

COMMENTARY

Response to Chapman and Daube

Thank you for the opportunity to respond to the commentary by Chapman and Daube [1]. In our view, they misrepresent the evidence and selectively use data to support a preconceived position.

First, they state that results of randomised controlled trials (RCT) overestimate cessation rates so cannot be used to make population-wide projections of cessation. This is often true but irrelevant. Results of RCTs rebut the claim (still being made in Australia) that there is 'no evidence' that e-cigarettes help smokers to quit. RCT findings are supported by longitudinal observational studies that indicate that e-cigarettes are reducing the population prevalence of smoking [2].

They misrepresent the findings of the Walker study by inappropriately converting the conservative continuous abstinence rates into percentages smoking when a significant proportion were of unconfirmed smoking status [3]. The intervention group using nicotine e-cigarette and nicotine patch includes 54 (10.8%) who reported quitting but did not return a sample for biochemical verification (or in a small number of cases failed it) and 170 who did not complete the 6 month survey (34%). Accepting that most of the latter group are smoking, the paper adjusted the 18% self-reported abstinence to 17%. Chapman and Daube claim this result is a failure, but it compares very favourably to the 7% quit rate in those using nicotine patches alone.

Second, Chapman and Daube incorrectly claim that a US cohort study had a poor outcome when it found an overall 12.8% abstinence rate at 12 months [4]. This is an impressive quit rate given that nearly half of the sample were dual users who are generally more dependent on smoking and have lower quit rates [5]. Further, many so-called dual users only vape occasionally and are not necessarily looking to quit, so their success in quitting would be lower than smokers in general. The observed cessation rate is far better than the rate for unassisted quitting, which Chapman claims is the best method on the basis of weaker observational data [6].

They selectively cite the 2018 National Academies of Sciences, Engineering and Medicine and the 2020 US Surgeon General reports to claim that there is insufficient evidence of effectiveness [7,8]. However,

they ignore the contrary findings of reviews by the UK Royal College of Physicians and Public Health England [9,10].

Third, they incorrectly claim that we compared prevalence data from national surveys that used different definitions of smoking. It was the difference in the *rate of decline* in smoking in each country that we drew attention to. This has accelerated in the UK and USA while appearing to slow in Australia.

Fourth, we are criticised for neglecting the 'disturbing developments' in the USA and Canada with an 'epidemic of vaping' among adolescents and young people. A more detailed analysis of the data from the 2018 US National Youth Tobacco Survey does not support these claims. The majority of high school students who vape were former or current smokers; most use was experimental and infrequent; of never-tobacco users only 1% vaped frequently and no more than 4% were nicotine dependent [11].

The UK, by contrast, does not allow promotions of the type used in the USA and it has restricted the nicotine content of e-cigarettes. It has not experienced a comparable increase in adolescent vaping to the USA [12,13]. This points to the potential of regulatory strategies to mitigate undesired effects and rebuts their gratuitous remark that our recommendation that e-cigarettes be sold in ways to minimise uptake by non-smokers is 'hollow'.

Fifth, the Hammond *et al.* study on which one of us is a co-author, reported a single data point from Canada showing a possible increase in youth smoking [12]. However, as it was not replicated in the more representative, larger Canadian Community Health Survey of 2018, at worst it should be treated as only a possible cause for concern [14]. Youth smoking rates in the US [15] and UK [13] have continued to decline over this period.

We note that Chapman and Daube are happy to accept a single data point as sufficient evidence for an increase in smoking while ignoring a plethora of data points showing that in countries where vaping is more prevalent smoking rates have declined while vaping has increased.

Finally, their claimed conflict of interest for the lead author is false. As a registered charity, the Australian Tobacco Harm Reduction Association accepts donations from individuals and organisations; it does not accept money from tobacco companies or their subsidiaries. Knowledge Action Change is a private organisation that made a one-off unconditional donation. Placing such a statement at the end of their response might be interpreted as implying some bias in our assessment. We believe the facts speak for themselves.

COLIN MENDELSON¹ , WAYNE HALL² & RON BORLAND³

¹*School of Public Health and Community Medicine, University of New South Wales, Sydney, Australia,* ²*Centre for Youth Substance Abuse Research, University of Queensland, Brisbane, Australia,* and ³*School of Psychological Sciences, The University of Melbourne, Melbourne, Australia*
Email: c.mendelsohn@unsw.edu.au

References

- [1] Mendelsohn C, Hall W, Borland R. Could vaping help lower smoking rates in Australia? *Drug Alcohol Rev* 2020 [Epub ahead of print].
- [2] Brown J, Beard E, Kotz D, Michie S, West R. Real-world effectiveness of e-cigarettes when used to aid smoking cessation: a cross-sectional population study. *Addiction* 2014;109:1531–40.
- [3] Walker N, Parag V, Verbiest M, Laking G, Laugesen M, Bullen C. Nicotine patches used in combination with e-cigarettes (with and without nicotine) for smoking cessation: a pragmatic, randomised trial. *Lancet Respir Med* 2020;8:54–64.
- [4] Coleman BN, Rostron B, Johnson SE *et al.* Electronic cigarette use among US adults in the population assessment of tobacco and health (PATH) study, 2013–2014. *Tob Control* 2017;26:e117–26.
- [5] Jackson SE, Shahab L, West R, Brown J. Associations between dual use of e-cigarettes and smoking cessation: a prospective study of smokers in England. *Addict Behav* 2020;103:106230.
- [6] Chapman S, MacKenzie R. The global research neglect of unassisted smoking cessation: causes and consequences. *PLoS Med* 2010;7:e1000216.
- [7] National Academies of Sciences Engineering and Medicine. Public health consequences of e-cigarettes. Washington, DC: The National Academies Press, 2018. Available at: <http://nap.edu/24952> (accessed 13 January 2020).
- [8] US Department of Health and Human Services. Smoking cessation: 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, 2020. Available at: https://www.cdc.gov/tobacco/data_statistics/sgr/2020-smokingcessation/index.html#full-report.
- [9] Royal College of Physicians. Nicotine without smoke: Tobacco harm reduction. London: Royal College of Physicians, 2016. Available at: <https://www.rcplondon.ac.uk/projects/outputs/nicotine-without-smoke-tobacco-harm-reduction-0> (accessed September 2019).
- [10] McNeill A, Brose LS, Calder R, Bauld L, Robson D. Evidence review of e-cigarettes and heated tobacco products 2018. A report commissioned by Public Health England. London: Public Health England, 2018. Available at: <https://www.gov.uk/government/publications/e-cigarettes-and-heated-tobacco-products-evidence-review> (accessed 14 January 2020).
- [11] West R, Brown J, Jarvis M. Epidemic of youth nicotine addiction? What does the National Youth Tobacco Survey reveal about high school ecigarette use in the USA? 2019. Qeios Publishing. Available at: <https://www.qeios.com/read/article/391> (accessed 24 February 2020).
- [12] Hammond D, Reid JL, Rynard VL *et al.* Prevalence of vaping and smoking among adolescents in Canada, England, and the United States: repeat national cross sectional surveys. *BMJ* 2019;365:12219.
- [13] West R, Brown J. Smoking toolkit study. *Smoking in England* 2020. Available at: www.smokinginengland.info/latest-statistics/ (accessed February 2020).
- [14] Statistics Canada. Canadian community health survey (CCHS) 2019. Ottawa, Canada: Government of Canada. Available at: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310009623> (accessed 25 February 2020).
- [15] Levy DT, Warner KE, Cummings KM *et al.* Examining the relationship of vaping to smoking initiation among US youth and young adults: a reality check. *Tob Control* 2019;28:629–35.