

E-cigarettes: Back to the Future

Stanton Glantz, PhD
Professor of Medicine
UC San Francisco



A STUDY OF
PUBLIC ATTITUDES TOWARD
CIGARETTE SMOKING AND
THE TOBACCO INDUSTRY

IN 1978

VOLUME I

MAY 1978

0000335



THE ROPER ORGANIZATION, INC.

T031048

TITX 0000963

RM RECD 790406 QRH

IMPLICATIONS OF THE FINDINGS

The original Surgeon General's report, followed by the first "hazard" warning on cigarette packages, the subsequent "danger" warning on packages, the removal

The anti-smoking forces' latest tack, however--on the passive smoking issue--is another matter. What the smoker does to himself may be his business, but what the smoker does to the non-smoker is quite a different matter. The anti-smoking

issue--is another matter. What the smoker does to himself may be his business, but

~~This we see as the most dangerous development to the viability of the tobacco industry that has yet occurred.~~ While there is little sentiment for an out-

some sale about the effects of smoking on the non-smoker as they have already made with respect to the effects on the smoker. Nearly six out of ten believe that smoking is hazardous to the non-smoker's health, up sharply over the last four years. More than two-thirds of non-smokers believe it, nearly half of all smokers believe it.

This ~~we see as~~ the most dangerous development to the viability of the tobacco industry that has yet occurred. While there is little sentiment for an outright ban on smoking in public gathering places, there is already majority sentiment for providing separate facilities for smokers and non-smokers. As the anti-smoking forces succeed in their efforts to convince non-smokers that their health is at stake too, the pressure for segregated facilities will change from a ripple to a tide as we see it.

It is, of course, possible that once smokers and non-smokers alike experience all the inconveniences of separate facilities, people will become fed up

TIFL 0529471

TIMN 210772

Types of e-cigarettes

Product	Description	Some Brands
Disposable e-cigarette 	Cigarette-shaped device consisting of a battery and a cartridge containing an atomizer to heat a solution (with or without nicotine). Not rechargeable or refillable and is intended to be discarded after product stops producing aerosol. Sometimes called an e-hookah.	NJOY OneJoy, Aer Disposable, Flavorvapes
Rechargeable e-cigarette 	Cigarette-shaped device consisting of a battery that connects to an atomizer used to heat a solution typically containing nicotine. Often contains an element that regulates puff duration and /or how many puffs may be taken consecutively.	Blu, GreenSmoke, EonSmoke
Pen-style, medium-sized rechargeable e-cigarette 	Larger than a cigarette, often with a higher capacity battery, may contain a prefilled cartridge or a refillable cartridge (often called a clearomizer). These devices often come with a manual switch allowing to regulate length and frequency of puffs.	Vapor King Storm, Totally Wicked Tornado
Tank-style, large-sized rechargeable e-cigarette 	Much larger than a cigarette with a higher capacity battery and typically contains a large, refillable cartridge. Often contains manual switches and a battery casing for customizing battery capacity. Can be easily modified.	Volcano Lavatube

Lorillard
TOBACCO COMPANY



RAI Reynolds
American



Altria



Altria Group/ AP

Green
smoke®

Imperial
Tobacco



參龍國際有限公司
Dragonite International Limited



BRITISH AMERICAN
TOBACCO



In the Movies....

blu on the Silver Screen

There has been a recent upsurge in e-cigarette's appearance in the hands of stars, and the upcoming movie *Plurality* seems to be following suit. A recent trailer released for the movie features a [blu Cig](#) in the hands of one of the actors.



Plurality: Directed by Dennis Liu and written by Ryan Condal (*Hercules*, *Paradise Lost*), this short film is set 11 years in the future where New York City is a giant grid.

An innovation called The Grid has allowed the state to track everyone everywhere they go. Every surface of NYC has been covered or replaced by a giant fingerprint scanner that registers and tracks your movements. But problems ensue when two sets of identical fingerprints appear in two separate places. The movie does not have a release date yet. Watch the trailer [here](#).

The Advent of E-Cig's in Movies

After Johnny Depp chose to sport an e-cig in his recent movie *The Tourist* and the likes of Leonardo DiCaprio and Charlie Sheen have been seen using [e-cigs](#) around town, you have to wonder what kind of an impact this will have on the silver screen? The use of cigarettes in the movies was for a long time the norm, but is largely seen as taboo these days. In fact, *just having a cigarette in movie may produce an R rating*.

But with so many e-cigarettes popping up in stars hands, both off screen and on screen, could the tide be turning for smoking in movies? It would certainly be good news for e-cigarettes.

Healthy



Nicocure™

Smoking
Without the **Side Effects**

The NicoCure eCigarette
Looks, Tastes and Smokes
like a REAL CIGARETTE with:

**NO SMOKERS
COUGH**



**CLAIM YOUR
FREE BONUS
OFFER!**

CLICK HERE

Freedom

MOORE
FREEDOM
from
**THROAT
IRRITATION**
"CALL FOR
**PHILIP
MORRIS**
AMERICA'S FINEST CIGARETTE

A vintage advertisement for Philip Morris Freedom cigarettes. It features a woman in a red uniform and black hat, holding a pack of cigarettes and a lit cigarette. The background shows a harbor scene with the Statue of Liberty and ships. The text is bold and stylized, with 'FREEDOM' in large red letters and 'PHILIP MORRIS' in large orange letters.

**TAKE BACK
YOUR FREEDOM**
with **blu eCigs**™, the smart alternative to cigarettes.

- Smoke Virtually Anywhere
- No Tobacco Smoke, Only Vapor
- Flavors Made in the U.S.A.

blu™ electronic cigarettes are now available
in retail stores nationwide.
Visit us at blucigs.com/store-locator

NOT FOR SALE TO MINORS. blu eCigs electronic cigarettes are not a smoking cessation product and have not been evaluated by the Food and Drug Administration, nor are they intended to treat, prevent or cure any disease or condition. ©2013 LLC, Inc. blu™ and blu eCigs are trademarks of Lorillard Technologies, Inc. (Photography by Francesco Carrazzini)

A modern advertisement for blu eCigs. It features a man in a dark shirt and light pants sitting in a convertible car, holding a blu eCig. The background is a bright, open sky. The text is clean and modern, with 'blu' in a stylized font. A pack of blu eCigs is shown in the bottom right corner.

Elegance



LUCKIES ARE ALL-WAYS KIND TO YOUR THROAT

"it's toasted"

Only the Center Leaves...these are the Mildest Leaves

The Queen of the Cup

They Taste Better

© 2009 B&W T Co. The American Tobacco Company



SMOKE IN STYLE

With blu Electronic Cigarettes

Freedom never goes out of fashion. Control when and where you want to smoke with blu electronic cigarettes. blu produces no smoke and no ash, only vapor, making it the ultimate accessory and the smarter alternative to regular cigarettes. Step out in style with blu.

SCAN FOR A CHANCE TO WIN A STARTER KIT

  **'Like' us on Facebook**
facebook.com/blucigs

blu

blucigs.com

Available at these fine retailers:

18+ only. CALIFORNIA PROPOSITION 65 Warning: This product contains nicotine, a chemical known to the state of California to cause birth defects or other reproductive harm.

Autonomy

Superslims
FROM VIRGINIA SLIMS

The Ultra Light with more taste than most.

16 mg "tar," 0.9 mg nicotine av. per cigarette by FTC method.

SURGEON GENERAL'S WARNING: Cigarette Smoke Contains Carbon Monoxide.

© 2010 R.J.R.T.C. All rights reserved.

www.rjrt.com

www.superslims.com

Detailed description: A woman in a pink and white striped dress and a large pink hat stands by a swimming pool. A pack of Superslims cigarettes is shown in the foreground. The background is a stylized, painterly scene of a beach and buildings.

Rewrite The Rules.

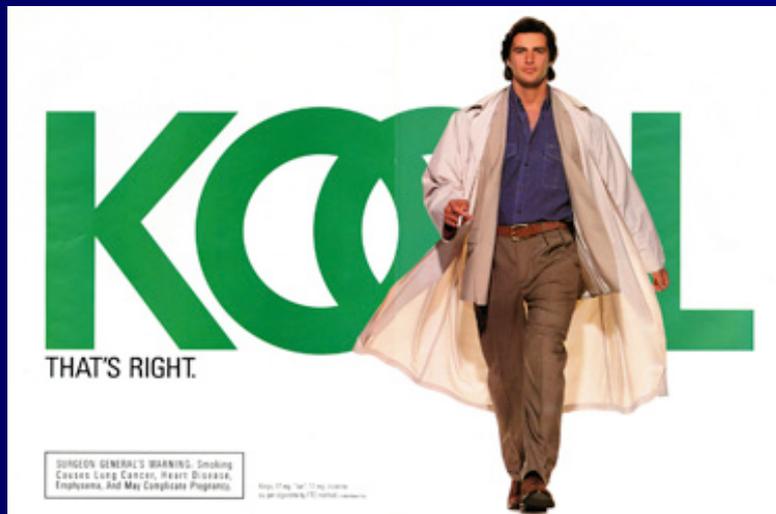
FIN
Electronic Cigarettes

REDEEM YOUR \$5 OFF COUPON AT FINCIGS.COM/STYLE

FIN
Electronic Cigarette

Detailed description: A woman in a white top and red polka-dot skirt stands on a wooden pier, holding a cigarette. In the background, there are vintage biplanes. A pack of FIN Electronic Cigarettes is shown in the foreground. The sky is cloudy.

Doctors



KOOL

THAT'S RIGHT.

SMOKE WITH CARE. 11 mg. tar, 0.9 mg. nicotine av. per cigarette by FTC method.

SMOKE WITH CARE. 11 mg. tar, 0.9 mg. nicotine av. per cigarette by FTC method.

4000 LESS CHEMICALS

Cigarettes contain over 4000 chemicals and harmful substances such as arsenic, carbon monoxide and tar.

VapeClub electronic cigarettes contain no tobacco and none of the 4000 harmful chemicals.

[MORE INFO](#)



Circumvent smokefree laws



The image shows a screenshot of the elitensmoke website's main banner. The banner features a purple header with the brand name 'elitensmoke' and a navigation menu. The main content area has a background image of a woman wearing sunglasses and holding a cigarette. Overlaid on this image is the text 'BEAT THE SMOKING BANS... EXPERIENCE THE FREEDOM...' and 'WITH ELITENSMOKE ELECTRONIC CIGARETTES'. Below the main image is a 'Learn More >' button and a 'Featured Products' section.

elitensmoke

HOME STARTER KITS FLAVOR CARTRIDGES ACCESSORIES HOW IT WORKS CONTACT

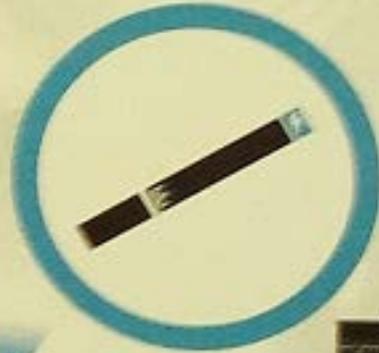
**BEAT THE SMOKING BANS...
EXPERIENCE THE FREEDOM...**

WITH ELITENSMOKE ELECTRONIC CIGARETTES

Learn More >

Featured Products

**SMOKING
PERMITTED**



blu | PREMIER
ELECTRONIC
CIGARETTES
BUY HERE!

18+ ID required for purchase.



PUSH

And Sex

A close-up photograph of Jenny McCarthy with blonde hair, wearing a black top and a purple ring, holding a lit cigarette to her lips. The background is a solid light blue.

blu™ electronic
cigarettes...

“freedom
to have a cigarette
without the guilt.”

— Jenny McCarthy

Click Here To  Watch The Video

And more Sex



**SLIM. CHARGED.
READY TO GO.**

**AVAILABLE
NATIONWIDE!**

Visit us at blucigs.com/store-locator

NOT FOR SALE TO MINORS. blu eCigs electronic cigarettes are not a smoking cessation product and have not been evaluated by the Food and Drug Administration, and are the manufacturer's responsibility. ©2011 blu eCigs, Inc. All rights reserved. blu eCigs and blu are trademarks of Lorillard Technologies, Inc.

Put them next to the candy



Costco



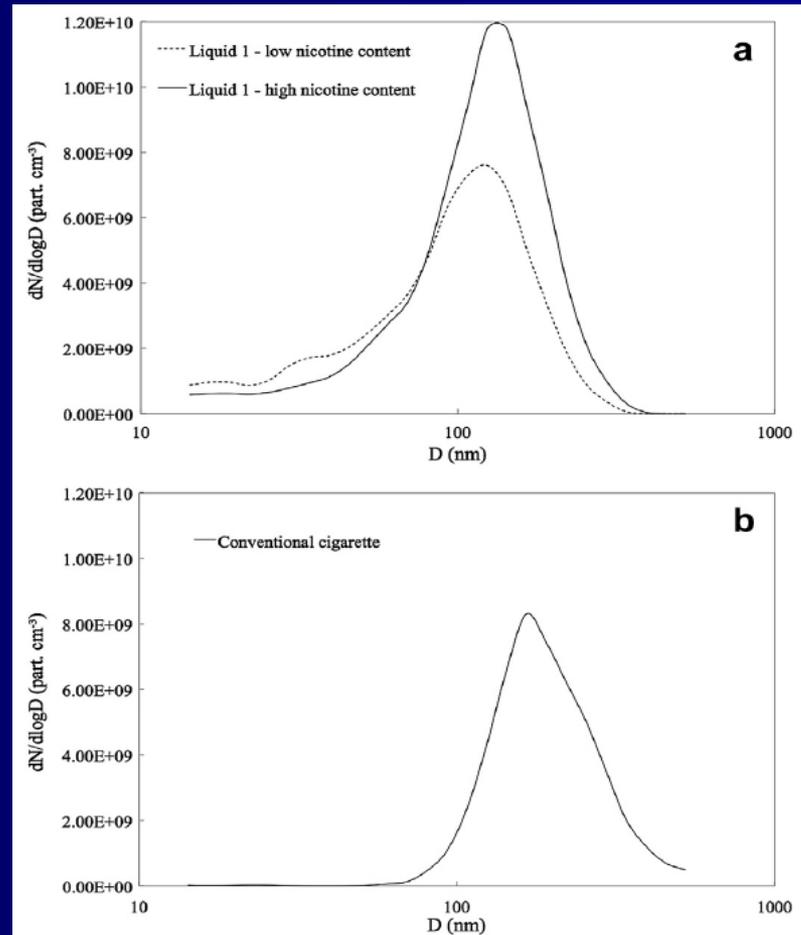
E-cigarettes cleaner than cigarettes

Toxins	e-cigarette (15 puffs)	conventional cigarette	Nicotine inhaler
Formaldehyde (µg)	0.20 - 5.61	1.6 – 52.0	0.20
Acetaldehyde (µg)	0.11 - 1.36	52.0 – 140.0	0.11
Acrolein (µg)	0.07 - 4.19	2.4 – 62.0	ND
o-methylbenzaldehyde (µg)	0.13 - 0.71	--	0.07
Toluene (µg)	ND - 0.63	8.3 – 70.0	ND
p,m-xylene (µg)	ND - 0.2	--	ND
NNN (ng)	ND - 0.00043	0.0005 - 0.19	ND
NNK (ng)	ND - 0.00283	0.012 - 0.11	ND
Cadmium (µg)	ND - 0.022	--	0.003
Nickel (µg)	0.01 - 0.03	--	0.019
Lead (µg)	0.003 - 0.057	--	0.004

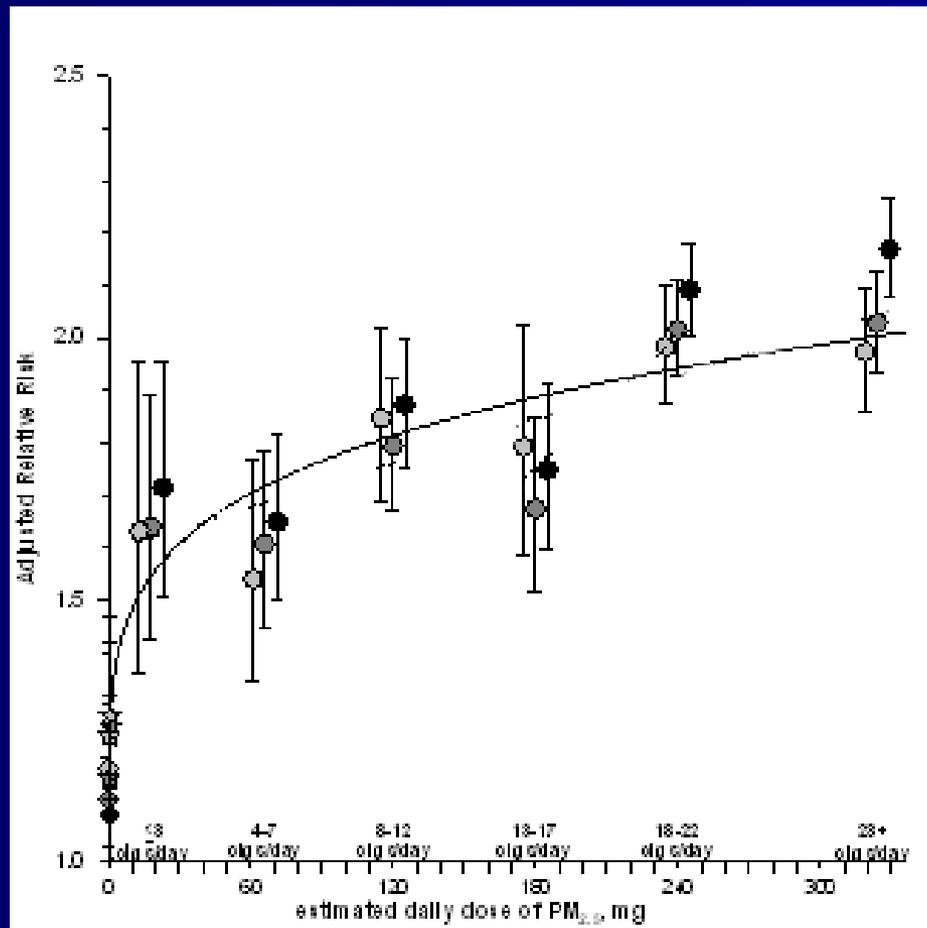
ND = Not Detected; -- = not reported

Data from Goniewicz et al. 2013 using lowest and highest values reported

Particles like cigs



Nonlinear Dose-Response



Direct Health Effects

- Not a lot of evidence
- Cotinine increases
 - Including for “passive vapers”
- Acute reduction in pulmonary function
- Cytotoxicity
 - Pulmonary fibroblasts
 - Stem cells more sensitive
 - Adult lungs probably not most sensitive system

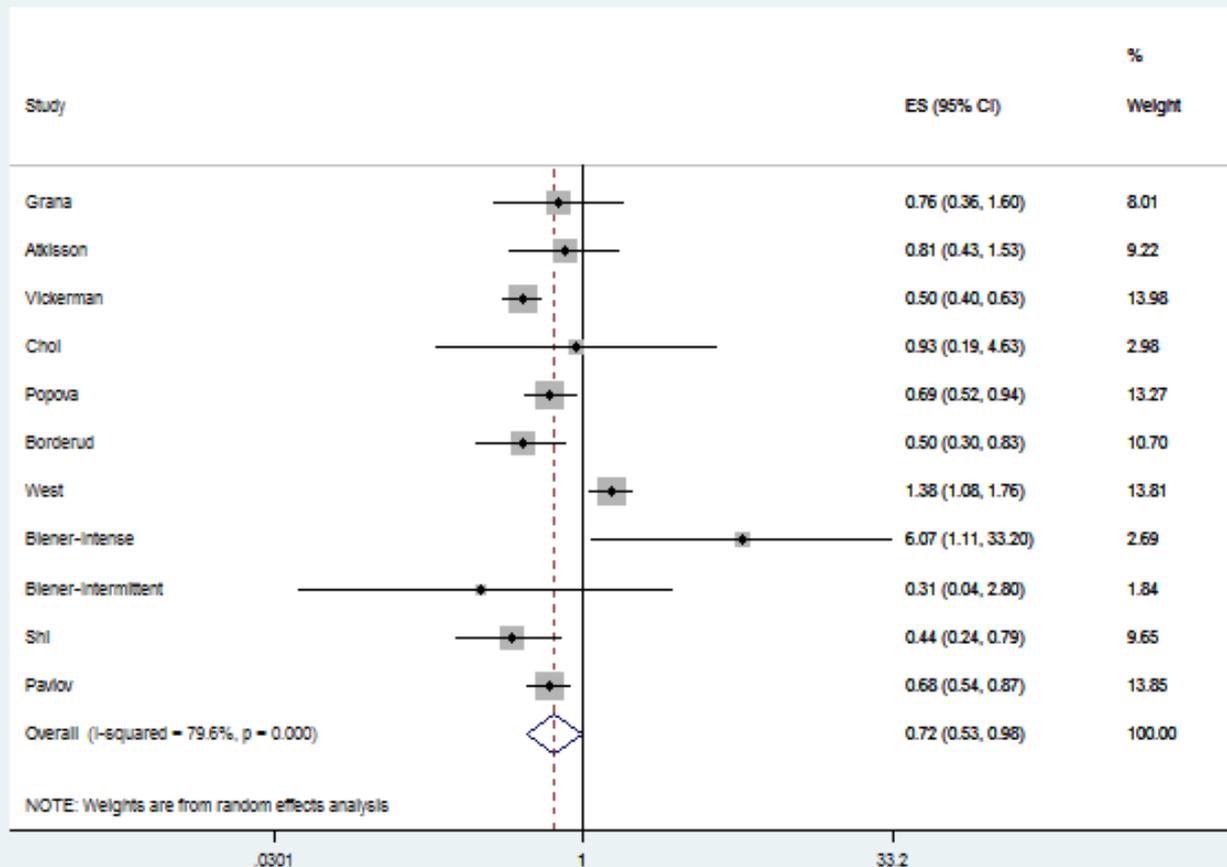
Adults

- Most common reasons to use
 - Safer alternative to cigarettes
 - Trying to quit smoking
 - Use in smokefree areas
- High levels of "dual use"
- May be smoking fewer cig/day
 - About 3 cig/day

US adults

- Use increased from 1.8% in 2010 to 13.0% in 2013
- *32.5% of current e-cigarette users were never or former smokers*
 - Includes 12.6% who are never smokers
 - 5.8% who quit smoking more than 5 years ago

Population Studies of *all* smokers: E-cigarettes = less quitting

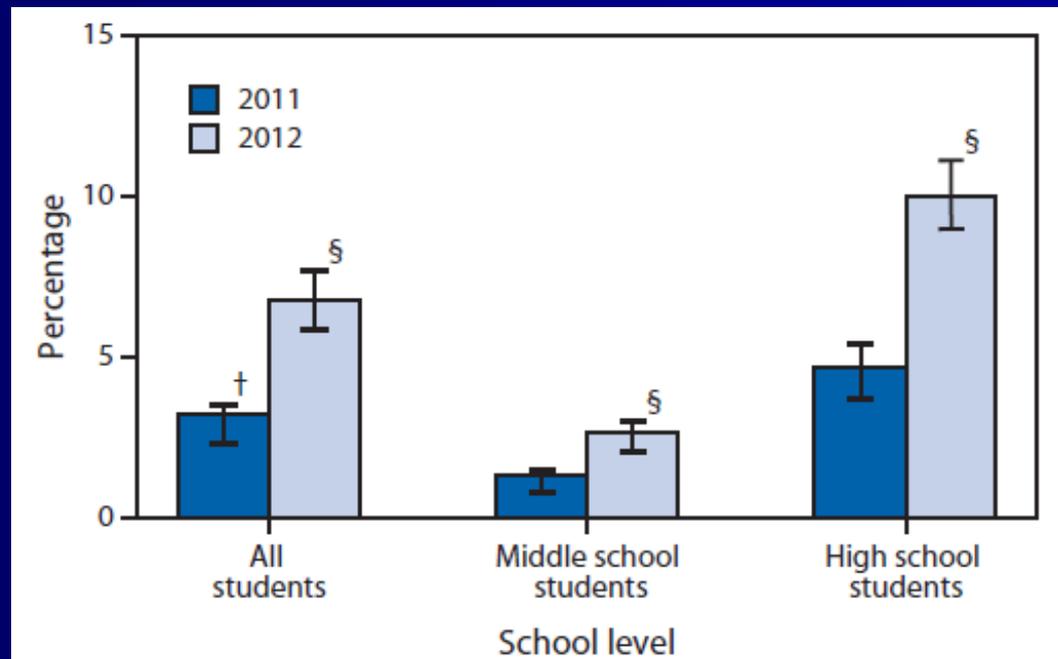


Benefit of cutting down?

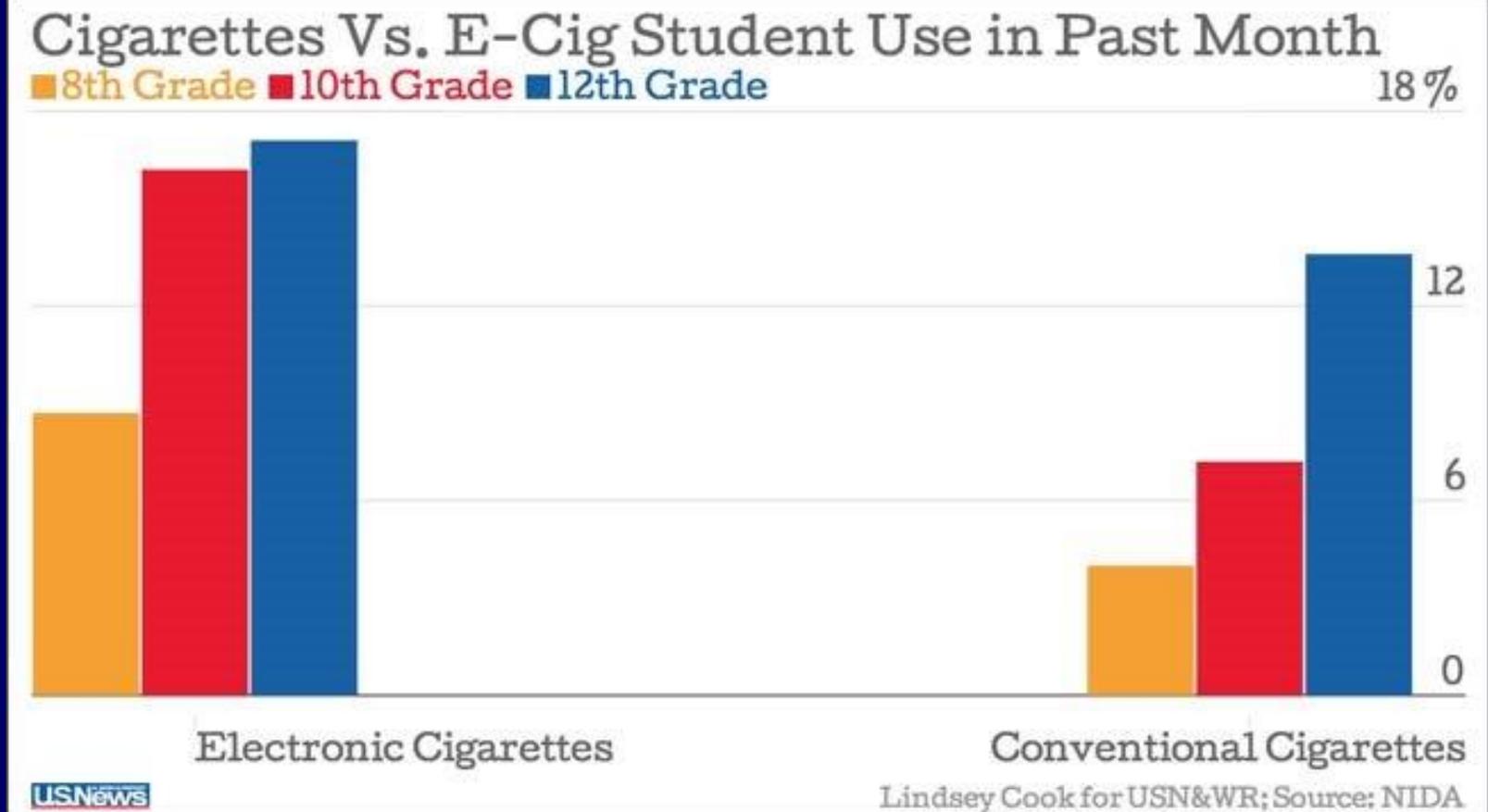
- No cardiovascular benefit
 - Nonlinear dose-response
- May be some cancer benefit
 - But *duration* and *cigs/day* are both important

USA

- CDC NYTS
 - \approx 20,000 adolescents



USA 2014



Experimenters (>1 puff)

- Ever e-cig use was associated with ever smoking (>100 cigarettes)
 - OR 7.68 (95% CI 5.45-10.83)
- Current (30 day) smoking
 - OR 7.44 (95% CI 5.39-10.27)
- Less quitting
 - OR = 0.22 (95% CI 0.16-0.30)
- Similar results for current e-cig use

US Youth

- 2013 NYTS
- Ever e-cigarette users had 1.7 odds of having smoking intentions than never e-cigarette users
- Current users had 1.9 times the odds

US Young Adults

- 2012-2013 NATS
- Never-smoking young adults (age 18-29)
- e-cig users has 2.4 times the odds of being open to cigarette smoking

What to tell patients

- Support quit attempts
- E-cigs unproven and unregulated
- Use FDA approved medication
 - Counseling
- If already using e-cig
 - Not sure what getting
 - Do not use cigs at same time
 - No studies of long term risk

Policy response

- E-cigarettes should not be allowed in smokefree environments
- Prohibit direct or indirect claims that they help people quit smoking
- Integrate into tobacco control media campaigns
- Warn about dual use
- Apply same ad restrictions as cigarettes
- Prohibit sales anywhere not allowed to sell cigarettes
- Prohibit internet sales
- Prohibit sales of flavored e-cigs

The stakes