

E-Cigarettes and Marijuana Exposures in WA State and Child Health Concerns

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E-cigarettes?

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NEW YORK POST

OPINION

E-cigarette hysteria is hazardous to your health

By Richard Cormona September 22, 2013 | 8:00pm



Electronic-cigarette use is likely to be around 95 percent less harmful to health than smoking.
Photo: Anne Wermiel

To say electronic cigarettes ignite controversy is an understatement.

For some, e-cigarettes offer the prospect of disrupting the \$800 billion global cigarette trade by providing a satisfying alternative to smoking. Nicotine itself is not a carcinogen, and e-cigarettes do not have all of the toxins and carcinogens produced by

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The Dangers of E-Cigarettes – and How to Protect Your Kids

Experts worry that e-cigs will contribute to a new generation of young people becoming dependent on nicotine.



(iStockPhoto)

E-cigarettes can be extremely hazardous to young children.

By Sophie Balk, M.D. July 6, 2015 | 7:00 a.m. EDT

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"Smoking cigarettes?"

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Vaping: e-cigarettes safer than smoking, says Public Health England

Government body says vaping can make 'significant contribution to endgame of tobacco' and raises concerns about length of licensing process



Kevin Fenton, director of health and wellbeing at Public Health England, explains why e-cigarettes are better for smokers than tobacco

Vaping is safer than smoking and could lead to the demise of the traditional cigarette, Public Health England (PHE) has said in the first official recognition that e-cigarettes are less damaging to health than smoking tobacco.

The health body concluded that, on "the best estimate so far", e-cigarettes are about 95% less harmful than tobacco cigarettes and could one day be dispensed as a licensed medicine in an alternative to anti-smoking products such as patches.

Most popular in US

- Student accused of being a terrorist for reading book on terrorism
- Haji pilgrimage: more than 700 dead in crush near Mecca
- Pope Francis departs for New York after challenging Washington power - live
- Pope Francis electrifies Congress with speech laying out bold vision for US
- I settled your Brooklyn neighbourhood and now you're dishing me?



What are E-cigarettes?

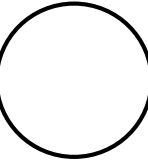
- Electronic Nicotine Delivery System (ENDS): battery operated device that vaporizes a liquid nicotine for inhalation
- Go by several names: e-cig, e-hookah, e-pen, vape pen, mod, vaporizer



What are E-cigarettes?



Nicotine aerosol



Absorbent material/cotton:

- Nicotine
- Propylene glycol
- Vegetable glycerin
- Flavorants





Various E-Cigarettes Available



\$7-10



\$10-40



\$100-800



Various E-Cigarettes Available - JUUL



mango



cool
mint



virginia
tobacco



fruit
medley



creme
brulee





Explosive Dangers





Home destroyed after e-cigarette explodes in Turkey's Denizli

Man suffers burns after E-cig explodes in his pocket

Posted: Dec 22, 2017 1:23 PM PST
Updated: Dec 22, 2017 2:03 PM PST

Posted By Brianna Owczarzak, Digital producer [CONNECT](#)

By Tiarra Braddock

DAILY SABAH
•
ISTANBUL
•
Published
December 25, 2017



Electronic cigarette exploded inside a backpack on a Pinellas County bus,

Three people
overnight ex

SAGINAW, MI (WNEM) - Recent studies show vaping and E-cigarettes have become quite popular with younger generations, especially teenagers.

One Mid-Michigan man is warning about the potential dangers, not just to the inside of the body but to the outside as well.



Courtesy photo

noticed smoke — and
from a backpack



Lithium Ion Fire Hazard

How does the internal battery temperature rise that the battery fires or explodes?

- Flammable electrolyte currently used in Li-ion batteries
 - The electrolyte is heated to its boiling point and the internal pressure in the battery builds to a point where the seal of the battery ruptures
- Maybe due to packing large amount of power into a small space
- Poor design
- Low quality materials
- Manufacturing flaws
- Improper use or handling or come into contact with other metals



E-Juices

- Liquids or “Juices” typically have 4 ingredients:
 - Liquid nicotine
 - Propylene glycol
 - Vegetable glycerin
 - Flavoring





Combustible vs E-cigarettes

Combustible Cigarettes	Low-dose E-cigarettes	High-dose E-cigarettes
12 mg nicotine/cig	6 mg/mL	36 mg/mL
20 cigarettes/pack	15 mL/bottle	15 mL/bottle
240 mg nicotine/pack	90 mg nicotine/bottle	540 mg nicotine/bottle



\$9-15

\$9.75

1 teaspoon of a
36 mg/mL bottle
is a lethal dose
for a 20 lb. baby



What does research say about the controversial points?



Pro-Vape Point #1

E-Cigarettes are less harmful and safe than combustible cigarettes.



Pro-Vape Point #1: Less Harmful and Safe

Response:

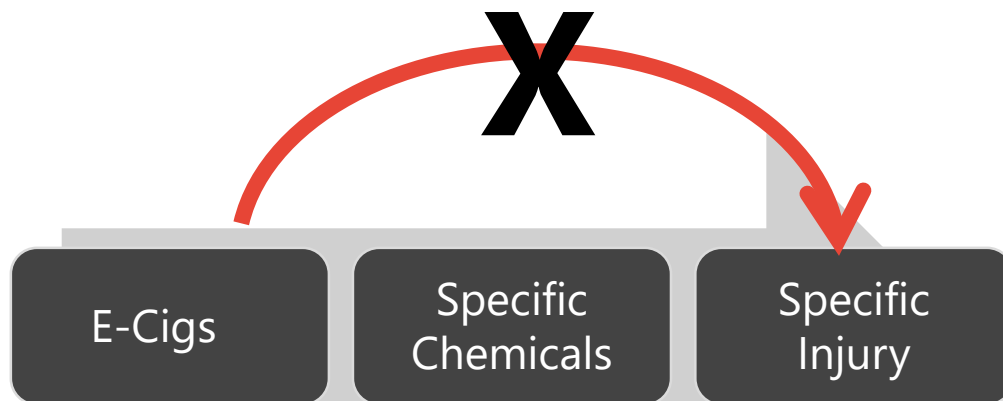
- Yes--Cigarette smoke contains > 7,000 chemicals, so vaping is probably not as harmful as smoking
- But– The information we have shows that safer ≠ safe

safer ≠ safe



Pro-Vape Point #1: Less Harmful and Safe

- Vape aerosols have been found to contain the following:
 - Formaldehyde releasing chemicals¹ (at high voltage) → Cancer
 - Free Radicals² → Causes cellular damage → Cancer
 - Diacetyl³ → Bronchitis Obliterans or “Popcorn lung” (form of irreversible lung damage)
 - **And more!!**



There has not been sufficient time to show a direct link to long-term health consequences



Pro-Vape Point #2

E-Cigarettes do not have
secondhand harm



Pro-Vape #2: No Secondhand Harm

Similar Response:

- Yes—Secondhand “vape” is probably safer than secondhand smoke
- But— We don’t know for sure. The data we do have shows it’s not just water vapor

safer ≠ safe



Pro-Vape #2: No Secondhand Harm

- Minimal but measurable levels in secondhand vapors:
- Measurable levels (albeit minimal) of nicotine found in secondhand vapors¹
- Formaldehyde, acetone, isoprene, and acetaldehyde were also measured¹
- Until we have the time and studies to directly study this, we don't know for sure



Pro-Vape Point #3

E-cigarettes can be used as a smoking cessation method. Why are you preventing something that helps people quit?



Pro-Vape Point #3: Smoking Cessation

- Yes — some people have quit combustible cigarettes with this device
- But – it is not an FDA approved cessation device
- Questions as to whether the creation of an e-cigarette was intended as a smoking cessation product
- Cessation versus redirection
- Some adults do use the product to quit, but youth and young adults indicate predominantly social reasons for initiating use^{1,2}



Harm reduction is great, but...

- If those already addicted to combustible cigarettes can shift to something that's not combustible cigarettes, GOOD!
- If someone using combustible cigarettes can quit smoking all together using this product, GREAT!
- **But this isn't the only thing going on...**



“Gatev

Trajectories of E-Cigarette and Conventional Cigarette Use Among Youth

Krysten W. Bold, PhD,^a Grace Kong, PhD,^a Deepa R. Camenga, MD,^b Patricia Simon, PhD,^a Dana A. Cavallo, PhD,^a Meghan E. Morean, PhD,^c Suchitra Krishnan-Sarin, PhD^a

- E-cigs as an
- E-cigare
- E-cigare later (9th
- E-cigare later (yc
- 32% of smokers:
- 1 year l
 - You like
 - You mo

BACKGROUND: Electronic cigarette (e-cigarette) use is common among youth, and there are concerns that e-cigarette use leads to future conventional cigarette use. We examined longitudinal associations between past-month cigarette and e-cigarette use to characterize the stability and directionality of these tobacco use trajectories over time.

METHODS: High school students ($N = 808$, 53% female) completed surveys across 3 waves (2013, 2014, and 2015) in 3 public schools in Connecticut. Using autoregressive cross-lagged models, we examined bidirectional relationships between past-month cigarette and e-cigarette use over time. Models were adjusted for covariates related to tobacco use (ie, sex, race/ethnicity, socioeconomic status, and use of other tobacco products).

RESULTS: Past-month e-cigarette use predicted future cigarette use (wave 1–2: odds ratio [OR] = 7.08, 95% confidence interval [CI] = 2.34–21.42; wave 2–3: OR = 3.87, 95% CI = 1.86–8.06). However, past-month cigarette use did not predict future e-cigarette use (wave 1–2: OR = 2.02, 95% CI = 0.67–6.08; wave 2–3: OR = 1.90, 95% CI = 0.77–4.71). Additionally, frequency of cigarette and e-cigarette use increased over time. By wave 3, 26% of cigarette users and 20.5% of e-cigarette users reported using 21–30 days out of the past month.

CONCLUSIONS: E-cigarette use was associated with future cigarette use across 3 longitudinal waves, yet cigarette use was not associated with future e-cigarette use. Future research needs to examine mechanisms through which e-cigarette use leads to cigarette use. E-cigarette regulation and prevention programs may help prevent future use of cigarettes among youth.

1. Wills, Thomas A., et al. "E-cigarette use and willingness to quit." *Journal of the American Academy of Child and Adolescent Psychiatry* 54.10 (2015): 1033–1041.
2. Leventhal, Adam M., et al. "Association of electronic cigarette use with traditional cigarette use among adolescents." *Journal of the American Academy of Child and Adolescent Psychiatry* 54.10 (2015): 1042–1050.
3. Primack, Brian A., et al. "Progression to traditional cigarette use among adolescents who use electronic cigarettes." *Journal of the American Academy of Child and Adolescent Psychiatry* 54.10 (2015): 1051–1059.
4. McMillen, R.C. et al. 2014. "Trends in Electronic Cigarette Use among U.S. Youth." *Journal of the American Academy of Child and Adolescent Psychiatry* 53.10 (2014): 1103–1110.
5. Miech, R. et al. (2017) "E-cigarette use as a predictor of future cigarette use among youth." *Journal of the American Academy of Child and Adolescent Psychiatry* 56.10 (2017): 1033–1041.



Marketing Targeted Towards Youth





Marketing: blu

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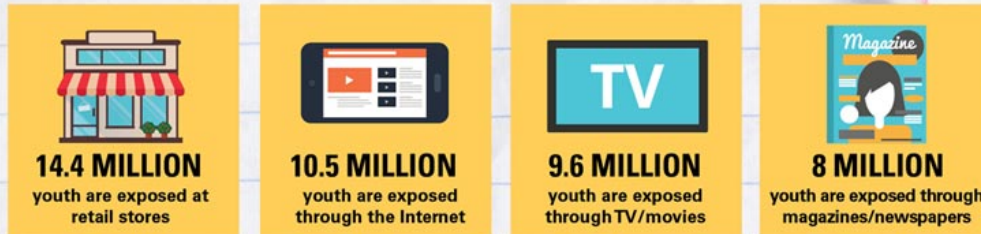
blucigs.com/store-locator/



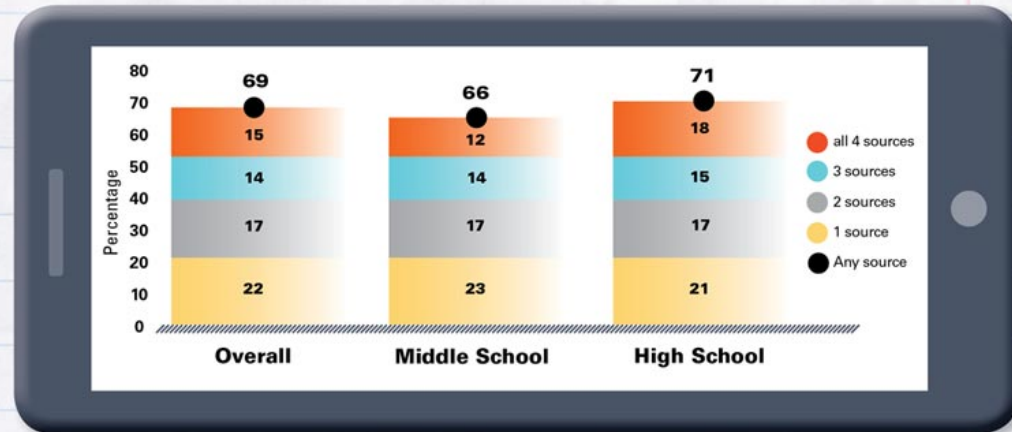


Youth are exposed to e-cigarette advertisements from multiple sources.

Sources of e-cigarette advertisement exposure



US students exposed to e-cigarette advertisements, by school type and number of sources of exposure



* Percentages may not add up exactly to any source due to rounding.

SOURCE: National Youth Tobacco Survey 2014.

“In 2014, nearly seven in 10 (18.3 million) U.S. middle school and high school students reported exposures to e-cigarette advertisement from at least one source”¹

--CDC's Vital Signs: Exposure to Electronic Cigarette Advertising Among Middle School and High School Students – United States, 2014



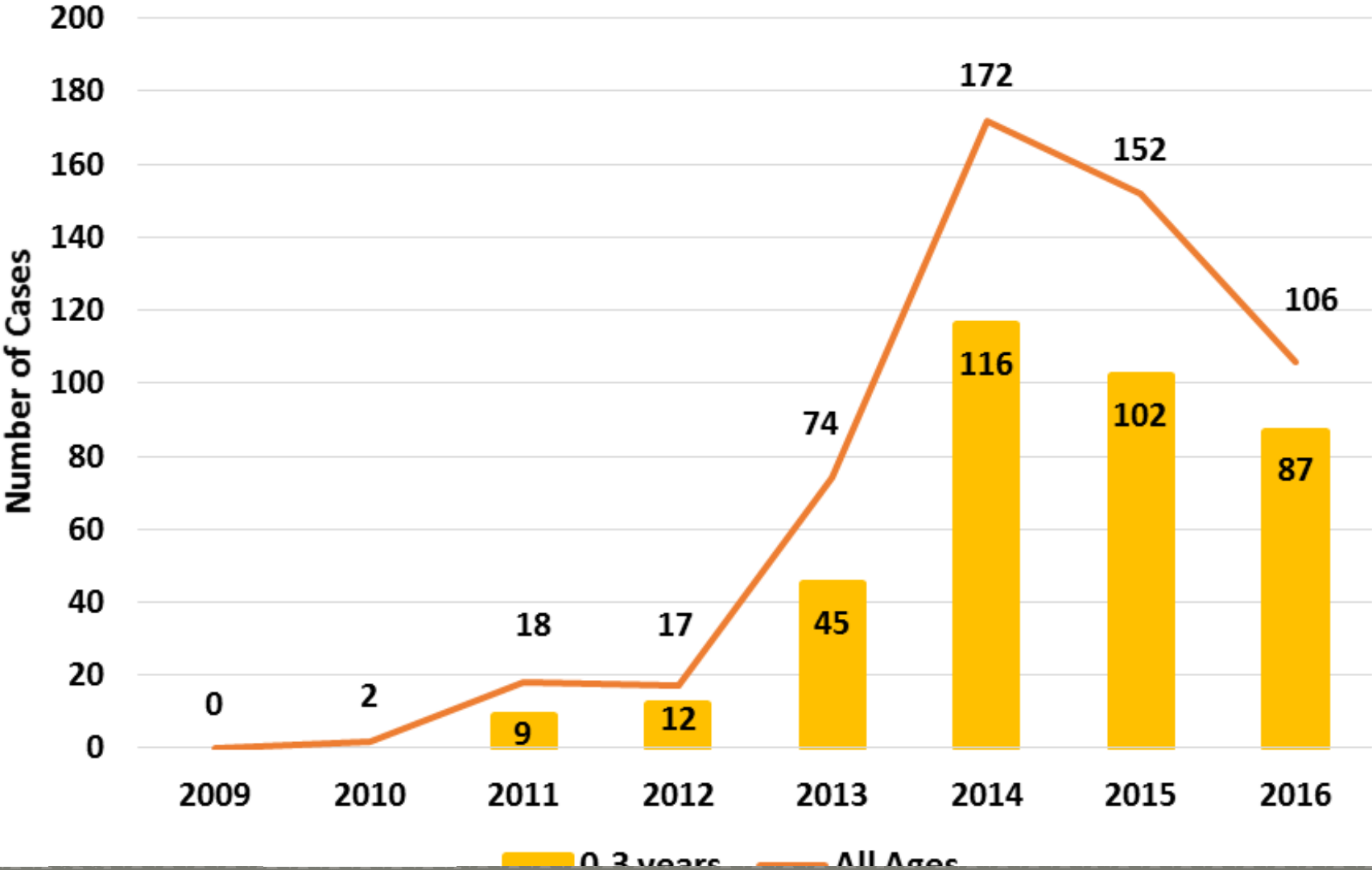


What are we seeing in Washington State?

E-Cigarette Exposure



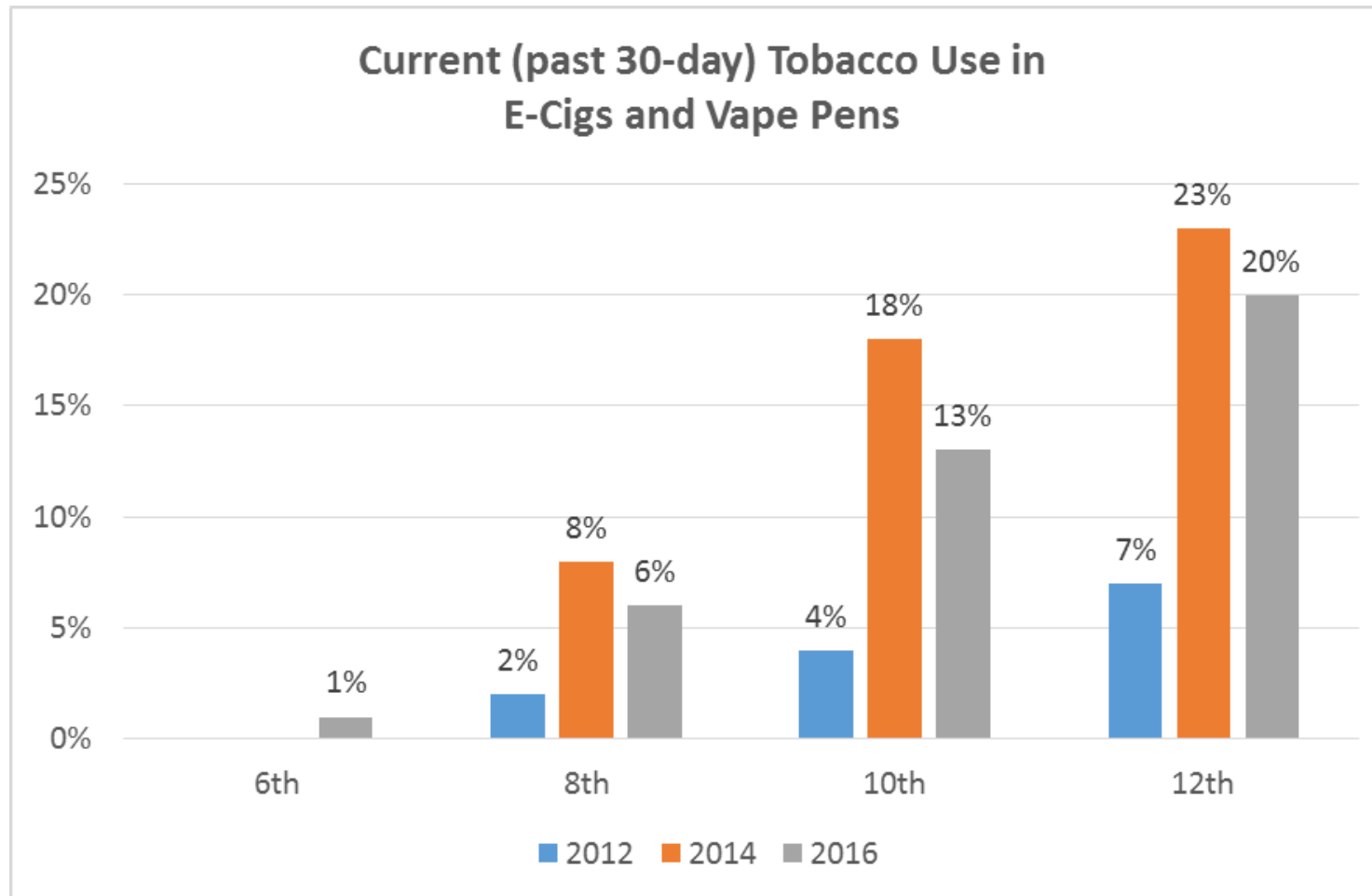
E-Cigarette Exposure in WA for 2009-2016



Despite the overall decrease in calls, children ages 0-3 years are still disproportionately affected and account for about 82% of the total cases.



WA HYS Results – E-Cigarettes





Thank You!

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