Cyflwynwyd yr ymateb i ymgynghoriad y Pwyllgor Iechyd a Gofal Cymdeithasol ar Atal iechyd gwael - gordewdra

This response was submitted to the Health and Social Care Committee consultation on Prevention of ill health - obesity

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GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

Senedd Cymru Consultation- Prevention of ill health: obesity
Public Health Wales response

Introduction

Public Health Wales is pleased to provide this written submission to the Senedd Cymru, Health and Social Care Committee on Prevention of ill health: obesity.

In drafting this response we have drawn on our work to examine the international evidence base and to understand the ill health consequences of high levels of overweight and obesity in Wales. We have also drawn on our experience to date in working with Welsh Government and partners to implement the Healthy Weight Healthy Wales Strategy.

No country in the world has reversed current obesity trends

The increase in the number of people in the UK living with overweight and obesity has been recognised a major health challenge for many years with reports suggesting that over half of the UK adult population could be obese by 2050[1].

Overweight and Obesity impacts on our risk of a number of other health problems as well as being a health problem in its own right. Many people in Wales will need the support of health and care services to manage their condition.

The costs to society and business in the UK is an estimated 2%[2]-3% of GDP with suggestions that these estimates would be higher if including the costs associated with child and adolescent obesity, and broader costs such as mental health, other health conditions and costs associated with informal care[3]. Cost associated with obesity in Wales have been estimated at 3 billion[4].

To date no country in the world has been successful at reversing the rise in adults living with obesity and overweight. In 2022, the World Health Organization (WHO) European Regional Obesity Report[5] examined the growing challenge of obesity within the region. The report concluded that no region or member state was on track to reach the target of halting the rise in obesity by 2025.

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[1] Foresight. Tackling obesities: Future Choices. 2007. Available from: Tackling obesities: future choices - project report (2nd edition) (publishing.service.gov.uk)

[2] World Obesity Federation Global Obesity Observatory. Economic impact of overweight and obesity | World Obesity Federation Global Obesity Observatory

[3] Institute for Fiscal Studies. 2023. The Costs of obesity (ifs.org.uk)

[4] Bell, M. and Deyes, K. (2022), 'Estimating the full costs of obesity: a report for Novo Nordisk', Frontier Economics Report, 26 January 2022. Available from: https://www.frontiereconomics.com/uk/en/news-and-articles/articles/article-i9130-the-annual-social-cost-ofobesity-in-the-uk/#

[5] WHO European Regional Obesity Report 2022. Available from: https://www.who.int/europe/publications/i/item/9789289057738

There are multiple complex causes of obesity and solutions

An unhealthy weight is often seen as a result of individual choice on diet, exercise and lifestyle. The Foresight report, Tackling Obesities: future choices, outlined the causes of obesity as being multiple, complex and interlinked and reaching far beyond health services. The report successfully highlighted the contributions of a poor diet and physical inactivity as drivers of excess weight gain and recognised the impact of the environment on personal 'choices'. These changes to environment have occurred over a long period of time. This has been decades in the making, and it will take decades to fully address the causes of obesity in society.

The complexity of the issue means there are significant challenges for addressing obesity. An analysis of obesity policies to address obesity in England over a 30 year period[6] has identified successive failures in polices to address obesity. This work highlighted that governments have, to date opted for educational and information based approaches focusing on individual behaviours. Governments have tended to avoid more effective interventionist approaches aimed at shaping the choices available to individuals in their living environments through regulation or taxes. Fear of being perceived as 'nannying' was highlighted[7] as one of the reasons for avoiding interventionist approaches. An additional point raised by this work also identified consideration for the practicalities of applying policies. For obesity this does mean that, with the magnitude of the task, plans need to be prioritised, delivered and resourced over a long time period.

The Healthy Weight Healthy Wales Strategy takes an evidence based approach that focuses on addressing the obesogenic environment. It features the key policy measures that the WHO Europe and other bodies recommend should be adopted by countries and regions. In developing the Strategy we, and other bodies highlighted the need for a long term commitment that would take a decade or more before change might be seen.

[6] Theis, D.R.Z. and White, M. (2021), Is Obesity Policy in England Fit for Purpose? Analysis of Government Strategies and Policies, 1992–2020. The Milbank Quarterly, 99: 126-170. Available from: https://doi.org/10.1111/1468-0009.12498

[7] Institute for Government. 2023. Tackling obesity Improving policy making on food and health. Available from: https://www.instituteforgovernment.org.uk/sites/default/files/2023-04/tackling-obesity.pdf

Response: The effectiveness of Welsh Government strategy, regulations, and associated actions to prevent and reduce obesity in Wales, including consideration of:

1 Gaps/areas for improvement in existing policy and the current regulatory framework (including in relation to food/nutrition and physical activity)

- **Wales has a comprehensive strategy but further work is needed to provide focus for implementation and delivery at scale**
- **There are examples where the potential of current policy measures are not being realised and improved information sharing and cross sectoral working would support improvement**
- **There are opportunities to strengthen delivery through a focus on clear ambitions and outcomes and stronger cross-sector accountability**

The Welsh Government's Healthy Weight Healthy Wales (HWHW) Long Term Strategy[8] sets out ambitious plans to transform the way decisions are made in everyday life which impact upon our weight and wellbeing. The Strategy outlines four themes each of which addresses a key determinant of healthy weight. *Healthy Environments* considers how to address the obesogenic environment in relation to the food environment and the active environment; *Healthy Settings* sets out the changes that are needed to ensure that the places where we spend time such as schools, workplaces, communities make the healthy choices the easy choices; *Healthy People* looks at how we support individuals to attain and maintain a healthy weight from birth and includes the provision to specialist services for those whose weight is at a level that affects health; *Leadership and Enabling Change* finally sets out ways of working that can achieve a whole system response to the challenge over the longer term.

While the HWHW strategy does set out key areas for change, the breadth and scale of change needed to address obesity mean that the work cannot be carried out all at once or over a short period of time. It was acknowledged that implementation plans would need to be phased to reflect the scale of change needed and the capacity within the system to deliver change. Public Health Wales has continued to review the international evidence base to ensure that we can continue to adopt and adapt to international learning.

Further work is needed to develop a roadmap to implement the Strategy. This needs to be constructed around some shared ambitions or goals which highlight the key areas for change e.g. children walk or cycle to school wherever possible; public sector food provision in all settings adopts a healthy by default approach; children and young people are not subject to advertising and promotion by unhealthy commodity industries e.g. high fat salt and sugar foods in the places where they learn or play. Public Health Wales is finalising work on an

[8] Welsh Government.,2019 Healthy Weight: Healthy Wales obesity strategy. Available from: [Healthy Weight: Healthy Wales obesity strategy | GOV.WALES]

outcomes framework that will help identify key goals and measurement indicators that can be monitored over time to help drive change and track progress.

The WHO[9] highlighted that obesity develops across the life course through two compounding mechanisms: (i) developmental programming based on preconception and gestational exposure to obesity; and (ii) unhealthy diet and physical inactivity driven by exposure to obesogenic environmental factors. They confirmed the findings of Public Health Wales in reviewing the international evidence base for action in developing Healthy Weight Healthy Wales, describing the latest evidence that highlights how vulnerability to unhealthy body weight in early life can affect a person's tendency to develop obesity, and that policy interventions that target environmental and commercial determinants of poor diet at the entire population level (the obesogenic environment) are likely to be most effective at reversing the obesity epidemic, addressing dietary inequalities and achieving environmentally sustainable food systems. The report also set out a series of evidence based policy recommendations for countries and regions to consider. All of the measures set out are either currently being implemented in Wales or feature in future plans or are under consideration.

This suggests that there is a need to focus more closely on implementation to ensure that what is set out in policy and plans is being implemented at the scale necessary to achieve change and that change can be measured which is also a challenge.

This does require sustained commitment with funding over the long term and the understanding that our current obesogenic environment has developed over many years and will take many years to address. Currently funding for implementation is short term; this does not reflect the need for prevention to be given equal status to treatment funding within the NHS. Short term funding interrupts delivery and creates uncertainty which leads to loss of staff and difficulty in sustaining action. International experience points to long term sustained action which adapts to learning, building up and scaling up successful action.

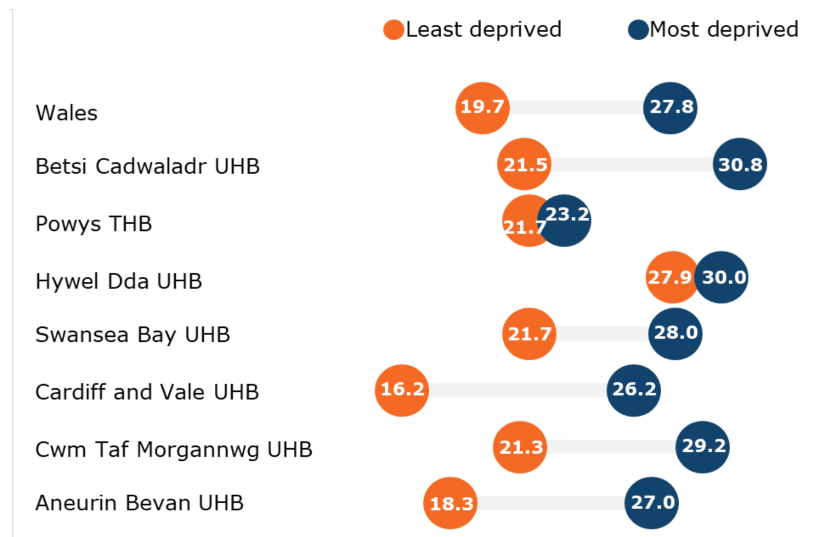
There is no single solution for obesity and no organisation can solve this alone and health and care organisations can only provide part of the solution. There are many wider organisations and bodies that can take actions and influence other parts of the system to support people to have a healthier weight. Many of the changes needed to address obesity require responsibility and accountability across organisations and sectors and oversight to ensure that they are held to account to support change[10].

[9] WHO European Regional Obesity Report 2022

[10] Swinburn, B., Kraak, V., Rutter, H., Vandevijvere, S., Lobstein, T., Sacks, G., Gomes, F., Marsh, T. and Magnusson, R., 25. Strengthening of accountability systems to create healthy food environments and reduce global obesity. *The Lancet*, *385*(9986), pp.2534-2545.

2 The impact of social and commercial determinants on obesity

Overweight and obesity affect a significant proportion of the population and affects all population groups. However, people who experience disadvantage are more likely to be affected by overweight and obesity [11,12] and are more likely to experience health and wellbeing problems associated with their weight[13]. For over a quarter of children in Wales,



experiences of overweight and obesity start in the early years of childhood and there is some evidence to suggest that children from the most disadvantaged backgrounds can be at greater risk of severe obesity[14]. The environments in which we live, and work affect the choices that are available to us and people who are most disadvantaged can often fewer healthier options available to them[15].

Access to affordable healthy food is one of the key challenges. The Food Foundation Broken Plate[16] report has highlighted that:

- Healthy nutritious food is nearly three times more expensive than obesogenic unhealthy products,
- More healthy foods costing an average of £8.51 for 1,000 calories compared to just £3.25 for 1,000 calories of less healthy foods,

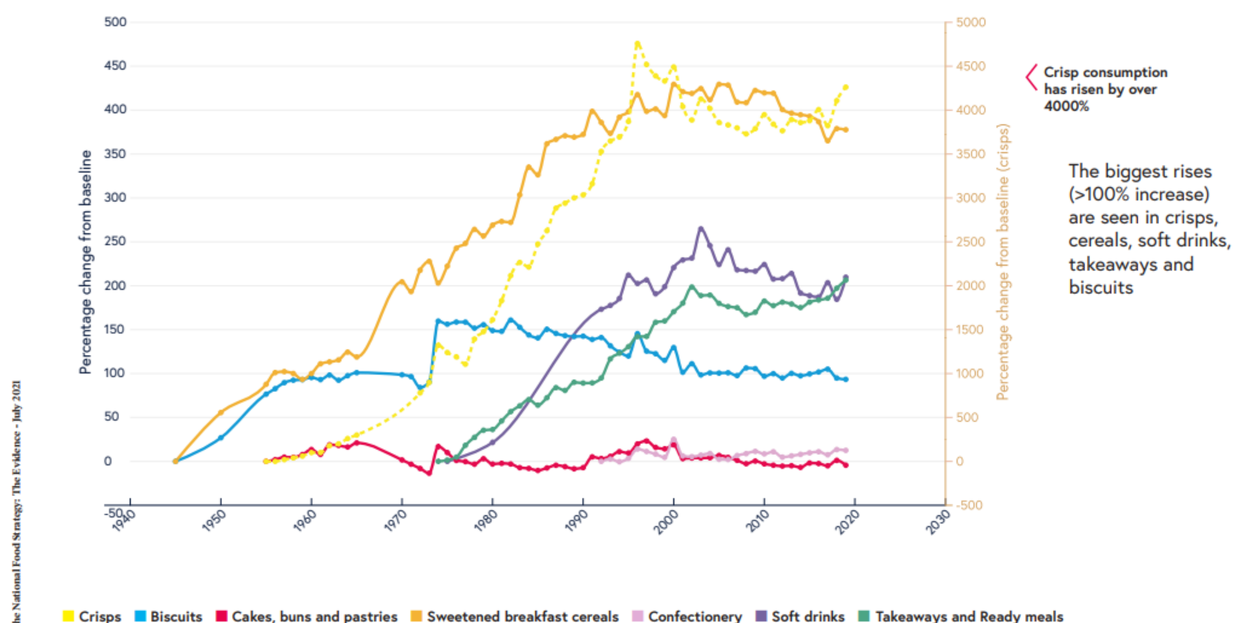
[11] Marmot M, Allen J, Goldblatt P, et al. Fair society, healthy lives. The Marmot Review 2010;14.
[12] Keaver L, Pérez-Ferrer C, Jaccard A, Webber L. Future trends in social inequalities in obesity in England, Wales and Scotland. Journal of Public Health. 2020 Feb 28;42(1):e51-7.
[13] Public Health Wales. Obesity in Wales. 2019. Available from: https://phw.nhs.wales/topics/obesity/obesity-in-wales-2019/
[14] Claire Beynon, Linda Bailey, Prevalence of severe childhood obesity in Wales UK, *Journal of Public Health*, Volume 42, Issue 4, December 2020, Pages e435–e439, https://doi.org/10.1093/pubmed/fdz137
[15] Wang, Y., Touboulic, A. and O'Neill, M., 2018. An exploration of solutions for improving access to affordable fresh food with disadvantaged Welsh communities. European Journal of Operational Research, 268(3), pp.1021-1039.
[16] Food foundation. The Broken Plate. 2023. https://foodfoundation.org.uk/initiatives/broken-plate

- Between 2021 and 2022 healthier foods became even more expensive, increasing in price by an average of 5.1% compared with 2.5% for the least healthy foods.

The primary change in environment that has occurred in recent decades that have been associated with increasing population weight relate to the food environment. While the increasing reliance on the individual motor vehicle for transport and increased automation in daily life have reduced levels of activity, changes to the food environment have been the most significant.

Food produced outside of the home, prepared in factories rather than kitchens now dominates our diets. Research[17] has found that 89% of the top 20 companies brand sales were classified as unhealthy using the WHO European Nutrient Profile Model (NPF) and that for every $10 spend on these companies brands only $1.10 was spent on those products that were considered healthier. Home prepared food and eating at home is associated with healthier choices[18,19] and lower energy intake however, we now prepare less food from fresh at home and now eat more pre-prepared, convenience food. Reversing this trend will be challenging but there are opportunities to increase the focus given to food and meal preparation within the school curriculum to ensure that all young people leave school being able to prepare at least 10 healthy affordable meals.

Percentage change in purchases of 'junk food' categories (g/person/week) in the UK since 1940[20]



[17] Bandy, L., Jewell, J., Luick, M. et al. The development of a method for the global health community to assess the proportion of food and beverage companies' sales that are derived from unhealthy foods. *Global Health* **19**, 94 (2023). https://doi.org/10.1186/s12992-023-00992-z

[18] Clifford Astbury, C., Penney, T.L. & Adams, J. Comparison of individuals with low versus high consumption of home-prepared food in a group with universally high dietary quality: a cross-sectional analysis of the UK National Diet & Nutrition Survey (2008–2016). *Int J Behav Nutr Phys Act* **16**, 9 (2019). https://doi.org/10.1186/s12966-019-0768-7

[19] Ziauddeen, N., Page, P., Penney, T. L., Nicholson, S., Kirk, S. F., & Almiron-Roig, E. (2018). Eating at food outlets and leisure places and "on the go" is associated with less-healthy food choices than eating at home and in school in children: Cross-sectional data from the UK National Diet and Nutrition Survey Rolling Program (2008–2014). *The American journal of clinical nutrition*, *107*(6), 992-1003.

[20] The National Food Strategy - The Plan

The number and range of food outlets around our homes has increased over time making energy dense food more accessible and available. Analysis of Food Standards Agency data by Public Health teams in Cardiff have found that between 2018 and 2023 there was an increase in the density of hot food outlets across Wales. This has been compounded by other changes to how we access food, for example, an increase in the number of delivery apps[21] making convenience food easier. There is also some evidence within the UK which indicates that the density of takeaways is greater in areas where people are most disadvantaged. However shifting the balance of food outlets so that healthier options are available can be complex and can involve legal challenges particularly where there are commercial interests[22].Other changes include an increase in food portion sizes the decades[23] along with changes to the energy density of food. These larger portions and energy dense foods have become normalised through advertising, and price and placement promotions[24]. Food portion size influences energy intake for both children and adults, with larger portions resulting in significantly greater energy intake[25-26].

2.1 Food Environment – Promotion

Our food decisions are not always consciously considered and what we eat can be a matter of convenience[27]. Purchasing behaviour is influenced by price[28] and price promotions are commonly used across supermarket chains and independent stores for food marketing. Price promotions involve price discounts at the point of sale, these include total price reductions (TPRs), which offers food at a price below recommended retail price, for example a percentage discount. There are also volume-based discounts (multi-buys) and bundles (meal deals) where discounts are applied to the purchase of more than one item. In 2015, 41% of UK shopper expenditure on food and drink was recorded as being part of a price promotion[29]. Price promotions encourage and nudge additional purchasing of, and expenditure on food. Less healthy products are most commonly promoted,[30] leading to excess purchasing and consumption of less healthy food[31].

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[21] Food Foundation. The state of the nation's food industry 2023. Available from: FF_SofNFI_Report 2023_FINAL..pdf (foodfoundation.org.uk)

[22] O'Malley C, Lake A, Townshend T, Moore H. Exploring the fast food and planning appeals system in England and Wales: decisions made by the Planning Inspectorate (PINS). Perspectives in Public Health. 2021;141(5):269-278. doi:10.1177/1757913920924424

[23] Livingstone MB, Pourshahidi LK. Portion size and obesity. Adv Nutr. 2014 Nov 14;5(6):829-34. doi: 10.3945/an.114.007104. PMID: 25398749; PMCID: PMC4224223.

[24] Sadeghirad B, Duhaney T, Motaghipisheh S, Campbell NR, Johnston BC. Influence of unhealthy food and beverage marketing on children's dietary intake and preference: a systematic review and meta-analysis of randomized trials. Obes Rev. 2016 Oct;17(10):945-59. doi: 10.1111/obr.12445. Epub 2016 Jul 18. Erratum in: Obes Rev. 2020 Feb;21(2):e12984. PMID: 27427474.

[25] Ello-Martin JA, Ledikwe JH, Rolls BJ. The influence of food portion size and energy density on energy intake: implications for weight management. Am J Clin Nutr. 2005 Jul;82(1 Suppl):236S-241S. doi: 10.1093/ajcn/82.1.236S. PMID: 16002828.

[26] World Health Organization. Limiting Portion Sizes to Reduce the Risk of Childhood Overweight and Obesity'. https://www.who.int/tools/elena/bbc/portion-childhood-obesity (May 2, 2024)

[27] d'Angelo, Camilla, Emily Ryen Gloinson, Alizon Draper, and Susan Guthrie, Food consumption in the UK: Trends, attitudes and drivers. Santa Monica, CA: RAND Corporation, 2020. https://www.rand.org/pubs/research_reports/RR4379.html.

[28] Waterlander WE, Jiang Y, Nghiem N, Eyles H, Wilson N, Cleghorn C, Genç M, Swinburn B, Mhurchu CN, Blakely T. The effect of food price changes on consumer purchases: a randomised experiment. Lancet Public Health. 2019 Aug;4(8):e394-e405. doi: 10.1016/S2468-2667(19)30105-7. PMID: 31376858.

[29] Public Health England. 2015. Sugar Reduction:The evidence for action Annexe 4: An analysis of the role of price promotions on the household purchases of food and drinks high in sugar. Available from: Annexe_4._Analysis_of_price_promotions.pdf (publishing.service.gov.uk)

[30] Bennett, R., Zorbas, C., Huse, O., Peeters, A., Cameron, A. J., Sacks, G., & Backholer, K. (2020). Prevalence of healthy and unhealthy food and beverage price promotions and their potential influence on shopper purchasing behaviour: a systematic review of the literature. *Obesity reviews*, *21*(1), e12948.

[31] Watt, T., Beckert, W., Smith, R., & Cornelsen, L. (2023). The impact of price promotions on sales of unhealthy food and drink products in British retail stores. *Health economics*, *32*(1), 25-46.

Our work and social activities mean that around 20-25% of adult energy intake in the UK is from eating out of home and 40% of people purchase lunch outside of the home at least once a week. The 2023 Food and You Survey of 5,991 adults (aged 16 years or over) across England, Wales, and Northern Ireland[32], reported that that 27% of people ate out or purchased takeout food at lunchtimes one or more times per week and 55% of people did this 2-3 times per month. Public Health Wales teams looked at the nutrient content of food offered as part of meal deal promotional deals in 2023. This work examined lunchtime and evening meal deals, the nutrient content of the food offered and the combinations of foods within deals. For main meal deals, the energy per portion varied between 472 Kcal per portion and 1857kcal per portion, with the average energy for the meal being 1081Kcal for the purchased meal, exceeding recommendations by 281Kcals (when using 40% of recommended intake for main meals). For lunchtime meal deals, the average lunch combination energy was 696kcals, which was 96Kcals above recommended energy for lunch (when based on 600Kcals). In total, 72% of lunch combinations examined exceeded these recommendations for energy. Combinations also contained excess fat sugar and salt. This is an example of the food industry incentivising over-consumption and normalising unhealthy eating.

A recent survey of 4000 consumers in the UK has found that 42% of people intended to continue to use meal deals from the supermarkets and a further 16% intended to increase their use of meal deals. Many people therefore purchase and eat food out of home at lunchtimes and use meal deals, and changes are needed to support healthier eating.

2.2 Food environment- Ultra processed foods

Ultra Processed Foods are commonly hyper-palatable energy dense, high fat, salt, sugar products which are low in vitamins, minerals and fibre[33].

Epidemiological evidence shows there is an association between consumption of UPFs and ill health, including obesity and other food related NCD's. Though evidence of a causal mechanism is lacking[33]. The current food environment has led to UPFs being accessible, affordable, and heavily marketed options which has facilitated increased consumption of these products[34,35,36]. Research using data from the National Diet and Nutrition Study[37] has found that:

- More than half of the energy consumed by the UK population comes from ultra-processed foods,

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[32] Food Standards Agency. Food and You 2: Wave 6 Key Findings. Available from F&Y2 Wave 6: Chapter 4 Eating out and takeaways | Food Standards Agency
F&Y2 Wave 6: Chapter 4 Eating out and takeaways
[33] SACN. SACN statement on processed foods and health. [Internet]. 2023. Available from: SACN statement on processed foods and health - summary report - GOV.UK (www.gov.uk)
[34] Public Health Wales. Rapid review of Ultra-Processed Food and Obesity. [Internet] 2018. Available from: Rapid review of Ultra-processed food and obesity.indd (nhs.wales)
[35] Public Health Wales. The case for action on obesity in Wales. [Internet] 2018. Available from: The case for action on obesity in Wales 1118.indd (nhs.wales)
[36] Public Health England. Health matters: obesity and the food environment. [Internet]. 2017. Available from: Health matters: obesity and the food environment - GOV.UK (www.gov.uk)
[37] Rauber F, da Costa Louzada ML, Steele EM, Millett C, Monteiro CA, Levy RB. Ultra-Processed Food Consumption and Chronic Non-Communicable Diseases-Related Dietary Nutrient Profile in the UK (2008‒2014). Nutrients. 2018 May 9;10(5):587. doi: 10.3390/nu10050587. PMID: 29747447; PMCID: PMC5986467.

- The higher the consumption of ultra-processed foods the lower the consumption of protein, fibre and potassium,
- Free sugars and sodium, which increased by 85% and 55%, respectively, from the lowest to the highest ultra-processed food quintile (free sugars from 41.9% to 77.2% and sodium from 55.8% to 86.7%).

UPFs vary in nutritional quality and some, such as wholemeal breads, white flour and fortified cereals low in fat, salt, sugar, can make a positive contribution to people's nutritional requirements[33].

Reducing consumption of UPFs with low nutritional value i.e. low in vitamins, minerals and fibre and energy dense high fat, salt, sugar products, is consistent with UK dietary guidelines for achieving a healthy, varied, balanced diet[38]. As a priority we should ensure that public sector food provision takes action to reduce the use of UPF's, particularly in the school meal system.

2.3 Food Environment - Food advertising and promotions

Food advertising and promotions can influence our food choices[39] and the amount of food we eat[40]. According to the food foundation, over £300 million was spent on advertising unhealthy food products in 2017. In contrast at the same time, £16 million was spent on fruit and vegetables in the UK[41]. These differences demonstrate the extent to which less healthy options are promoted and advertised.

Policies and changes to advertising and promotion can support healthier food choices. For example, transport for London introduced an advertising policy across their network in 2019[42]. The average weekly household purchase of energy from products high in fat, sugar and salt (HFSS) was reduced by 6.7% (1,001.0 kcal) for households in the intervention area after the introduction of the policy. Energy from chocolate and confectionery for households in the intervention area was 19.4% (317.9 kcal) lower in analyses comparing pre and post intervention[43].

Over time, hospitals, councils and other public sector organisations have developed commercial approaches for income generation,[44] this includes the use of spaces and land for food and drink sales and advertising. While these arrangements can promote healthier

[38] Office of Health Improvement and Disparities. The Eatwell Guide. [Internet]. 2024. Available from: The Eatwell Guide - GOV.UK (www.gov.uk)
[39] Kucharczuk, A.J., Oliver, T.L. and Dowdell, E.B., 2022. Social media's influence on adolescents' food choices: A mixed studies systematic literature review. Appetite, 168, p.105765.
[40] Arrona-Cardoza, P., Labonté, K., Cisneros-Franco, J.M. and Nielsen, D.E., 2023. The Effects of Food Advertisements on Food Intake and Neural Activity: A Systematic Review and Meta-Analysis of Recent Experimental Studies. Advances in Nutrition, 14(2), pp.339-351.
[41] The Food Foundation. The-Broken-Plate.pdf (foodfoundation.org.uk)
[42] Transport for London. TfL ad policy: approval guidance food and non-alcoholic drink advertising. London: Transport for London; 2019. Available from: http://content.tfl.gov.uk/policy-guidance-food-and-drink-advertising.pdf.
[43] Yau, A., Berger, N., Law, C., Cornelsen, L., Greener, R., Adams, J., Boyland, E.J., Burgoine, T., de Vocht, F., Egan, M. and Er, V., 2022. Changes in household food and drink purchases following restrictions on the advertisement of high fat, salt, and sugar products across the Transport for London network: A controlled interrupted time series analysis. PLoS medicine, 19(2), p.e1003915.
[44] Taking a commercial approach: A guide for local councils in Wales to income generation, trading and charging. Available from: https://www.apse.org.uk/apse/index.cfm/research/current-research-programme/taking-a-commercial-approach-a-guide-for-local-councils-in-wales-to-income-generation-trading-and-charging/#

options, these can also make less healthy products more available in our hospitals and public sector spaces leading to overconsumption. Work is in progress as part of the Whole Systems approach to Healthy Weight in Wales in Cardiff and in North Wales to work with partners across the system shift the balance in favour of healthier food advertising, however this is complex because there are now many advertising spaces in built and online environments requiring co-ordination across many partners both locally and nationally.

Rapid or excess weight gain (RWG) in infancy is associated with higher risk of being overweight or obese in childhood. Infants fed formula, as opposed to infants fed breast milk, are more likely to experience RWG[45]. In Wales 80% of babies are consuming infant formula by the age of six months[46].

Marketing of *infant formula milks* comprehensively undermines access to objective information and support related to feeding of infants and young children[47]. Additionally, marketing of formula milk seeks to influence normative beliefs, values, and political and business approaches to establish environments that favour the uptake and sales of commercial formula milks. In so doing, CMF marketing contributes to reduced global breastfeeding practices[47].

There is evidence that incorporating the World Health Organization Code of Marketing of Breastmilk Substitutes (the WHO Code) and subsequent resolutions into domestic legislation achieves the intended aim of the WHO Code to protect babies' rights and enables families to make infant feeding choices free from commercial influence. Currently in the UK enforcement of the regulations is ineffective[48,49].

The period of infancy and early childhood is crucial for shaping food preferences and dietary habits[50,51]. However, in the UK, diets during infancy often diverge from national recommendations, with solid foods introduced before the recommended age of around 6 months and excessive calorie and sugar consumption being prevalent[52,53].

Commercial practices do not consistently support the promotion of healthy diets. Government intervention is necessary to align marketing strategies, messaging, and nutrient compositions of products targeting infants and young children with national dietary advice[54]. This alignment

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[45] Appleton J, Russell CG, Laws R, Fowler C, Campbell K, Denney-Wilson E. Infant formula feeding practices associated with rapid weight gain: A systematic review. Matern Child Nutr. 2018 Jul;14(3):e12602. doi: https://doi.org/10.1111%2Fmcn.12602 . Epub 2018 Apr 14. PMID: 29655200; PMCID: PMC6866175.
[46] Welsh Government. (2023a). *Breastfeeding data: 2022*. https://www.gov.wales/breastfeeding-data-2022-html
[47] Rollins, N., Piwoz, E., Baker, P., Kingston, G., Mabaso, K. M., McCoy, D., Ribeiro Neves, P. A., Pérez-Escamilla, R., Richter, L., Russ, K., Sen, G., Tomori, C., Victora, C. G., Zambrano, P., & Hastings, G. (2023). Marketing of commercial milk formula: a system to capture parents, communities, science, and policy. In *The Lancet* (Vol. 401, Issue 10375, pp. 486–502). Elsevier B.V. https://doi.org/10.1016/S0140-6736(22)01931-6
[48] Baby Feeding Law Group. (n.d.). *Current UK Laws*. Retrieved March 11, 2024, from https://www.bflg-uk.org/uk-laws#uk-law-enforcement
[49] Conway, R., Esser, S., Steptoe, A., Smith, A. D., & Llewellyn, C. (2023). Content analysis of on-package formula labelling in Great Britain: Use of marketing messages on infant, follow-on, growing-up and specialist formula. *Public Health Nutrition*, *26*(8), 1696–1705. https://doi.org/10.1017/S1368980023000216
[50] Nurturing Care Framework for Early Childhood Development [Internet]. Available from: https://nurturing-care.org/
[51] UNICEF. Early childhood nutrition. Preventing malnutrition in infants and young children [Internet]. 2022. Available from: www.unicef.org/nutrition/early-childhood-nutrition
[52] Public Health England. NDNS: results from years 9 to 11 (combined) – statistical summary. [Internet]. 2020. Available from: NDNS: results from years 9 to 11 (2016 to 2017 and 2018 to 2019) - GOV.UK (www.gov.uk)
[53] NHS Digital. Infant Feeding Survey - UK, 2010 [Internet]. 2012 Nov. Available from: Infant Feeding Survey - UK, 2010 - NHS England Digital
[54] Public Health England. Food and drinks aimed at infants and young children: evidence and opportunities for action. [Internet]. 2019. Available from: Foods and drinks aimed at infants and young children: evidence and opportunities for action (publishing.service.gov.uk)

is vital to capitalise on the opportunity to establish infants' food preferences and overall dietary habits in a manner conducive to long-term health.

Despite government guidelines recommending the introduction of solid foods around 6 months of age, over one-third of baby meals are marketed to children under 6 months[54]. Furthermore, nearly three-quarters of fruit juice-based baby drinks are marketed to infants under 12 months, contrary to advice suggesting only breast milk, infant formula, or water should be offered as drinks between 6 and 12 months[54].

Additionally, certain commercial baby foods contain added sugar or salt, or high-sugar or high-salt ingredients, particularly evident in baby finger foods marketed as snacks[54]. Misleading labelling and marketing practices contribute to the normalisation of snacking among infants, suggesting these products are an expected and appropriate part of their diet, despite many being similar nutritionally to confectionery or savoury snacks[54].

2.4 Non-food commercial determinants

The creation of environments that facilitate physical activity as a part of everyday life is a key aspect of the HWHW Strategy. Two key determinants of whether environments are "active environments" is the planning and development system, and the use and management of motor vehicles in society. Both these are linked, in that the actions of the planning system (and the stakeholders within it, including house builders) has over recent decades resulted in an increasingly car-centric built environment. Such car-centric development dissuades healthy behaviours, whether that be play, active travel (travel by active means such as walking, cycling and scooting), or healthy and active leisure time.

Recent work has identified how health can be more effectively integrated with the planning system, and what evidence exists to inform action (including to promote walking and cycling).[55,56]. Research has also highlighted the harm of automobiles to people and the environment, including contributing to increased sedentary travel.[57] Environmental interventions that have reduced actual and perceived danger from motorized road traffic (primarily through slowing down traffic and/or restricting motor vehicles from residential or other areas) has resulted in positive improvements to active travel and other public health outcomes.[58]

Action to promote more active environments requires a place-based, system-wide approach, that recognizes the shared agendas that can be leveraged across sectors, organisations and professions. Bringing together sustainability, heath and wider environmental concerns is key to achieving the change that is needed.

[55] Public Health Wales. Planning and Enabling Healthy Environments. [Internet] 2021. Available from: Planning and Enabling Healthy Environments
[56] Public Health England. Spatial planning for health: an evidence resource for planning and designing healthier places. [Internet] 2017. Available from: Spatial planning for health: evidence review - GOV.UK (www.gov.uk)
[57] Miner P, Smith BM, Jani A, McNeill G, Gathorne-Hardy A. (2024) Car harm: A global review of automobility's harm to people and the environment. In *Journal of Transport Geography* (Vol. 115, 103817. doi: https://doi.org/10.1016/j.jtrangeo.2024.103817
[58] Aldred R, Goodman A, Woodcock J. 2024. Impacts of active travel interventions on travel behaviour and health: results from a five-year longitudinal travel survey in Outer London. In *Journal of Transport and Health* Vol. 25, March, 101771. Doi: https://doi.org/10.1016/j.jth.2024.10177

2.5 Weight management medications

Commercial determinants also affect the treatment of obesity and many other conditions. Weight management medications have been approved over recent years for people who are significantly above a heathy weight and meet with eligibility criteria. Medications now approved for weight management include Saxenda and Wegovy. The National Clinical Excellence Health Technology Assessments have identified a benefit from the use of weight medication for those meeting with clinical criteria[59]. The recommendations also outline that this medication should be used alongside a calorie controlled diet and increased physical activity and medication can only be used for a maximum of two years and, without changes to the behaviours that led to weight gain, weight lost can be regained. These medications have been heavily promoted in the media as a solution for overweight and obesity[60], accompanied by supply issues fueling demand for medication. However while these medications are a treatment option and may provide personal benefits to some individuals, these do not address the environment that led to overweight and obesity and do not prevent or obesity or overweight at a population level.

2.6 Policies to address obesity and commercial influences

Polices can affect the impact of commercial determinants on health. Recent strategies in England have included some fiscal and regulatory policies as part of the approach to addressing obesity. Examples include banning price promotions of unhealthy products, banning food advertisements for less healthy food and the Soft Drinks Industry Levy. While these policy measures faced some opposition when they were introduced, there is now increasing evidence of success. There is good evidence of the links between sugar sweetened beverage consumption and obesity[61]. There is also some evidence to show that on a population level taxation of sugar sweetened beverages can help with deceleration of rising obesity[62]. Analyses of the introduction of the sugar levy in the UK have found that voluntary measures had little effect. The introduction of the sugar levy led to changes to purchasing, with no effects on commercial profits but a reduction in sugar purchased by households[63] most recently estimated at 15g per household per week[64]. Sugar sweetened beverages are only one part of the complex systems underlying the development of obesity however modelling has predicted that, based on current findings, 64,100 (54,400 to 73,400) fewer

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[59] Wilding, J.P., Batterham, R.L., Calanna, S., Davies, M., Van Gaal, L.F., Lingvay, I., McGowan, B.M., Rosenstock, J., Tran, M.T., Wadden, T.A. and Wharton, S., 2021. Once-weekly semaglutide in adults with overweight or obesity. *New England Journal of Medicine*, *384*(11), pp.989-1002.

[60] Andreassen P, Jensen SD, Bruun JM, Sandbæk A. Managing the new wave of weight loss medication in general practice: A qualitative study. *Clinical Obesity*. 2024;e12666. doi:10.1111/cob.12666

[61] Nguyen, M., Jarvis, S.E., Tinajero, M.G., Yu, J., Chiavaroli, L., Mejia, S.B., Khan, T.A., Tobias, D.K., Willett, W.C., Hu, F.B. and Hanley, A.J., 2023. Sugar-sweetened beverage consumption and weight gain in children and adults: A systematic review and meta-analysis of prospective cohort studies and randomized controlled trials. The American Journal of Clinical Nutrition, 117(1), pp.160-174.

[62] Sassano M, Castagna C, Villani L, Quaranta G, Pastorino R, Ricciardi W & Boccia S (2024). National taxation on sugar-sweetened beverages and its association with overweight, obesity, and diabetes.. American Journal of Clinical Nutrition, 119(4), 990-1006. https://dx.doi.org/10.1016/j.ajcnut.2023.12.013

[63] Rogers, N.T., Pell, D., Mytton, O.T., Penney, T.L., Briggs, A., Cummins, S., Jones, C., Rayner, M., Rutter, H., Scarborough, P. and Sharp, S., 2023. Changes in soft drinks purchased by British households associated with the UK soft drinks industry levy: a controlled interrupted time series analysis. *BMJ open*, *13*(12), p.e077059.

[64] Cobiac, L.J., Rogers, N.T., Adams, J., Cummins, S., Smith, R., Mytton, O., White, M. and Scarborough, P., 2024. Impact of the UK soft drinks industry levy on health and health inequalities in children and adolescents in England: An interrupted time series analysis and population health modelling study. *Plos Medicine*, *21*(3), p.e1004371.

children and adolescents classified as overweight or obese, in the first 10 years after implementation, with the greatest effect on the most deprived households.

Policies are needed to support and enable changes for healthier environments

- **Use fiscal levers to ensure that those profiting from the manufacture and sale of high fat, salt and sugar products contribute to addressing the cost to the system of obesity**
- **Utilise planning processes to shift the balance of food outlets towards healthier options and a more mixed economy, particularly in more disadvantaged communities**
- **Influence the promotion of HFSS foods through restrictions on advertising and marketing of these foods**
- **Remove the incentives to purchase HFSS foods through restricting price reductions, in store promotions and product placement**
- **Incentivise the purchase of healthier food options through the use of price, promotion and placement**
- **Disincentivise the production or purchase on HFSS products and promote reformulation through the use of fiscal levers such as sugar levy.**
- **Ensure the consumer has information that is accessible and supports informed choice**
- **Reformulation of food products to reduce energy, fat, salt and sugar and increase vegetable, fibre content**
- **Stimulate increased home preparation of food from raw ingredients**

3 Interventions in pregnancy and early childhood to promote good nutrition and prevent obesity

Women of a childbearing age are subject to the same unhealthy food environments and resulting health inequalities as everyone else. Tackling these environments so that healthy food is the most affordable, available, and appealing will help women preparing for and entering pregnancy. Interventions in pregnancy and early childhood must be implemented in the context of the need for a system-wide approach to obesity and food, not in isolation.

The evidence base is robust and has guided the development of PHW's 10 Steps to a Healthy Weight Programme[45,65,66]. These steps emphasize crucial actions such as preconception weight, optimal weight gain during pregnancy, breastfeeding, timely introduction of solid

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[65] A I Rito, M Buoncristiano, A Spinelli, et al. Association between Characteristics at Birth, Breastfeeding and Obesity in 22 Countries: The WHO European Childhood Obesity Surveillance Initiative – COSI 2015/2017. *Obes Facts* 23 May 2019; 12 (2): 226–243. https://doi.org/10.1159/000500425

[66] Godfrey, K.M. et al., 2017. Influence of Maternal Obesity on the Long-term Health of Offspring. The Lancet. Diabetes & Endocrinology 5 1: 53–64. https://www.thelancet.com/journals/ landia/article/PIIS2213-8587(16)30107-3/fulltext

foods, and monitoring infant growth during the first year. By creating the environments which support families to adhere to these guidelines, we can significantly impact the health outcomes of our babies and children.

Universal services such as maternity and health visiting services, along with the Healthy Child Wales programme should provide the mechanism to support families in providing an optimal early years environment and in intervening at the earliest possible opportunity if things are not progressing well.

The refreshed All Wales Breastfeeding Action Plan, which will become an Infant Feeding Plan spanning the first 1000 Days, due to be published in 2025 will reiterate the evidence based approaches to improve outcomes but we are aware of challenges in capacity of services which if these continue will be a barrier to implementation. There is clear evidence that currently all Healthy Child Wales contacts are not taking place and where they are the opportunity to monitor health growth and importantly record outcomes is often missed.

Targeted support is required for pregnant women on low incomes. Studies on the effects of the Healthy Start Scheme have shown that it plays an important role in helping pregnant women and their children access healthier foods[67,68]. However, it is essential that this nutritional safety net is adequate against a backdrop of the rising cost of living[69].

Data must be used to drive decision -making and understand our impact. A report due to be published by PHW has identified that in Wales specific actions are required to improve the quality of data that is collected in relation to the 10 Steps and to ensure it is routinely analysed, published and used to drive improvements and create the environments that will improve the health and wellbeing of children and families in Wales[70].

The opportunities of **pregnancy and the postnatal period** also need to be recognised, as unlike many other populations, pregnant women routinely have their height and weight measured, and body mass index (BMI) calculated at their initial antenatal assessment. In 2022, 31% of pregnant women in Wales had a BMI of 30kg/m2 or greater[71]. However, despite identifying a high prevalence of obesity in this population, women are not routinely supported with weight management after pregnancy or with a view to benefit their longer-term health. This is especially relevant given the steep increase in women's weight between ages 35- 44 and 45-54 (49% to 59.8%)[72].

[67] McFadden, A., et al., 2014. Can Food Vouchers Improve Nutrition and Reduce Health Inequalities in Low-income Mothers and Young Children: A Multi-method Evaluation of the Experiences of Beneficiaries and Practitioners of the Healthy Start Programme in England. BMC Public Health 14, 148. https://doi.org/10.1186/1471- 2458-14-148

[68] Barrett, M., Spires, M. & Vogel, C. The Healthy Start scheme in England "is a lifeline for families but many are missing out": a rapid qualitative analysis. *BMC Med* **22**, 177 (2024). https://doi.org/10.1186/s12916-024-03380-5

[69] House of Commons Library. Healthy Start Scheme and increases in the cost of living. 2023. Available from: Healthy Start scheme and increases in the cost of living - House of Commons Library (parliament.uk)

[70] Public Health Wales. Opportunities for improving childrens health in Wales. 10 Steps to a Healthy Weight. [In press]. 2024.

[71] Welsh Government. Maternity and birth statistics: 2022. [Internet]. 2023. Available from: https://www.gov.wales/maternity-and-birth-statistics-2022-html

[72] Public Health Wales Observatory. Obesity in Wales. 2019. [Internet]. Available from: https://phw.nhs.wales/topics/obesity/obesity-in-wales-report-pdf/

To enable better joined-up care between primary and community care services when women are discharged from maternity services, Public Health Wales established a postnatal weight management workstream in line with its Primary Care Obesity Action Plan[73].

In the pursuit of healthier diets and the prevention of obesity among school-aged children, the significance of promoting healthier food choices during the school day cannot be overstated[74,75,76]. The recent policy decision to provide universal free school meals to the youngest school children provides a real opportunity to ensure that children get both a nutritionally balanced school meal but are also introduced to healthy balanced diets.

In Wales, the optimisation of population health through school food faces significant hurdles. While efforts to review Healthy Eating in Schools Regulations commenced in 2022, differences in interpreting policy objectives persist. Prioritising children's nutrition while acknowledging the challenges of cost and delivery for caterers remains a challenge. It is important that future standards are nutrient based and reflect the different needs of pupils at different ages. Parents, schools and providers should be able to easily understand how meals offered in the primary sector meet childrens nutritional needs against national nutritional recommendations. Current food based standards are complex and based on the information we have been able to access, do not meet nutritional requirements.

A lack of comprehensive data hinders understanding regarding the nutritional quality of food served in schools and its impact on children's health and well-being[77]. Compliance with nutritional standards remains unmonitored at a national level and current mechanisms lack transparency, leaving the efficacy of school food initiatives uncertain[78].

A cross-sectional content analysis of 82/104 primary and secondary school menus in Wales during the 2023 Autumn term revealed some examples of non-compliance with the current School Food Standards[79]. Furthermore, the findings support previous work by PHW which highlights the changes required to the Standards to reflect current scientific evidence and sustainability goals[80]. Additionally, the content analysis found instances where Free School

[73] Public Health Wales. Primary Care Obesity Prevention Action Plan (2022-24). [Internet]. 2022. Available from: https://phw.nhs.wales/services-and-teams/primary-care-division/primary-care-obesity-prevention/rescources/primary-care-obesity-prevention-action-plan-2022-2024/

[74] Brown T, Moore TH, Hooper L, Gao Y, Zayegh A, Ijaz S, et al. Interventions for Preventing Obesity in Children. Cochrane Database of Systematic Reviews. 2011;(12)

[75] Bleich SN, Vercammen KA, Zatz LY, Frelier JM, Ebbeling CB, Peeters A. Interventions to prevent global childhood overweight and obesity: a systematic review. The Lancet. 2018;6(4):332–46.

[76] Chaudhary A, Sudzina F, Mikkelsen BE. Promoting Healthy Eating among Young People-A Review of the Evidence of the Impact of School-Based Interventions. Nutrients. 2020;12(9)

[77] Woodside J V, Adamson A, Spence S, Baker T, McKinley MC. Opportunities for intervention and innovation in school food within UK schools. Public Health Nutr [Internet]. 2020/11/17. 2021;24(8):2313–7. Available from: https://www.cambridge.org/core/article/opportunities-for-intervention-and-innovation-in-school-food-within-uk-schools/BBCB0FE77FCCC825E6C9129E487AF942

[78] Welsh Government (WG). Healthy eating in maintained schools. Statutory guidance for local authorities and governing bodies. [Internet]. 2014. Available from: healthy-eating-in-maintained-schools-statutory-guidance-for-local-authorities-and-governing-bodies.pdf

[79] Cardiff Met and Public Health Wales. Developing and using a school menu healthiness assessment tool to analyse school food and drink provision in Wales. [Unpublished]. 2024.

[80] Public Health Wales. Technical Report: Rapid review of school nutritional and food-based standards in Wales and the UK. [Internet]. 2024. Available from: phw.nhs.wales/publications/publications1/rapid-review-of-nutritional-and-food-based-standards-in-wales-a-technical-report/

Meal eligible pupils could not afford a healthy dietary intake across the school day, a finding supported by other research[81].

Exploring transaction data from cashless payment systems in schools could provide invaluable insights into students' purchasing habits and the nutritional value of their choices[82]. However, attempts to leverage this data in Wales have been prevented by challenges including unclear data ownership, unwillingness to share data and a lack of transparency within the system.

4 Stigma and discrimination experienced by people who are overweight/obese

This is addressed in section 6 of this response.

5 People's ability to access appropriate support and treatment services for obesity

- **Weight management services do not and cannot reduce population obesity**
- **There is a role for the healthcare system in supporting those whose health is affected by their weight through evidence based services in line with the All Wales Pathway**
- **There is a role for the healthcare system in monitoring individual weight overtime and acting at the earliest opportunity to prevent excess weight gain**
- **Data systems and robust data are needed to understand and support improvements in access, equity and outcomes.**

The all Wales weight management pathway for adults[83] and all Wales weight management pathway for children[84] have outlined the core components for weight management services in Wales. The weight management pathway (2021) is underpinned by the 10 national design principles outlined in A Healthier Wales: our plan for health and social care[85]. The All Wales Weight Management Pathway documents also include Service Standards, to measure service quality and stimulate continuous improvement. All services with the All Wales Weight Management pathway should integrate the following fundamentals into their design and delivery. Public Health Wales has also supported the implementation of the All Wales Weight Management Pathway through its Primary Care Action Plan[86]. This has resulted in inclusion

[81] ParentPay, Cypad, BlueRunner, & LACA. 2023 School Meals Report. [Internet]. 2024. Available from: 2023 National School Meals Report | Download Now (parentpay.com)
[82] Logan D, Roone C, Moore S, *et al.* An investigation into the purchasing habits of secondary education pupils at school canteens within Northern Ireland. *Proc Nutr Soc*, 2017 76 (OCE3): E95 DOI: https://doi.org/10.1017/S0029665117001689
[83] All Wales Weight Management Pathway 2021Adult weight management pathway 2021 | GOV.WALES
[84] Weight management pathway 2021: children, young people and families | GOV.WALES
[85] A Healthier Wales: our plan for health and social care. 2018. A Healthier Wales (gov.wales)
[86] Public Health Wales. Primary Care Obesity Prevention Action Plan (2022-24). [Internet]. 2022. Available from: https://phw.nhs.wales/services-and-teams/primary-care-division/primary-care-obesity-prevention/rescources/primary-care-obesity-prevention-action-plan-2022-2024/

of quality improvement approaches in the General Medical Services[87] contract for standardised new patient questionnaires to enable identification of those who have a high BMI, as well as to measure and record height, weight and BMI in people with specific long-term/chronic conditions, and then signposting/referring them to relevant support. It has also led to the inclusion within the National Community Nursing Specification[88] of 'height and weight' within the list of 'Practice & Skills for All Registered Community Nurses and Health Care Support Workers', as well as requirements for knowledge/skills related to wider determinants, Making Every Contact Count (MECC), person centred approaches, and motivational interviewing.

The weight management pathway is designed to support people to manage their weight and while this provides individual level benefits, this will not address the challenge of obesity at a population level.

Work has recently been undertaken to further develop the pathway to incorporate the launch of new weight management medications[89]. Public Health Wales led the co-production of an addendum for Welsh Government for the weight management pathway in Wales to support teams to develop the specialist services required to be able to offer these medications.

5.1 Signposting and advice for people who are above a healthy weight

Level 1 of the pathway refers to signposting and advice for people who are above a healthy weight. Healthy Weight Healthy You (HWHY), was developed by Public Health Wales and launched in January 2023 as a universal, once for Wales Level 1 offer[90]. The HWHY website has been developed and delivered alongside campaigns to raise awareness and encourage people across Wales to start their journey towards a healthier weight. This site has enabled weight management services in Wales to refocus their weight management services on Levels 2-4 of the pathway. As a result of HWHY campaign activity the site has now reached over 100,000 users in Wales.

This work has been complemented by the development of a Healthy Weight Conversations module within the Making Every Contact Count programme to help ensure that health and care professionals are supported in having person centres conversations with their patients on healthy weight.

5.2 Services for adults living with obesity

Currently in Wales, services are available for 1.2% of adults with a BMI of 30 or more. Level 2 services have capacity for around 1% of adults with a BMI of 30 or more however service

[87] Welsh Government. GMS Contract 2022/23: Practice guidance for unhealthy behaviours QI project. [Internet]. Available from: https://www.gov.wales/sites/default/files/publications/2023-02/practice-guidance-for-unhealthy-behaviours-from-the-quality-improvement-project.pdf
[88] Strategic Programme for Primary Care. National Community Nursing Specification. 2022. [Internet]. Available from: https://primarycareone.nhs.wales/tools/community-infrastructure-ci-programme/community-infrastructure-ci-programme/community-infrastructure-ci-programme/national-community-nursing-specification-v1-jan-23pdf/
[89] NICE. Semaglutide for managing overweight and obesity Technology appraisal guidance Reference number:TA875 Published: 08 March 2023 1 Recommendations | Semaglutide for managing overweight and obesity | Guidance | NICE
[90] Public Health Wales, Healthy Weight Healthy You. Home - Healthy Weight Healthy You

provision varies significantly by area. Level 3 services have capacity for approximately 1.9% of adults with a BMI of 40 or more. Service capacity has increased since the launch of the new weight management pathway and a wider range of service offers are now available across Wales with a mix of NHS and commissioned services. Each area is currently using different tools and approaches and Public Health Wales is currently working with stakeholders across Wales to develop a once for Wales approach for a more consistent experience and approach for patients in Wales.

Waiting lists do exist for weight management services across Wales and work is needed to extend and develop Level 2 of the pathway to ensure that appropriate and effective services are available to meet local needs at the earliest opportunity. There is little information in Wales for equity of access to services, for outcomes or for quality to support the development of services to meet needs and it is not currently possible to examine which groups do not access services or why in any detail and which groups do not have optimal outcomes. This is because of a lack of data collection and systems to enable the collection and use of data.

Public Health Wales has worked to co-producing a minimum data set for adult weight management services across Wales with definitions to support data consistency. While work has been undertaken to develop definitions based on evidence and service needs, significant support is needed from digital teams in Wales to ensure the timely development of once for Wales data systems to enable analyses of access, service outcomes, health equity and quality.

5.3 Services for people living with severe obesity

Level 3 services have capacity for approximately 1.9% of adults with a BMI of 40 or more. Service capacity has increased since the launch of the new weight management pathway and service offers are now available across Wales. Work is still needed to develop appropriate support services to meet the needs of people who are significantly above a healthy weight at Level 3 of the pathway, with the necessary psychological support and the addition of new weight management medication options.

Services are available for people eligible for weight management surgery in Wales at Level 4 of the pathway, Swansea Bay delivers the services for WHSSC in Wales for approximately 100 cases per year. There is some commissioning of services delivered in England and there are people who seek and receive treatment abroad. People who have received surgery normally require long term follow up over a period of at least 2 years, within specialist services (Level 3 or 4) often with long term follow up within primary care after this. The numbers of people requiring this are not known however capacity to provide follow up post-surgery may draw from existing capacity within Levels 3 and 4, with an impact on access.

5.4 Services for children living with overweight and obesity

Services for children living with overweight and obesity are less developed in Wales. Where access and capacity is available, there is often low uptake, with most children being referred later as older children, most commonly at Level 3. Therefore, services being available does not necessarily mean services will be used in an optimal way. Work is needed to prevent obesity and work is also needed to understand how to both encourage families to access

services at an early point in time and to further develop the weight management options available to ensure these are attractive, acceptable, accessible and effective.

Public Health Wales have launched Childrens and Families Pilots for early intervention for healthy weight in three areas of Wales. Each pilot has a different population focus. This work has been developed to enable system change for healthier, environments which support children and families to be a healthy weight. This work includes a nested intervention providing family support with learning for system change. This provides individual support for families with children who are above a healthy weight who are at risk of becoming overweight in a way that considers the causes that contribute to weight gain. This then works with partners to enable system changes to enable a healthier environment around families, making it easier for families to be a healthy weight. Engagement events have reached over 4300 families in the target areas and organisations relevant to healthy weight for families in Wales. This work is continuing and Public Health Wales are working to evaluate the impact on system, communities and families.

5.5 Maternity Weight Management Services

There is currently no national pathway for maternity weight management. Most Health Boards have limited services and few have local pathways. Public Heath Wales is currently working to review current services and then co develop a maternity pathway for Wales. Work is also being undertaken to improve weight management data for maternity services.

There are additional opportunities for support for people living with obesity and associated health conditions. Social prescribing is an umbrella term that describes a person-centred approach to connecting people to local community assets. It can help empower individuals to recognise their own needs, strengths, and personal assets and to connect with their own communities for support with their personal health and wellbeing [91].

Health and care teams can enable, encourage and support people to recognise their own needs and seek support and care. The key role of the workforce to embed preventative approaches is recognised by the recent launch by Public Health Wales of the Prevention-Based Health and Care Framework[92]. Public Health Wales developed and launched bi-lingual Making Every Contact Count Level 1 and Level 2 Healthy Weight Conversations e-learning modules[93]. These were developed to support NHS and care staff to have appropriate and supportive conversations with people about weight and signpost them to appropriate support at the earliest opportunity.

6 The relationship between obesity and mental health

The relationship between mental health and experiences of overweight and obesity is complex. Mental health conditions are associated with the development of overweight and

[91] Public Health Wales. Social Prescribing.Social Prescribing - Public Health Wales (nhs.wales)
[92] Public Health Wales. Prevention Based Health and Care. 2024. [Internet]. Available from: https://phw.nhs.wales/services-and-teams/primary-care-division/prevention-based-health-and-care/
[93]Making every contact count. https://mecc.publichealthnetwork.cymru/en/e-learning/

obesity[94]. There is also evidence to indicate that experiencing overweight and obesity and weight stigma are associated with poorer mental health. Finally it is well understood that food is used to help manage emotions and mood, which can lead to consumption of excess energy and weight gain.

6.1 Mental Health and developing overweight and obesity

People who are affected by mental health conditions are more likely to experience overweight or obesity. There is evidence of links between unhealthy eating behaviours and experiences of unpleasant emotions[95]. Further, more stress eating as a result of mental health is associated with weight gain[96]. There is also evidence of a relationship between certain medications for treatment of mental health conditions and an increased risk of weight gain.

Insight work commissioned by Public Health Wales to underpin the Healthy Weight Healthy You Level 1 digital weight management offer identified four distinct weight management journey personas. Each of these persona journeys, was based on research interviews and focus groups and included different emotional relationships with people and food. Two of the journeys were more commonly identified for weight gain for adults. People identified within the "mood" persona journey, described using food as a means to manage and influence emotions or mood.

The most complex was the "safe" persona journey, encompassing a smaller population group who have experienced severe trauma in childhood, (e.g. mental health problems, abuse, alcoholism within families), leading to a complex relationship with food as part of coping with life. This reflects the original research relating to Adverse Childhood Experiences which was undertaken with a weight management service. Website usage data has indicated that people using the site identify with these persona groups suggesting that mental health and experiences are important for a person's weight management journey.

The approach being taken within Healthy Weight Healthy You is to focus on helping individuals understand some of the drivers of eating behaviour and weight gain and to focus on these, not just their diet. In the case of those which are closely associated with trauma we would advocate seeking specialist help to address unresolved trauma and for those who use food to affect changes to mood to identify alternative strategies for promoting mental wellbeing such as being active, crafts and hobbies, connecting with nature, practicing relaxation techniques.

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[94] Wiss, D.A. and Brewerton, T.D., 2020. Adverse childhood experiences and adult obesity: a systematic review of plausible mechanisms and meta-analysis of cross-sectional studies. *Physiology & Behavior*, *223*, p.112964

[95] Dakanalis A, Mentzelou M, Papadopoulou SK, Papandreou D, Spanoudaki M, Vasios GK, Pavlidou E, Mantzorou M, Giaginis C. The Association of Emotional Eating with Overweight/Obesity, Depression, Anxiety/Stress, and Dietary Patterns: A Review of the Current Clinical Evidence. Nutrients. 2023 Feb 26;15(5):1173. doi: 10.3390/nu15051173. PMID: 36904172; PMCID: PMC10005347.

[96] Koenders PG, van Strien T. Emotional eating, rather than lifestyle behavior, drives weight gain in a prospective study in 1562 employees. J Occup Environ Med. 2011;53(11):1287–93

6.2 Outcome of overweight on mental health

A study using data from the Survey of Health, Ageing and Retirement in Europe (SHARE)[97] sought to investigate the reciprocal associations between obesity and mental health over the longer term.

The results found that there was a significant relationship between BMI and quality of life and depression and that people living with unhealthy weight had significantly decreased levels of quality of life, lower depression scores compared to people of a normal weight over 10 years with people living with obesity indicate the strongest effect. Depression and low quality of life did not however show the same relationship in reverse.

What is clear from media coverage alone is that there has been a far greater focus on weight stigma. People living with obesity report weight stigma in a range of different situations including in relation to access to NHS care. This can occur when adequate equipment is not available to care for people with severe obesity with dignity. Public Health Wales worked with professionals from across the system to develop Standards for the provision of care for people living with overweight and obesity in Wales to address this issue.[98] Reliable estimates of the prevalence of weight stigma are not available and we would suggest that efforts should be made to capture more reliable data through the National Survey or similar. A nationally representative sample of men and women aged 50 and older in England showed that 24.2% of people categorized as class II and 35.1% of class III experienced discrimination on the basis of their weight[99].

There is evidence that weight stigma can lead to psychological distress. A meta-analysis of 105 cross-sectional studies with multiple mental health outcomes showed associations between perceived weight stigma and greater depression, anxiety, psychological distress and poor quality of life[100]. While there is clearly a need to actively challenge weight stigma this should not normalise unhealthy weight. There is equally concern that recent attention to 'body confidence' and 'fat acceptance' this can result in challenges to evidence based public health action to address unhealthy weight, such as the criticism received by the Cancer Research UK Campaign that sought to raise awareness of the link between cancer and obesity[101].

It is important that when talking about obesity it is done in a way that avoids the assumption that this is a result of individual failure or weakness rather than a product of the environment largely outside of the direct control of the individual. However, it is also important that weight is not seen purely in the context of appearance and body image rather than a significant health problem. Public Health Wales has found through it's research that people often do not see weight and a health issue and one of our priorities has been to focus on the link between the two through our Healthy Weight Healthy You initiative which was extensively tested with people living with overweight and obesity and was considered to be a positive and acceptable

[97] Associations between overweight, obesity, and mental health: a retrospective study among European adults aged 50+ - PMC (nih.gov)
[98] standards-for-the-provision-of-services-to--people-with-overweight-and-obesity-in-wales.pdf (gov.wales)
[99] Jackson SE, Steptoe A, Beeken RJ, Croker H, Wardle J. 2015 Perceived weight discrimination in England: a population-based study of adults aged 50 years. *Int. J. Obes. (Lond)* **39**, 858-864. (**doi:10.1038/ijo.2014.186**) **Crossref**, **PubMed**, **Web of Science**, **Google Scholar**
[100] Emmer C, Bosnjak M, Mata J. 2020 The association between weight stigma and mental health: a meta-analysis. *Obes. Rev.* **21**, e12935. (**doi:10.1111/obr.12935**) **Crossref**, **PubMed**, **Web of Science**, **Google Scholar**
[101] When public health met body positivity: reactions to CRUK's obesity campaign - The BMJ

framing. This is an area fraught with difficulties and more work is needed to ensure a multi-disciplinary approach that is informed by both professional knowledge and lived experience.

6.3 Overweight as a result of specific issues relating to food: eating disorders and under/ overweight

Eating disorders is an overarching term for a range of enduring and often serious mental health illnesses in which people experience disturbances in their eating related thoughts and emotions and behaviours, these include bulimia, binge eating disorder and anorexia. The prevalence in one year is approximately 2.2% in Europe[102]. Studies of general practice data in the UK have indicated that for people aged 10-49, the prevalence is around 37.2 per 100,000 with the majority of cases arising in females[103].

Eating disorders are complex and the reasons why people develop these is not fully understood. However, onset is often in early adulthood and eating disorders have been associated with parental perceptions of child overweight[104], and weight and shape concerns, low self-esteem, body image concerns, and a history of appearance related teasing[105,106]. Early traumatic and stressful events have also been identified as risk factors. There is no evidence that addressing obesity and promoting healthy weight can lead to eating disorders. For those already at high risk, for example experiencing disordered body image or those with an eating disorder it is possible that some may find health weight messages act as triggers for their condition. It is however important that concerns about a relatively rare condition do not inappropriately influence public health action which can address the very significant challenge to health and health services arising from unhealthy weight. There is a need for ongoing dialogue between those working with and experiencing eating disorders and public health professionals to established a consensus view on this issue.

While obesity is not an eating disorder, people living with obesity may experience disordered eating conditions. Eating disorders which are associated with underweight share risk and protective factors with overweight[107] and may benefit from measures to address these risks.

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7 International examples of success (including potential applicability to the Welsh context)

In developing the Healthy Weight Healthy Wales Strategy, Public Health Wales reviewed the international evidence based for action to address obesity including a range of policy options that had been adopted in different countries[108].

To date we have been unable to find any examples of a country reversing levels of adult obesity. The WHO regional Report on Obesity in 2022 found that no country in the European Region was on track to halt the rise by 2025.

We did find some examples of long term programmes to address childhood obesity that after a long period of intervention had managed to halt and reverse the rise. These experiences in the United States and Europe were used to inform the development of Healthy Weight Healthy Wales adapted appropriately to a Welsh context,[109,110]. These programmes have focused on addressing the wider influences on what people eat and how active they are. They have also involved government, communities, and people empowering and enabling the capacity-building of local communities to help improve the environment for healthier lifestyles. They have been long term, multi-component interventions which have achieved a level of scale and duration to effect change.

There are however international studies which have looked at policies in different countries that are relevant to obesity[111]. These highlight where there is evidence of policies being applied in different countries. Wales is compared to other countries within this framework. There is also a database of studies used in different countries relating to policies including fiscal measures and advertising restrictions[112]. There are many studies of small scale educational and clinical interventions targeting individuals and their behaviours, however this reflects the relative ease of conducting smaller studies, but these studies lack evidence of any meaningful population level impact. High level interventions can be difficult to evaluate, and multifaceted interventions are needed to reflect the complexity of the challenge being addressed. This means there are fewer studies available to demonstrate opportunities to reduce population level obesity, however, there is evidence to show reductions in calorie and other intake as a result of policy measures such as the sugar levy in England.

Given the complexity of the challenge, approaches to addressing obesity now focus on whole systems. Whole systems approaches have been defined as 'those that consider the multi-factorial drivers of overweight and obesity, involve transformative co-ordinated action across a broad range of disciplines and stakeholders, operating across all levels of governance and throughout the life course'[113]. These approaches are still evolving and will take many years to

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take effect, but are tailored to the complex challenge of obesity which requires approaches to address obesity in the population.