Health and Social Care Committee inquiry: Childhood obesity

Written evidence from CLOSER, the home of longitudinal research

1. Summary

1.1 CLOSER is a collaboration of leading 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).

1.2 Longitudinal studies gather information on individuals' physical development and growth at multiple points in time, making them a unique resource for the study of overweight and obesity in childhood and adulthood. They are crucial sources of evidence as they allow researchers to understand more about the predictors and prevalence of obesity over the lifecourse. Comparing different studies allows us to track the evolution of the obesity epidemic across generations. [1]

1.3 Recently (March 2018) published longitudinal evidence from four different generations has found that over the studied period (1953 – 2015), socioeconomic-associated inequalities in weight reversed and those in height narrowed, whereas differences in BMI and obesity emerged and widened.

1.4 The study findings suggest that previous policies to reduce childhood obesity have not been adequate and existing policies are unlikely to be either. The results illustrate a need for strong additional legislative changes that focus on societal factors and the food industry, rather than individuals or families. Bold action is required, such as creating further incentives for food manufacturers to reduce sugar and fat content in food and drinks, reduce the advertising of unhealthy foods to children and families, and incentivise the sale of healthier alternatives. The Soft Drinks Industry Levy is a positive but likely very limited step in the right direction.

1.5 This is the second study to use harmonised datasets created by CLOSER in 2017, which contain comparable measures of height, weight and BMI from separate longitudinal studies. CLOSER's work bringing longitudinal data together in a consistent format is opening up new ways of working by enabling cross-study analysis. This is helping to improve our understanding about how and why the country is changing – and what this means for the future.

2. About CLOSER

2.1 CLOSER is the home of longitudinal research: a unique collaboration of leading 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). [2]

2.2 There are currently eight studies in CLOSER, comprising four national and three regional birth cohort studies and Understanding Society (the UK Household Longitudinal Study). [3]

2.3 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, community and education.

2.4 CLOSER's mission is to maximise the use, value and impact 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.

3. Priorities for further action

3.1 A new research project, funded by CLOSER, compared the childhood and adolescent social class, weight, height and BMI of British children from four different generations for the first time.

3.2 The study included data for children born in England, Scotland and Wales from four longitudinal birth cohort studies: the 1946 MRC National Survey of Health and Development, 1958 National Child Development Study, 1970 British Cohort Study and Millennium Cohort Study.

3.3 This is the second study to use harmonised datasets, created by CLOSER in 2017, which contain comparable measures of height, weight and BMI from separate longitudinal studies. [4]

3.4 Over the studied period (1953 – 2015), socioeconomic-associated inequalities in weight reversed and those in height narrowed, whereas differences in BMI and obesity emerged and widened. For example, in 1973 Britain's most disadvantaged teenagers weighed an average of 1.3kg less than their most advantaged peers. However, by 2015 teens from the most disadvantaged backgrounds weighed an average of 2.4kg more than the most privileged. [5]

3.5 The findings show that the powerful influence of the obesogenic environment has disproportionately affected socioeconomically disadvantaged children from 1953 to 2015 and illustrate a need for strong additional legislative changes that focus on societal factors and the food industry, rather than individuals or families. [6]

3.6 Bold action is required, such as creating further incentives for food manufacturers to reduce sugar and fat content in food and drinks, reduce the advertising of unhealthy foods to children and families, and incentivise the sale of healthier alternatives. The Soft Drinks Industry Levy is a positive but likely very limited step in the right direction. [6]

3.7 Without effective interventions childhood BMI inequalities are likely to widen further throughout adulthood, leading to decades of adverse health and economic consequences.

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.

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5. References

[1] https://learning.closer.ac.uk/evidence/the-rise-of-the-obesity-epidemic/

[2] https://www.closer.ac.uk/about/

[3] https://www.closer.ac.uk/about/partners/

[4] https://www.closer.ac.uk/news-opinion/2017/harmonised-datasets-deposited-download/

[5] https://www.closer.ac.uk/news-opinion/2018/children-social-classes-5kg-heavier-advantaged-peers-study/

[6] 'Socioeconomic Inequalities in Body Mass Index, Weight, and Height in Childhood-Adolescence from 1953 to 2015: Findings From Four British Birth Cohort Studies' by David Bann, William Johnson, Leah Li, Diana Kuh and Rebecca Hardy, The Lancet Public Health, 20 March 2018: http://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(18)30045-8/fulltext