

SELECT COMMITTEE ON TOBACCO HARM REDUCTION

Professor Emily Banks
Responses to Questions on Notice from
Hearing on Friday, 13 November 2020

QUESTION ON NOTICE 1: I'll be interested to see whether, in your report, you have a look at the long-term use of the products, versus kids trying things [Chair, Senator Hughes]

Response: additional evidence on continuing regular smoking in relation to e-cigarette use

Following on from my response at the hearing, please find below an extract from our report on use of e-cigarettes and smoking uptake,¹ providing details of the four studies from the total of 25 which included the longer-term outcomes of current, regular or established smoking.

These studies found that among people who were non-smokers at baseline, those who used e-cigarettes were significantly more likely to go on to become current, regular or established smokers than non-smokers who had avoided e-cigarettes. The current evidence therefore indicates that the elevated risk of tobacco smoking with e-cigarette use relates not only to initiating use of combustible cigarettes, but also to becoming a regular or established smoker. The studies are outlined in the table below, along with the odds ratios for cigarette use in those using versus not using e-cigarettes, in the patterns specified.

Extract from Table 2 from Baenziger et al:¹ Odds ratios and adjusted odds ratios of the association between e-cigarette use and subsequent combustible cigarette use for non-smokers^a (never or no current use) at baseline

Study	Country	Baseline cigarette use	E-cigarette use	Follow-up cigarette use	Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)
Conner et al., 2019 ²	UK	Never	Ever	Current ^b	3.38 (2.72-4.21)	2.17 (1.76-2.69)
				Regular ^c	3.60 (2.35-5.51)	1.27 (1.17-1.39)
Kinnunen et al., 2019 ³	Finland	Never	Ever nicotine-containing	Daily	11.52 (4.91-27.01)	8.50 (2.14-29.19) With school clustering: 2.92 (1.09-7.85)
			Ever non-nicotine containing		1.88 (0.25-14.45)	2.50 (0.25-12.05) With school clustering: 0.94 (0.22-4.08)
McMillen et al., 2019 ⁴	US	Never	Ever (not current)	Established ^d	5.9 (1.7-20.7)	2.5 (0.6-10.9)
			Current ^b		25.5 (10.6-61.4)	8.0 (2.8-22.7)
Osibogun et al., 2020 ⁵	US	Non-smokers ^a	Current ^b	Regular ^c	Year 1: 16.4 (7.8-34.5) Year 2: 11.1 (3.5-35.2)	Year 1: 5.0 (1.9-12.8) Year 2: 3.4 (1.0-11.5)

NHW: Non-Hispanic White; HW: Hispanic White

a - non-smokers defined as never or no current (past 30-day) use

b - current defined as past 30-day use

c - regular defined as ≥20 days/ 30 days

d - established defined as ≥100 combustible cigarettes and currently smokes every day or some days

References

1. Baenziger ON, Ford L, Yazidjoglou A, Joshy G, Banks E. E-cigarette use and combustible tobacco cigarette smoking uptake among non-smokers, including relapse in former smokers: umbrella review, systematic review and meta-analysis. *medRxiv* 2020.
2. Conner M, Grogan S, Simms-Ellis R, et al. Evidence that an intervention weakens the relationship between adolescent electronic cigarette use and tobacco smoking: a 24-month prospective study. *Tob Control* 2019: tobaccocontrol-2018-054905.
3. Kinnunen JM, Ollila H, Minkinen J, Lindfors PL, Timberlake DS, Rimpela AH. Nicotine matters in predicting subsequent smoking after e-cigarette experimentation: A longitudinal study among Finnish adolescents. *Drug Alcohol Depend* 2019; **201**: 182-7.
4. McMillen R, Klein JD, Wilson K, Winickoff JP, Tanski S. E-Cigarette Use and Future Cigarette Initiation Among Never Smokers and Relapse Among Former Smokers in the PATH Study. *Public Health Reports* 2019; **134**(5): 528-36.
5. Osibogun O, Bursac Z, Maziak W. E-Cigarette Use and Regular Cigarette Smoking Among Youth: Population Assessment of Tobacco and Health Study (2013-2016). *Am J Prev Med* 2020; **58**(5): 657-65.