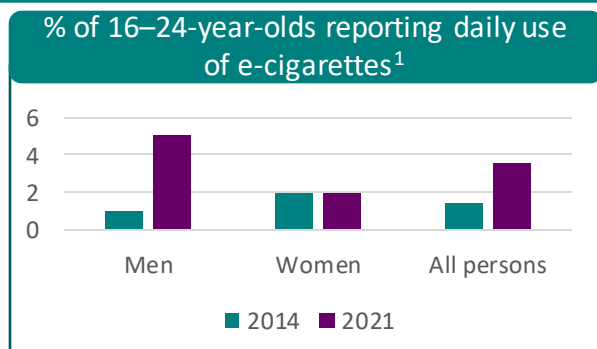


Do young vapers become old smokers?

Dr Louisa Rutherford (Senior Clinical Researcher)

E-cigarettes can aid smoking cessation and are thought to be a less harmful alternative to tobacco cigarettes. However, because they are cheap, easy to buy online and come in a range of sweet flavours, they are appealing to teenagers and young adults.

There is concern over the increase in use of e-cigarettes (or vapes) in young people and the long-term impact this will have. **And...**



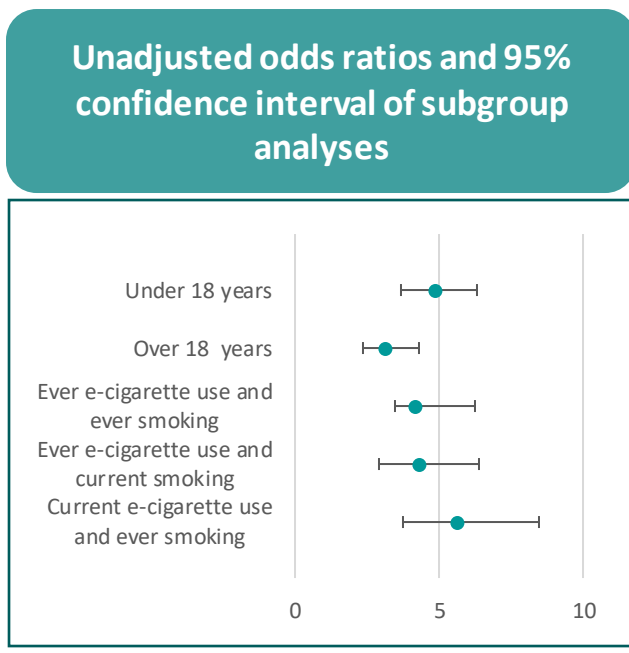
Professor Chris Whitty – Chief Medical Officer

“There remain question marks over the long-term harms of vaping”

Due to nicotine in e-cigarettes being highly addictive, there is a concern that **vaping is a route or gateway to smoking tobacco cigarettes**. This may potentially result in the reverse in the recent decline in tobacco smoking. **Research into the long-term impacts of vaping needs to be addressed so the correct public health message can be delivered.**

Is e-cigarette use in non-smoking young adults associated with later smoking? A systematic review and meta-analysis²

Objective	<ul style="list-style-type: none"> To investigate whether e-cigarette use compared with non-use in young non-smokers is associated with subsequent cigarette smoking.
Methods	<ul style="list-style-type: none"> Data sources including PubMed, Embase, Web of Science and Wiley Cochrane Library database were systematically searched. Studies including young people (up to age 30 years) with a measure of e-cigarette use prior to smoking and an outcome measure of smoking where an odds ratio (OR) could be calculated were selected. Of 9199 initial studies, 17 were included in the meta-analysis. Pooled ORs were calculated in a random-effects model.
Results	<ul style="list-style-type: none"> Pooled results of all studies showed e-cigarette use in non-smoking young people was associated with a 4.5 increase in the odds of subsequent smoking (unadjusted OR:4.59 95% CI: 3.60 to 5.85). High heterogeneity with $I^2 = 88\%$. Subgroup analyses looking at age stratification (<18 years) and ‘ever e-cigarette use and current smoker’ also showed increased ORs (unadjusted OR:4.87 and OR:4.35 respectively).



Our thoughts:

- Although this study shows a consistent association between e-cigarette use among non-smokers and later smoking, the high heterogeneity level of included studies means these results need to be interpreted with caution.
- It is not possible to tell from these results whether vaping acted as a route or gateway to smoking. For some young people, the same genetic and environmental factors that would increase the likelihood of vaping may also increase the likelihood of them smoking.
- The long-term impact of vaping is still unknown and warrants further research into the association between the use of e-cigarettes and smoking.

1. Office for National Statistics. E-cigarette use in Great Britain [internet]. UK. [Updated 2022 Dec 6; cited 2023 Jan 19]. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/drugusealcoholandsmoking/datasets/ecigaretteuseingreatbritain>

2. Khouja JN, Suddell SF, Peters SE, et al. Is e-cigarette use in non-smoking young adults associated with later smoking? A systematic review and meta-analysis. Tobacco Control 2021;30:8-15