Do e-cigarettes help people to quit smoking?

Professor Chris Bullen, The University of Auckland, New Zealand

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Disclosure of interests

I have never received funding from the tobacco or e-cigarette industries, nor do I have any personal financial interests in these industries

I am employed fulltime by the University of Auckland, New Zealand

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Outline

- Background to E-cigarettes
- Evidence from research on E-cigarettes and smoking cessation
- Evidence from research on safety
- Other concerns
- NZ experience
- Reflections and conclusions

What are e-cigarettes?

"Devices whose function is to vaporize and deliver to the lungs of the user a chemical mixture typically composed of nicotine, propylene glycol and other chemicals."

- World Health Organization

Hon Lik

Types of vaping products

Sources: https://www.vapo.co.nz/pages/how-electronic-cigarettes-work'; Kruseman et al, 2018

Questions about e-cigarettes

Individual health of smokers

- Do they help people quit smoking?
- Are they safe?

Public health

- Is there evidence of increase in quitting or a fall in smoking prevalence?
- Is there a gateway-to-smoking effect?
- What about ‘second hand’ exposure?
- Is there a health benefit?
- Is there an effect on smoking inequalities?

Diverse Perspectives

"Disruptive technology" that will end smoking

"Huge gains for public health if all smokers adopt e-cigarette use"

OR

"A distraction from the tobacco end game"

"A major threat to tobacco control – they will discourage quitting, renormalise smoking, recruit new cigarette smokers and strengthen the arm of Big Tobacco"


MAGIC

?


iqos
iqos

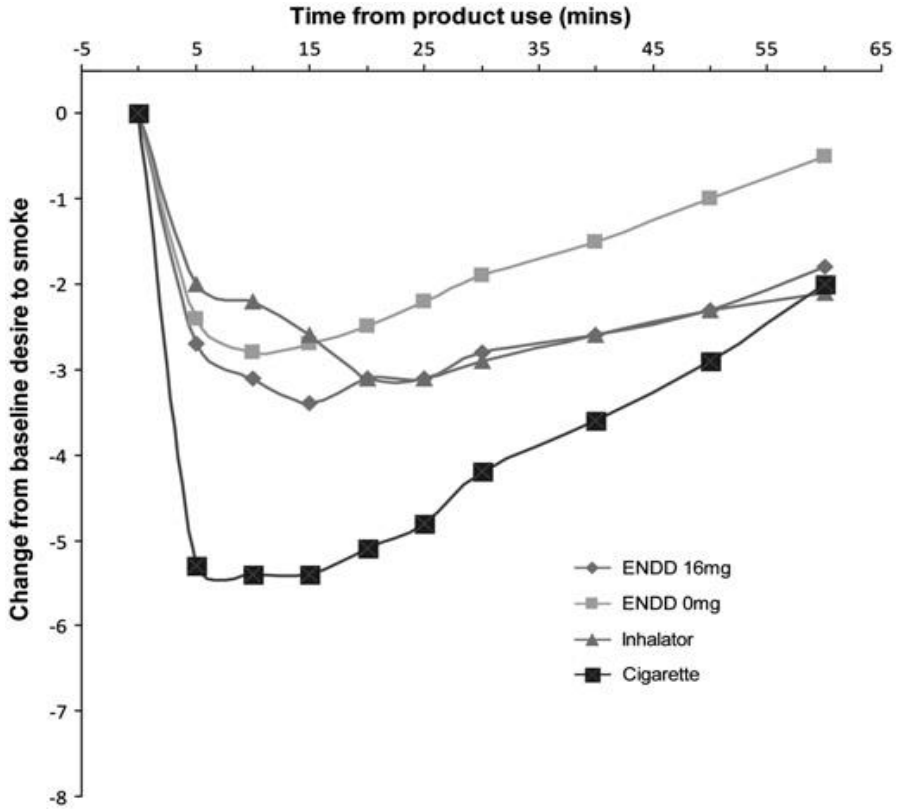
Do they help people quit smoking?

- On-line user survey (N=3587) in 2010
- 96% of respondents said e-cigarettes helped them quit
- 92% said they helped them reduce the number of cigarettes they smoked

Source: Etter and Bullen, 2011

E-cigarettes reduced urge to smoke and delivered nicotine

Change in desire to smoke from baseline over the first hour after each product use:
E-cigarette vs nicotine inhalator vs cigarette



pK characteristics of E-cigarette vs nicotine inhalator vs cigarette

Product	Mean tmax (min) (95% CI)	Mean Cmax (mg/mL) (95% CI)
Usual cigarette (N=9)	14.3 (8.8 - 19.9)	13.4 (6.5 - 20.3)
16 mg E cig (N=8)	19.6 (4.9 - 34.20	1.3 (0.0-2.6)
Nicorette inhalator(N=10)	32.0 (18.7 - 45.3)	2.1 (1.0-3.1)

Source: Bullen et al, Tob Control 2010

Unprecedented uptake by smokers

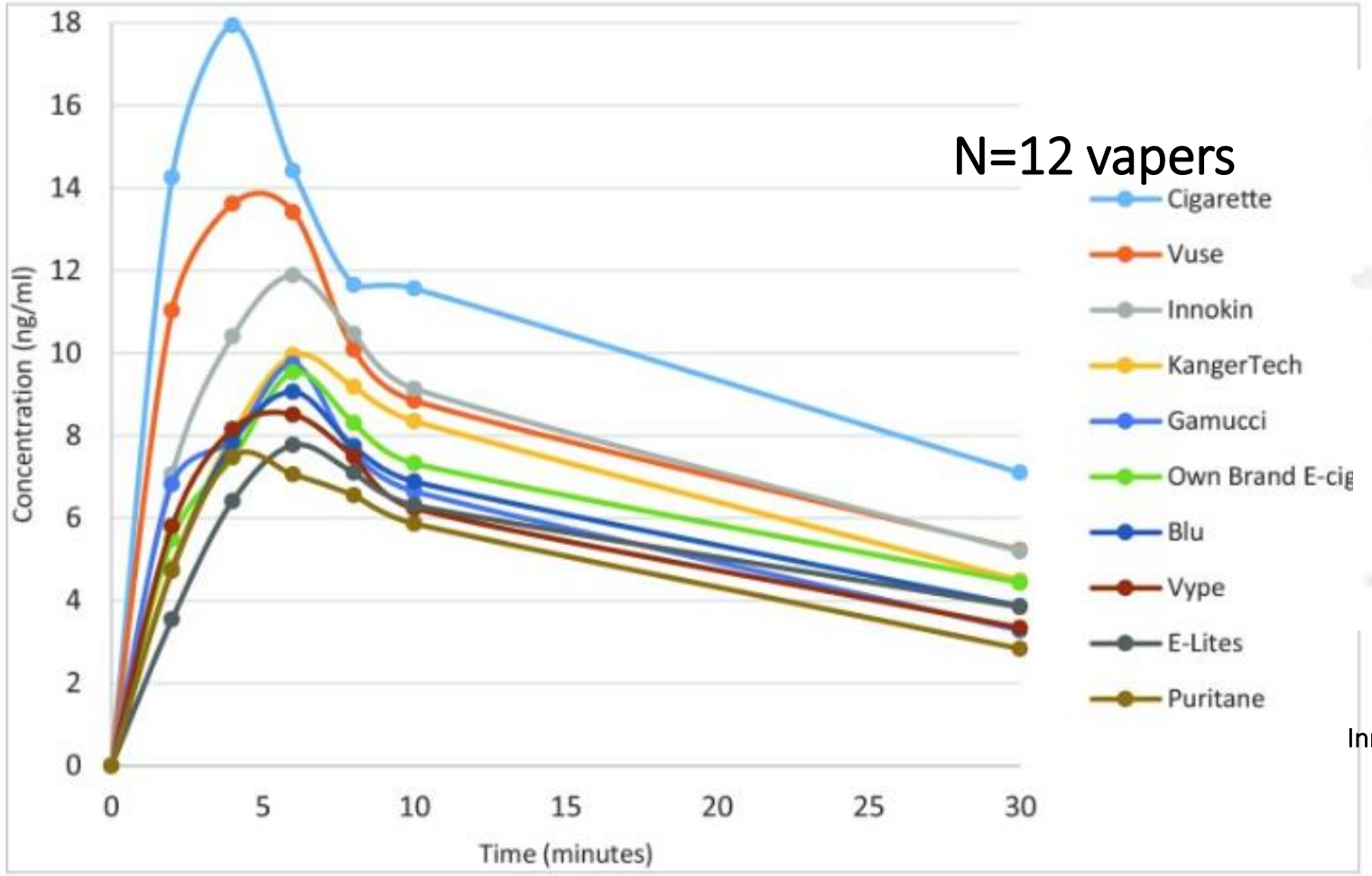
- A cigarette substitute
- Health concerns with smoking
- More acceptable and satisfying than NRT inhaler
- Convenience
- Affordability
- Social support
- ‘Viral’ movement
- Online information
- New identity
- Hobby
- Regulatory vacuum

Source: Barbeau et al, 2013; Steinberg et al, 2014

Nicotine delivery

In general, the faster the nicotine delivery the product is likely to

- be more satisfying
- be better at alleviating tobacco withdrawal symptoms
- have greater dependence liability



Hajek et al Pyschopharmacology (2017) 234: 773-779

The ASCEND trial

Health Research Council of New Zealand

852 citations

Electronic cigarettes for smoking cessation: a randomised controlled trial

Christopher Bullen, Colin Howe, Murray Laugesen, Hayden McRobbie, Varsha Parag, Jonathan Williman, Natalie Walker

Summary

Background Electronic cigarettes (e-cigarettes) can deliver nicotine and mitigate tobacco withdrawal and are used by many smokers to assist quit attempts. We investigated whether e-cigarettes are more effective than nicotine patches at helping smokers to quit.

Methods We did this pragmatic randomised-controlled superiority trial in Auckland, New Zealand, between Sept 6, 2011, and July 5, 2013. Adult (≥18 years) smokers wanting to quit were randomised (with computerised block randomisation, block size nine, stratified by ethnicity [Māori; Pacific; or non-Māori, non-Pacific], sex [men or women], and level of nicotine dependence [>5 or ≤5 Fagerström test for nicotine dependence]) in a 4:4:1 ratio to 16 mg nicotine e-cigarettes, nicotine patches (21 mg patch, one daily), or placebo e-cigarettes (no nicotine), from 1 week before until 12 weeks after quit day, with low intensity behavioural support via voluntary telephone counselling. The primary outcome was biochemically verified continuous abstinence at 6 months (exhaled breath carbon monoxide measurement <10 ppm). Primary analysis was by intention to treat. This trial is registered with the Australian New Zealand Clinical Trials Registry, number ACTRN12610000866000.

Findings 657 people were randomised (289 to nicotine e-cigarettes, 295 to patches, and 73 to placebo e-cigarettes) and were included in the intention-to-treat analysis. At 6 months, verified abstinence was 7·3% (21 of 289) with nicotine e-cigarettes, 5·8% (17 of 295) with patches, and 4·1% (three of 73) with placebo e-cigarettes (risk difference for nicotine e-cigarette *vs* patches 1·51 [95% CI −2·49 to 5·51]; for nicotine e-cigarettes *vs* placebo e-cigarettes 3·16 [95% CI −2·29 to 8·61]). Achievement of abstinence was substantially lower than we anticipated for the power calculation, thus we had insufficient statistical power to conclude superiority of nicotine e-cigarettes to patches or to placebo e-cigarettes. We identified no significant differences in adverse events, with 137 events in the nicotine e-cigarettes group, 119 events in the patches group, and 36 events in the placebo e-cigarettes group. We noted no evidence of an association between adverse events and study product.

Interpretation E-cigarettes, with or without nicotine, were modestly effective at helping smokers to quit, with similar achievement of abstinence as with nicotine patches, and few adverse events. Uncertainty exists about the place of e-cigarettes in tobacco control, and more research is urgently needed to clearly establish their overall benefits and harms at both individual and population levels.

Funding Health Research Council of New Zealand.

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Bullen et al, Lancet 2013

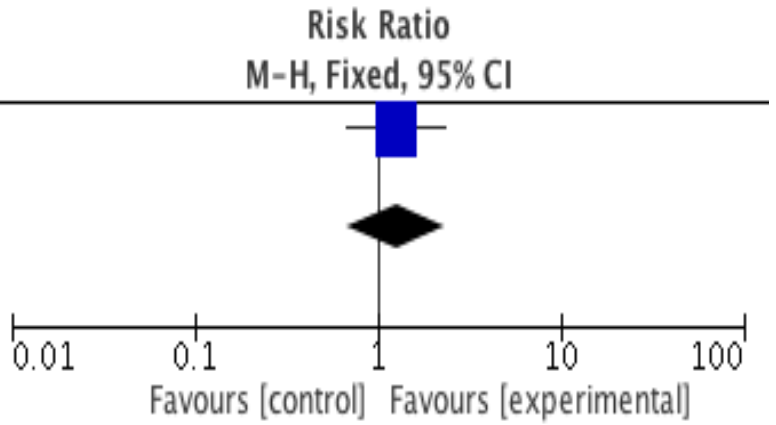
E-cigarettes as effective as patches

Study	Nicotine EC	Nicotine Patch	RR (95% CI)
Bullen 2013	7% (21/289)	6% (17/295)	1.26 (0.68 – 2.34)

Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Bullen 2013	21	289	17	295	100.0%	1.26 [0.68, 2.34]
Total (95% CI)		**289**		**295**	**100.0%**	**1.26 [0.68, 2.34]**
Total events	21		17			

Heterogeneity: Not applicable

Test for overall effect: Z = 0.73 (P = 0.46)



Hartmann-Boyce J, McRobbie H, Bullen C, et al. Cochrane Database of Systematic Reviews 2016

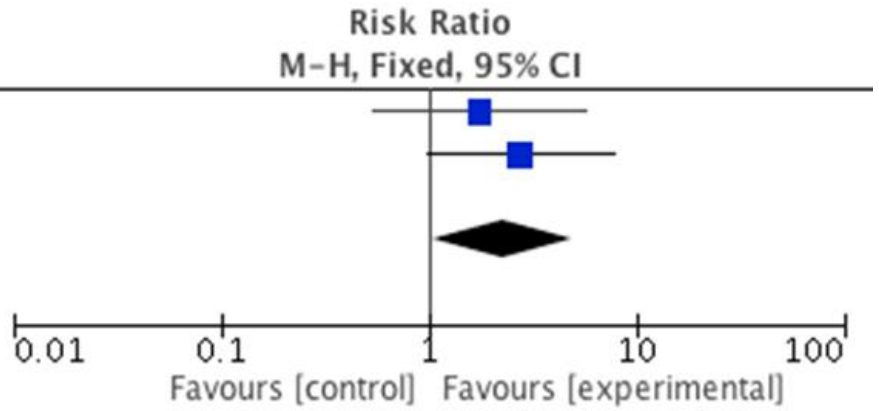
Nicotine vs Non-Nicotine e-cigarettes

Study	Nicotine EC	Placebo EC	RR (95% CI)
Bullen 2013	7% (21/289)	4% (3/73)	1.77 (0.54 – 5.77)
Caponnetto 2013	11% (22/200)	4% (4/100)	2.75 (0.97 – 7.76)
Total	9% (43/489)	4% (7/173)	2.29 (1.05 – 4.96)

Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Bullen 2013	21	289	3	73	47.3%	1.77 [0.54, 5.77]
Caponnetto 2013a	22	200	4	100	52.7%	2.75 [0.97, 7.76]
Total (95% CI)		**489**		**173**	**100.0%**	**2.29 [1.05, 4.96]**
Total events	43		7			

Heterogeneity: $Chi^2 = 0.30$, df = 1 (P = 0.58); $I^2 = 0\%$

Test for overall effect: Z = 2.09 (P = 0.04)



Hartmann-Boyce J, McRobbie H, Bullen C, et al. Cochrane Database of Systematic Reviews 2016

Caveats

- Although 2 e-cig RCTs were well conducted and judged to be at low risk of bias, the quality of the evidence overall was categorized by the Cochrane methodology as *low* because based on only 2 trials
- RCTs used now-obsolete products that delivered small amounts of nicotine

TEC Study (2019) – 1-year sustained quit rates

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

A Randomized Trial of E-Cigarettes versus Nicotine-Replacement Therapy

Peter Hajek, Ph.D., Anna Phillips-Waller, B.Sc., Dunja Przulj, Ph.D., Francesca Pesola, Ph.D., Katie Myers Smith, D.Psych., Natalie Bisal, M.Sc., Jinshuo Li, M.Phil., Steve Parrott, M.Sc., Peter Sasieni, Ph.D., Lynne Dawkins, Ph.D., Louise Ross, Maciej Goniewicz, Ph.D., Pharm.D., Qi Wu, M.Sc., and Hayden J. McRobbie, Ph.D.

EC (N=438)	NRT (N=446)	Relative Risk (95% CI)
18.1%	9.9%	1.83 (1.30 to 2.58)

ASCEND II Study (2019) – 6 month quit rates

Pragmatic, three-arm, community-based randomized trial undertaken in New Zealand (2015-2018).

Participants were randomized (1:4:4 ratio) to 14 weeks of

- 21mg nicotine patches
- 21mg nicotine patches and 18mg nicotine ECs, or
- 21mg nicotine patches and nicotine-free ECs.

Minimal behavioural support

Nic EC + patch (n=500)	No nic EC+ patch (n=499)	Relative Risk (95% CI)
7%	4%	1.75 (1.02 to 2.98)

Walker, Bullen et al. 2019

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Electronic cigarettes for smoking cessation

Jamie Hartmann-Boyce, Hayden McRobbie, Ailsa R Butler, Nicola Lindson, Chris Bullen, Rachna Begh, Annika Theodoulou, Caitlin Notley, Nancy A Rigotti, Tari Turner, Thomas R Fanshawe, Peter Hajek Authors' declarations of interest

Version published: 14 September 2021 Version history

https://doi.org/10.1002/14651858.CD010216.pub6

61 completed studies, 16,759 participants, 34 RCTs. 5/61 included studies new to update.

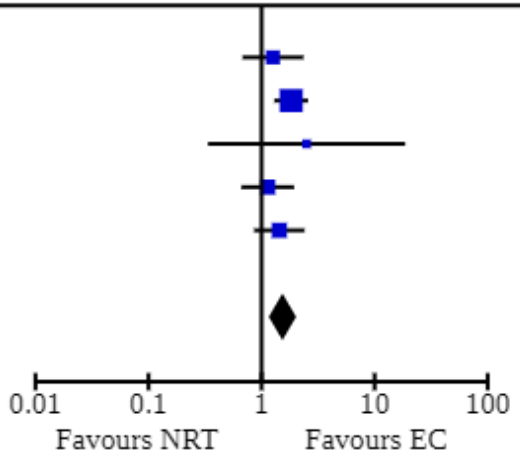
Nicotine EC vs NRT for smoking cessation

Analysis 1.1. Comparison 1: Nicotine EC versus NRT, Outcome 1: Smoking cessation

Study or Subgroup	EC Events	EC Total	NRT Events	NRT Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Bullen 2013	21	289	17	295	16.5%	1.26 [0.68 , 2.34]
Hajek 2019	79	438	44	446	42.8%	1.83 [1.30 , 2.58]
Lee 2018	5	20	1	10	1.3%	2.50 [0.34 , 18.63]
Russell 2021 (1)	34	140	15	70	19.6%	1.13 [0.66 , 1.94]
Russell 2021 (2)	44	145	15	71	19.8%	1.44 [0.86 , 2.40]
Total (95% CI)		**1032**		**892**	**100.0%**	**1.53 [1.21 , 1.93]**
Total events:	183		92			

Heterogeneity: Chi² = 2.90, df = 4 (P = 0.58); I² = 0%

Test for overall effect: Z = 3.60 (P = 0.0003)



Nicotine vs non-Nicotine EC for smoking cessation

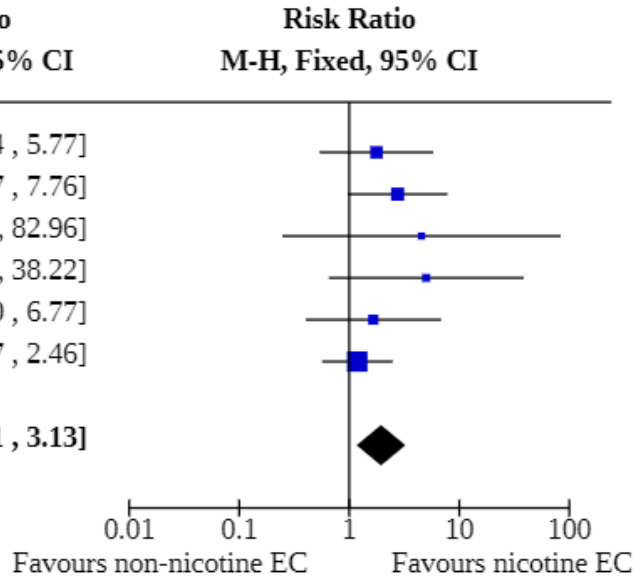
Analysis 3.1. Comparison 3: Nicotine EC versus non-nicotine EC, Outcome 1: Smoking cessation

Study or Subgroup	Nicotine EC Events	Nicotine EC Total	Non-nicotine EC Events	Non-nicotine EC Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Bullen 2013	21	289	3	73	18.3%	1.77 [0.54 , 5.77]
Caponnetto 2013a	22	200	4	100	20.4%	2.75 [0.97 , 7.76]
Cobb 2021 (1)	4	130	0	65	2.5%	4.53 [0.25 , 82.96]
Cobb 2021 (2)	10	130	1	65	5.1%	5.00 [0.65 , 38.22]
Eisenberg 2020	5	128	3	127	11.5%	1.65 [0.40 , 6.77]
Lucchiari 2020	13	70	11	70	42.1%	1.18 [0.57 , 2.46]
Total (95% CI)		**947**		**500**	**100.0%**	**1.94 [1.21 , 3.13]**
Total events:	75		22			

Heterogeneity: Chi² = 3.44, df = 5 (P = 0.63); I² = 0%

Test for overall effect: Z = 2.74 (P = 0.006)

Test for subgroup differences: Not applicable



Footnotes

(1) 8 mg/nl arm; control group split to avoid double-counting

(2) 36 mg/nl arm; control group split to avoid double-counting

Nicotine EC vs Behavioural Support/no support on smoking cessation

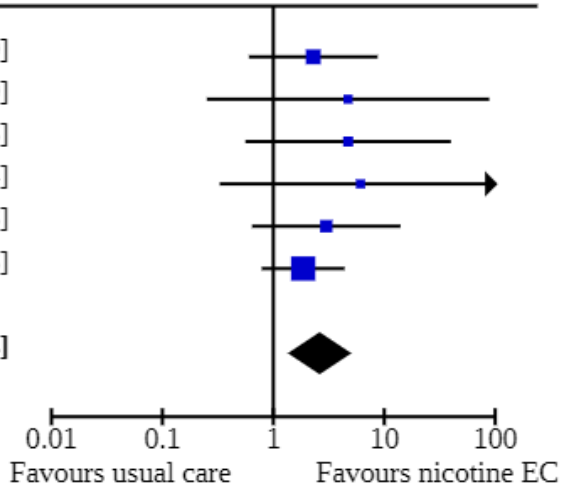
Analysis 4.1. Comparison 4: Nicotine EC versus behavioural support only/no support, Outcome 1: Smoking cessation

Study or Subgroup	Nicotine EC Events	Nicotine EC Total	Usual care Events	Usual care Total	Weight	Risk Ratio M-H, Fixed, 95% CI
Begh 2021	7	164	3	161	21.2%	2.29 [0.60 , 8.70]
Dawkins 2020	3	48	0	32	4.2%	4.71 [0.25 , 88.30]
Eisenberg 2020	5	128	1	121	7.2%	4.73 [0.56 , 39.88]
Halpern 2018	4	1199	0	813	4.2%	6.11 [0.33 , 113.24]
Holliday 2019 (1)	6	40	2	40	14.0%	3.00 [0.64 , 13.98]
Lucchiari 2020	13	70	7	70	49.1%	1.86 [0.79 , 4.38]
Total (95% CI)		**1649**		**1237**	**100.0%**	**2.61 [1.44 , 4.74]**
Total events:	38		13			

Heterogeneity: Chi² = 1.46, df = 5 (P = 0.92); I² = 0%

Test for overall effect: Z = 3.16 (P = 0.002)

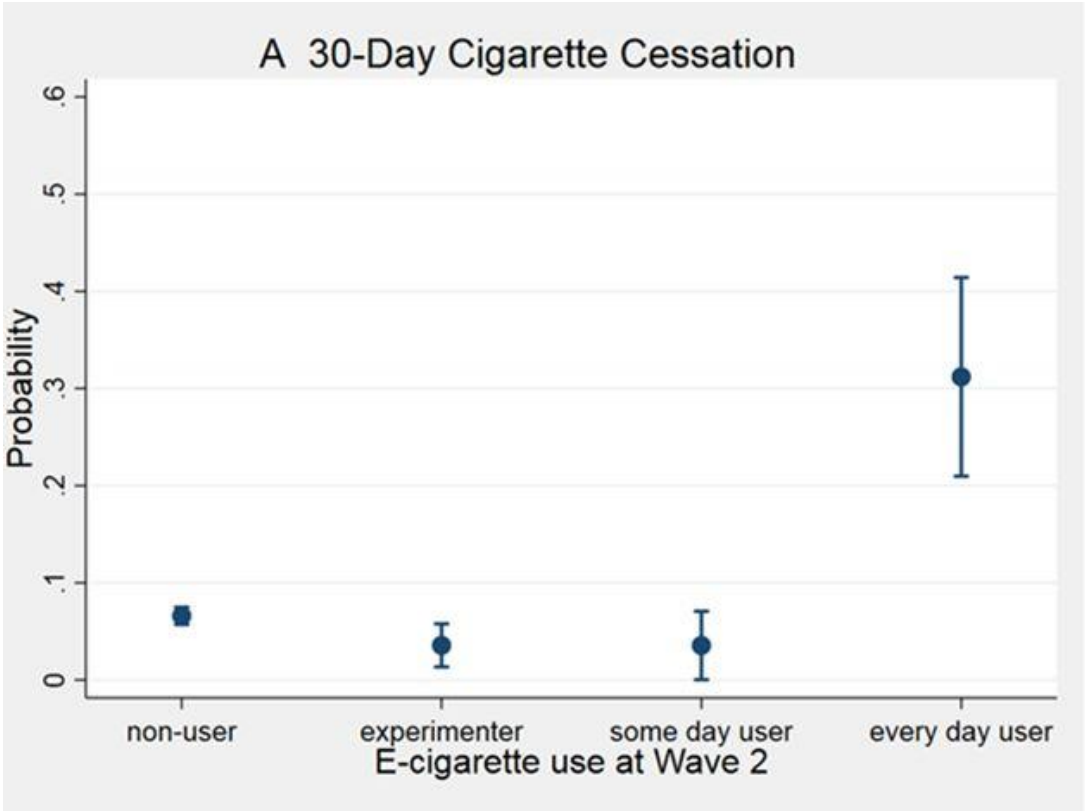
Test for subgroup differences: Not applicable

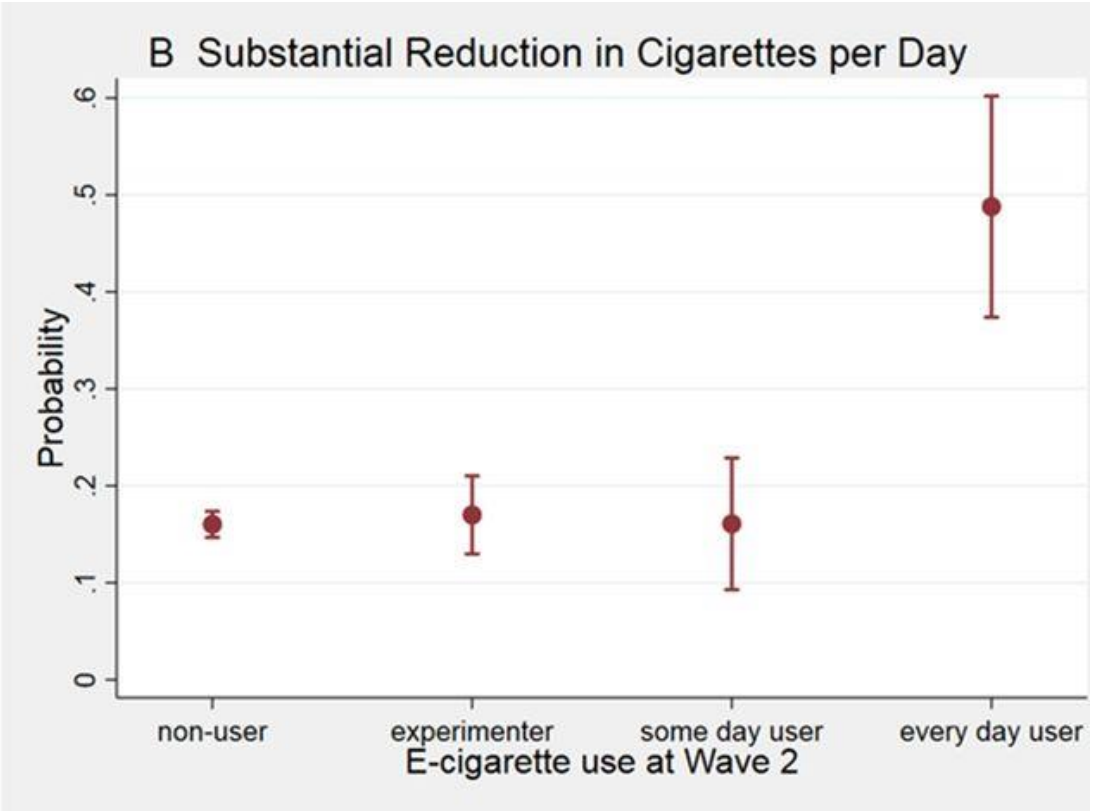


Footnotes

(1) Although participants were given a choice of nicotine concentration including 0 mg, none of the participants chose the non-nicotine e-liquid

Daily use of e-cigarettes is important



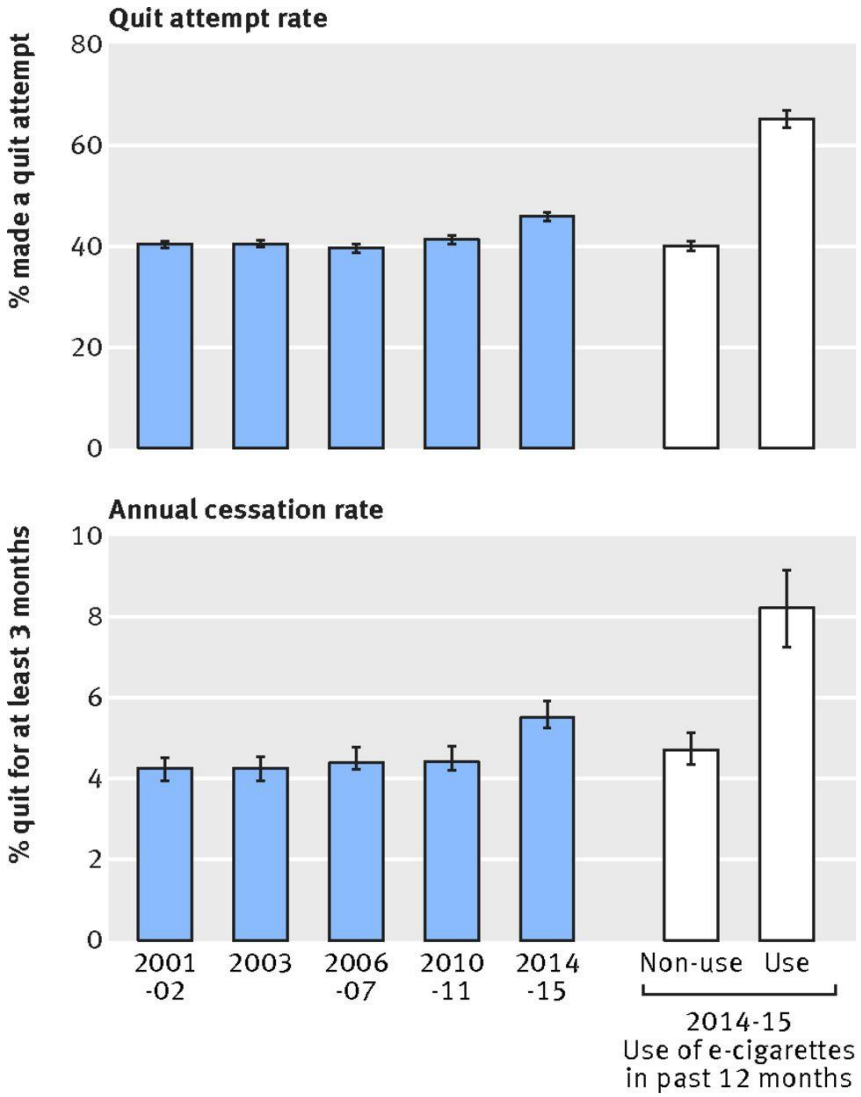


Using data from wave 1 and wave 2 of the US Population Assessment of Tobacco and Health Study, **daily e-cigarette users were more likely to have reduced their cigarette use and quit smoking cigarettes compared with non-users**.

Source: Berry et al, 2017

Quit attempt rate and annual cessation rate from 2001-02 to 2014-15, USA

CPS-TUS (Current Population Survey-Tobacco Use Supplement)



Source: Zhu et al. BMJ 2017

ARE THEY SAFE TO USE?

- https://www.theguardian.com/society/2018/dec/28/vaping-is-95-safer-than-smoking-claims-public-health-england

Public Health England maintains vaping is 95% less harmful than smoking

As scepticism rises, PHE says e-cigarettes could help more people quit smoking

▲ 'Vaping is likely to pose only a fraction of the risk,' says PHE's Prof John Newton. Photograph: Christian Horz/Getty Images/EyeEm

Substances that are potentially harmful

Aerosol (vapour)

- At high temperatures & frequent puffing PG & VG can form:
  - Acetaldehyde
  - Formaldehyde
  - Acrolein
- Tobacco specific nitrosamines can be present with tobacco extracts & nicotine
- Oxidizing chemicals

Battery & coil

- Metals e.g. nickel, chromium, cadmium, lead, tin, silicates

Liquid

- Nicotine
- Flavouring
  - Benzaldehyde (cherry flavor)
  - Cinnamaldehyde (cinnamon flavours)
  - Diacetyl (butter flavours)

High exposure associated with ‘popcorn lung’, but there are no cases of ‘popcorn lung’ among vapers or smokers (cigarettes also contain diacetyl)

Bals R et al. Electronic cigarettes: a task force report from the European Respiratory Society. Eur Respir J 2019; 53: 1801151

Examples of toxicant emissions

Vaping versus cigarette smoke

Toxicant	Amount in aerosol	Amount in cigarette	Toxic effect
Acetaldehyde	2-14 mcg per 150 puffs	650 mcg per cigarette	Respiratory tract irritant, probable carcinogen
Acrolein	ND – 42 mcg per 150 puffs	60-140 mcg per cigarette	Respiratory and cardiovascular toxicant, possible carcinogen
Chromium	0.007 mcg per 10 puffs	0.004 mcg per cigarette	Lung cancer is a major long-term effect
Formaldehyde	3-56 mcg per 150 puffs	20-100 mcg per cigarette	Respiratory tract irritant, probable carcinogen
N-Nitrosamines	ND-28 mcg per 150 puffs	0.02-72 mcg per cigarette	Carcinogen
Toluene	ND-6 mcg per 150 puffs	0.02-73 mcg per cigarette	Headache, depression, cognitive impairment
Lead	0.03-0.57 mcg per 150 puffs	0.001 mcg per cigarette	Neurotoxin, cardio toxin

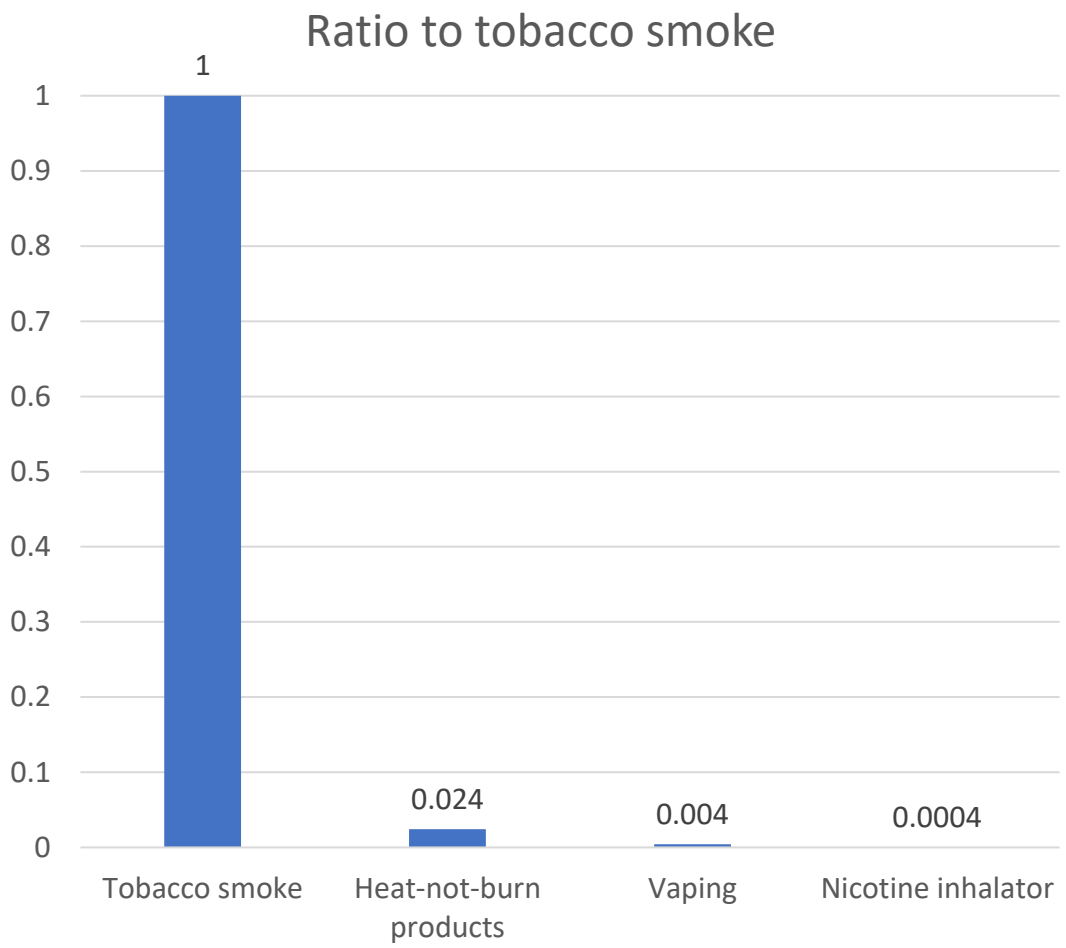
ND=not determined

Kaur G et al. Immunological and toxicological risk assessment of e-cigarettes. Eur Respir Rev 2018; 27: 170119

Estimated cancer risk

Table 1 Unit risks and average concentrations for IARC type 1 and 2 carcinogens measured in tobacco smoke and other forms of nicotine delivery

Carcinogens			Tobacco smoke (n=309)	Heat-not-burn emission (n=44)	E-cigarette vapour (n=44)	Nicotine inhaler (n=1)
Compound	IARC type	OEHHA unit risk U_i $(\mu g/m^3)^{-1}$	Mean concentration E_i (µg/mL)	Mean concentration E_i (µg/mL)	Mean concentration in first-generation and second-generation e-cigarettes C_i (µg/mL)	Mean concentration C_i (µg/mL)
Acetaldehyde	2B	2.7×10^{-6}	$\mathbf{2.55\times10^{-0}}$	$\mathbf{3.33\times10^{-1}}$	4.41×10^{-3}	1.05×10^{-4}
Formaldehyde	1	6.0×10^{-6}	1.54×10^{-1}	$\mathbf{1.06\times10^{-2}}$	$\mathbf{8.07\times10^{-3}}$	$\mathbf{1.90\times10^{-4}}$
Acrylonitrile	2B	2.9×10^{-4}	$\mathbf{4.59\times10^{-2}}$	$\mathbf{2.96\times10^{-4}}$	NR	NR
Benzene	1	2.9×10^{-5}	$\mathbf{1.57\times10^{-1}}$	9.32×10^{-4}	NR	NR
1,3-Butadiene	1	1.7×10^{-4}	$\mathbf{1.83\times10^{-1}}$	$\mathbf{3.94\times10^{-4}}$	NR	NR
2-Amino-naphthalene	1	5.14×10^{-4}	4.13×10^{-5}	4.82×10^{-8}	NR	NR
4-Amino-biphenyl	1	6.0×10^{-3}	8.68×10^{-6}	1.80×10^{-8}	NR	NR
Benzo[a]pyrene	1	1.1×10^{-3}	3.67×10^{-5}	2.12×10^{-6}	NR	NR
NNN	1	4.0×10^{-4}	4.63×10^{-4}	2.57×10^{-5}	1.94×10^{-7}	BDL
NNK	1	4.0×10^{-4}	2.88×10^{-4}	1.64×10^{-5}	8.39×10^{-7}	BDL
Cadmium	1	4.2×10^{-3}	1.99×10^{-4}	BDL	$\mathbf{1.01\times10^{-5}}$	$\mathbf{9.52\times10^{-7}}$
Lead	2B	1.2×10^{-5}	7.52×10^{-5}	4.09×10^{-6}	7.06×10^{-6}	1.90×10^{-6}
Chromium	1	1.5×10^{-1}	BDL	BDL	NR	NR
Nickel	2B	2.6×10^{-4}	BDL	BDL	6.98×10^{-6}	1.90×10^{-6}
Arsenic	1	3.3×10^{-3}	2.20×10^{-5}	2.14×10^{-6}	NR	NR
Mean cancer potency ratio (equation 5)			1.0	2.01×10^{-2}	1.81×10^{-3}	1.02×10^{-4}
Mean lifetime cancer risk (equations 6 and 7)		Consumption	15 cigarettes/day	15 sticks/day	30 L vapour/day	30 L vapour/day
		Risk	2.4×10^{-2}	5.7×10^{-4}	9.5×10^{-5}	8.9×10^{-6}
		Ratio to tobacco smoke	1.0	0.024	0.004	0.0004
		Ratio to nicotine inhaler	2697	64	10.7	1.0



Stephens WE. Tob Control 2017;0:1–8. doi:10.1136/tobaccocontrol-2017-053808

Cell culture and animal studies

ECIG liquid/vapour was associated with:

- Decrease in cell viability (in some but not all studies)
- Changes in oxidative stress
- Increased production of inflammatory mediators
- Reduction in host defence against infection

"Most of these studies revealed adverse effects of ECIGs, although these were less pronounced than with TCIGs."

TCIG = tobacco cigarettes

"…these in vitro and in vivo exposure studies raise concerns regarding the use of ECIGs, conclusive answers will only be obtained with carefully conducted long-term studies in ECIG users."

Bals R et al. Electronic cigarettes: a task force report from the European Respiratory Society. Eur Respir J 2019; 53: 1801151

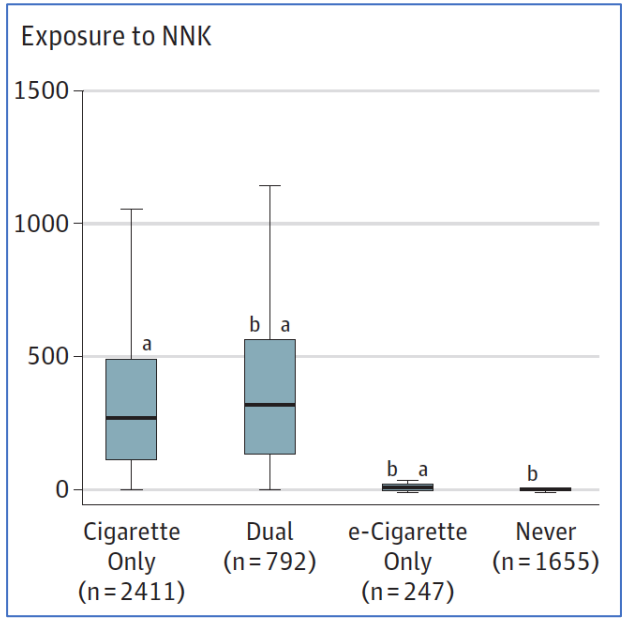
Studies in humans

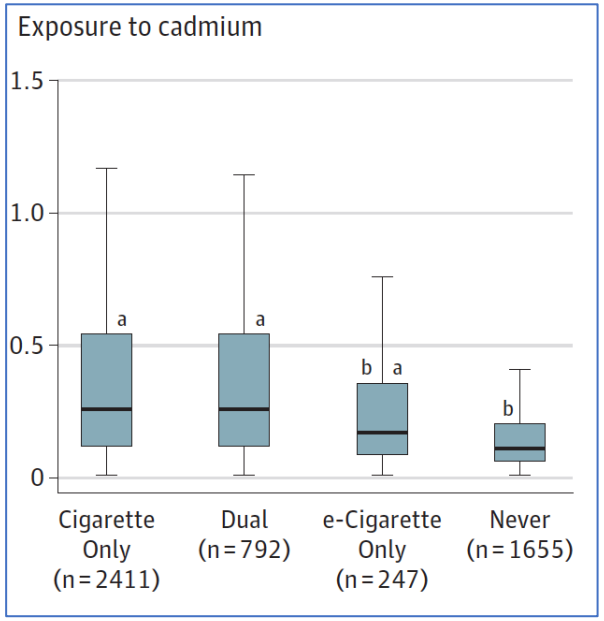
Measurement of tobacco-related toxicants in urine among:

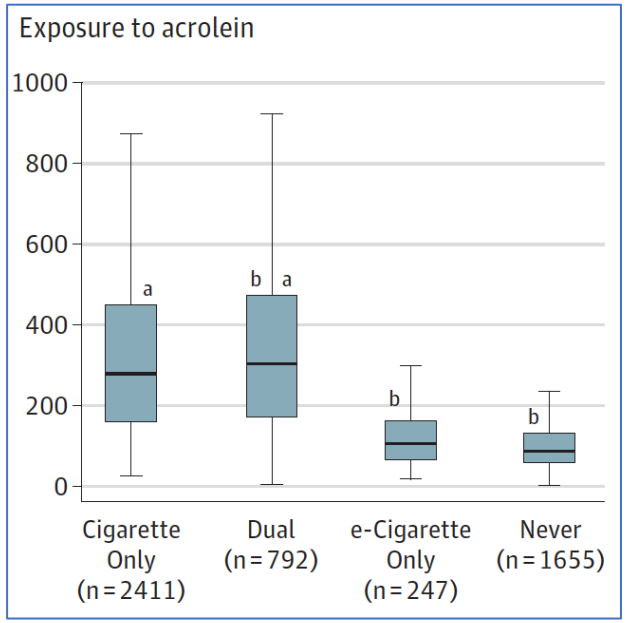
- current exclusive e-cigarette users (n = 247)
- current exclusive cigarette smokers (n = 2411)
- users of both products (dual users) (n = 792)
- never tobacco users (n = 1655)

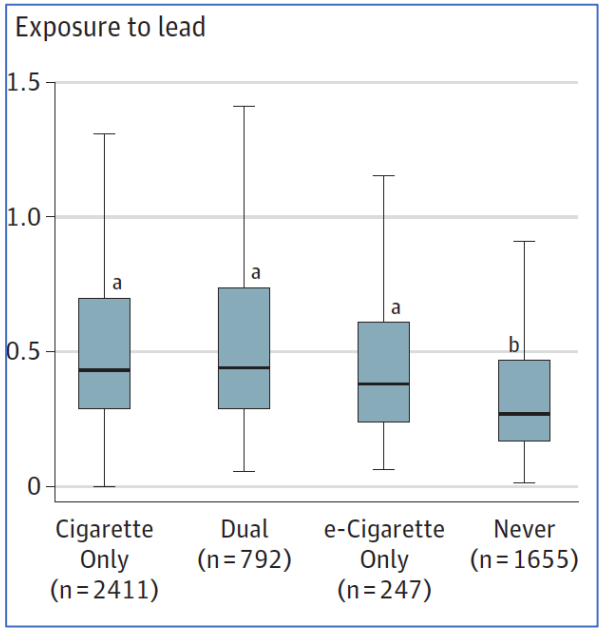
Compared with exclusive cigarette smokers, exclusive e-cigarette users showed

- 10% to 98% significantly lower concentrations of biomarkers of exposure, including TSNAs, PAHs, most volatile organic compounds, and nicotine
- Comparable concentrations of metals and 3 volatile organic compounds.









[a] Statistically significant difference from never users
[b] Statistically significant difference cigarette-only users

Goniewicz et al JAMA Netw Open. 2018;1(8):e185937.

Does the presence of these substances translate to harm?

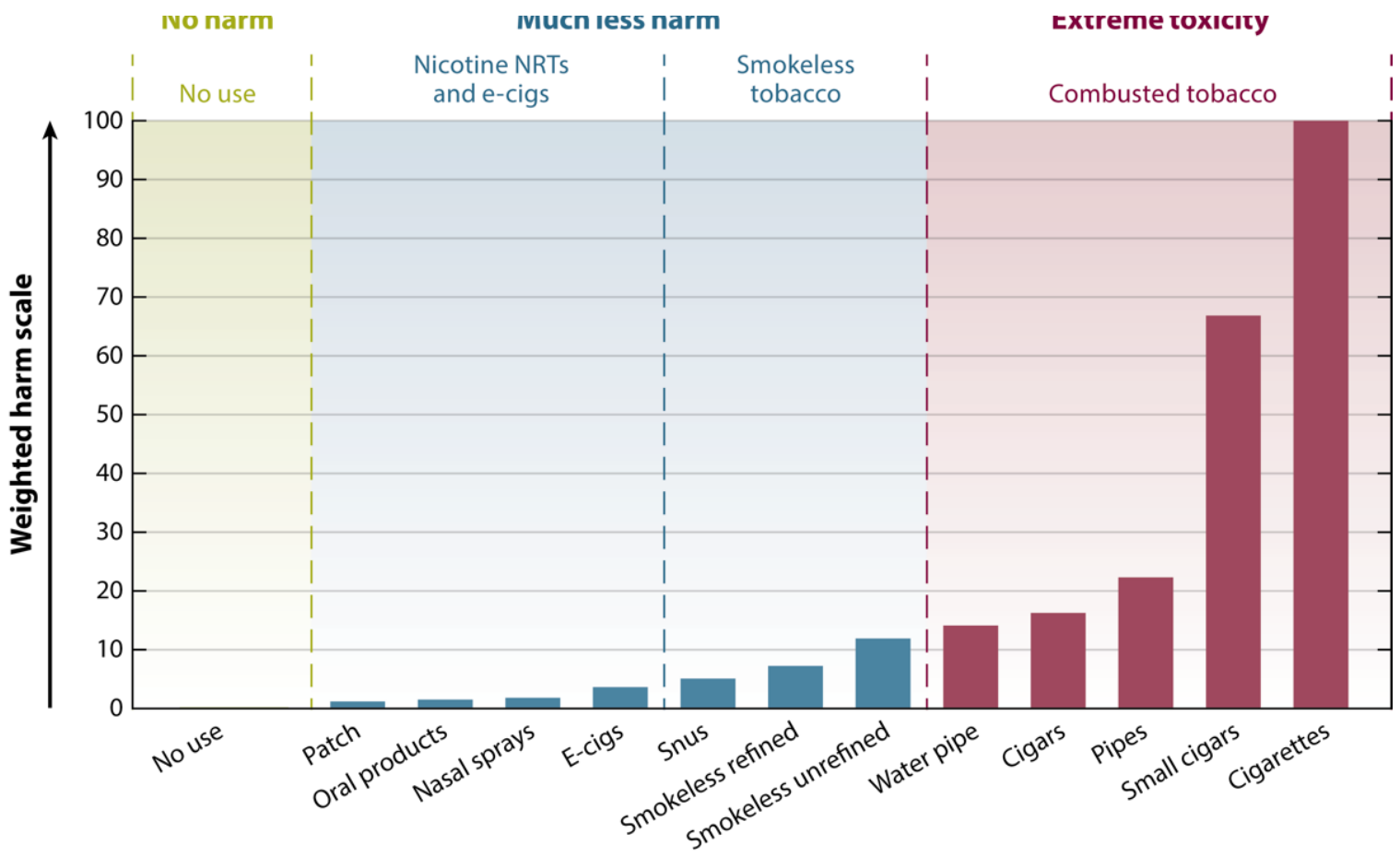
- The harm is largely related to exposure
- There is currently no evidence that vaping is associated with disease, **BUT** EC have not been around for long enough to observe this association
- A complicating factor is that most vapers are current or former smokers

Bals R et al. Electronic cigarettes: a task force report from the European Respiratory Society. Eur Respir J 2019; 53: 1801151

NASEM Report 2018

"Although e-cigarettes are not without risk, compared to combustible tobacco cigarettes **they contain fewer toxicants; can deliver nicotine in a similar manner; show significantly less biological activity in most, but not all, in vitro, animal, and human systems; and might be useful as a cessation aid in smokers who use e-cigarettes exclusively**."

Source: http://nationalacademies.org/hmd/Reports/2018/public-health-consequences-of-e-cigarettes.aspx



Abrams DB, et al. 2018.
Annu. Rev. Public Health. 39:193–213

Continuum of harm

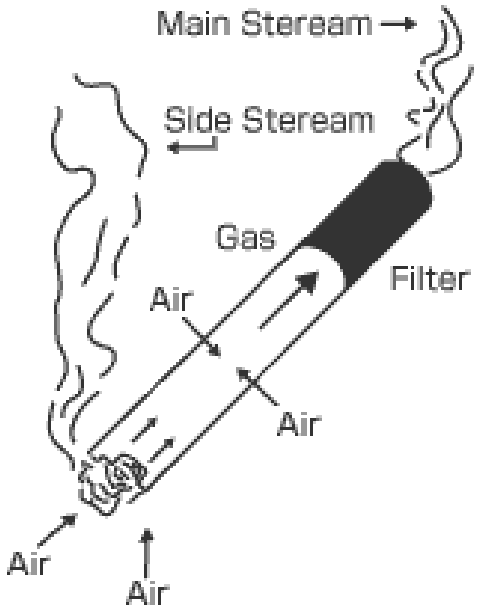
EVALI: E-CIGARETTE/VAPING ASSOCIATED LUNG INJURY

- Outbreak of serious acute respiratory damage in US
- As of November 21, the CDC has confirmed 2,290 cases, with 47 deaths.
- Almost all cases vaped THC
- Vitamin E Acetate found in most cases
- Very few cases of EVALI where THC was not used

Source: US CDC

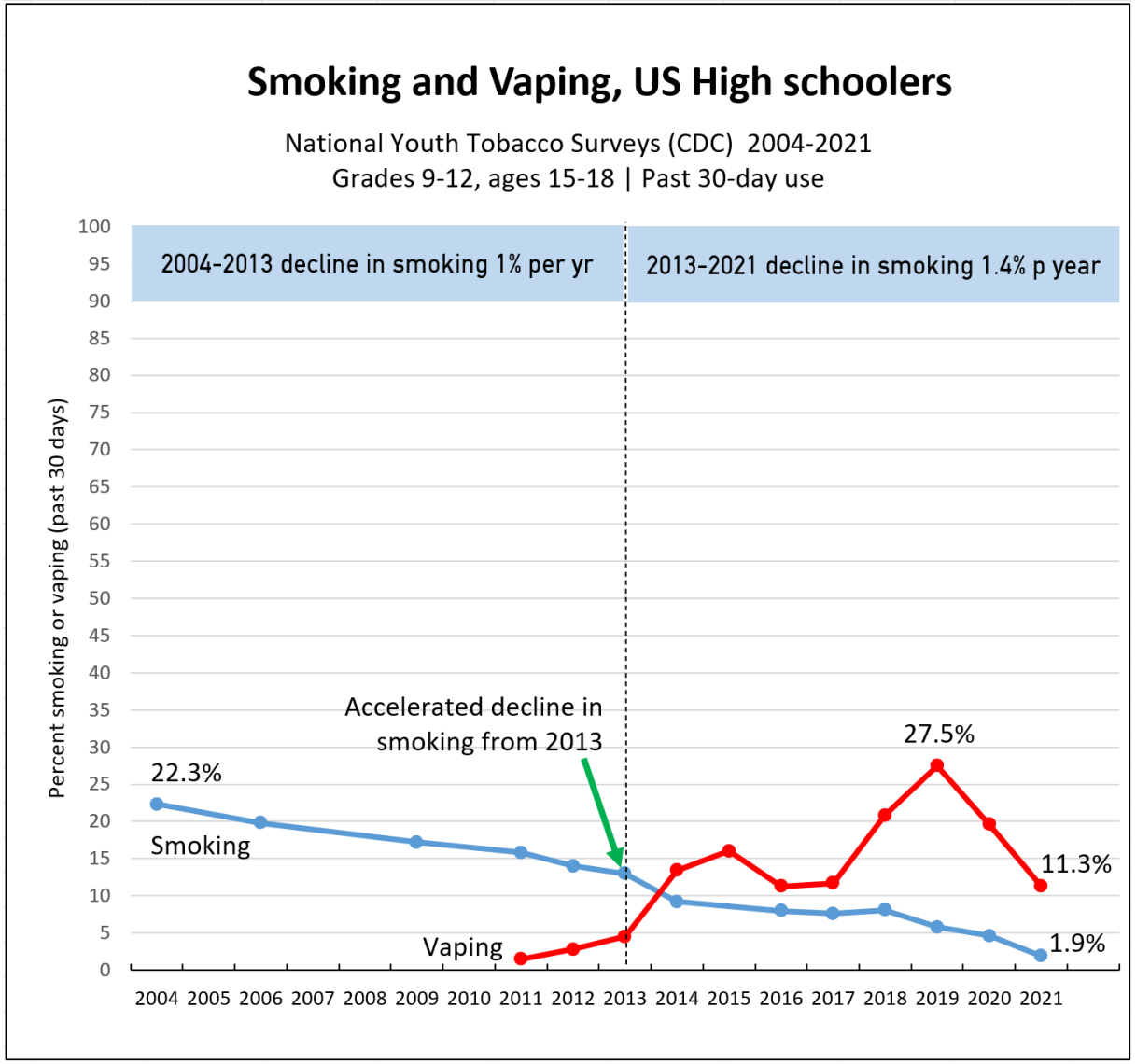
Second-hand vaping

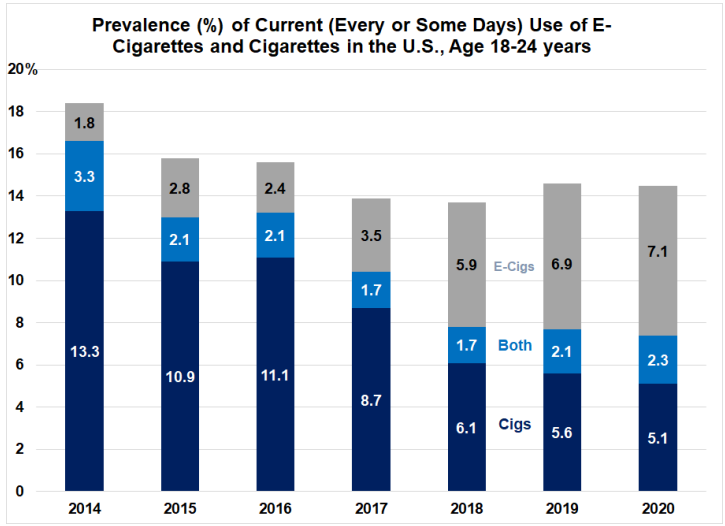
- There is no smoke
- There is no side-stream vapour from the e-cigarette
- Some studies have demonstrated toxicants in second-hand vapour, but at much lower levels than second-hand tobacco smoke
- They do not emit vapour continuously, but only in the ‘cloud’ when exhaled by vapers
- The potential harm of second-hand vapour is not currently known

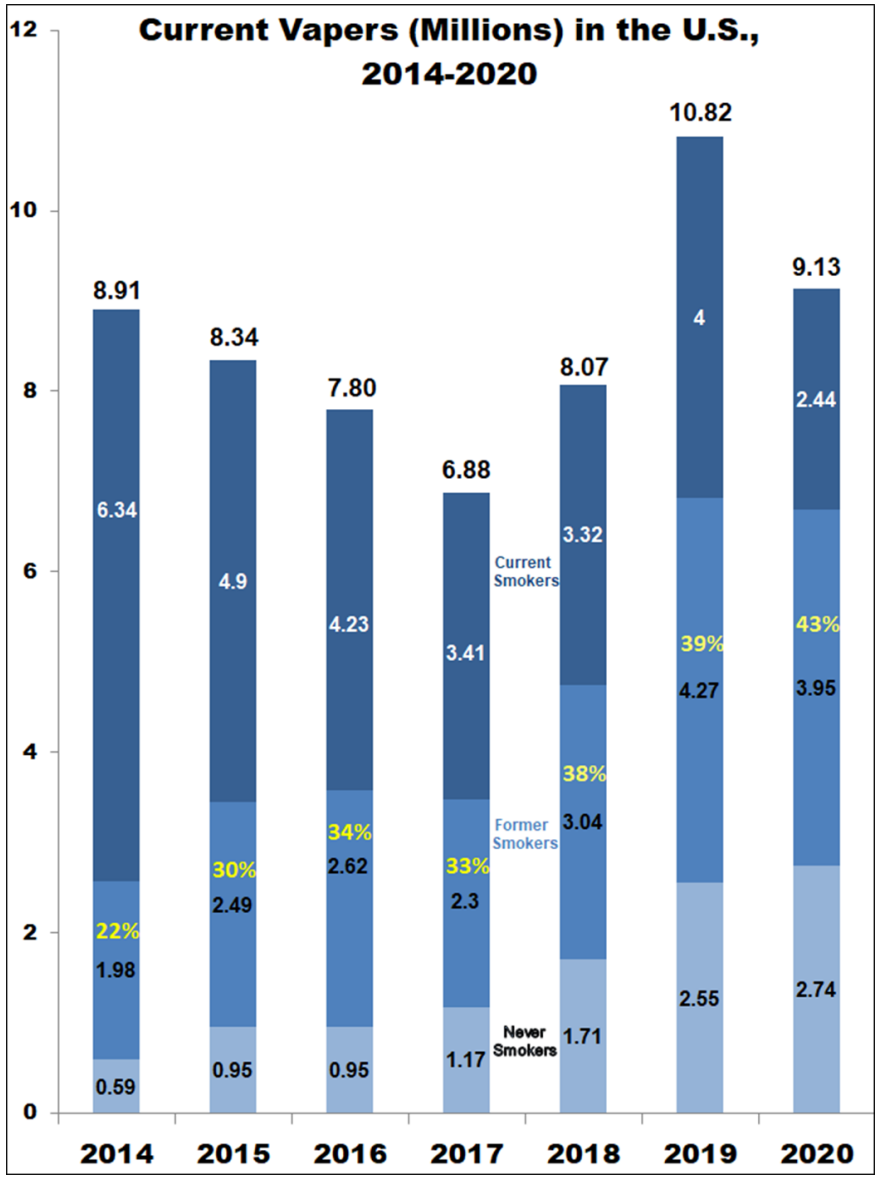


Bals R et al. Electronic cigarettes: a task force report from the European Respiratory Society. Eur Respir J 2019; 53: 1801151

PAST 30-DAY USE (SMOKING AND VAPING) IN US HIGH-SCHOOLERS 2004-2021







Tobacco Product Use Among Adults — United States, 2020

Monica E. Cornelius, PhD[1]; Caitlin G. Loretan, MPH[1]; Teresa W. Wang, PhD[1]; Ahmed Jamal, MBBS[1]; David M. Homa, PhD[1]

Threats and Opportunities

	Individual	Population
Threats	• Nicotine dependence • Delayed cessation • Relapse to tobacco use • Dual tobacco & e-cig use • Long term toxicant exposure	• Second-hand exposure • Re-normalisation of smoking-like behaviour • Strengthen Big Tobacco • Gateway to smoking for youth • Growth of nicotine dependence in population
Opportunities	• Smoking reduction • Cessation • Relapse prevention • Better health • Savings	• Unprecedented reach • De-normalisation of smoking • Mass substitution • Gateway from smoking for youth • Increased population quit rates • Population health • Inequality reduction • No cost to health sector

So, should we be concerned?

- There are likely to be some adverse health effects associated with long-term vaping, so concern is warranted.
- However, this concern needs to be balanced with the concerns for the health and wellbeing of people who continue to smoke.
- For smokers, switching to vaping (and stopping smoking completely) is likely to be associated with a reduction in health risks.
  - This is supported by the current literature
  - To mitigate concern over unknown health risks associated with long-term vaping, ex-smokers can be advised to stop vaping as soon as they feel able not to relapse to smoking
- Appropriate steps can be taken to limit uptake of vaping in young never smokers.

auahi kore

AOTEAROA
NEW ZEALAND
2025

SMOKEFREE AOTEAROA 2025 PLAN

1. Make tobacco products less affordable:

- Raise tobacco tax by 20%
- Introduce a minimum retail price for all tobacco products

2. Make tobacco products less available:

- Support retailers to move away from selling tobacco in the next 3 years, and then cap the number of retailers
- End tobacco sales in bars and pubs
- Introduce a cut-off birth date for legal purchase of tobacco, to create future 'tobacco-free' generations

3. Make tobacco products less appealing and less addictive:

- Remove additives and flavours that enhance taste or appeal (e.g. menthol, sugar)
- Reduce nicotine content to very low levels so they are no longer addictive

4. Do more of what we already do

Such as: enhanced targeted smoking cessation, mass media campaigns and moving to greater availability of e-cigarettes

Reaching population groups

E-cigarettes need to be affordable, accessible and appealing to *smokers, especially those for whom other methods have not worked*

VAPE 2 SAVE
HEALTHY WHANAU HEALTHY WHANAU

2017 V2S groups starting:
Hapai, Henderson

Inform
Educate
AVCA
Advocate
Community

NO SMOKERS
STATUS
LEFT BEHIND

Vapers Helping Vapers:

VAPE TO QUIT STRONG

smokefree

MAXIMISE BENEFITS, MITIGATE RISKS

Maximise benefits	Minimise risks
• Smokers must be able to access and afford quality reduced-harm nicotine products • De-medicalise nicotine • Responsible promotion to adult smokers, communicating the relative risks and the truth about nicotine. • Train vape store retailers to offer quit support . • Educate health care providers and smoking cessation providers about e-cigarettes and supporting vapers to quit smoking.	• A risk-proportionate regulatory environment that makes more harmful tobacco smoking relatively less affordable, less accessible and palatable (e.g VLNCs) • Promote vaping etiquette • Prohibit marketing and sales to minors • Monitor products, use and adverse events

“More research is needed”

- **Communications and promotion** - communicate proportionate risk, complete substitution, daily use, use in relapse prevention and what works best to enhance switching.
- **Health effects** - biomarkers, respiratory and cardiovascular endpoints.
- **Impact** - policies, regulations, media coverage, interventions, equity and vulnerable populations.
- **Products and product use** in a range of population groups. New products entering market.

Call To Action

Conclusions

- E-cigarettes are a popular product that help some people cut down and quit smoking
- They are safer than smoking but not ‘100%’ safe
- They may be particularly helpful in reducing harms from smoking in groups who have persisting high smoking prevalence
- We need messaging and policies based on the highest quality available evidence but be willing and ready to change these messages and policies as new evidence emerges.

Thankyou.

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