2018 submission to the Joint Committee on Children and Youth Affairs on tackling childhood obesity

This submission is being made by Prof Ivan J Perry and Dr Janas Harrington on behalf of the School of Public Health, University College Cork and the HRB Centre for Health & Diet Research.

Prof Ivan Perry is the Dean of the School of Public Health and Principal Investigator HRB Centre for Health & Diet Research. Dr Janas Harrington is a Senior Lecturer in Public Health Nutrition, School of Public Health, UCC and a member of the Scientific Advisory Board of the HRB Centre for Health & Diet Research.

SUMMARY

The School of Public Health and the HRB Centre for Health and Diet Research welcome the opportunity to provide this submission to the Joint Committee on Children and Youth Affairs. We outline below, our areas of expertise with a focus childhood obesity and provide a *selection* of our research studies which provide evidence on trends in the prevalence of overweight and obesity, work on the determinants of childhood obesity and estimates of the lifetime costs of childhood obesity. We also provide evidence on the limited effectiveness of community-based family interventions to address childhood obesity.

We welcome the recent introduction of the government tax on sugar sweetened drinks as one of a suite of measures to address childhood obesity. Included as an appendix to this submission is a confidential copy of a research paper on the magnitude of consumption of these products in Irish 8-10 year old children. This paper has recently been submitted to the BMJ for publication. This study provides evidence of high levels of consumption of sugar sweetened drinks in this age-group - data which will provide a valuable baseline for evaluation of the impact and effectiveness of the tax. We would emphasise (i) the need for ongoing evaluation of the tax, (ii) the need to take a long term perspective in the assessment of its impact, and (ii) the need to maintain pressure on the food industry in relation to the marketing of unhealthy food to children, portion size and reformulation.

In this submission we also provide evidence of the limited effect that community-based childhood weight management programmes have in tackling childhood obesity. International evidence suggests that interventions addressing childhood obesity, whether at the level of the individual child, the family or the school have not been shown in carefully conducted studies to be effective and that there is no alternative to societal level interventions targeting the food and physical activity environment at community (regional/city) and national level.

AREAS OF EXPERTISE

School of Public Health, UCC

The School of Public Health in UCC is now one of the largest academic centres for public health in the Republic of Ireland with 27 academic staff, (including five professors in Public Health, Health Services Research, Public Mental Health and Epidemiology), approximately 55 staff in total including academic, administrative and research staff and approximately 20 doctoral students. The School vision is to be *at the heart of society's organised efforts to prevent disease and to protect and promote the health and wellbeing of the population*". The School has established formal and productive links and joint appointments with the National Suicide Research Foundation, the HRB Clinical Research Facility, the National Cancer Registry, the National Perinatal Epidemiology Centre and UCC Departments of Statistics and General Practice. In the 2015 Report of UCC's Research Quality Review, which covered the period 2008-14, the research activity of the Department was rated as excellent and of leading international standard by the international peer review panel with an overall score of 5 (maximum). Diet, obesity and health form a major focus of research within the School and Prof I Perry is Principal Investigator on the HRB Centre for Health and Diet Research.

The HRB Centre for Health and Diet Research

The focus of HRB Centre for Health & Diet Research (CHDR) is on promoting the nutrition related health and wellbeing of the population by producing and effectively disseminating high-quality

evidence to guide policy and practice in public health nutrition. CHDR draws on expertise from a wide range of academic disciplines across its partner institutions, including nutrition science, public health nutrition, epidemiology, biostatistics, clinical trials, food marketing, consumer behaviour, public health informatics, psychology, obstetrics, endocrinology (including paediatric endocrinology), primary care, public health advocacy, HSR and research dissemination. Over the past decade, the Centre has developed formal and informal links with key national agencies and stakeholders working in food and health, including the Department of Health, *safe*food Ireland, the Food Safety Authority of Ireland, the Irish Heart Foundation and the Irish Health Service Executive. The Centre is involved with and/ or collaborating with other major national research programmes with relevant data and expertise, including the SLAN 2007 National Health & Lifestyle Study, the 2010 National Adult Nutrition Survey, the *Growing up in Ireland* (GUI) children' cohort study, the Irish Longitudinal Study on Ageing (TILDA) and the *Healthy Ireland* surveys. The CHDR provides ongoing support for the analyses of the childhood and adult obesity clinic databases in Temple Street Hospital and Loughlinstown Hospitals respectively. Prof Donal O'Shea's (a CHDR co-investigator) has been appointed National Clinical Lead for Obesity and Dr Grace O'Malley (CHDR co-investigator) has led work on the development of services for children with severe obesity. The CHDR also has an ongoing and productive collaboration with HRB Clinical Research Facility at UCC. These partnerships, collaborations and links provide the Centre with access to virtually all of the public health nutrition related data currently available in Ireland across the life-course together with access to a rich network of colleagues with specialist expertise in academia, policy and practice.

Hence, the Centre is now recognised as a national resource and centre of excellence in Public Health Nutrition. This is evident for instance from the contribution of the CHDR to "*A healthy weight for Ireland", the Government's National Obesity Policy and Action Plan, 2016-2025*". Researchers in the Centre generated key evidence which informed the development of the Obesity Policy (including detailed work on the targets) and in the policy document the CHDR has been specifically tasked with: i) developing an annual bulletin or score card on progress in relation to the Obesity Policy and ii) conducting a midterm review of the policy (Recommendations 10.10

and 10.11). With funding from the HRB Knowledge Exchange and Dissemination Scheme Dr Janas Harrington and Prof Ivan Perry are now engaging with this work programme. In addition, Dr Harrington is leading on an EU- Joint Funding Action Programme "*Effectiveness of existing policies for lifestyle interventions – Policy Evaluation Network (PEN)"* which will support further detailed work on the evaluation of Ireland's National Obesity Policy and Action Plan, 2016-2025. Professor Perry has served on the DoH Scientific Advisory Group on Obesity (SAGO) for over 5 years. SAGO has now been disbanded to be replaced by national Obesity Policy Implementation Oversight Group (OPIOG) - under the Chair of the Department of Health. Dr Janas Harrington and Professor Ivan Perry now serve on OPOIG. At its inaugural meeting, the OPOIG agreed to establish two sub-groups for Reformulation and Healthy Eating, Professor Perry was appointed Chair of the Reformulation sub-group and Dr Harrington is a member of the Healthy Eating sub-groups respectively.

In addition to the ongoing work with the Department of Health the CHDR has contributed to work on over five substantial projects with *safefood* Ireland which have led to key policy relevant reports on a range of public health nutrition issues including estimates for salt intake in the population, work on the current and lifetime costs (health system and societal) of adult and childhood overweight and obesity (report attached) and food portion size control in childhood. The Centre has also supported researchers in the area of public health nutrition funded under other HRB programmes, such as Dr Grace O'Malley's work in Temple St Hospital, Dublin on the management of severe obesity in childhood and Dr Emily Kelleher's work on the evaluation of the national childhood obesity pilot programme

In summary the CHDR is making a significant contribution to policy development and implementation in public health nutrition at a national level and it is supporting the Department of Health in meeting its EU obligations in this area.

CURRENT AND RECENT WORK FROM THE CENTRE FOR HEALTH AND DIET RESEARCH/SCHOOL OF PUBLIC HEALTH

Trends and prevalence of overweight and obesity in primary school aged children in the Republic of Ireland from 2002-2012

We conducted a systematic review which aimed to compile and synthesise all available information on the prevalence of overweight and obesity in Irish primary school aged children between 2002 and 2012 (Keane et al 2014). Fourteen studies (16 prevalence estimates) were included. The combined prevalence of overweight and obesity within the studies ranged from 20-34%. No significant trend in overweight prevalence over time was observed (p=0.6). However, there was evidence of a slight decrease in obesity prevalence over the period (p=0.01), with a similar though non-significant decline in the prevalence of morbid obesity (p=0.2). This was the first study to demonstrate a possible slow-down in the prevalence of childhood obesity in Ireland. This finding from this study have since been confirmed through the World Health Organisation's Childhood Obesity Surveillance Initiative (COSI).

Full details of this study can be found at the following link:

https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-14-974

Estimated lifetime costs of childhood obesity

In this study commissioned and funded by safefood we estimated the total lifetime costs of childhood overweight and obesity on the island of Ireland at €7.2billion euros (€4.6 billion in the Republic Of Ireland; £2.1 billion in Northern Ireland). We found that 21% of total costs in the Republic of Ireland represented direct healthcare costs i.e. hospital in-patient; out-patient; GP and drug costs. However, more than two thirds (79%) of the total lifetime costs were indirect costs due to absenteeism, premature mortality and lifetime income losses.

We estimated the reduction in lifetime costs attributable to childhood overweight and obesity that could be expected if there was a 1% and 5% reduction in mean childhood Body Mass Index (BMI). With a 1% reduction in BMI, the lifetime saving on the island would be €365 million while a 5% reduction would generate savings of €1.5 billion.

In this research we also estimated the cost per person on the island associated with overweight and obesity in children. In the Republic of Ireland, the cost was in excess of €16,000 per person while the cost in Northern Ireland, was more than £18,000 per person.

Full details of this report can be found at the following link:

https://www.publichealth.ie/document/extern-report/what-are-estimated-costs-childhood-overweight-and-obesity-island-ireland

Magnitude of consumption of sugar sweetened drinks in Irish children.

SSD intakes are high in Irish primary school children accounting for a significant proportion of daily energy intake and is significantly associated with child overweight/obesity. From a recent school-based study (The Cork Children's Lifestyle Study-CCLaS), which collected detailed health, lifestyle, physical activity and dietary data from over 1,000 school children aged 8-10 years in Cork City and County, we have provided evidence of the magnitude of consumption of sugar sweetened drinks (SSD) and the contribution these products make to overall daily energy intake.

- The majority of children (82%) were SSD consumers.
- Energy intake from SSD in this group was estimated at 116 kcal, accounting for 6% of total calories.
- Mean calories from SSDs increased incrementally between weight categories: SSD contributed 106 kcal, and 155kcal for normal weight and overweight/obese children respectively, equating to 5.8%; and 7.6% of total calories respectively.
- Mean intake volumes were significantly higher in children who were overweight/obese compared to normal weight children (383ml/d; and 315ml/d respectively).
- Taking account of sociodemographic and other lifestyle behaviours, children consuming >200ml/day had an 80% increased odds of being overweight/obese compared to those consuming less than 200ml/day (OR 1.8; 95% CI[1.0-3.5]).
- Lifestyle determinants including frequency of takeaway consumption, tv viewing and family socio economic status were significantly associated with increased consumption.

This study provides baseline quantitative data which will support evaluation of the impact of the sugar drinks tax, introduced in Ireland on May 1st, 2018.

The implementation of a family-focused lifestyle programme for managing childhood obesity in the community setting in Ireland

This study was completed in fulfillment of a PhD in Health Services Research by Dr Emily Kelleher. The detail below summarises a number of distinct pieces of research to evaluate the implementation of a family-focused lifestyle programme for managing childhood obesity in the community setting in Ireland. This research has been published in high impact international peer review journals as outlined below.

Background and aim

Childhood obesity is a significant public health issue. International guidelines continue to recommend family-focused, multicomponent, childhood weight management programmes despite limited evidence on their effectiveness or implementation in real-world settings. In 2014, the Irish Health Service proposed a national pilot of the *W82GO-community* programme. The overall aim of this study was to investigate the barriers and facilitators to the implementation of *W82GO-community* and explore the factors influencing family engagement.

Methods

W82GO-community aimed to improve nutrition, increase physical activity and facilitate behaviour change in children aged 5-7 years who measured ≥98th percentile over one year. It was piloted in two community sites by two multidisciplinary teams from April 2015 to April 2016. Firstly, a qualitative study was conducted to explore implementation from the perspective of 29 national and local level stakeholders responsible for implementing the programme including professionals from dietetics, psychology, public health nursing, physiotherapy, health promotion and administration. Framework analysis was used to identify barriers and facilitators which were

mapped onto a well-known implementation framework. Secondly, a systematic review of international literature was carried out to investigate what factors influence attendance at similar community-based lifestyle programmes among families of overweight or obese children. This was followed by another qualitative study exploring public health nurses (PHNs) experiences of referring families to, and families' feelings of being referred to, *W82GO-community*. It also investigated family's motivation to participate in and complete treatment. Finally, in light of findings from the aforementioned studies a cross-sectional analysis of data collected as part of the Cork Children's Lifestyle Survey (CCLaS) was conducted to identify factors influencing parent and child misperception of child weight.

Results

For all stakeholders, barriers to the implementation of *W82GO-community* arose due to the multidisciplinary nature of the programme, including the lack of role clarity and added complexity of working in different locations. Furthermore, a lack of parental engagement, as evidenced by low enrolment and retention rates, presented a further challenge for programme implementation. Of the 121 children who were eligible for initial assessment, less than half of families accepted the invitation and of those who presented, 19 subsequently started the programme. Just eight families completed the *W82GO-community* programme. The systematic review on barriers and facilitators to family attendance and retention found that parents are largely driven to enrol because of a concern for their child's psychological health and wellbeing. However, the stigma surrounding excess weight and the denial of the issue amongst some parents presents significant barriers to enrolment. The systematic review findings also suggest that over the course of a programme, children's positive social experiences such as having fun and making friends foster the desire to continue participating in treatment. Results from our qualitative study involving PHNs and parents who participated in *W82GO-community* found that both PHNs and parents were fearful of the referral process. They had concerns about both the practicality of making the referral and the significance of the referral on the health and wellbeing of the child, respectively. Despite these initial fears, parents concern for their child's future was

a major driver behind their participation. Finally, the cross-sectional analysis of CCLaS data highlighted that 45% of parents of overweight/obese children underestimated their child's weight and this was influenced by child age and child misperception of own weight. 77% of overweight/obese children misclassified their own weight.

Conclusion

This study provides critical evidence on the complexities associated with implementing a multidisciplinary childhood weight management programme in real-world settings. It provides practical recommendations to guide future policy makers, programme delivery teams and researchers, in particular, when developing strategies to boost recruitment, minimise attrition and subsequently enhance effectiveness. Findings highlight the profound limitations of family-focused, community-based, weight management programmes and confirm the critical need for broader societal intervention.

Published peer reviewed papers from this study are available at the following links:

Kelleher et al 2017 (a) https://onlinelibrary.wiley.com/doi/abs/10.1111/obr.12478

Kelleher et al 2017(b) http://bmjopen.bmj.com/content/7/8/e016459

RECOMMENDATIONS TO THE COMMITTEE

The committee should draw on the recommendation of the landmark 2016 Report of the Commission on Ending Childhood Obesity which highlights the need for broadly based societal measures to reduce children's exposure to unhealthy food and increase levels of physical activity.

It is increasingly clear that access to a healthy diet in a non obesogenic environment should be addressed from a human rights perspective. In a report to the United Nations Human Rights Council, the then Special Rapporteur identified five priority actions, based on evidence, to address the issues of obesity and unhealthy diets [13]. These were:

- taxing unhealthy products;
- regulating foods high in saturated fats, salt and sugar;
- restricting 'junk food' advertising;
- overhauling agricultural subsidies that make certain ingredients cheaper than others; and
- supporting local food production so that consumers have access to healthy, fresh and nutritious foods.

These issues are of particular relevance in discussion on the need protect children from an obesogenic environment. In the context of the 2015 enactment of the Thirty-first Amendment of the Irish Constitution relating to children's rights, we may now have a legal basis for a more robust approach to accountability and regulation in the food sector. It is increasingly clear that educational and other strategies focused on the prevention of overweight/obesity in childhood that operate at the level of the individual, the family or the school, are not effective – even if applied with significant resources and at a high-level of intensity. ***An epidemic rooted in societal-level structures and processes requires a societal-level response.*** The 2016 WHO Report of the Commission on Ending Childhood Obesity highlights key societal-level measures required to promote the intake of healthy foods in order to reduce the intake of unhealthy foods and sugar-sweetened beverages by children and adolescents. Progress on these issues will require strong central leadership in setting the policy direction, with sustained support at the highest levels of government to enable the intersectoral actions that are required.