid ingested by a child can be lethal

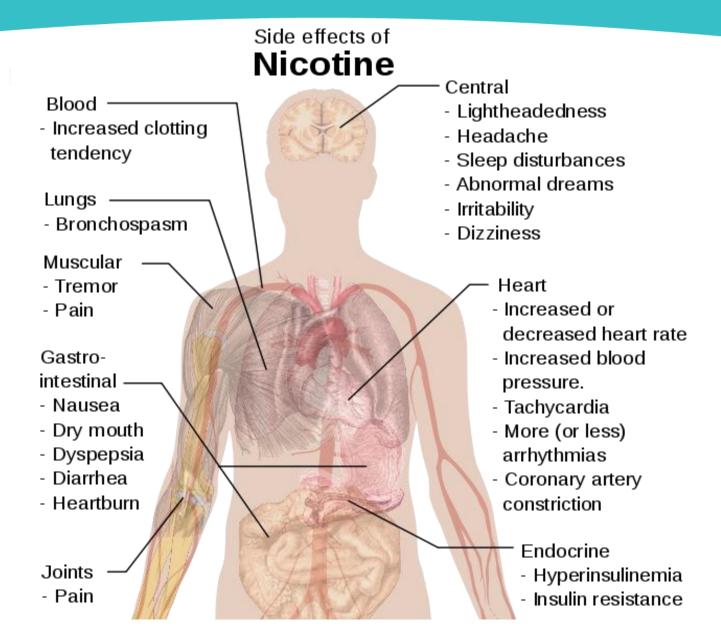


# Poison center calls involving e-cigarettes

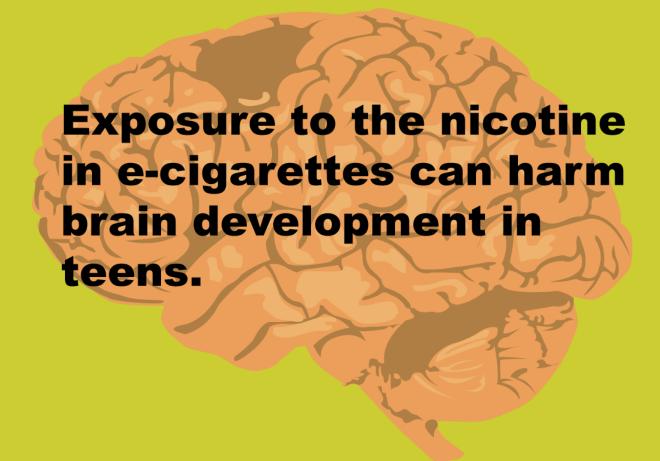


#### "HARMLESS WATER VAPOR?"









<sup>-</sup> US Department of Health Human Services. The health consequences of smoking—50 years of progress: A report of the Surgeon General, in Allanta, GA: US Department of Health and Human Services. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

IS Department of Health Human Services, Preventing tobacco use among youth and young adults: A report of the Surgeon General, Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chroniceeese Prevention and Health Romoficon, Office on Smoking and Health, 2012. 3,





#### Vapure U.S.A Inc. eLiquid

All flavors come in Omg, Ilmg or 24mg.

Γobaccos

Sweet & Mild 3lackberry Dry Blend

Clove

Country Dry Blend

Fine Cigar Fire Cured

Full Flavor Golden Blend

Havana

sland 3Y80 √Y4

Warm Leaf

Menthols

3lack Ice 3lackberry Dry Blend Can't Ice This

Candy Cane Cool Ice\*

Dry Blend Menthol

Fire & Ice\*

Full Flavor Menthol

Kiwi Menthol Peach Ice

Pinealoupe Ice

Pure Menthol

Strawberry Mango Freeze

Tropical Ice Watermelon Ice

White Tic Tac

Drinks

Cappuccino Cherry Cola\*

Coffee

Cola\* Fruit Punch

Funky Monkey German Chocolate

Coffee

Horchata Irish Cream

Lemonade on a Stick

Merlot

Mocha Mint Coffee

Mt. Dewy Pina Colada Red Energy

Root Beer

Root Beer Float

Strawberry Champagne

Vanilla Cola\*

**Sweets** 

Apple Pie\*

Atomic Cinnamon\* Banana Cream Pie\*

Berry Parfait

Blueberry Pancakes Boston Cream Pie

Bubble Gum

Candy Chocolate Mint

Caramel

Caramel Apple Pop

Caramel Candy Caramel Kettle Corn

Cherry Cordial \* Cherry Vanilla\*

Chocolate Banana

Chocolate Cake

Chocolate Strawberry

Cinnamon Roll Cotton Candy

Double Chocolate

English Toffee Fruit Gum

Gummy Bears Honey

Marshmallow

Orange Dream Peanut Butter Cup

Pumpkin Pie

Raspberry Cheesecake Snickerdoodle

Snicks

Strawberries & Cream

Sweet Cinnamon\*

Sweet Tarts Vanilla

Vanilla Cupcake Vanilla Sunrise

Waffle

Fruits

Acai Berry Banana\*

Black Cherry\*

Blackberry

Blueberry

Blueberry Acai

Blueberry Pomegranate

Cherry\*

CTONA Watermelon

Dragon Fruit

Grape

Green Apple\*

Juicy Peach Kiwi Banana

Kiwi Strawberry

Mango

Manic Melon

Peach

Pinealoupe Pineapple

Pomegranate Prickly Pear

Raspberry

Razzapple Star Fruit

Strawberry

Strawberry Banana Strawberry Mango

Watermelon





#### E-LIQUID

GREAT TASTE, WITHOUT THE FANCY NAMES.









### **TOXICITY**



- E-cigarette refill fluids vary greatly in toxicity.
- Researchers found that toxicity in e-cigarettes may be due to the chemicals used to flavor the products.





















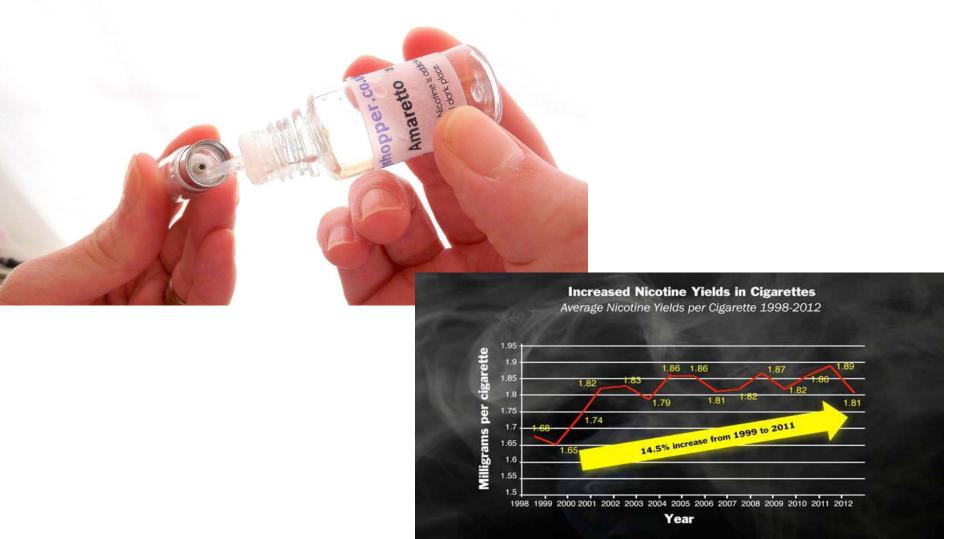




### **REFILLING AN E-CIGARETTE**



Source: Massachusetts Department of Health and University of Massachusetts Medical School, 2014



### **EXPLOSIONS AND POISONINGS**



### Liquid nicotine can poison kids

8:46 AM, Nov 12, 2012 | 29 comments

Exploding e-cigarette could have killed my dogs and cats, terrified Atlanta woman says







### LATEST NEWS

Man Losses Teeth and Part of Tongue in Electric Cigarette Explosion

MELISSA NELSON, Associated Press February 15, 2012 4:07 PM

3-Year-Old Boy Catches Fire When Mom's E-Cigarette Explodes

Sep 24, 2013 | By Ruth Manuel-Logan













75









## DEA: SAN DIEGO IS THE NUMBER ONE HOT SPOT FOR THIS PROBLEM NATIONWIDE...



#### Concerns Rise over Usage of Hash Oil with E-Cigarettes

An explosion and fire in an East Village apartment building on Thursday was caused by someone making a hash oil extraction using butane. Growing Number of Youth Smoking Vaporizers Alarms Health Officials. It's advertised as the best way to kick that bad habit of smoking, but critics say it may kick-start a new generation of smokers. Stephanie Chuang reports.

Agents at San Diego's Drug Enforcement Administration office are becoming increasingly concerned with anything having to do with hash oil, a marijuana byproduct. This now includes electronic cigarettes.

E-cigarettes are designed as an alternative to traditional cigarettes. They are battery-powered and filled with liquids which are turned to vapor, but some people are using them to try and get high.

"Because of the way these mechanisms work, the odor is highly diminished. So **if a parent thinks because they don't smell it on their kid, that doesn't necessarily mean their kids aren't using**," said Gary Hill, Assistant Special Agent In Charge with the San Diego DEA office.

Law enforcement agents aren't the only ones concerned.

"We're finding these people who utilize these types of vaporizers with hash oil, the intensity of the high is tremendously more so than traditional smoking in a pipe or cigarette type of form," Hill said.

Hash oil is most commonly extracted from marijuana plants using highly volatile Butane gas. The process can lead to explosions, and <u>San Diego has</u> seen several in recent months. The DEA considers San Diego the number one hot spot for this problem nationwide.

"So the concern lies if we see more and more people wanting the demand for hash oil because they want to use hash oil in these vaporizing cigarettes, the demand for hash oil goes up. Therefore, the potential for other hash oil extraction labs increase, which increases the potential for more fires and explosions," Hill explained.

Some electronic cigarette makers say hash oil is too thick to work in their products. **The DEA says the more parents are** educated, the better, as this is not a problem that seems to be going away anytime soon.

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Source: http://www.nbcsandiego.com/news/local/Concerns-Rise-over-Usage-of-Hash-Oil-with-E-Cigarettes-241416261.html#ixzz2r9NdjNMQ

# Separation of smokers and non-smokers in the same air space doesn't work!





# HEALTH EFFECTS – SECONDHAND VAPING



Overall, the e-cigarette is a new source of VOCs and ultrafine/fine particles in the indoor environment. Therefore. the question of "passive vaping" can be answered in the affirmative. However, with regard to a health-related evaluation of e-cigarette consumption, the impact of vapor inhalation into the human lung should be of primary concern"

(Schripp, et al., 2012)



- ...e-cigarette smoke contains the toxic element chromium, absent from traditional cigarettes, as well as nickel at levels 4x higher than normal cigarettes. In addition, several other toxic metals such as lead and zinc were also found in second-hand e-cigarette smoke – though in concentrations lower than for normal cigarettes.
- "Our results demonstrate that overall electronic cigarettes seem to be less harmful than regular cigarettes, but their elevated content of toxic metals such as nickel and chromium do raise concerns,"
  - Constantinos Sioutas, professor at the USC Viterbi School of Engineering, and corresponding author of the study, which was published online on August 22 by the Journal of Environmental Science, Processes and Impacts

### SECONDHAND AEROSOL SAN DIEGO



#### E-cigarettes also harm those exposed to the secondhand aerosol

- People exposed absorb nicotine at comparable levels to secondhand smoke from cigarettes
- Secondhand aerosol contains ultrafine particles that may:
  - Cause cancer
  - Cause birth defects
  - Cause other reproductive harms





# 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



GONIEWICZ, M.L., ET AL., LEVELS OF SELECTED CARCINOGENS AND TOXICANTS IN VAPOUR FROM ELECTRONIC CIGARETTES. TOB CONTROL, 2014. 23(2): P. 133-9. WILLIAMS, M., ET AL., METAL AND SILICATE PARTICLES INCLUDING NANOPARTICLES ARE PRESENT IN ELECTRONICCIGARETTE CARTOMIZER FLUID AND AEROSOL. PLOS ONE. 2013. 8(3): P. E57987.

CALIFORNIA OFFICE OF ENVIRONMENTAL HEALTH HAZZARD ASSESSMENT, SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986, CURRENT PROPOSITION 65 LIST

# TOXIC CONTAMINANTS HAVE BEEN FOUND IN FLUID AND/OR VAPOR (10)



- Formaldehyde
- Diethylene Glycol
- Nickel
- Chromium
- Cadmium
- Lead
- Fine and Ultrafine Particles
- TSNAs
- VOCs
- Heavy Metals
- \* Items in RED: On CA prop 65 list of carcinogens and reproductive toxins
  - Acetaldehyde

# THE SPECTRUM OF PREVENTION (PREVENTION INSTITUTE)



### Influencing Policy and Legislation

Changing organizational practices

Fostering coalitions and networks

**Educating Providers** 

**Promoting Community Education** 

Strengthening individual knowledge and skills

### PUBLIC HEALTH POSITION



# NATIONAL ASSOCIATION OF CITY AND COUNTY HEALTH OFFICIALS - NACCHO

- Use broadly-defined language to include e-cigarettes in new smoke-free legislation for indoor and outdoor environments
- Make clear that e-cigarettes are covered by existing smoke-free laws through clarifying opinion or regulation/rule (n.b.: opening up or amending the definitions of "smoke" and "smoking" to incl ecigs and e-cig vapor may jeopardize existing laws)
- Oppose legislation at the local or state level that exempts e-cigarettes from current smoking ban policies and regulations
- Require tobacco retailer licenses to sell e-cigs, or add an additional fee for existing tobacco retailers to sell e-cigarettes
- Establish an ordinance limiting the number of retailers or locations where e-cigarettes can be sold
- Ban sales of e-cigarette components that may appeal to minors, such as flavored cartridges
- Work with businesses and public locations, such as malls, to voluntarily prohibit e-cigarette sales on premises

National
Association of
Local Boards of
Health

American Heart &
 Stroke Association,

American CancerSociety.

American LungAssociation

# 13 JURISDICTIONS RESTRICTING THE USE OF ESD IN SAN DIEGO COUNTY:





- Vista (10/22/13)
- Carlsbad (12/3/13)
- Solana Beach (2/12/14)
- Poway (2/4/14)
- County of San Diego, (3/11/14)
- Encinitas (3/26/14)
- Oceanside (4/2/14)
- Del Mar (4/7/14)
- La Mesa (7/8/14)
- City of San Diego (7/28/14)
- El Cajon (3/11/14 and 7/22/14 hookah, buffer zones, retailer licensing)
- San Marcos (10/28/14))
- Lemon Grove (9/1/15)





# PUBLIC VENUES/BUSINESSES: PETCO PARK AND OTHER BALLPARKS



#### **SMOKING POLICY**

- Petco Park is a smoke-free facility. Guests who wish to utilize standard or electronic smoking devices at a Petco Park event are required to utilize the designated locations outside the ballpark. Guests wishing to exit the ballpark and return to the same event must receive a re-entry stamp from gate personnel.
  - Other ballparks that directly address electronic cigarettes in their rules include: Safeco, Kauffman, The Great American, and Chase.

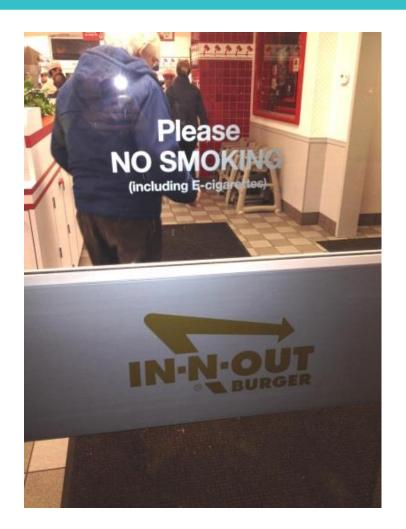
#### **PUBLIC VENUES/BUSINESSES:**



#### SAN DIEGO ZOO/SAFARI PARK, IN-N-OUT BURGER



'Open every day of the year, including all holidays. Effective immediately, the Safari Park and Zoo continues to be a smoke-free facility, and this policy now prohibits the use of electronic cigarettes.'



# SUMMARY: LOTS OF PROBLEMS, USE POLICY SOLUTIONS

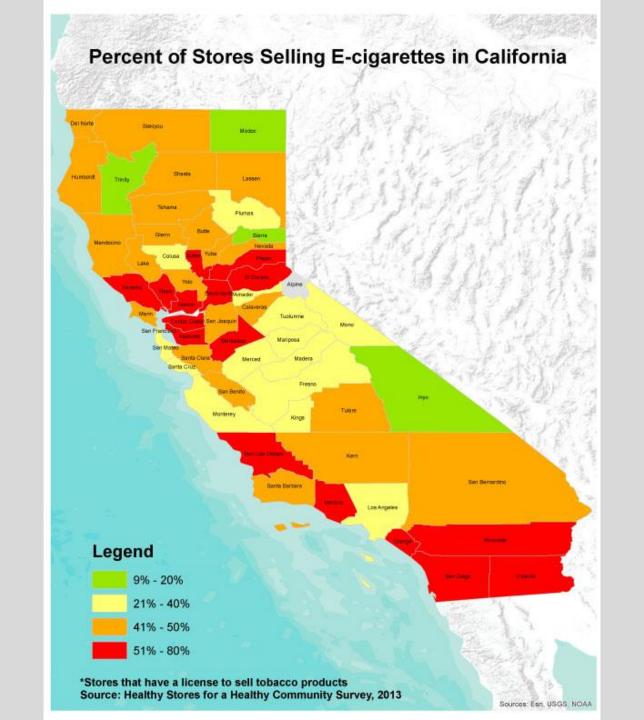


#### **MISSION CRITICAL**

- Attract youth and young adults
- Starter, gateway product
- Dual use
- Lures former smokers
- Delays cessation
- Risk to public health
  - Nicotine poisoning
  - Secondhand vapor
  - Use with other drugs
    - MJ, heroine, cocaine

#### **POLICIES**

- Update and revise tobacco product definition in existing policies to include electronic smoking devices
- Develop and implement new policies
  - Restrict use, sales
  - Restrict advertising, promotions
  - Require retailer licensing
  - Monitor for compliance, consistent and comprehensive enforcement



### **CONTACT INFORMATION**



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