

# E-Cigarettes: Unanswered Questions

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# SMOKE ANYWHERE

- AIRPLANES
- RESTAURANTS
- NIGHT CLUBS
- BARS
- HOTEL/MOTELS
- EVERYWHERE!





**BEAT THE SMOKING BANS...  
EXPERIENCE THE FREEDOM...**

**WITH ELITENSMOKE ELECTRONIC CIGARETTES**



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YouTube

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GUIDE



MORE RESULTS  
jenny mccarthy blu



0:41 / 1:01



# Who is Selling Them?

- About 200 makers
- Swallowing the independent market
  - Lorillard
  - Altria (Philip Morris)
  - RJ Reynolds
  - British American Tobacco

# E-Cigarette Companies

- Using the same political and public relations strategies as cigarette companies
  - Organizing users
- Not likely to allow cannibalization of their cigarette sales

# 5 Basic Parts to Electronic Nicotine Delivery Systems (ENDS)

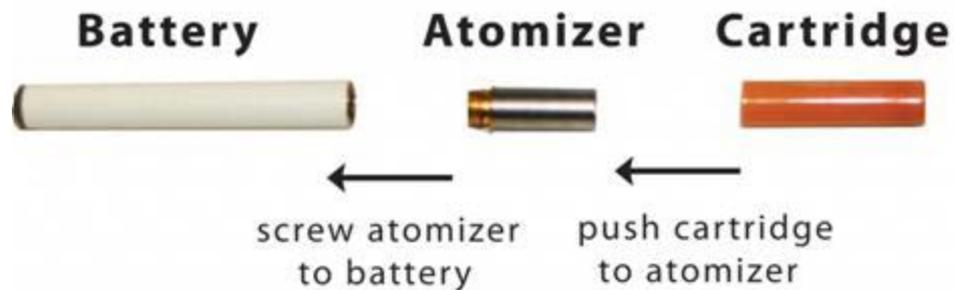
- Housing
- Tip that is sucked on by user
- Battery
- Atomizer that heats the liquid and vaporizes it
- Tank that holds the e-juice and atomizer (called a cartomizer or clearomizer)

# The “e-Juice”

- Propylene glycol and/or vegetable glycerine (glycerol)
- Nicotine (0 – 36 mg/ml)
- Flavorings (tobacco, fruit, mint/menthol, etc)
- Additives (trying to mimic “throat grab”)

# First Generation (Cigalikes)

- Two types
  - Disposable
  - Rechargeable (pre-filled cartridges)



# Second Generation

- Refillable
- More decorative



# Third Generation - Mods

- Advanced personal vaporizers
- Control of battery voltage





My Vapor Record (MVR) is a special PC software of eVic. It has professional data statistics function which can record your vapor information more effectively.

Amazing! The design of PC software realizes human-machine interaction through connecting with computer. After your convenient and quick setup, you just only click mouse gently, your vapor record will be displayed on the computer.



#### Power on/off

Activate battery energy output  
Deactivate battery energy output



#### Battery indicator

Show remaining battery power, it will warn when the battery decreases to 5%.



#### Variable voltage

Adjust output voltage of the battery



#### Standby setting

Set standby time of the screen  
Set standby time of the system



#### Puff setting

Show/renew current total puff number  
Set reminder puff number.



#### Show inhaling

Show vaping time on the screen



#### Date setting

Set time and date of the device manually or update through MVR automatically



#### Chart Analysis

After connecting with computer, you will have full access to your vapor record



#### Device parameters

Show resistance of the atomizer, Show output voltage and wattage of the battery



#### Battery protection

Overheating protection, short circuit protection, low voltage protection, battery inversion protection



#### Energy saving

Screen of the device will go out when not used  
System of the device will fall asleep when not used



#### PC operation

Through connecting with computer, you can modify information of the device more conveniently

# Who Is Vaping?

- Younger
- Higher income
- Better educated
- Both genders
- Dual users
- IS THERE A VAPING SUBCULTURE?

# Vaping Subculture

- Believe their addiction can save lives of millions of smokers of “analog” cigarettes
- Disdain cigalikes
- Obsessed with the customizable technology – tricking out vaping pieces with newest upgrades – mods; personal vaporizers
- May spend thousands on hobby in a year for accessories, colors, flavors



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# Vapefests

- Highly sponsored multi-day events

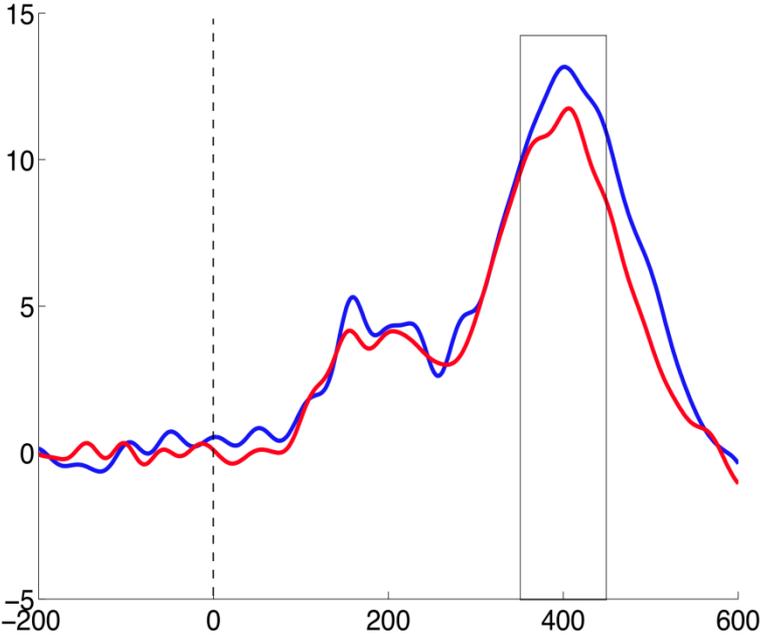


- “No one has ever heard of a nicotine patch club or a nicotine gum club, where people are addicted to these things say “let’s all get together, you know I’m a patch wearer, and you’re a patch wearer, let’s have a club, we’ve got something in common.” Simon Chapman
- Powerful special interest groups, with industry backing

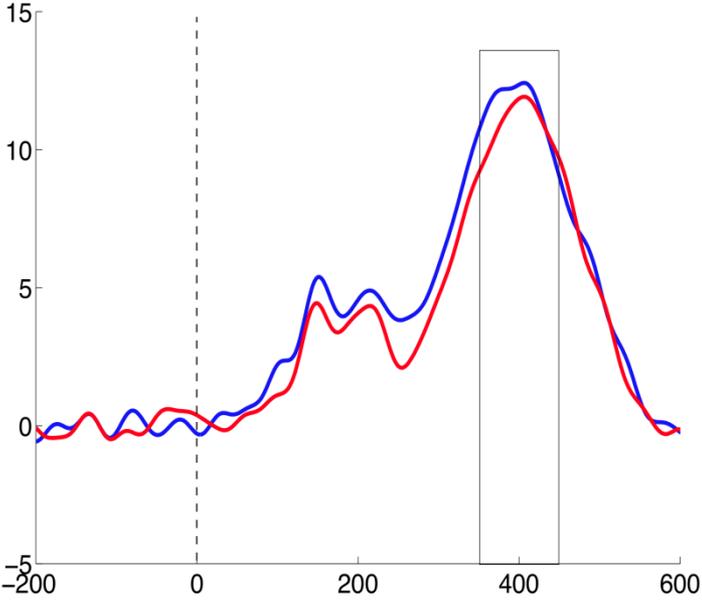
# Are They Effective...

- For nicotine delivery?
- For craving/withdrawal?
- For smoking cessation?

# P3 Component of Cortical ERP

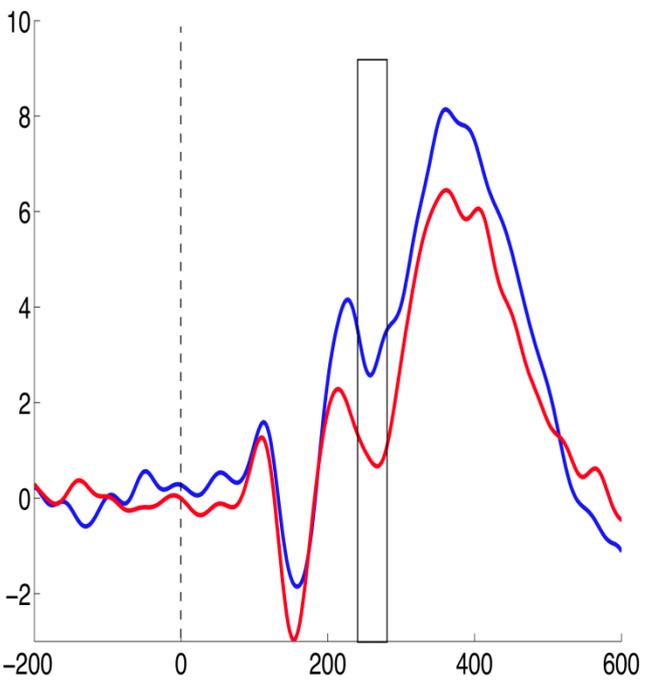


Own Brand Cigarette

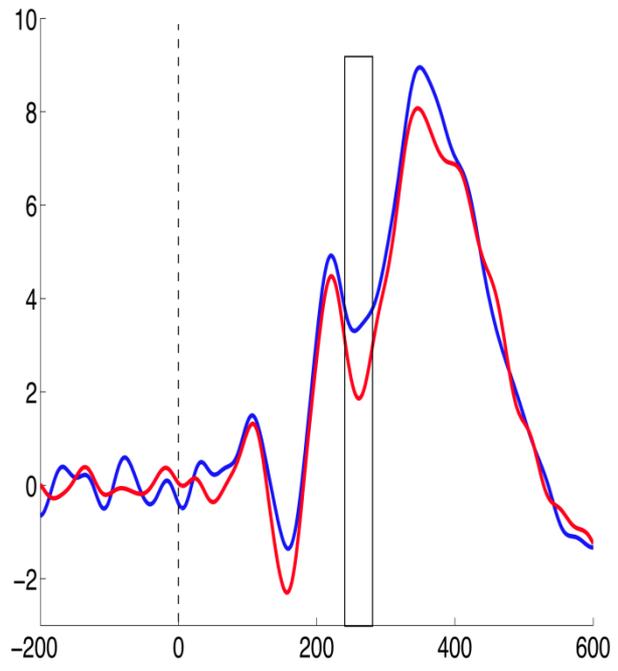


ENDS with Nicotine

# N2 Component of Cortical ERP



Own Brand Cigarette



ENDS with nicotine

# Blood Nicotine Levels

- Eissenberg (2010)
  - Compared ENDS to tobacco smoking
  - Only tobacco smoking raised blood nicotine levels
- Bullen (2010)
  - ENDS reached maximum blood level of 1.2 ng/ml in 20 minutes

# Problems with Studies

- Naïve users – must learn how to maximize nicotine delivery
- First generation devices may be ineffective
- Vansickel and Eissenberg (2013)
  - Experienced users using their own devices
  - Effective nicotine delivery with 2<sup>nd</sup> generation devices
- Dawkins and Corcoran (2013)
  - Effective nicotine delivery with 1<sup>st</sup> generation device in regular users

# What about Smoking Cessation?

- Moderately effective at alleviating tobacco craving
- RCTs suggest cessation rates comparable to NRT
- RCTs were done using cigalike ENDS

# What May Be the Adverse Effect of FDA Regulation of ENDS?

- Would require an IND application if testing for efficacy for cessation
- May pretty much guarantee no independent RCTs for cessation

# So What is the Controversy About?

## Expanding the Definition of Harm

- Re-normalizing smoking
  - Marketing back on television using same imagery as old time cigarette ads
  - Similar placement in convenience stores as we once saw for cigarettes (e.g., near candy)
- The problem of use by youth
  - Rapidly adopting
  - Dual use common
  - Youth who use are heavier smokers
  - Temporal relationship between use of ENDS & tobacco cigarettes is not known

# The Controversy

- May be another tool for quitting among some cigarette smokers, but...
- May be associated with lower odds of quitting (bridge product to maintain nicotine levels in venues where smoking not permitted)
- Disease risk likely to be only modestly affected in dual users
- Passive exposure results in cotinine levels similar to those of passive smokers

We Just Don't Have the Answers