

House of Commons Health and Social Care Committee Childhood Obesity Inquiry 2018

Submission from the MRC Epidemiology Unit and the Centre for Diet and Activity Research (CEDAR)

The **MRC Epidemiology Unit** – www.mrc-epid.cam.ac.uk – studies the genetic, developmental and environmental factors that cause obesity, type 2 diabetes and related metabolic disorders and the translation of that understanding into preventive action. The Unit leads the **Centre for Diet and Activity Research (CEDAR)** – www.cedar.iph.cam.ac.uk – which studies the population determinants of dietary and physical activity behaviour, develops and evaluates interventions, and helps shape public health practice and policy.

Submission from Prof Nick Wareham (Director) on behalf of Unit & CEDAR Programme

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Executive Summary

- Action on childhood obesity needs a wide focus on prevention at the population level to address the societal drivers of the rising prevalence of obesity.
- Action is needed on adult settings and behaviours that influence and constrain children's behaviours and health.
- Greater focus is required on early years' environments which are somewhat overlooked in the Government's current childhood obesity plan.
- Whilst the school is unlikely to be the single most important setting for tackling childhood obesity, creating supportive school environments should be part of a wider approach.
- Food environments differ according to the socio-economic characteristics of neighbourhoods, and amplify socio-economic inequalities in diet and consequently, health. Local authorities need information about the nature of food environments and the ability to act to improve them in order to reduce inequalities.
- Understanding and better influencing commercial food companies (through voluntary, legislative and fiscal measures) are central to changing the nation's diet.
- Further action is warranted to more tightly control the marketing of unhealthy food and drinks.
- Promoting physical activity is relevant to childhood obesity prevention, but there are benefits of being physical active that are independent of obesity and justify the promotion of increased activity whatever the effect on obesity.

1. General principles for future action

- 1.1 We provided written¹ and oral² evidence to the Committee as part of its 2015 inquiry on *the impact of physical activity and diet on health*. This submission updates our evidence relevant to the Committee's second question of what the priorities should be for further action by the Government following its 2016 Obesity Plan.
- 1.2 We welcome the recognition by the Committee and others of the complexity of childhood obesity, and that strategies that target only single aspects of behaviour, or focus only on providing information, are unlikely to be successful. Complexity should not be an excuse for inaction, and evidence-informed interventions must be properly evaluated. Whilst this context is well understood by many policymakers, including Public Health England and other public health professionals, it is less evident in the actions proposed in the Government's childhood obesity plan.

- 1.3 Whilst we understand the political and pragmatic reasons why the Government has chosen to focus specifically on *childhood* obesity, childhood behaviours take place in the context of adult environments and behaviours. It is unlikely that childhood obesity can be tackled without action across the life-course and in adult settings. The evidence about the specific effect of certain settings on children is also often less well developed than it is for adults. However, children share the adult environment, and their behaviours are strongly influenced (and often directly governed) by adult decisions. Whilst additional child-focused research should be pursued, in its current absence, adult-focused research is often both relevant and generalisable. The National Diet and Nutrition Survey (NDNS), for which the MRC Epidemiology Unit now provides scientific leadership, could provide the opportunity to monitor how policy and environmental changes are affecting secular trends in the key dietary and physical activity behaviours that drive obesity alongside other national surveys that monitor the level of obesity itself.
- 1.4 **Focus on prevention, populations & behaviours.** Just as the Committee has recognised the importance of prevention over treatment for childhood obesity, so emphasis on *obesity* to the exclusion of the behaviours that lead to it should be cautioned against. A focus on those already obese or overweight risks increasing stigma, and potentially ignores the wide-ranging benefits that would be conferred on children of a healthy weight by improvements in diet and physical activity. We reiterate that when choosing potential policies and initiatives, efforts that aim to shift the population distribution of obesity-related behaviours are likely to be more effective, equitable and cost-effective overall: i.e. those that involve changes in infrastructure, policy and systems. Socioeconomic policies not directly aimed at obesity are also likely to bring benefits if they tackle underlying inequalities.
- 1.5 Population interventions are not, however, uniformly effective. The equity of efforts to prevent obesity is currently weakened by the tendency to favour population interventions in the childhood obesity plan that require people to use a high level of individual ‘agency’ (i.e. consciously and cognitively engage with the intervention) in order to benefit (e.g. marketing campaigns, front-of-pack labelling, advice from healthcare professionals). However, population interventions that require individuals to use lower levels of agency to benefit (e.g. advertising restrictions, planning to create healthier neighbourhoods, reformulation of food, etc.) are more likely to be effective and most equitable.³ The announcement of plans to cut 20% of calories in popular foods by 2024⁴ is therefore welcome in principle, although reliance on voluntary action by the food industry is unlikely to be sufficient. More effort is required to develop and evaluate population interventions that require less individual agency. Political leadership and engagement with the public and stakeholders across sectors will also be necessary.
- 1.6 **Physical activity** is relevant to the prevention and treatment of obesity but has wider effects because it is also independently associated with mortality, cardiovascular disease, diabetes, osteoporosis and some cancers. It has been estimated that physical inactivity is responsible for twice as many premature deaths as obesity. Being active can significantly offset the risks associated with being obese.⁵ The relationship of physical activity with obesity is likely to be a two-way relationship: inactivity may contribute to weight gain, and weight gain may reduce an individuals’ activity.⁶ Incorporating active travel into long commutes is associated with reduced body fat,⁷ but the potential for cycling in England is still largely unmet: analysis for the Propensity to Cycle Tool – www.pct.bike – shows that if English people were as likely as the Dutch to cycle trips of similar length and hilliness, nearly one in five of us would cycle to work.⁸

2. Early years settings, breastfeeding

- 2.1 Pregnancy and the first years of life are a crucial period in terms of later risk of obesity and related diseases.^{9,10} Currently 1 in 10 children are obese when they start school. However the childhood obesity plan focuses principally on interventions in school-aged children, with few

(and relatively weak) interventions in early years (e.g. revised menu guidelines, awareness-raising).

- 2.2 There is currently limited evidence on the relationship between childcare in infancy and obesity, but a recent review suggests that childcare in infancy often fails to promote health (compared to parent delivered care).¹¹ Our reviews on determinants of obesity-related behaviours in under 5s found that across multiple behaviours parenting practices such as role modelling, monitoring and feeding practices are important, and that early years' provider training and nutrition policies were positive influences. In contrast to popular belief, increasing parental knowledge was not associated with changes in young children's health behaviours.^{12,13,14} A focus on early years' nutrition and positive parenting practices could therefore be important in changing young children's diets.
- 2.3 Despite extensive efforts, **breastfeeding** rates remain very low in the UK, particularly among parents of low socioeconomic status. Bottle-fed babies often gain weight rapidly and tend to be at higher risk of childhood obesity. SACN revised down the estimated energy requirements for infants in 2011;¹⁵ at that time 75% of boys and 76% of girls exceeded the revised requirements, with formula-milk being the largest contributor to energy intake for children under 12 months.¹⁶ There is social pressure and expectation for babies to gain weight,¹⁷ which suggests that there may be a case for interventions to help shift attitudes, alongside interventions to change amounts of formula milk used by parents to within guideline limits.
- 2.4 While breastfeeding remains optimal, the needs of bottle-feeding parents should be better met too as part of efforts to prevent childhood obesity (particularly among more deprived backgrounds).^{18,19} In our randomised controlled trial that tested support for bottle-feeding families to achieve healthy growth for babies, appropriate bottle-feeding reduced formula-milk intake and weight gain to 6 months. The effect was not sustained at 12 months suggesting the need for sustained and scalable interventions.²⁰

3. Family environment

- 3.1 Government intervention at the family level, particularly through legislation, is challenging. However, current research can guide future programmes. Our recent work on family-based physical activity interventions offers some guides to policy:²¹
 - The context of interventions is important to consider, most notably the ethnicity, motivation, and time constraints of the family.
 - Combining goal-setting and reinforcement (reward) techniques is likely to be effective.
 - The wide-ranging benefits of engagement in physical activity (e.g. social, health and educational) should be emphasised.²² Non-health benefits may be more important for encouraging engagement.
 - Where a lack of resources and/or understanding for how to change behaviour exists, educational strategies should be employed, but should be combined with other approaches to be successful.
 - Efforts to improve the family psychosocial environment (e.g. family interaction/cohesion) should be considered to increase family physical activity (e.g. encouraging active time spent together). These should also include a focus on the child as the agent of change.

4. School environment

- 4.1 Whilst the school environment is unlikely, on its own, to be the most important setting for tackling childhood obesity, interventions targeting schools and how the educational system should be part of a wider approach. Learning from successful school interventions, such as the Department of Health-funded Creating Active School Environments (CASE) study – www.cedar.iph.cam.ac.uk/case, could be better applied in efforts to prevent obesity:^{23, 24, 25}

- Combinations of school-environment factors that influence adolescent behaviour are necessary, rather than focusing on a single characteristic of the school. Although adequate facilities and equipment are important, if the wider school culture and policies do not support their use by all students, the overall impact is likely to be limited.
- The educational system should look beyond PE and sport provision and acknowledge the role of the wider contextual influences. Here, school leadership is crucial for creating a culture of physical activity and health.
- Initiatives that are co-identified and co-developed with students are likely to be more effective, in line with guidance from NICE and PHE.
- Stakeholders (including students) in CASE prioritised ‘mental health and well-being’, ‘enjoyment of school’ and ‘academic achievement’ over ‘physical activity’. Other research has shown that each extra hour per day spent watching TV, using the internet or playing computer games in Year 10 is associated with poorer grades at GCSE in Year 11.²⁶ Importantly, outcomes favoured by public health advocates may differ from those of their target groups, especially schools which (justifiably) prioritise academic achievement. The identification of co-benefits beyond health and obesity are therefore central, and the way obesity prevention initiatives are promoted to and in schools may need to change to encourage uptake and population impact.

4.2 Children require additional support to be active during the autumn and winter months, particularly out of school. Changing the timing and structure of the school day (e.g. longer break-times during the day, or earlier finishes during the winter) could make more daylight time available for children to be active throughout the year.²⁷ Unfortunately, break-times are becoming shorter, especially in secondary schools.

5. Diet – the food industry and fiscal measures

5.1 The childhood obesity plan calls for engagement with industry to make food healthier. The food industry should be defined broadly, with action needed from farm to fork to deliver broad food system change. Researchers who engage with commercial food companies can face real and perceived conflicts of interest,²⁸ and the Government’s default assumption that public health professionals and researchers should and will work with the food industry is unrealistic without appropriate guidance on how such engagements can be managed. Until greater consensus is achieved in this area, there are risks that research and intervention opportunities could be missed, and there will remain a lack of trust in evidence generated with industry involvement. We are leading a project to develop a consensus within the research community and other stakeholders on if, how and under what conditions public health researchers can work with industry and avoid conflict of interest.^{29,30} An international workshop in mid-April 2018 will lead to a report and recommendations for the development guidance.

5.2 With regard to the tax on sugary drinks, we refer the Committee to the submission from the **Soft Drinks Industry Levy (SDIL) Evaluation** collaboration, which we are leading with partners from the University of Oxford and the LSHTM.

6. Diet – advertising

6.1 We refer the Committee back to the evidence provided in our 2014 submission. In summary, food marketing is ubiquitous, tends to be for less healthful products, and people living in less affluent circumstances are more exposed to it.^{31,32,33} Food promotion has an influence on children’s food preferences, purchasing requests and consumption.³⁴ Current restrictions on TV food advertising on children’s television were not associated with a reduction in children’s exposure to these advertisements, because children watch a much wider range of programmes.³⁵ The same limitation is true of recently introduced restrictions on non-broadcast (online) food advertising to children. Further action is warranted on controls on

marketing of unhealthy food and drink on TV, online and elsewhere. Health Departments and public health agencies require a stronger role in shaping advertising regulations.

7. Diet –food cost, inequality and food environment

- 7.1 A major influence on which foods people buy and their overall eating habits is the cost of food. Healthier foods and healthier diet patterns tend to cost more than less-healthy alternatives.³⁶ NDNS and consumer expenditure data (2008-2012) indicates that meeting UK dietary recommendations is associated with higher estimated food costs;³⁷ and while people with a greater diversity of foods in their diet showed a lower risk of developing type 2 diabetes, these varied diets are more expensive.³⁸ Food cost is impacted by decisions across the food chain, and efforts to reduce overall inequalities and poverty will likely have an impact on food choice. Greater cross-Departmental ambition is therefore necessary to strengthen the Obesity Plan and ensure its impact on food systems.
- 7.2 Evidence is increasing for the impact of food environments on diet and obesity, in particular with relation to health inequalities. Evidence increasingly suggests that greater supermarket access is associated with healthier diets³⁹ and weight.⁴⁰ Greater access to supermarkets, as a source of varied and healthy produce at multiple price points, can also support provision of fruits and vegetables within early year's childcare settings.⁴¹
- 7.3 Nevertheless, unhealthy food is still prevalent at the checkouts of some supermarkets and other stores.⁴² Some UK supermarkets have introduced voluntary policies on healthier checkout food. Supermarkets with these policies display fewer checkout foods, and a lower proportion of these foods are less healthy than supermarkets with no policies.⁴³ Supermarkets do not appear to be undermining these policies by moving less healthy checkout food to the immediate vicinity.⁴⁴ The introduction of checkout food policies is associated with reduced purchasing of common 'less healthy' checkout foods.⁴⁵
- 7.4 National data show that children living in areas surrounded by fast food outlets are more likely to be overweight or obese.⁴⁶ Evidence has demonstrated the associations between neighbourhood fast food takeaway density, consumption and obesity.⁴⁷ Changing neighbourhood takeaway food environment may be particularly effective for groups of low socioeconomic status.⁴⁸ Our recent research has shown that the number of takeaway outlets has risen substantially over the past two decades, with a large increase seen in areas of socioeconomic disadvantage.⁴⁹
- 7.5 This suggests local authorities should limit the growth of unhealthy food outlets in their areas to tackle obesity and inequalities in obesity. The health-impact of takeaways is recognised by a number of bodies including the Greater London Authority,⁵⁰ NICE⁵¹ and Public Health England.⁵² A number of local authorities are already regulating the proliferation of new takeaways. However, our experience from working with local authorities is that there are differences in interpretation about the extent to which existing powers can be used and enforced, and uncertainty surrounding best practice. Political and economic challenges also exist for local authorities. Although public health can be made a material consideration in planning decisions, it is sometimes a secondary concern. Local authorities can also lack information about how and where best to act on the food environment. We have therefore developed the **Food environment assessment tool (Feat)** www.feet-tool.org.uk which allows for detailed mapping and monitoring, including over time, of neighbourhood food access. It can help local authorities plan where to intervene. We are undertaking further work presently to develop a systematic understanding of how planning instruments are being used to limit hot food takeaway activity by local authorities.

¹ Submission to House of Commons Health Select Committee – The impact of physical activity and diet on health – March 2015 www.cedar.iph.cam.ac.uk/resources/evidence-submissions/#HealthCommittee

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