National Assembly for Wales

Children and Young People Committee

CO 22

Inquiry into Childhood Obesity

Evidence from : Public Health Wales

Authors: Jonathan West, Principal Public Health Practitioner; Dr Angela Tinkler, Consultant in Public Health; Dr Julie Bishop, Consultant in Public Health

Date: November 2013 | **Version:** 1

Publication/ Distribution:

NAfW Committee for Children and Young People

1 Reducing Childhood Obesity in Wales – Key Areas for Action

- **The rates of childhood obesity in Wales are higher than similarly developed European countries and the Welsh rate amongst 4 to 5 year-old children is higher than any English region. There needs to be greater public and professional recognition of the scale of the problem of childhood obesity in Wales and the need for action.**
- **The breadth of the causes of childhood obesity demand that solutions are shared by the whole of society – the solution requires large scale change greater than anything tried so far and at multiple levels (legislation and policy, environment, society, community, family and individual) lead by national and local partnerships.**
- **Whilst it is important that effective treatment is available for children and young people who are already overweight or obese there is a need for a shift towards prevention and maintaining a healthy weight**
- **We need to move away from small scale single interventions and make greater use of established programmes (e.g. Communities First, Welsh Network of Healthy Schools and Pre-schools Schemes, Flying Start, Families First, antenatal services, front-line staff groups) as vehicles for systematically implementing what we know works from best available international evidence, particularly in the early years.**
- **The Child Measurement Programme should be extended to children aged 8-9 years of age (Year 4) to enable robust monitoring of the effects of action on childhood obesity.**

2 Childhood Obesity and Health

The World Health Organisation describes childhood obesity as one of the most serious public health challenges of the 21st century, with international prevalence increasing at an alarming rate (1). However there is some evidence that the increase is slowing in some countries (2). The health effects of childhood obesity are wide ranging and include respiratory disorders, high blood pressure, sleep apnoea, musculoskeletal disorders and growing evidence of a risk of developing type 2 diabetes. Obese children are also more likely to experience a range of adverse

psychological and psychiatric problems, including poor school performance and social functioning (3).

Childhood obesity is also linked to poorer outcomes in adulthood with between 50% and 75% of those who are obese as children becoming obese adults (3). Parental obesity increases the risk of childhood obesity by 10% (4).

Methods of estimating the cost of childhood obesity are at the early stages of development. Work done for the Greater London Authority (5) estimates that the direct cost of obesity per child per year of around £31, for the cohort included in the Child Measurement Survey this would mean a cost of £114,390 per year. If half of those children go on to become obese adults, the costs are estimated at £611 per year per adult, this would be equivalent to £1,127,295 at current costs.

3 Childhood Obesity in Wales

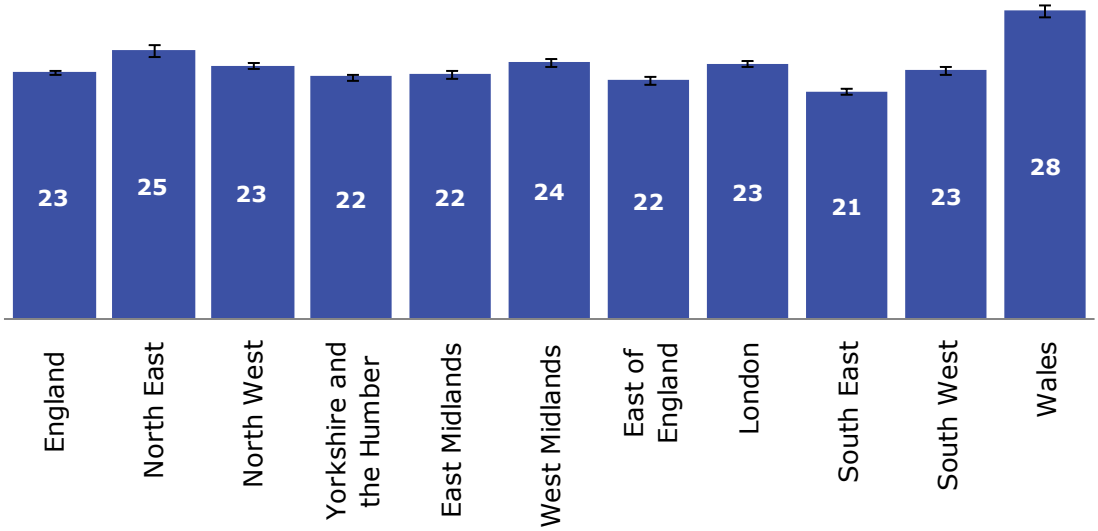
Information on levels of overweight and obesity among Welsh children is available from a number of sources. The Child Measurement Programme (6) produced its first report in 2013 and provides data on heights and weights of children entering school (4-5 years of age). The Welsh Health Survey includes information from parents on children's health, including height and weight. Finally, the Health Behaviour of School Children Survey is an international survey that provides comparable information from 39 countries in the Northern Hemisphere. This records self reported information on levels of overweight or obesity from children aged 11, 13 and 15 years of age.

The different studies use different measures of obesity or overweight which means that the information cannot be compared.

Wales has higher levels of childhood and adult obesity compared to other similarly developed countries. The publication of the Child Measurement Programme for Wales (CMP) (6) has confirmed this trend and results show that nearly 30 per cent of four and five year olds in Wales have an unhealthy body mass index, with 12.5 per cent of children classed as obese. The CMP show that Wales has a higher rate of overweight and obesity amongst children in reception year than any English region (see figure below).

Percentage of children aged 4-5 years who are overweight or obese, Wales, England and English regions, Child Measurement Programme for Wales and the National Child Measurement Programme (England), 2011/12

Produced by Public Health Wales Observatory, using CMP data (NWIS) and NCMP data (HSCIC)



Prevalence of overweight and obesity was highest in Merthyr Tydfil (33.8%) and Rhondda Cynon Taf (31.5%) and lowest in Monmouthshire (22.0%). The prevalence of obesity increased substantially with increasing deprivation (WIMD), from 9.4 per cent in the least deprived fifth of Wales to 14.3 per cent in the most deprived fifth. There was little association between deprivation and the prevalence of those classed as overweight but not obese.

Participation during the first full year of the Child Measurement Programme for Wales was high at 88.4% on average with participation rates over 85% in 17 local authority areas and over 90% in 13 of those. The programme has collected information on the heights and weights of 29,400 reception age children in Wales during the 2011/12 academic year. The comprehensive coverage and systematic measurement of the Child Measurement Programme gives us a strong baseline to monitor future trends in this age group and will also enable us to measure the impact of prevention activities at a population level.

Childhood obesity in Wales has also been measured on an annual basis by the Welsh Health Survey. The most recent statistics (7) show that in 2011, 35% of children were classified as overweight or obese, including 19% obese [1].

[1] Using a classification system based on the 85th and 95th percentiles of the 1990 UK BMI reference curves, and not comparable with estimates produced on a different basis or with adult estimates.

The Health Behaviour of School Age Children Study provides data for Wales comparable with 38 other countries. This shows:

- For both boys and girls at 11 years, 13 years and 15 years the prevalence of overweight or obese, according to self reported measures, is higher in Wales than average across participating countries.
- Amongst 15 year olds the prevalence of overweight or obesity in Wales was among the top 4 of 39 countries in girls and the top 8 for boys.

It is important we continue the current Child Measurement Programme at 4 to 5 years of age and in addition we should ensure a second cohort for children aged 8-9 years of age (Year 4) be included in the programme. This will allow:

- Better understanding of how we are doing in relation to childhood obesity
- Understanding of the impact of school age environments and interventions focussed on that age
- Comparisons with Europe through the Childhood Obesity Surveillance Initiative
- Understanding of cohort effects

This would ideally be on a population basis, as with current reception year measures, allowing for greater granularity, clear cohort follow-up and epidemiological and research opportunities to both explore cause and effect in relation to obesity and change over time.

Key messages:

- Wales has higher levels of childhood obesity than all English regions and compared to similarly developed countries in Europe.
- Overweight and obesity in childhood is common in Wales. The first report of the Child Measurement Programme found that nearly 3 out of every 10 children aged 4 to 5 years were classed as overweight or obese.
- Children from the most deprived communities are more likely to be obese. The prevalence of obesity in this age group increased substantially with increasing deprivation, from 9.4 per cent in the least deprived fifth of Wales to 14.3 per cent in the most deprived fifth.
- Reliable and robust information about levels of obesity and overweight is not available for other age groups in Wales.
- The Welsh Health Survey results from 2011 show that the prevalence of overweight and obesity in children under 16 is about 35%.

- Maternal obesity in the UK, which is associated with increased risk of inter-generational obesity, is highest in Wales.

4 Factors affecting levels of Childhood Obesity

Obesity and childhood obesity result from a range of factors and are not limited to individual biological or psychological factors or even physical inactivity and poor diets. The Foresight Report Tackling Obesities (8) suggest that the causes of obesity include those individual biological and psychological factors as well as high energy diet and physical inactivity but, that they are themselves determined by social, cultural and physical environmental factors. In the case of food this means individual food choices and the wider system of food supply and distribution. For physical inactivity, it is caused by a range of individual psychological determinants – such as stress and self esteem and then by the wider sociological determinants and the wider physical environment.

The breadth of important influences on diet and physical activity behaviour make it absolutely clear that no one single, simple solution will change population levels of childhood obesity. Furthermore, the closer we focus interventions at the individual level the less likely we are to achieve population-scale benefits. That is not to say that interventions aimed at helping people better manage their weight or lose a clinically important amount of weight to benefit their health are not important for many people or cannot improve health but, that they will only ever be *part of* the solution and will likely only have limited impact at a population level. Indeed, the Foresight report includes "targeting health interventions for those at high risk" amongst suggested most promising policies of:

- Investment in early-life interventions
- Increased walkability/cyclability of the built environment
- Controlling the availability of and exposure to obesogenic food and drink
- Targeting health interventions for those at high risk

Pre-conception, maternal obesity and breastfeeding are also critical factors for childhood obesity which require greater focus here.

There is strong evidence that obese mothers are less likely to breastfeed (9) and children of obese parents are more likely to become obese adults (10) (11) . The 2010 Centre for Maternal and Child Enquiries report Maternal Obesity in the UK (11) found that 6.5% of pregnant women in Wales had a BMI of 35 or more, compared to the UK average of 5%. Wales has the highest prevalence of maternal obesity of all the UK countries.

There is evidence from international studies that there is a statistically significant relationship between breastfeeding and childhood obesity. The longer a child is breastfed and if a child is breast fed exclusively has a protective effect, potentially due to the early introduction of solid foods, or greater likelihood of over feeding with formula feed. Breastfeeding also helps to effectively manage maternal weight. Wales has low rates of initiation and continuation of breastfeeding compared to other areas.

In summary, tackling obesity requires large scale change greater than anything tried so far, and at multiple levels: personal, family, community and national.

Key messages:

- The determinants of obesity are complex - obesity develops in individuals but within their social, cultural and environmental context
- Those wider causes of obesity cut across many policy areas and demand an integrated large-scale change approach
- Limited evidence for individual interventions – but several promising strategies

5 Reducing Childhood Obesity – Opportunities for Action in Wales

5.1 Current Programmes and Strategies

5.1.1 Health related programmes including Change4Life, MEND

The Wales Obesity Care Pathway provides a framework for the co-ordination, planning and delivery of services and interventions to prevent and treat obesity.

Health related programmes can be separated into those that have population reach and are for primary prevention of obesity, Level 1 of the Pathway, and those that are targeted interventions for those who are already overweight or obese, (Level 2/3) although there is a degree of overlap across the levels. Interventions at level 1 and 2 are delivered through local partnership arrangements including local authority services such as leisure and education, alongside hospital and community health services and the voluntary sector. A strategic approach to integrating this activity, including wider policy areas as described, so that it is *designed* to impact childhood obesity should be strongly supported and robustly evaluated.

In Level Two of the All Wales Obesity Care Pathway there is the national childhood obesity service MEND. There are currently no Level Three services for 'treating' childhood obesity.

Public Health Wales became responsible for the commissioning or delivery of a number of Public Health Improvement Programmes in 2012 and has recently published the outcome of a review of these programmes and our approach to population health improvement. The Health Improvement Review made a number of recommendations on the future approach based on closer working across sectors to produce large scale change.

The review also made recommendations about the future of key programmes, including some relevant to childhood obesity e.g. MEND, The Cooking Bus, Healthy Schools, Breastfeeding Programme. Public Health Wales is currently developing plans for the implementation of the recommendations of the review.

Change4Life is a UK wide interactive multi-media campaign based on sound social marketing principles designed to help change population behaviour. Aiming to reach large segments of the population through targeting families and adults at different stages of life, Change4Life encourages positive action on a number of relevant health behaviours including alcohol, food and fitness. Currently, there is little good evidence of the effectiveness of specific programmes, however, it is likely that social marketing programmes would have a key role to play as part of a multi-faceted programme to reduce childhood obesity.

5.1.2 Programmes related to nutrition in schools including Appetite for Life

Appetite for Life/ the Healthy Eating in Schools (Nutritional Standards and Requirements) (Wales) Regulations and Primary School Free breakfast clubs are critically important for addressing childhood obesity at a population level. There is good international research evidence that interventions in the school setting such as nutritional standards, policies on snacks and food brought into schools, alongside other practices such as exercise opportunities, can have an impact on levels of obesity.

These interventions are also important as they are universal and can help to reduce inequalities.

5.1.3 Cross cutting programmes

Creating an Active Wales is a sound physical activity strategy including a strong emphasis on wider determinants of physical activity, but it has variable engagement across Wales. This type of cross cutting strategy, more relevant to contemporary partnership arrangements and

organisational drivers, should be strongly supported at a national level and led by Local Service Boards in order to galvanise local support. A similar healthy food strategy for children and young people or a childhood obesity strategy would be required alongside that to engage partners with a stake in availability and consumption of healthy food.

5.2 Areas for Improvement and Development

The wider determinant causes of obesity have been shown previously – they are the barriers that people face in making healthy choices to be more active, eat more healthily or to maintain a healthy weight. They should also be the targets for our action.

5.2.1 Creating Environments to Support Healthy Weights

Much of the NICE guidance on obesity still focuses on interventions at the level of the individual, for example that parents of pre-school children should be encouraged to complete some or all of short journeys by active transport, but increasingly advice includes recommendations for action on the wider determinants of health. For example, local authorities are encouraged to create and manage more safe spaces for incidental and planned physical activity, addressing as a priority any concerns about safety, crime and inclusion. It is recommended that local authorities should provide cycling and walking routes, cycle parking, area maps, safe play areas, traffic calming, congestion charging, pedestrian crossings, and ensure that buildings and spaces are designed to encourage people to be physically active.

Much of this will be supported by The Active Travel Act (2013) and a future Public Health Bill in Wales. Implementation, monitoring and evaluation should fall under the remit of the Active Travel Board but it is likely that regional/local partnerships will still be required.

There is real potential for the adoption of a Health in All Policies approach to childhood obesity. Encouraging the use of Health Impact Assessment to understand whether any planned policy, infrastructure development or programme may have a negative impact on overweight and obesity, for example: developments that reduce or support the opportunity for active commuting to school or work; access to outside space for play and leisure; the number of takeaway food outlets in a community particularly near to schools.

5.2.2 Overweight and Obesity as a shared priority

Levels 1 and 2 of the All Wales Obesity Care Pathway (12) are mostly driven through local partnership arrangements including local authority leisure and education, health dietetics, primary and community care

services. However, despite a range of strategy and policy guidance the local/regional coordination of this work towards the common aim of reducing childhood obesity is variable and often without sufficient breadth. Cross cutting national strategy made more relevant to contemporary partnership arrangements and organisational drivers, should be strongly supported at a national level and led by Local Service Boards in order to galvanise local support. This is particularly important at a time austerity with public services and commercial partners trying to do more with less.

In addition to more effective communication with large and at risk segments of the Welsh population, we need to build capacity across the range of the public health family; staff such as teachers, leisure staff and school nurses, health visitors, midwives, doctors can more effectively raise the issue and support parents and children to eat more healthily and become more active. This capacity development to *make every contact count* needs to be supported with adequate materials and knowledge of relevant local service provision.

5.2.3 Tackling Obesity and Overweight as the Norm

The latest Welsh Health Survey results (7) show that within our adult population 56% of Welsh residents are either overweight or obese; these high rates play a part in 'normalising' this trend amongst families and communities in our society. There is evidence that as a population we find it difficult to recognise normal weight and overweight in both adults and children. Rather than focusing on negative 'labels' we should be stressing the positive aspects of a 'healthy' weight.

Currently there is insufficient recognition of the problem of childhood obesity, or even obesity per se, amongst the Welsh population and amongst many public service providers. In terms of comparison with smoking we are a long, long way behind the public and professional attitudes to smoking – this brings significant challenge in securing multi-agency working, particularly when people have not seen "health" as part of their remit.

A national Pathway for maternal obesity should be introduced across all Health Boards in Wales which is based on the evidence of effective approaches to antenatal weight management and breastfeeding. The pathway should include:

- Supplementing routine care with specialist interventions to reduce the risks to both women and babies.
- Referral Pathways should be developed for preconception, antenatal and postnatal care.
- Promotion of breastfeeding, as this is lower in obese mothers, will help with post natal weight loss and has a protective effect for the

baby in relation to future risks of childhood obesity and obesity in adulthood.
- Advice and support should be given to prevent obesity in future pregnancies.

5.2.4 Research and Evaluation

There needs to be a greater emphasis on learning from the international evidence and best practice and implementing this learning in Wales. This should be developed alongside an approach to innovation that includes evaluation of outcomes so that we can measure whether the desired outcomes are being achieved.

Robust performance management in a continuous improvement cycle are vital components as is more synergistic research on effective interventions which can have population impact on childhood obesity or benefit health most amongst those most at risk.

Key messages:

- There should be a focus on prevention and risk reduction, promoting the health benefits of maintaining a healthy weight throughout childhood into adulthood
- Interventions need to be delivered at scale to achieve the necessary impact at population level, making use of a full range of approaches including environmental modification; fiscal measures and legislation/policy change
- There are no simple solutions, action is required at an individual, community and organisational level to make prevention of childhood overweight and obesity a shared priority
- There is a need to build on key programmes and policies e.g. working through early years and parenting programmes such as Flying Start; Healthy Schools rather than delivering interventions in isolation.
- There is a need for a stronger focus on research and evaluation; ensuring that the actions taken are based on the best available evidence and that we can reliably monitor performance against outcomes

6 References

1. **World Health Organisation.** *Population-based approaches to childhood obesity prevention.* Geneva : WHO, 2012.

2. **Olds, T, Maher, C and Zumin, S et al.** Evidence that the prevalence of childhood overweight is plateauing: data from nine countries. *International journal of pediatric obesity.* 2011, Vol. 6, 5-6, pp. 342-60.

3. **Chief Medical Officer.** *Annual Report of the Chief Medical Officer 2012. Our Children Deserve Better - Prevention Pays.* London : Department of Health, 2013.

4. **Reilly, J., Dorosty, A. and Emmett, P.** Prevalence of Overweight and Obesity in British Children . *British Medical Journal.* 1999, Vol. 319, 7216, p. 1039.

5. **GLA Intelligence Unit.** *Childhood Obesity in London.* London : Greater London Authority, 2011. 978-1-84781-422-7.

6. **Humphreys, C, Garcia, E and Causey, R.** *Child Measurement Programme for Wales Report 2011/12.* Cardiff : Public Health Wales NHS Trust, 2013. ISBN: 978-0-9572759-3-5.

7. **Statistics for Wales.** *Welsh Health Survey 2012.* Cardiff : Welsh Government.

8. **Foresight.** *Tackling Obesities: Future Choices - Project Report.* London : Government Office for Science, 2007.

9. **Wojcicki, J.M.** Maternal pre-pregnancy body mass index and initiation of breastfeeding: a review of the literature. *Journal of Women's Health.* 2011, Vol. 20, 3, pp. 341-7.

10. **Rasmussen, K.M, et al.** Interventions to increase the duration of breastfeeding in obese mothers: the Bassett Improving Breastfeeding Study. *Breastfeeding Medicine.* 2011, Vol. 6, 2, pp. 69-75.

11. **Centre for Maternity and child enquiries & Royal College of Obstetricians and Gynaecologists.** *Joint guidelines: management of women with obestiy in pregnancy.* s.l. : Royal College of Obstetricians and Gynaecologists, 2010.

12. **Welsh Government.** All wales Obesity Pathway. *Welsh Government.* [Online] 25 August 2010. http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en