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Briefing notes: Select Committee on Personal Choice and Community Safety

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How to interpret the following table of evidence: The evidence is presented in the left hand column, with the reference of where this evidence was obtained (primary reference) in the right hand column. Within the left hand column, the references which the primary source has referenced are contained (secondary references). All references are presented in the reference list at the end of the document.

Evidence	Source
1.0 Policy issues	
• Australia is a signatory to the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) which states tobacco industry should not be involved in this Inquiry.	United Nations Office of Legal Affairs. United Nations Treaty Collection. Chapter IX Health. 4. WHO Framework Convention on Tobacco Control. Geneva: 2003.[1]
• Further, Article 5.3 of the WHO FCTC requires that "in setting and implementing their public health policies with respect to tobacco control, Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry in accordance with national law".	World Health Organization. Guidelines for implementation of Article 5.3 of the WHO Framework Convention on Tobacco Control. Geneva: 2008.[2]
2.0 Smoking rates	
Tobacco smoking rates Australia: • Daily smokers (2016) 14+ years = 12.2% • Daily smokers (2016) 18+ years = 12.8% *For statistics for all Australian states and territories 1998-2016 see Table 7.1 and 7.2.	Australian Institute of Health and Welfare. National Drug Strategy Household Survey 2016: Detailed findings. Canberra: AIHW, 2017.[3]
Tobacco smoking rates Australian secondary school students (12-17 years old): • Committed smokers (smoked on 3 or more days the past week) (2017) = 3%. • Around 33% of current smokers aged 12 to 17 had smoked on only one day of the past week. Around half had smoked on three or more days of the past week, with around 22% smoking daily. *For statistics of Australian secondary school student smoking rates 1984-2017 see Figure 3.1.	Guerin N, White V. ASSAD 2017 statistics & trends: Australian secondary students' use of tobacco, alcohol, over-the-counter drugs, and illicit substances. Victoria Cancer Council, 2018.[4]
Tobacco smoking rates Western Australia • Daily smokers (2016) 14+ years = 11.5% • Daily smokers (2016) 18+ years = 12.2%	Australian Institute of Health and Welfare. National Drug Strategy Household Survey 2016: Detailed findings. Canberra: AIHW, 2017.[3]

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Tobacco smoking rates United States (US): • In 2017, 14 of every 100 US adults aged 18 years or older (14.0%) currently smoked cigarettes. This means an estimated 34.3 million adults in the US currently smoke cigarettes. • More than 16 million Americans live with a smoking-related disease. • Current smoking has declined from 20.9% (nearly 21 of every 100 adults) in 2005 to 14% (14 of every 100 adults) in 2017.	Centres for Disease Control and Prevention. Current cigarette smoking among adults in the United States. Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, 2019.[5]
• Current use any tobacco product high school students decreased 20% (3.69M 2011 – 2.95M 2017).	Wang T, Gentzke A, Sharapova S, Cullen K, Ambrose B, Jamal A. Tobacco product use among middle and high school students — United States, 2011–2017. Morbidity and Mortality Weekly Report (MMWR). 2018;67:629-33.[6]
Tobacco smoking rates United Kingdom: • 15.1% of people aged 18 years and above smoked cigarettes in 2017, which equates to around 7.4 million people in the population, based on estimate from the Annual Population Survey.	Office for National Statistics. Adult smoking habits in the UK: 2017. 2018.[7]
Tobacco smoking rates New Zeland: • In 2016/17 about 600,000 New Zealand adults (15+ years old) (15.7%) were current smokers, down from 20.1% in 2006/07.	Ministry of Health. Annual data explorer 2016/17: New Zealand Health Survey [Data File]. 2017.[8]
Tobacco smoking rates Canada • In 2015, among Canadian adults age 15 and older, 13% of Canadians (approximately 3.9 million) were current smokers, down from 25% in 1999.	University of Waterloo. Tobacco use in Canada Ontario, Canada: Propel Centre for Population Health Impact, University of Waterloo, n.d.[9]
3.0 Vaping rates	
ENDS use Australia: • About 9% of the general population aged 18 and over reported in 2016 having ever used electronic nicotine delivery devices (ENDS). • At 19.2%, lifetime use was highest among young adults aged between 18 and 24 years, with use gradually decreasing by age. • Lifetime use of ENDS significantly increased between 2013 and 2016 both among adult smokers (from about 18% to about 31%) and non-smokers (never + ex-smokers; from about 2% to about 5%), and across all age groups except for the oldest. • In 2016, the highest rates of ever use appeared to be among 18—24 year olds (49.1% and 13.6% of smokers and non-smokers, respectively, compared to 30.8% and 4.7% in the total adult population).	Greenhalgh E, Scollo M. InDepth 18B: Electronic cigarettes (e-cigarettes). In: Scollo M, Winstanley M, editors. Tobacco in Australia: Facts and issues. Melbourne: Cancer Council Victoria; 2017.[10]

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Daily ENDS users (2016) 14+ years old Australia: • Smokers 1.5% • Ex-smokers 0.8% • Never smokers 0.2% • Total 0.5%	Greenhalgh E, Scollo M. InDepth 18B: Electronic cigarettes (e-cigarettes). In: Scollo M, Winstanley M, editors. Tobacco in Australia: Facts and issues. Melbourne: Cancer Council Victoria; 2017.[10]
ENDS use Australian secondary school students: • The Australian Secondary Students' Alcohol and Drug Survey (ASSAD) is the largest national survey of teenage substance use in Australia. Approx. 20,000 students were surveyed in 2017. • For all 12 to 17 year old students, around 13% indicated they had ever used an e-cigarette at least once, and 32% of these students had used one in the past month. • Vaping experience increased with age (4% of 12 year olds, up to 21% of 17 year olds). • Around 34% of 12 to 15 year old users and 27% of 16 and 17 year old users reported vaping at least once during the past month. • Younger vapers were also more likely to have used e-cigarettes at least three times in the past month (12-15: 16%; 16-17: 10%). • Around 12% of students reported buying an e-cigarette themselves. Students aged 16-17 were more likely to have bought a vaping device (17%) than younger students (9%). • Of the students who had ever used an e-cigarette (n = 2,410), 48% reported that they had never smoked a tobacco cigarette before their first vape. Around 25% of these students who had vaped before ever smoking, reported later trying tobacco cigarettes (18% had smoked in the past year; 11% had smoked in the past month; and 5% became current smokers). • These results showed significantly higher levels of experimentation and more regular smoking than in students who had not vaped or had vaped only after first smoking (17% had ever smoked; 12% in the past year; 7% in the past month). • **These findings suggest that students who experiment with e-cigarettes are more likely to later try tobacco cigarettes than those who have never vaped.**	Guerin N, White V. ASSAD 2017 statistics & trends: Australian secondary students' use of tobacco, alcohol, over-the-counter drugs, and illicit substances. Victoria Cancer Council, 2018.[4]
ENDS use United States secondary school students: • Among high school students, current ENDS use increased from 1.5% (220,000 students) in 2011 to 20.8% (3.05 million students) in 2018 ($p<0.001$). • During 2017–2018, current ENDS use increased by 78% (from 11.7% to 20.8%, $p<0.001$), and by 48 percent among middle school students (to 4.9 percent).	Cullen K, Ambrose B, Gentzke A, Apelberg B, Jamal A, King B. Notes from the field: Use of electronic cigarettes and any tobacco product among middle and high school students — United States, 2011–2018. Morbidity and Mortality Weekly Report (MMWR). 2018;67:1276-7.[11]

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• Current ENDS use increased considerably among US middle and high school students during 2017–2018, reversing a decline observed in recent years and increasing overall tobacco product use.	Wang T, Gentzke A, Sharapova S, Cullen K, Ambrose B, Jamal A. Tobacco product use among middle and high school students — United States, 2011–2017. Morbidity and Mortality Weekly Report (MMWR). 2018;67:629-33.[6]
• At the same time that ENDS use was increasing, cigarette smoking among youth declined,[12, 13] leading some to suggest that ENDS were replacing conventional cigarettes among youth[14, 15] and are contributing to declines in youth smoking.[16] At least through 2014, however, ENDS had no detectable effect on the decline in cigarette smoking among US adolescents[17] (Figure 1).	Glantz S, Bareham D. E-cigarettes: Use, effects on smoking, risks, and policy implications. Annu Rev Public Health. 2018;39(1):215-35.[18]
• U.S. Surgeon General has recently declared ENDS use among youth "an epidemic."	Stein R. Surgeon General warns youth vaping is now an "epidemic". NPR; 2018.[19]
ENDS use United Kingdom: • In 2017, 5.5% of people reported that they currently used an e-cigarette (vaped): this equates to approximately 2.8 million vapers in the population of Great Britain. This proportion is significantly higher than that observed in 2014 when only 3.7% vaped, when data collection began.	Office for National Statistics. Adult smoking habits in the UK: 2017. 2018.[7]
ENDS use New Zealand: • Vaping rates were not available from the Ministry of Health.	-
ENDS use Canada • In 2015, among Canadians age 15 and older: - 13.2% (3.9 million) reported having ever tried an e-cigarette; - 3.2% (~946,000) used one in the past 30 days; - 1.0% (~308,000) reported daily use. • Use of e-cigarettes (ever, and in the past 30 days) increased significantly between 2013 and 2015. • E-cigarette use was most prevalent among young people: - One in four youth aged 15-19, and 3 out of 10 young adults aged 20-24, reported ever trying an e-cigarette. - 6.3% of youth and young adults had used an e-cigarette in the past 30 days.	University of Waterloo. Tobacco use in Canada Ontario, Canada: Propel Centre for Population Health Impact, University of Waterloo, n.d.[9]
4.0 Heath and harms	
• Conclusion 5-1. There is conclusive evidence that in addition to nicotine, most e-cigarette products contain and emit numerous potentially toxic substances. • Conclusion 5-5. There is limited evidence that the number of metals in e-cigarette aerosol could be greater than the number of metals in combustible tobacco cigarettes,	National Academies of Sciences Engineering and Medicine. Public health consequences of e-cigarettes. Washington, DC: The National Academies Press, 2018.[20]

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except for cadmium, which is markedly lower in e-cigarettes compared with combustible tobacco cigarettes. • Conclusion 7-1. There is substantial evidence that e-cigarette aerosols can induce acute endothelial cell dysfunction, although the long-term consequences and outcomes on these parameters with long-term exposure to e-cigarette aerosol are uncertain. • Conclusion 11-4. There is moderate evidence for increased cough and wheeze in adolescents who use e-cigarettes and an association with e-cigarette use and an increase in asthma exacerbations. • Conclusion 18-3. There is no available evidence whether or not long-term e-cigarette use among smokers (dual use) changes morbidity or mortality compared with those who only smoke combustible tobacco cigarettes.	
• Although ENDS have the potential to benefit adult smokers if used as a complete substitute for combustible tobacco smoking, the use of any form of tobacco/nicotine product among youth, including ENDS, is unsafe. The Surgeon General has concluded that ENDS use among youth and young adults is of public health concern as exposure to nicotine during adolescence can cause addiction and can harm the developing adolescent brain.	U.S Department of Health and Human Services. E-Cigarette use among youth and young adults: A report of the Surgeon General. Atlanta, GA: U.S. 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, 2016.[21]
5.0 Reasons for trying and using ENDS	
• Adults cite predominantly 3 reasons: as an aid to smoking cessation, as a safer alternative to conventional cigarettes, and as a way to conveniently get around smoke free laws.[22] • Whereas youth are attracted by ENDS novelty, the perception that they are harmless or less harmful than cigarettes, and the thousands of flavours (e.g., fruit, chocolate, peanut butter, bubble gum, gummy bear, among others).[21, 23-25]	Glantz S, Bareham D. E-cigarettes: Use, effects on smoking, risks, and policy implications. Annu Rev Public Health. 2018;39(1):21[20]5-35.[18]
6.0 Evidence of vaping acting as a gateway to tobacco smoking	
• Conclusion 16-1. There is substantial evidence that e-cigarette use increases the risk of ever using combustible tobacco cigarettes among youth and young adults.	National Academies of Sciences Engineering and Medicine. Public health consequences of e-cigarettes. Washington, DC: The National Academies Press, 2018.[20]
• Evidence which supports the above claim is cited in the right hand column.	Auf R, Trepka M, Selim M, Ben Taleb Z, De La Rosa M, Bastida E, et al. E-cigarette use is associated with other tobacco use among US adolescents. International Journal of Public Health. 2019;64(1):125-34.[26]

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	Berry K, Fetterman J, Benjamin E, Bhatnagar A, Barrington-Trimis J, Leventhal A, et al. Association of electronic cigarette use with subsequent initiation of tobacco cigarettes in US youths electronic cigarette use and subsequent cigarette smoking initiation electronic cigarette use and subsequent cigarette smoking initiation. JAMA Network Open. 2019;2(2):e187794-e[27] Chatterjee K, Alzghoul B, Innabi A, Meena N. Is vaping a gateway to smoking: A review of the longitudinal studies. Int J Adolesc Med Health. 2016;30(3).[28]
7.0 Use of ENDS for smoking cessation	
• Conclusion 17-1. Overall, there is limited evidence that e-cigarettes may be effective aids to promote smoking cessation. • Conclusion 17-3. There is insufficient evidence from randomized controlled trials about the effectiveness of e-cigarettes as cessation aids compared with no treatment or to an approved smoking cessation treatments.	National Academies of Sciences Engineering and Medicine. Public health consequences of e-cigarettes. Washington, DC: The National Academies Press, 2018.[20]
• Figure 2: Ever ENDS use among never smokers at baseline quadruples the odds of being a smoker at follow-up. • Figure 3: Smokers who use ENDS are significantly less likely to have stopped smoking than smokers who do not use ENDS, with the odds of quitting smoking depressed by 27%.	Glantz S, Bareham D. E-cigarettes: Use, effects on smoking, risks, and policy implications. Annu Rev Public Health. 2018;39(1):215-35.[18]
• Conclusion: ENDS were more effective for smoking cessation than nicotine-replacement therapy, when both products were accompanied by behavioural support. • Discussion point: The rate of continuing ENDS use was fairly high. This can be seen as problematic if ENDS use for a year signals ongoing long-term use, which may pose as-yet-unknown health risks.	Hajek P, Phillips-Waller A, Przulj D, Pesola F, Myers Smith K, Bisal N, et al. A randomized trial of e-cigarettes versus nicotine-replacement therapy. N Engl J Med. 2019;380(7):629-37.[29]
Response to above (Hajek) article: • Trial limitations include a lack of objective and validated measures of adherence and the possibility that smoking-cessation counsellors who were aware of the treatment assignments may have influenced patient expectations. • A key finding of Hajek et al. is that among participants with sustained abstinence at 1 year, 63 of 79 (80%) in the ENDS group were still using ENDS, whereas only 4 of 44 (9%) in the nicotine-replacement group were still using nicotine replacement. This	Borrelli B, O'Connor G. E-cigarettes to assist with smoking cessation. N Engl J Med. 2019;380(7):678-9.[30]

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differential pattern of long-term use raises concerns about the health consequences of long-term ENDS use.	
8.0 Precautionary approach to ENDS	
• In the book *Law and the Technologies of the Twenty-First Century*,[31] the authors explore the legal frameworks and principles through which risk from new technologies can be mitigated. The use of ENDS or vaping is an example of new technology with an impact upon health. • Central to the risk mitigation process is the precautionary principle, which is a principle of decision making that requires decision makers in cases where there are threats of environmental or health harm not to use "lack of full scientific certainty" as a reason for not taking measures to prevent such harm.[32] The trigger to invoke a precautionary principle is based upon the desire to protect a population from a level of risk, and the acknowledgement that there may be a gap in the evaluation of the level of risk due to insufficient data. This insufficiency may include; absence of cause and effect relationship (which for smoking took a long time to demonstrate); quantifiable dose-response relationship; and quantitative evaluation of probability of the emergence of adverse effects following exposure. There should be a reversed burden of proof by requiring that the substances be deemed hazardous until proven otherwise. Until this is done the legislator is not legally entitled to authorise use of the substance unless exceptionally for test purposes. The decision to act is a political decision with decision makers having to determine the level of risk that is acceptable to the society on which the risk will be imposed.	Jancey J, Maycock B, McCausland K, Howat P. E-cigarettes: Implications for health promotion in the Asian Pacific Region. Asia Pacific Journal of Public Health. 2018;30(4):321-7.[33]
• The Conference of the Parties to the World Health Organization Framework Convention (which does not include the United States) has generally taken a cautious approach to ENDS and has agreed that regulatory measures need to be implemented to, at a minimum, ensure that ENDS do not worsen the tobacco epidemic.	World Health Organization. Electronic nicotine delivery systems and electronic non-nicotine delivery systems (ENDS/ENNDS). Seventh session, Delhi, India, 7–12 November 2016. Geneva: WHO, 2016.[34]
• The current public health evidence as reviewed by the National Health and Medical Research Council (NHMRC),[35] the Therapeutic Goods Administration (TGA)[36] and other leading evidence-based agencies including the US National Academy of Sciences, Engineering and Medicine[20] and Australia's CSIRO,[37] does not support ENDS use in any form.	Crawford G, Hallett J, Ledger M, Nimmo L, Pierce H, Stafford J, et al. Who's Your Nanny? Personal choice, public health stewardship and tired clichés. Submission to a WA Legislative Council inquiry into "Personal Choice and Community Safety", 2018.[38]
• From the inconclusive evidence we have to date on ENDS, it is apparent that a cautious approach is warranted with a case that supports strict regulation until rigorous research results are published.	Jancey J, Binns C, Smith J, Maycock B, Howat P. The rise of e-cigarettes: Implications for health promotion. Health Promot J Austr. 2015;26(2):79-82.[39]

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• More randomised controlled trials are needed to compare ENDS to other nicotine replacement therapies and research studies should be designed to assess long-term health outcomes of ENDS use. • The same rigor that is applied to new therapeutic products should to be applied to ENDS.	Jancey J, Maycock B, McCausland K, Howat P. E-cigarettes: Implications for health promotion in the Asian Pacific Region. Asia Pacific Journal of Public Health. 2018;30(4):321-7.[33]
9.0 Organisations endorsing precautionary approach to ENDS	
• In 2018, the Australian Medical Association, Cancer Australia, Cancer Council Australia, National Heart Foundation of Australia, and the Thoracic Society of Australia and New Zealand released a joint statement, concluding: Based on current evidence, the potential benefit of ENDS on smoking cessation is not established, and there is increasing evidence of health harms. Accordingly, the undersigned health and medical organisations support a precautionary approach to the promotion and availability of ENDS in Australia. This is in line with recommendations from the World Health Organization[34, 40, 41] and the World Federation of Public Health Associations.[42] • The following Australian organisations, and others, have also released individual position statements: - The Therapeutic Goods Administration[36] - National Health and Medical Research Council[35] - Public Health Association Australia[43] - Cancer Council Australia and Heart Foundation[44] - Cancer Australia[45] - Australian Medical Association[46] - Royal Australian and New Zealand College of Psychiatrists[47] • Other overseas agencies (list not exhausitive): - American Association for Cancer Research and the American Society of Clinical Oncology[48] - American Cancer Society[49] - American College of Preventive Medicine[50] - American Heart Association[51] - European Public Health Association[52] - Forum of International Respiratory Societies[53]	Greenhalgh E, Scollo M. InDepth 18B: Electronic cigarettes (e-cigarettes). In: Scollo M, Winstanley M, editors. Tobacco in Australia: Facts and issues. Melbourne: Cancer Council Victoria; 2017.[10]

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10.0 Australian regulation and access to ENDS	
• As they have done to influence tobacco control policies for conventional cigarettes,[54] large companies often try to stay out of sight and work through third parties that can obscure their links to the tobacco industry.[55] • The one difference from the historical pattern of industry efforts to shape tobacco policy from behind the scenes is that there are also genuine independent sellers of ENDS and associated users (referred to as vape shops) who are not necessarily being directed by the tobacco industry. These smaller operators are, however, losing market share to the big tobacco companies,[56] and the real political power is now being exercised by the cigarette companies. The cigarette companies try to take advantage of the existence of independent players while acting through the industry's traditional allies and front groups.[55, 57]	Glantz S, Bareham D. E-cigarettes: Use, effects on smoking, risks, and policy implications. Annu Rev Public Health. 2018;39(1):215-35.[18]
• Nicotine is classified as a dangerous poison under Schedule 7 of the Australian Standard Uniform Scheduling of Medicines and Poisons and, as such, the manufacture, sale, or supply of ENDS containing nicotine without lawful authority is prohibited in all Australian states and territories. However, individual users are able to lawfully purchase nicotine-containing ENDS from overseas for personal use provided (i) they hold a valid prescription from a registered Australian medical practitioner and (ii) possession and use of ENDS containing nicotine is legal within the user's state or territory.[58, 59]	Jongenelis M, Kameron C, Rudaizky D, Pettigrew S. Support for e-cigarette regulations among Australian young adults. BMC Public Health. 2019;19(1):67.[60]
• Despite these laws users unlawfully obtain liquid nicotine and nicotine-containing e-liquid.	Yong H, Borland R, Balmford J, McNeill A, Hitchman S, Driezen P, et al. Trends in e-cigarette awareness, trial, and use under the different regulatory environments of Australia and the United Kingdom. Nicotine & Tobacco Research. 2015;17(10):1203-11.[61]
• Ten "nicotine-free" e-liquids from a variety of brands and flavours were purchased online and over the counter from Australian suppliers. • E-liquids were analysed quantitatively by gas chromatography–mass spectrometry (GC-MS) in a commercial laboratory. • Apart from the excipient and nicotine, sixteen known chemicals were identified; a further seven could not be identified with their methods. • The propylene glycol/glycerine excipient accounted for 91.4–98.8% (mean, 96.3%; SD, 3.1%) abundance, based on peak areas in GC-MS chromatograms. • Nicotine was detected in six e-liquids; the levels in three (1.3, 1.4, 2.9 mg/mL) were comparable with those of commonly available low dose nicotine e-liquids.	Chivers E, Janka M, Franklin P, Mullins B, Larcombe A. Nicotine and other potentially harmful compounds in "nicotine-free" e-cigarette liquids in Australia. Med J Aust.[63]

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• The fact that nicotine was present has important implications for addiction and health, and reflects its use in the ENDS liquid manufacturing process.[62]	
11.0 Promotion and marketing of ENDS	
• The scoping review aimed to identify and describe the messages presented in ENDS related social media (Twitter, YouTube, Instagram, and Pinterest) promotions and discussions and identify future directions for research, surveillance, and regulation. • Included studies were published in English between 2007 and 2017. • 25 studies (United States, Canada) were included in the analysis. None were from Australia. • Results: Several key messages are being used to promote ENDS including as a safer alternative to cigarettes, efficacy as a smoking cessation aid, and for use where smoking is prohibited. Other major marketing efforts aimed at capturing a larger market involve promotion of innovative flavoring and highlighting the public performance of vaping. • Discussion and promotion of these devices appear to be predominantly occurring among the general public and those with vested interests such as retailers and manufacturers. • There is a noticeable silence from the public health and government sector in these discussions on social media. • Conclusions: The social media landscape is dominated by pro-vaping messages disseminated by the vaping industry and vaping proponents. The uncertainty surrounding ENDS regulation expressed within the public health field appears not to be reflected in ongoing social media dialogues and highlights the need for public health professionals to interact with the public to actively influence social media conversations and create a more balanced discussion.	McCausland K, Maycock B, Leaver T, Jancey J. The messages presented in electronic cigarette–related social media promotions and discussion: Scoping review. J Med Internet Res. 2019;21(2):e11953.[64]
• Electronic cigarette companies are employing techniques previously used by the tobacco industry to influence young people's decision to use cigarettes.[65] These include the addition of sweet flavourings to e-liquid and promoting products using youth-resonant themes, such as sex appeal, rebellion, social status and celebrity testimonials.[66, 67] *For examples of recent e-cigarette industry advertising, which mirrors past tobacco advertising refer to Exhibit A through D.	McCausland K, Maycock B, Jancey J. The messages presented in online electronic cigarette promotions and discussions: a scoping review protocol. BMJ Open. 2017;7(11).[68]

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12.0 Evidence discrediting 95% safer claim	
• Influential health organisations in England, including Public Health England, the Royal College of Physicians, the Royal Society for Public Health, and the National Health Service, have unequivocally stated that ENDS are 95% safer than conventional cigarettes. • This claim originated from a single consensus meeting of 12 people convened by D.J. Nutt in 2014.[69] They reached this conclusion without citing any specific evidence.[70] • The Nutt et al.[69] paper did include this caveat: "A limitation of this study is the lack of hard evidence for the harms of most products on most of the criteria" (p. 224), which has generally been ignored by those quoting this report. • A 2015 editorial in The Lancet[71] identified financial conflicts of interest associated with Nutt et al.,[69] noting that "there was no formal criterion for the recruitment of the experts." • Later in 2015, the BMJ published an investigative report[72] that raised broader issues surrounding potential conflicts of interest between individuals involved in the Nutt et al. paper. BMJ provided an infographic (Figure 4) illuminating undisclosed connections between key people involved in the paper and the tobacco and ENDS industries as well as links between the paper and Public Health England via one of the co-authors.	Glantz S, Bareham D. E-cigarettes: Use, effects on smoking, risks, and policy implications. Annu Rev Public Health. 2018;39(1):215-35.[18]

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Australian Institute of Health and Welfare

Table 7.1: Daily tobacco smokers, people aged 18 years and older, by state/territory, 1998 to 2016 (per cent)

State/territory	1998	2001	2004	2007	2010	2013	2016
NSW	21.8	18.6	17.2	17.2	15.0	12.2	12.0
VIC	22.9	19.9	18.2	17.4	15.5	12.6	12.3
Qld	24.3	21.6	20.7	17.9	17.7	15.7	15.2
WA	23.6	20.8	16.4	15.6	16.5	12.5	12.2
SA	19.4	20.5	17.2	17.6	15.7	13.6	11.4
Tas	25.3	21.4	22.3	24.0	16.9	16.7	16.9
ACT	22.9	18.5	16.1	15.2	11.7	9.9	9.9
NT	32.5	28.7	28.5	27.1	23.9	22.2	18.5
Australia	22.7	20.0	18.2	17.5	15.9	13.3	12.8

Statistically significant change between 2013 and 2016.
Source: NDSHS 2016

Table 7.2: Daily tobacco smokers, people aged 14 years and older, by state/territory, 1998 to 2016 (per cent)

State/territory	1998	2001	2004	2007	2010	2013	2016
NSW	21.2	18.0	16.5	16.3	14.2	11.7	11.5
VIC	23.4	19.2	17.5	16.5	14.9	12.2	11.7
Qld	24.4	21.0	19.8	17.2	16.7	15.0	14.5
WA	22.6	20.0	15.6	14.8	15.6	12.4	11.5
SA	19.3	20.1	16.5	16.5	15.0	12.8	10.8
Tas	24.4	20.6	21.6	22.6	15.9	16.1	16.0
ACT	22.5	18.4	16.2	14.7	11.0	9.7	9.5
NT	30.9	27.9	27.4	25.3	22.3	21.3	17.2
Australia	21.8	19.4	17.5	16.6	15.1	12.8	12.2

Statistically significant change between 2013 and 2016.
Source: NDSHS 2016

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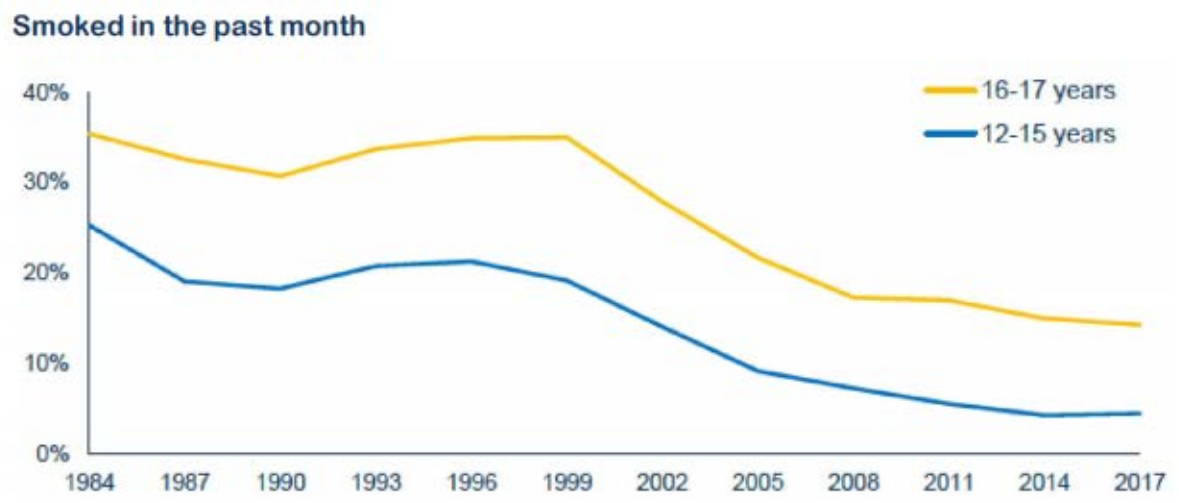
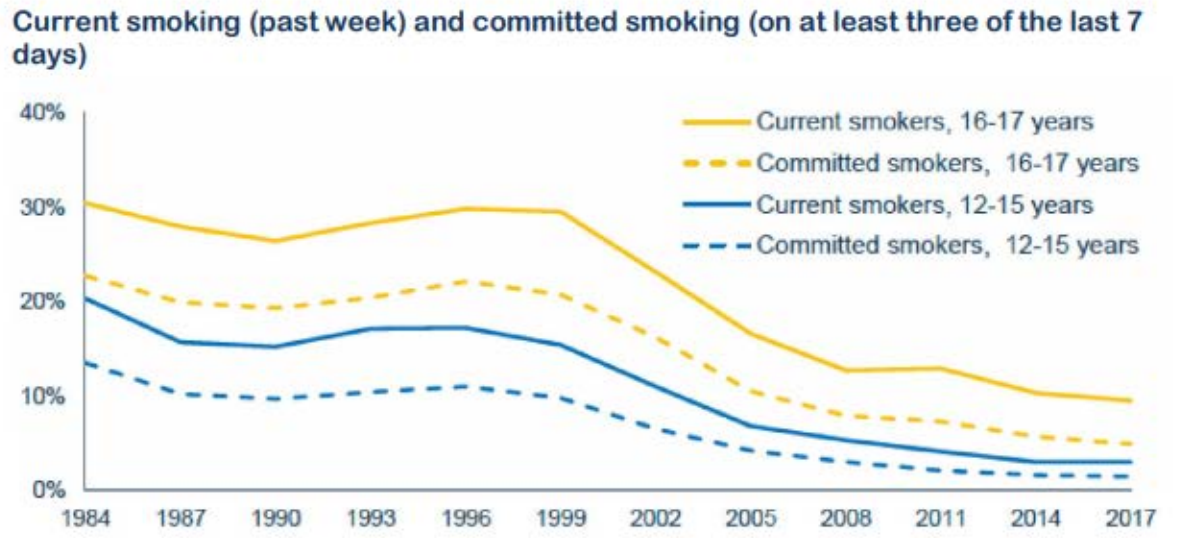
Figures cited in table of evidence

ASSAD 2017 Statistics & Trends: Australian Secondary Students' Use of Tobacco, Alcohol, Over-the-counter Drugs, and Illicit Substances
Cancer Council Victoria





Percentage of Australian secondary school students who smoked, 1984-2017

Figure 3.1

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E-Cigarettes: Use, Effects on Smoking, Risks, and Policy Implications
Annual Review of Public Health
Vol. 39:215-235
Stanton A. Glantz and David W. Bareham

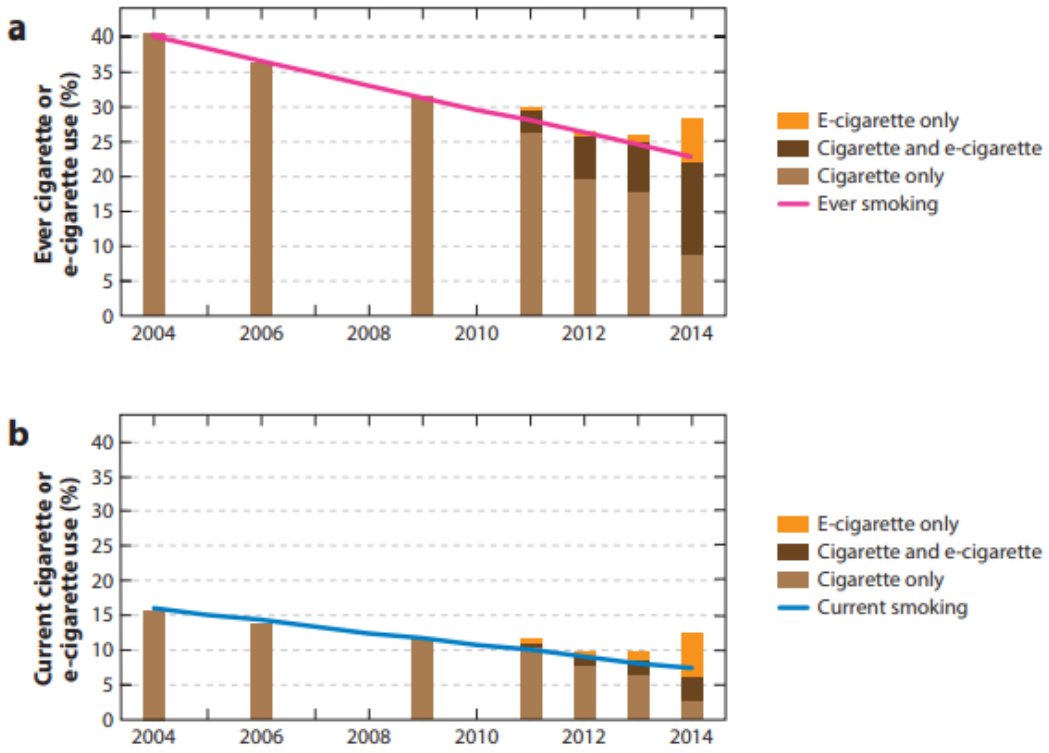

Figure 1

The advent of e-cigarettes did not affect declining trends in conventional cigarette smoking. After e-cigarettes became available, dual use of cigarettes and e-cigarettes increased, and some youth started using e-cigarettes alone; however, these changes did not affect the declining trend in cigarette use. This pattern was observed in both ever (≥1 puff lifetime; *panel a*) and current (use in past 30 days; *panel b*) cigarette use in the National Youth Tobacco Survey (NYTS), including dual use with e-cigarettes (cigarettes only, *light brown*; dual use, *dark brown*). E-cigarette-only users (*orange*) are at low risk of having initiated tobacco products with cigarettes (37). E-cigarette use was assessed starting in 2011. Adapted with permission from *Pediatrics* 2017 Volume 139, Issue 2, pii: e20162450. doi: 10.1542/peds.2016–2450, Copyright © 2017 by the American Academy of Pediatrics.

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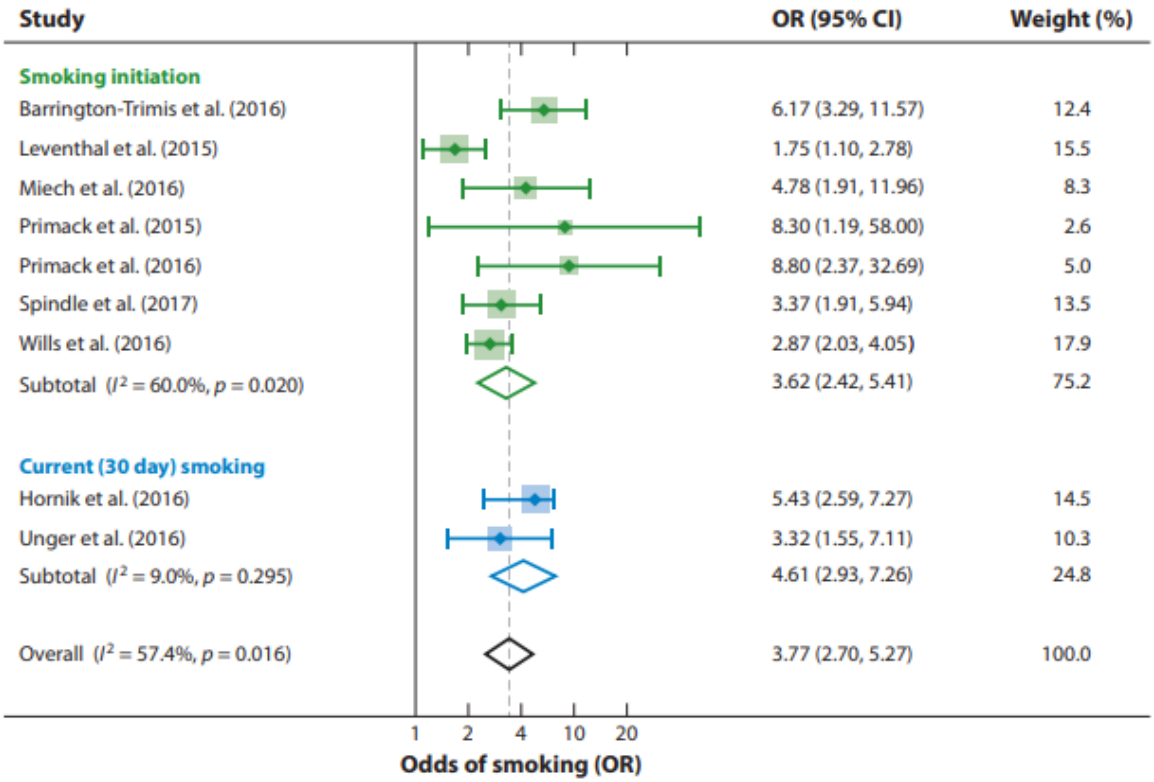

Figure 2

Ever e-cigarette use among never smokers at baseline quadruples the odds of being a smoker at follow-up. Meta-analysis is by the authors following Soneji et al. (119). Citations for studies: 15, 65, 79, 88, 102, 103, 121, 133, 142. Note: Weights are from random effects meta-analysis. Abbreviations: CI, confidence interval; OR, odds ratio.

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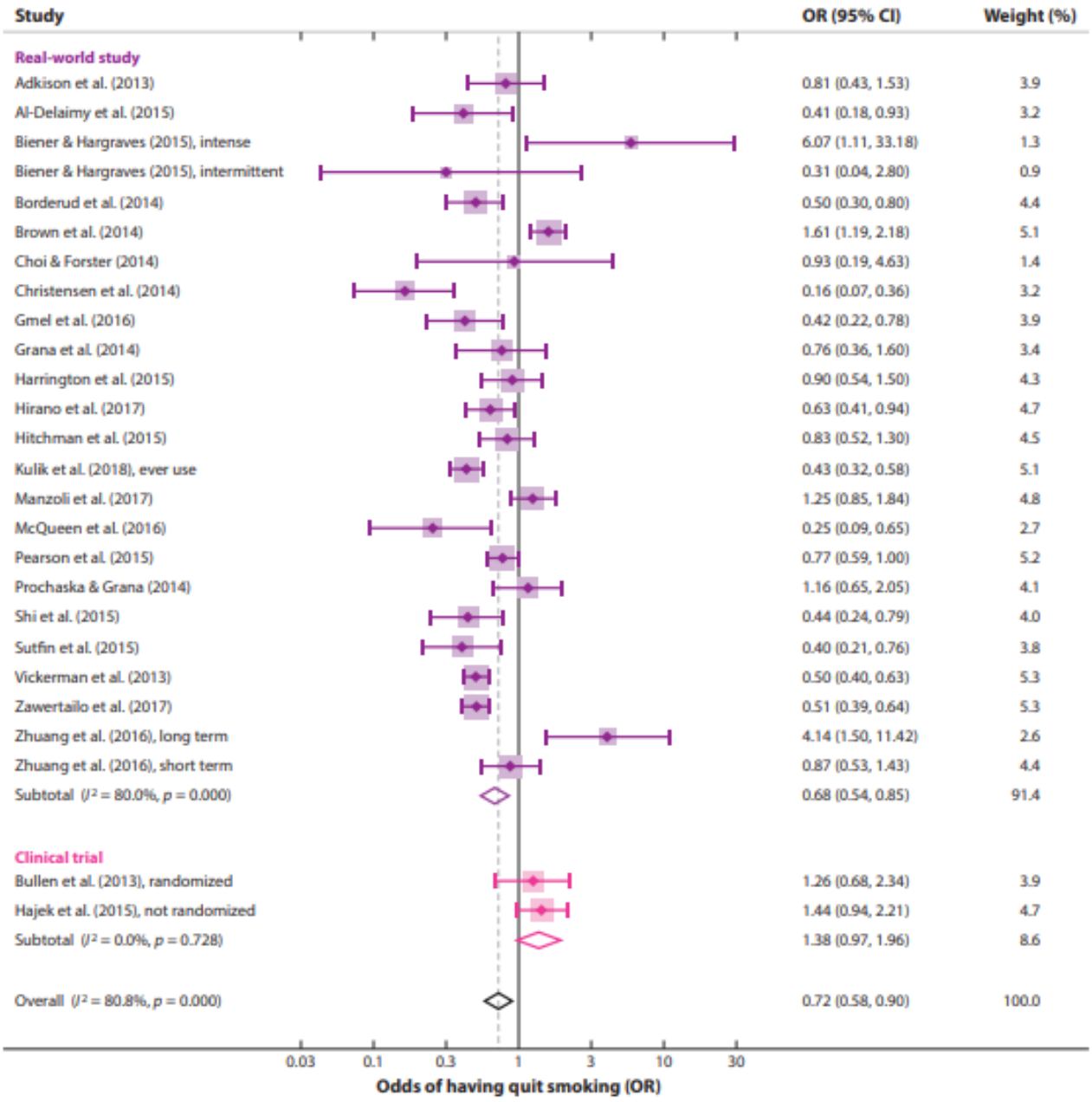

Figure 3

Smokers who use e-cigarettes are significantly less likely to have stopped smoking than smokers who do not use e-cigarettes, with the odds of quitting smoking depressed by 27%. Citations for studies: 2, 4, 19, 21, 22, 29, 30, 48, 54, 57, 62, 63, 75, 81, 86, 100, 104, 115, 124, 138, 147, 149, 151. Note: Weights are from random effects analysis. Abbreviations: CI, confidence interval; OR, odds ratio.

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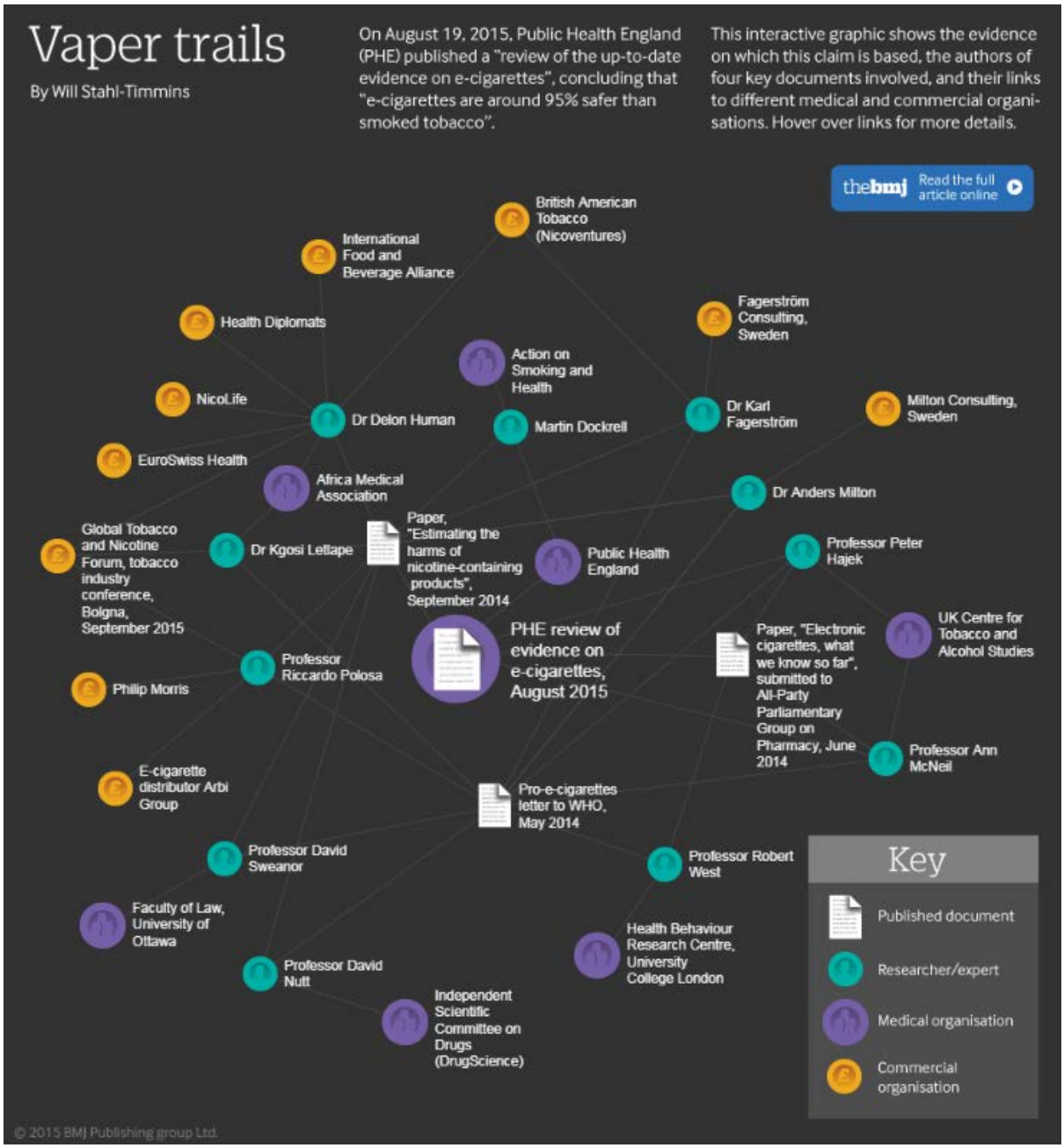
Public Health England's troubled trail
BMJ 2015; 351 doi: 10.1136/bmj.h5826

Figure 4



For an interactive version please go to the website:
https://www.bmj.com/content/351/bmj.h5826/infographic

Otherwise please see table on following page which also shows the connections between the authors of the four key documents, and their links to different medical and commercial organisations.

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Actor	Connection with:
PHE review of evidence on e-cigarettes, August 2015	Paper "Estimating the harms of nicotine-containing products", September 2014
	Paper, "Electronic cigarettes, what we know so far", submitted to All-Party Parliamentary Group on Pharmacy, June 2014
	Professor Peter Hajek
	Professor Ann McNeil
	Public Health England
Paper "Estimating the harms of nicotine-containing products", September 2014	Professor David Nutt
	Professor David Sweanor
	Professor Riccardo Polosa
	Dr Kgosi Letlape
	Dr Delon Human
	Martin Dockrell
	Dr Anders Milton
	Dr Karl Fagerstrom
Paper, "Electronic cigarettes, what we know so far", submitted to All-Party Parliamentary Group on Pharmacy, June 2014	PHE review of evidence on e-cigarettes, August 2015
	Professor Peter Hajek
	Professor Ann McNeil
	Professor Robert West
Pro-e-cigarettes letter to WHO, May 2014	Professor David Nutt
	Professor David Sweanor
	Professor Riccardo Polosa
	Dr Kgosi Letlape
	Dr Karl Fagerstrom
	Dr Anders Milton
	Professor Peter Hajek
	Professor Ann McNeil
	Professor Robert West
Public Health England	PHE review of evidence on e-cigarettes, August 2015
	Martin Dockrell
Action on Smoking and Health	Martin Dockrell
African Medical Association	Dr Delon Human
	Dr Kgosi Letlape
Faculty of Law, University of Ottawa	Professor David Sweanor
Independent Scientific Committee on Drugs (DrugScience)	Professor David Nutt
Health Behaviour Research Centre, University College London	Professor Robert West
UK Centre for Tobacco and Alcohol Studies	Professor Peter Hajek
	Professor Ann McNeil
Milton Consulting, Sweden	Dr Anders Milton
Fagerstrom Consulting, Sweden	Dr Karl Fagerstrom
British American Tobacco (Nicoventures)	Dr Karl Fagerstrom
	Dr Delon Human
International Food and Beverage Alliance	Dr Delon Human
Health Diplomats	Dr Delon Human
NicoLife	Dr Delon Human
EuroSwiss Health	Dr Delon Human
Global Tobacco and Nicotine Forum, tobacco industry conference, Bolgna, September 2015	Dr Delon Human
	Dr Kgosi Letlape
	Professor Riccardo Polosa
Philip Morris	Professor Riccardo Polosa
E-cigarette distributor Arbi Group	Professor Riccardo Polosa