

Science and Technology Committee (Commons) inquiry: E-cigarettes

Written evidence submitted by CLOSER (ECG0077)

1. About CLOSER

- 1.1 CLOSER is a unique collaboration of UK social and biomedical longitudinal studies, the British Library and the UK Data Service, funded by the Economic and Social Research Council (ESRC) and Medical Research Council (MRC). [1]
- 1.2 There are currently eight studies in the CLOSER Partnership, comprising four national and three regional birth cohort studies and Understanding Society (the UK Household Longitudinal Study). [2]
- 1.3 Longitudinal studies follow the same people and households over time, often from birth, collecting a wide array of information about participants' lives and enabling researchers and policymakers explore how changes in society affect health.
- 1.4 CLOSER's mission is to maximise the use of longitudinal studies to help improve our understanding of key social and biomedical challenges, including how best to combat life threatening diseases, reduce obesity and improve social mobility and life chances.
- 1.5 CLOSER's main areas of work are data harmonisation, data linkage, training and capacity building, and promoting the value of longitudinal studies to a wide range of audiences.

2. Longitudinal evidence from the CLOSER studies

- 2.1 The CLOSER contextual database uses the latest data from the Office of National Statistics (ONS) to demonstrate e-cigarette smoking prevalence by sex. These data show an increase in prevalence from 2013 to 2016 for both males and females. [3]
- 2.2 The longitudinal studies within CLOSER that ask participants questions on e-cigarette use are the Avon Longitudinal Study of Parents and Children, Millennium Cohort Study and Understanding Society.
- 2.3 The Avon Longitudinal Study of Parents and Children started asking participants about e-cigarette in 2013 when participants were aged 23 years. The questionnaire asked when respondents first used an e-cigarette or other vaping device, types of device used, duration of use, perception of harm and reason for using. [4]
- 2.4 Nearly a quarter (24%, 981) of 23 year olds in the study said they had ever used an e-cigarette or other vaping device. Overall, 4% (167) described themselves as currently using e-cigarettes. The study also asked participants how harmful to health they thought e-cigarettes are, relative to cigarettes. 3% (113) thought they were more harmful, 27% (1,092) thought they

were equally as harmful and 40% (1,652) thought they were less harmful. Just over a quarter (26%, 1,064) didn't know while 1% (58) had never heard of e-cigarettes. The next wave of questions on this topic is currently in progress but we can report that, based on responses from 1,500 participants, 1 in 20 vape or use e-cigarettes. [5]

- 2.5 The Millennium Cohort Study asked participants questions about e-cigarette use in 2015 when participants were aged 14 years. Questions covered prevalence and frequency of e-cigarette use. 3% regularly or occasionally used e-cigarettes and 12% had done so in the past. Boys were slightly more likely to have used e-cigarettes than girls.
- 2.6 Understanding Society (which covers adults of all ages, as well as young people) started asking participants questions about e-cigarette use in 2015. Overall, 7% of adults said they had used e-cigarettes. Amongst 10-15 year olds, 4% used e-cigarettes. Questions on previous and regularity of use for the full sample will be available in November 2018.

3. Gaps in the evidence base

- 3.1 Gaps in the UK evidence base are, in part, a result of the recent emergence of e-cigarettes, meaning questions about their use have only been introduced recently on key studies.
- 3.2 Much of the published longitudinal research on e-cigarettes have used data from international studies, including from the United States and Canada. These have examined trajectories of e-cigarette use among young people in these countries. Findings have shown increasing rates of e-cigarette use among young people and that whilst e-cigarette use was associated with future cigarette use across three longitudinal waves, cigarette use was not associated with future e-cigarette use. [6] [7]
- 3.3 A recent 12-month prospective study in the UK assessed whether adolescent e-cigarette use was associated prospectively with initiation or escalation of cigarette use. This concludes that further research with longer follow-up in a broader age range of adolescents is required. [8]
- 3.4 Longitudinal studies are the only way to capture the long-term effects of e-cigarette use on health and society. Collecting data on use and linking this to information about participants' health will help us better understand the short and long-term impacts of e-cigarette use. Linking longitudinal survey data to health administrative records would help provide an even richer picture of participants' life stories in the context of e-cigarette use. Future waves of questions on e-cigarette use in the CLOSER studies will be fundamental in uncovering the health implications of e-cigarette use over the lifecourse.

4. About the CLOSER studies

- 4.1 The **Hertfordshire Cohort Study** comprises a nationally unique study of 3,000 men and women born during the period 1931-1939 and still resident in the English county of Hertfordshire during the 1990s. The principal objective of the study is to evaluate the

relationship between early (prenatal and early postnatal) growth, genetic influences, adult lifestyle and the risk of common age-related disorders such as osteoporosis, osteoarthritis, sarcopenia, type 2 diabetes and cardiovascular disease. The study has been a key source of evidence for lifecourse influences on health and disease in later life.

- 4.2 The **1946 MRC National Survey of Health and Development** is the oldest and longest running of the British birth cohort studies comprising of men and women born in England, Scotland or Wales in March 1946. Today, with study members in their seventies, the study is a leading source of evidence on the long-term biological and social processes of ageing and how ageing is affected by factors acting across the whole of life.
- 4.3 The **1958 National Child Development Study** follows the lives of 17,415 people born in England, Scotland and Wales in a single week of 1958. It has tracked the lives of study members to reveal how the different educational and other paths people take affect their wages, jobs, relationships, and health later in life. It has also been used to uncover genetic risks for a range of diseases.
- 4.4 The **1970 British Cohort Study** follows the lives of 17,198 people born in England, Scotland and Wales in a single week of 1970. The study has shown the importance of reading for pleasure for children’s cognitive development, especially in vocabulary and spelling, but also in maths.
- 4.5 The **Avon Longitudinal Study of Parents and Children** charts the lives of 14,500 people born in the former county of Avon between April 1991 and December 1992 as well as the lives of their parents and their children. It is rich resource for the study of the environmental and genetic factors that affect a person’s health and development throughout their life.
- 4.6 The **Southampton Women’s Survey** is the only birth cohort study in Europe in which the mothers were recruited before conception of the child. The aim of the study is to assess the influence of maternal dietary, lifestyle, intrauterine, genetic and epigenetic factors on the children’s health and development, and on the health of the mothers themselves.
- 4.7 The **Millennium Cohort Study** follows the lives of 19,517 children born across England, Scotland, Wales and Northern Ireland in 2000-01. The study has provided important evidence to show how circumstances in the early stages of life can influence later health and development, including that children who are breastfed tend to be healthier and to show better cognitive development and that children born in the summer months were more likely to be placed in lower ability groups than their autumn-born peers.
- 4.8 **Understanding Society:** The UK Household Longitudinal Study follows the lives of all individuals within 40,000 households over time. It covers the whole population, with boost samples to ensure it is representative of immigrant and ethnic minority groups, and its large sample enables sub-population groups to be examined. The study includes data on key domains of people’s lives – their family, health, wellbeing, employment, education, income, expenditure, wealth, time use, behaviours, housing, transport and neighbourhoods, attitudes

and beliefs – which enables researchers to investigate the inter-relations between different aspects of people’s lives.

5. References

- [1] <https://www.closer.ac.uk/about/>
- [2] <https://www.closer.ac.uk/about/partners/>
- [3] <https://www.closer.ac.uk/data/proportion-cigarette-ecigarette-smokers-sex/>
- [4] http://www.bristol.ac.uk/media-library/sites/alspac/documents/questionnaires/Life@24_quest.pdf
- [5] <http://www.bris.ac.uk/alspac/external/newsletters/CO90s-familynewsletter-2016.pdf>
- [6] <http://pediatrics.aappublications.org/content/early/2017/11/30/peds.2017-1832>
- [7] <http://pubmedcentralcanada.ca/pmcc/articles/PMC5662449/>
- [8] <https://www.ncbi.nlm.nih.gov/pubmed/28818839>

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