National Assembly for Wales

Children and Young People Committee

CO 42

Inquiry into Childhood Obesity

Evidence from : Public Health Wales

1. *Context for response:*

Obesity is an important population health problem

The following table describes the relative risks for some diseases in obese individuals: obesity confers a several hundred percent greater absolute risk for some already common diseases.

Greatly increased risk (Relative risk much greater than 3)	**Moderately increased risk** (Relative risk 2-3)	**Slightly increased risk** (Relative risk 1-2)
• Type 2 diabetes • Insulin resistance • Gallbladder disease • Dyslipidaemia (imbalance of fatty substances in the blood, eg high cholesterol) • Breathlessness • Sleep apnoea (disturbance of breathing)	• Coronary heart disease • Hypertension (high blood pressure) • Stroke • Osteoarthritis (knees) • Hyperuricaemia (high levels of uric acid in the blood) and gout • Pyschological factors	• Cancer (colon cancer, breast cancer in postmenopausal women, endometrial [womb] cancer) • Reproductive hormone abnormalities • Polycystic ovary syndrome • Impaired fertility • Low back pain • Anaesthetic risk • Foetal defects associated with maternal obesity

Note: All relative risk estimates are approximate. The relative risk indicates the risk measured against that of a non-obese person of the same age and sex. For example, an obese person is two to three times more likely to suffer from hypertension than a non-obese person.

The next table describes the 'Population Attributable Fraction' of obesity in some common diseases – ie the proportion of each disease which could be prevented if obesity was eliminated. Obviously elimination of obesity is unrealistic, but as the relationship between obesity and disease risk is generally proportional it does suggest that substantial reductions in the burden of disease could be made with reductions in obesity:

	Population Attributable Fraction	**Population Attributable Fraction**
Disease	**Men (%)**	**Women (%)**
Angina pectoris	15.0	17.2

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

Disease	Population Attributable Fraction Men (%)	Population Attributable Fraction Women (%)
Colon cancer	30.6	30.7
Gall bladder diseases	15.0	17.2
Hypertension	26.0	45.4
Myocardial infarction	9.9	36.6
Osteoarthritis	16.5	9.4
Ovarian cancer	n/a	15.4
Stroke	6.2	7.2
Type 2 Diabetes	48.0	75.3

The cost of obesity to the NHS in Wales has been documented in a 2011 report 2for Welsh Government2 below[1] . Obesity was estimated to cost the NHS in Wales over £73 million per annum, with hospitalisation costs at around £3.5 million per annum. Assuming costs for ABHB residents are pro rata for population (although obesity rates in ABHB are slightly higher than the all Wales levels), the overall costs to the NHS for obesity in ABHB is around £14.6 million, and for hospitalisation in ABHB residents is around £700,000.

Being overweight or obese in childhood has negative consequences for health in both the short term and the longer term. Although many of the most serious consequences may not become apparent until adulthood, the effects of obesity can be identified in obese children and adolescents. For example, type 2 diabetes, previously considered an adult disease, has increased in overweight children. Other health risks of childhood obesity include early puberty, eating disorders such as anorexia and bulimia, skin infections, asthma and other respiratory problems. Some musculoskeletal disorders are also more common, including slipped capital femoral epiphysis (SCFE) and tibia vara (Blount disease).

---

[1] Phillips C J., Christie Harper, Jaynie Rance, Angela Farr (2011) Assessing the costs to the NHS associated with alcohol and obesity in Wales http://wales.gov.uk/about/aboutresearch/social/latestresearch/alcoholobesity/?lang=en

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

In addition to the physical harms to children, the emotional and psychological effects of being overweight are often seen as the most immediate and serious by children themselves. They include teasing and discrimination by peers; low self-esteem; anxiety and depression. Obese children may also suffer disturbed sleep and fatigue.

Overweight and obese children are more likely to become obese adults, with the associated higher risks of morbidity, disability and premature mortality in adulthood as mentioned. Physical activity and eating behaviours as well as social norms of overweight and obesity run in families and communities and habits learned and developed during childhood can continue through to adulthood. Once established, obesity is notoriously difficult to treat, so prevention and early intervention are very important.

There is a need to focus on approaches and interventions throughout the life-course, i.e. pre-conception to healthy ageing, to prevent lifelong chronic conditions and, to reduce the consequences of existing conditions prevalent and increasing in the population attributable to obesity. Maternal, parental and early years populations should be an important focus if we are to break the cycle and reduce inequalities in health.

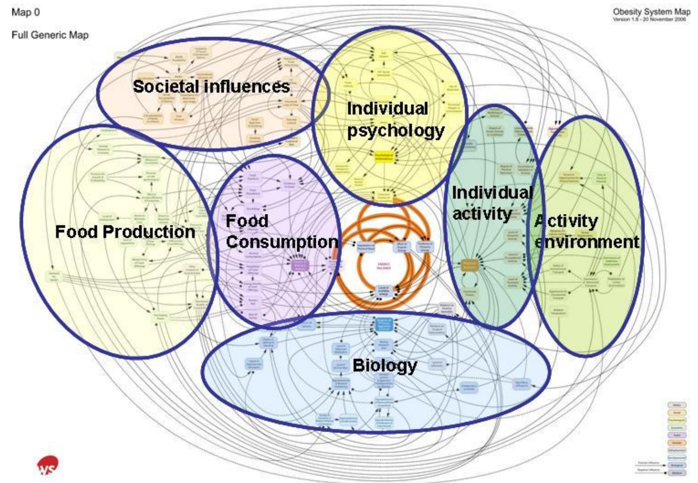
Obesity is a disease of multiple causes requiring multi-faceted action

Body size is usually quantified by weight for height ratios, the most commonly used is 'Body Mass Index' ((BMI) – weight divided by height squared). 'Obesity' is defined as a BMI of 30 or more kg/m^2, and 'overweight' is defined as a BMI between 25 and 29.9 kg/m^2. In children both NICE and SIGN recommend that BMI adjusted for age and gender should be used as a practical estimate of overweight in children. Despite limitations of measurement, risk of ill health increases with BMI in most populations.

Being overweight or obese is a direct result of energy imbalance – where calories taken in as food and drink exceed those expended in daily living and activity. However, the reasons for that energy imbalance (ie excess calorie consumption and/or reduced energy expenditure) can be cultural, complex, sometimes uncertain, and sometimes be directly related to physical or psychological pathology (or medical treatment) in an individual.

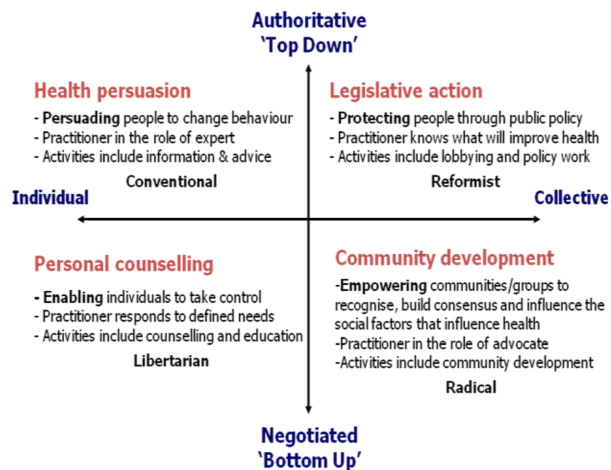
http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

Wider determinants of health (1991) and Foresight obesity map (2007)



Simply because of the breadth of the determinants/causes of obesity and the scale of the problem, effective action on obesity requires multi-factorial interventions which cannot just be reliant on interventions or projects at an individual or small group level. In addition, models of health promotion action such as Beatie's model or the Ottawa Charter also emphasise the need to take action across all levels from policy to counselling and across the range of determinants if they are to be effective.

Ottawa Charter (1980) and Beaties model (1991)



If the potentially modifiable factors causing obesity are societal influences, food supply and availability, individual psychology, and the physical activity environment then action needs to be in all of those areas. Based upon evidence from smoking legislation, the most effective way to influence lifestyle behaviour is through effective action at the policy level together with evidence based systematic interventions (i.e. national smoking cessation services). Attention must therefore

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

be given to all aspects of the Ottawa Charter, i.e. health in all policy, supportive environments, strengthening communities, enhancing personal skills, and refocusing health services.

We also have the All-Wales Obesity Pathway from WG which places responsibility on the Health Boards and partners to ensure action at a number of levels of obesity, broadly in accordance with NICE Guidance, and across a range of policy areas and interventions.

We particularly need to drive investment in a healthier environment in order to secure the behaviour changes we need – whilst a lot is going on. Examples include:

2. The extent of childhood obesity in Wales and any effects from factors such as geographical location or social background;

Wales has higher levels of adult and childhood obesity compared to other similarly developed countries. Childhood obesity in Wales is measured on an annual basis by the Welsh Health Survey. The most recent statistics[2] show that in 2011, 35% of children were classified as overweight or obese, including 19% obese children[3]. This shows:

- For both boys and girls at 11 years, 13 years and 15 years the prevalence 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.

According to the feasibility study for measuring childhood heights and weights in Wales across seven local authority areas, the children resident in the most deprived fifth of LSOAs had higher overweight and obesity levels than their counterparts resident in the least deprived fifth of LSOAs, and these differences were statistically significant[4].

In addition to current measures, we would recommend funding of a second Child Measurement Programme cohort. 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

---

[2] Welsh Health Survey (2012), http://wales.gov.uk/topics/statistics/headlines/health2012/120919/?lang=en, [accessed 25 April 2013].

[3] 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.

[4] Public Health Observatory for Wales (2010), *Measuring Childhood heights and weights in Wales*, National Public Health Service for Wales and the Wales Centre for Health.

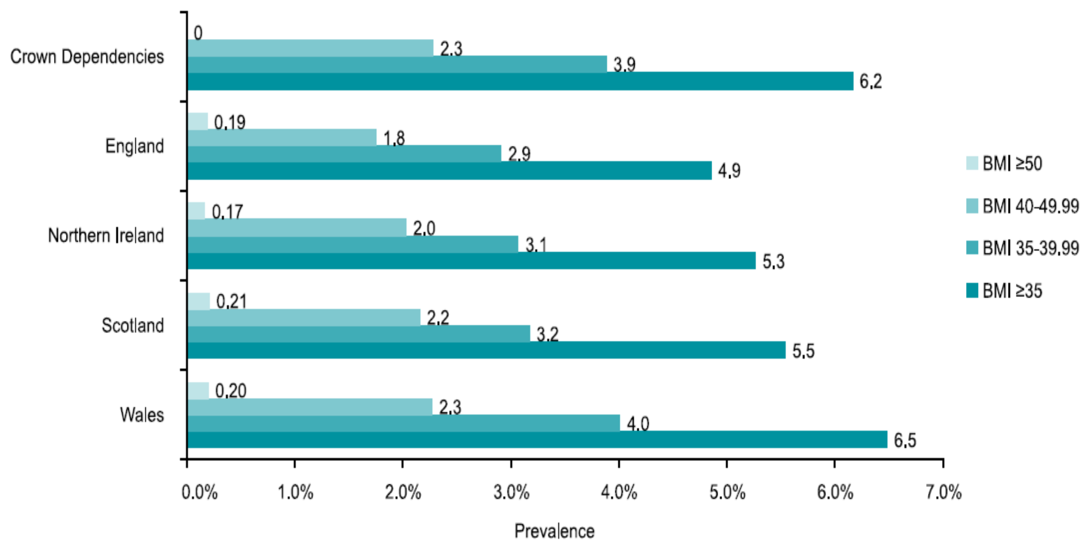
Welsh Government (2010) The All Wales Obesity Care Pathway

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

- 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.

The chart below shows Maternal Obesity in the UK is highest in Wales for all BMI categories



Source: CMACE 2010

As mentioned previously there are many personal, social, economic, commercial and environmental determinants of our diet or physical activity and hence our weight. Often many of these factors cluster in areas of high deprivation.

3. *The measurement, evaluation and effectiveness of the Welsh Government's programmes and schemes aimed at reducing the level of obesity in children in Wales specifically:*

Health related programmes including Change4Life, MEND,

In Wales greater support is needed for the delivery of levels 1 and 2 of the All Wales obesity care pathway (Welsh Government ,2010) through local partnership arrangements across all sectors local authority leisure and education, health dietetics, primary and community care services. Legislation in the Public Health Bill will also support this.

Health related programmes can be separated into those that have population reach and are for primary prevention of obesity, Level 1 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 . http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

Change4Life is an interactive multi-media campaign based on sound social marketing principles which can help to 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. This programme is being evaluated to understand who and how many people it is reaching but it will always be difficult to attribute behaviour change or health improvement outcomes to such a wide reaching programme. For reasons mentioned previously no single project will have the capability to change obesity levels alone; as part of a multifaceted approached Change4Life has potential to support prevention of obesity and associated co-morbidities.

The current National childhood obesity intervention/service, MEND, is aimed at children who are already overweight or obese and their families. The service specification for childhood obesity services was out put to tender and the MEND programme is currently contracted by Public Health Wales to deliver this until March 2014. The population of children and their families who are overweight or obese are part of the picture of childhood obesity in Wales, they are most in need of intervention and current population level efforts are not working for them. Whilst there is no current rigorous analysis of the effectiveness of MEND available, the components of the programme are based on the evidence of effectiveness: include information on diet, physical activity and behaviour change and be family oriented. It is right that Public Health Wales continue to ensure they are commissioning/providing the most effective service available for this population. Of course, any programme of this kind will have a small population impact and will not prevent population level childhood obesity per se, but can help prevent many those children who are already overweight or obese from becoming obese adults. As a single intervention, this type of intervention the same as any other, even if extended to increase the scale of delivery/uptake, would need to be supported by parallel actions, e.g. a reduction of access to unhealthy cheap food and drinks and an increase in opportunities for more physical activity and reduced sedentary behaviour within and outside the school environment, in order to support long term lifestyle changes.

Much of the NICE guidance on obesity still focuses on interventions at the level of the individual such as 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.

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. As part of Appetite for Life drinks should be restricted, to encourage children to drink water to maintain hydration and milk which has a clear nutritional benefit.

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

Cross cutting programmes for example leisure and sport related programmes (Creating an Active Wales); planning policy; and

Creating an Active Wales requires further drive at a national level in order for it to regain momentum.

Welsh Government planning policies require consideration of the impact of planning on health. There is a need to support outdoor active play through: parks, traffic calming measures (20mph zones) and home zones.

4. *The barriers to reducing the level of childhood obesity in Wales;*

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.

Currently there is insufficient recognition of the problem of childhood obesity, or even obesity per se, amongst the Welsh population and 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.

We need to build capacity in all front line public service staff. Training so that a broad 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 needs to be supported with adequate support materials and knowledge of relevant local service provision.

In the current financial climate for public services and people, the tendency might be to re-trench, with people becoming more sedentary, more excluded, and organisations more focused on single organisational or directorate statutory targets - this presents a particular problem for solving the issue of childhood obesity because of the multi-agency action required. Services will have to do some things differently and prioritise investment over the next years, NAfW must ensure that effective action on obesity and particularly childhood obesity does not slip through the net.

There are a number of barriers to the uptake of the national childhood obesity service which vary by locality but which result in lower recruitment than is desirable.

5. *Whether any improvements are needed to current Welsh Government programmes and schemes and any additional actions that could be explored.*

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

There are opportunities for Welsh Government to link the Public Health Bill to areas that would support a reduction in childhood obesity or to lobby the UK Government, where Welsh Government has no jurisdiction. For example, a better family diet could be achieved through taxation on sugary carbonated drinks and unhealthy food. In addition to this a ban on: junk food advertising before 9pm, commercial advertising on internet 'on demand' services and bill board advertising near schools would reduce childhood obesity.

There are a plethora of strategy, advice and guidance which, if implemented and monitored systematically, could have an important impact on population levels of obesity including those in the following list:

- UNICEF Baby Friendly Initiative in Wales
- National Obesity Pathway (+ examples of good practice table)
- Appetite for Life action plan (2008)
- Creating an Active Wales
- AQF - Child Poverty Targets (3, five-year olds with dental caries; 11, young people with dental caries and; 13, childhood obesity)
- Child Poverty Strategy for Wales
- Food and Fitness Implementation Plan for Children and Young People
- NSF – Children Young People and Maternity Services
- NICE – Obesity (QRG1 – LAs)
- NICE - Obesity (QRG2 – NHS)
- NICE – Weight Management before during and after pregnancy
- NICE – PA CYP
- NICE – PA, four commonly used methods
- NICE – PA and the environment
- NICE – Physical activity in the workplace
- NICE – Nutrition for pregnant women
- NICE – Primary prevention of CVD
- NICE - Falls
- NICE – Mental wellbeing and older people
- NICE – Back pain
- NICE – Secondary prevention of MI
- A framework for School Nursing Service in Wales
- Healthy Schools guidance
- A framework for School Nursing Service in Wales
- Foresight Report
- Food and Well Being in Wales
- Quality Food for all in Wales Strategic Action Plan
- Play Policy Implementation Plan
- Walking and Cycling Action Plan
- TAN 16 Guidance
- Change4Life
- NICE – Promoting and creating built or natural environments that encourage and support physical activity
- Midwifery 2020
- Review of Health Visiting Services in Wales

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

The above list is not exhaustive. Below are examples of national policy and legislative changes, plus local drivers that would reduce childhood obesity, based on international research.

Causal Factor	Action Required	Organisation
Over consumption of energy dense foods	Ban the use of trans-fats and corn syrup. Healthy nutritious food should be included in all public sector food outlets Increase promotions which include calorie and nutritional information Ban advertising in proximity to schools Continue to strengthen nutritional standards for school meals Continue to reduce consumption of sugar sweetened drinks in school Control proliferation of fast food outlets Ban mobile fast food vendors in proximity to schools Restrict licensing/planning permission of fast food outlets in proximity to schools Improve network of sustainable food availability, particularly in deprived areas, such as food coops. Improve health literacy	UK government/Food Standards Advertising Standards Authority Welsh Government/Local Authority Welsh Government/Local Authority Welsh Government/Local Authority Local Authority Local Authority
Low consumption of fruit and vegetables	Reduce price of fruit and vegetables Promote healthy special offers and recipes Display nutritional content and	European Union Common Agricultural Policy Marketing - larger supermarkets

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

	calories in chain restaurants menus Ensure communities are able to make informed choices about food , have appropriate access to a variety of affordable nutritious food and have the skills and knowledge to prepare food. Increase uptake of Healthy Options Award in all food retail outlets	Local Authority, takeaways and cafes popular with families Welsh Government Welsh Government and local authorities – school curriculum, Flying Start and parenting initiatives Health Boards – Nutrition Skills for Life nutrition training in communities Public Health Wales – local food poverty agenda
Low levels of physical activity	Ensure health is on environment and planning curricula Mandatory Health Impact Assessment Wide choice of physical activity opportunities provided and promoted in local communities Specific measures to make walking and cycling the easiest and fastest option for short journeys Ensuring use of public transport is the cheapest and easiest option as an alternative to car use Promote options for active travel HIA on all community Infrastructure Levy agreements and Section 106 in Local Authority Planning departments Improve access to high quality green space in disadvantaged areas	Welsh Government in collaboration with Universities Welsh Government Local Authority Welsh Government/Local Authority/Employers Local Authority/ Architects/Planners

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en

Such actions would go some way to making it easier for people to live healthier lives, and to make healthy choices easy choices. Welsh Government should also lobby the UK government on tax, subsidies, food labelling and most particularly in tackling the food industry head on, so that they are ultimately sanctioned against producing processed food with very high levels of sugar, salt and fat.

http://wales.gov.uk/topics/health/improvement/index/pathway/?lang=en