Obesity

Summary

- Overweight and obesity presents a major challenge to the current and future health of the Hampshire population with the impact extending to the wider society and economy. It is estimated that 62% of the adult population of Hampshire is overweight and obese and rates of obesity and severe obesity are predicted to rise.
- For Hampshire the estimated cost of managing the associated diseases alone will be £333.8 million by 2015.
- The government has set out its ambition to reverse the upward trends in obesity and local progress toward this will be monitored through the Public Health Outcomes measures of excess weight in children and adults.
- Obesity prevalence changes with age and is generally higher in older age groups. The health risks rise with increased BMI and people with morbid obesity live on average 8–10 years less than people who are a healthy weight.
- There are strong links with obesity and social deprivation especially for women and children and with some ethnic minority groups. The association with social deprivation is clearly seen in the Hampshire data for children.
- The prevalence of overweight and obesity for children in Hampshire is lower than the England rates however there are still 1 in 5 children entering school who are overweight or obese and by the age of 10-11 years this has risen to almost 1 in 3. The majority of children affected will have parents who are also obese.
- Most of the children who are obese in their early teens will remain obese into adulthood.
- The determinants of obesity are complex.
- The Hampshire “Healthy Weight Strategy and Action Plan for Children & Young People” is sustaining work in schools and delivering the National Child Measurement Programme. The focus for new work will be prevention with families of pre-school children.
- Care Pathways for children and adults who are overweight and obese and need healthcare asupport are being implemented across Hampshire. Services will be evaluated over the next 1-2 years.

Recommendations

- Develop the strategic approach to reducing obesity across all ages of the Hampshire population.
- Implement the NICE PH 42 guidance which supports effective, sustainable community wide action to prevent overweight and obesity.
- The strategy should take a life-course approach, using key times when people are receptive to lifestyle and behavioural change. This should include pregnancy and early years and the “working age” population.
- Work with employers to develop workplace environments that facilitate and promote healthy lifestyles and provide positive support to employees who would benefit from weight management programmes.
- Ensure that services are able to provide effective brief interventions to prevent excess weight gain and support the population already engaged in weight reduction.

1. Introduction

Obesity occurs when over a prolonged period of time, energy intake from food and drink is greater than energy expenditure through the body's metabolism and physical activity.

The expert report on obesity (Foresight, 2007)[1] presented an obesity system map showing over 100 determinants working as a "complex web" to influence either directly or indirectly the energy balance of an individual. These have been grouped into the seven cross-cutting themes listed here:

- Biology: an individuals starting point; the influence of genetics and ill health.
- Activity environment: the influence of the environment on an individual's activity behaviour.
- Physical Activity: the type, frequency and intensity of activities an individual carries out.
- Societal influences: the influence of culture and media, education and peers on food and activity behaviours.
- Individual psychology: a person's individual psychological drive for particular foods and physical activities.
- Food environment: the influence of the food environment on an individual's food choices.
- Food consumption: the quality, quantity (portion sizes) and frequency (snacking patterns) of an individual's diet.

The seven themes provide a useful framework for a strategic approach to tackling obesity and the Foresight Report argued that a wide range of partners should work together to develop and implement community-wide approaches to address these determinants. The Department of Health has reinforced the importance of synergistic efforts at a range of levels [2] and the Academy of Medical Royal Colleges (2013)[3] has called for collective responsibility and action to address rising levels of obesity.

The Government set out its ambition for a sustained downward trend in the level of excess weights in children and a downward trend in the level of excess weight averaged across all adults by 2020. The Public Health Outcomes Framework 2013-16[4] includes measures to monitor excess weights at a local level: for children aged 4-5 years and 10-11 years using the National Child Measurement Programme data and for adults developing the Sport England "Active People Survey" to include self reported measures of height and weight.

[1] Foresight (2007) Tackling Obesities: Future Choices. Government Office for Science. London.
[2] Healthy Lives, Healthy People: A call to action on obesity in England. Department of Health 2011
[3] Academy of Medical Royal Colleges (2013)."Measuring Up" The medical profession's prescription for the nations obesity crisis (Academy of Royal Colleges).
[4]Department of Health (2012). Improving Outcomes and Supporting Transparency: A public health outcomes framework for England 2013-16

Obesity

1.1 Defining Obesity

Obesity and overweight are well-known descriptions and everyone has a rough idea of their meaning, but they are also technical terms with clear definitions defined by the World Health Organisation (WHO) based on the Body Mass Index (BMI). BMI is calculated by dividing a person's weight (in kilograms) by the square of their height (in metres) and is the recommended measure of overweight and obesity (NICE)[5].

Table 1: Body Mass Index (BMI) classification for adults (*Source: NICE (2006)*

Classification	***BMI Range (kg/m2)***
Underweight	Under 18.5
Healthy weight	18.5 to 24.9
Overweight	25 to 29.9
Obese	30 to 39.9
Morbidly obese	40 and over

BMI can be less accurate for assessing weight in some individuals e.g. athletes or the elderly where a slightly higher BMI is not necessarily unhealthy. Adults of South Asian origin have higher body fat levels at a given BMI, and the Scottish guidance (SIGN, 2010)[6] recommends considering overweight at BMI >23 kg/m2 and obese at BMI >27.5 kg/m2 for these population groups. NICE guidance has been published for assessing the BMI and waist circumference of adults from black, Asian and other minority groups.[7]

The situation is more complicated for children, as sex, growth and development need to be taken into account and NICE[85] recommends that BMI adjusted for age and sex (related to the UK 1990 BMI Growth Reference Charts), should be used as a practical estimate of weight in children and young people.

Different BMI thresholds are used for population monitoring (National Child Measurement Programme (NCMP) and for clinical intervention.

Table 2: UK Body Mass Index (BMI) percentile classifications for children

Classification	***BMI Centile: Population Monitoring (NCMP)***	***BMI Centiles: Clinical Intervention***
Underweight	≤ 2nd centile	≤ 2nd centile
Healthy weight	2nd - 84.9th centile	2nd – 90.9th
Overweight	85th - 94.9th centile	91st - 97.9th centile
Obese	≥95th centile	≥ 98th centile

[5] National Institute for Health and Clinical Excellence (2006). Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children (NICE Clinical Guideline 43)

[6] Scottish Intercollegiate Guidelines Network (SIGN), 'Management of Obesity. A national clinical guideline' (Clinical Guideline 115, 2010)

[7] National Institute for Health and Clinical Excellence (2013). Assessing Body Mass Index and waist circumference for intervening to prevent ill health and premature death among adults from black, Asian and other minority ethnic groups. (Public Health Guidance 46).

[8] National Institute for Health and Clinical Excellence (2006). Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children (NICE Clinical Guideline 43)

1.2 Consequences of obesity

- Maternal obesity significantly increases risk of congenital anomaly, prematurity, stillbirth and neonatal death[9].
- Being overweight or obese in childhood has consequences for health and wellbeing in both the short and the longer term and children themselves are likely to experience the emotional and psychological effects as the most immediate and serious. Obese children are at increased risk of psychosocial problems, including reduced self-esteem and increased risk of depression and social isolation[10].
- Physical health problems will be experienced by 58% of children with a BMI above the 95th centile[11].
- Up to 79% of children who are obese in their early teens are likely to remain obese in adulthood[12] and have a higher risk of morbidity, disability and premature mortality in adulthood.
- There is a bi-directional association between obesity and common mental health problems as obese persons have a 55% increased risk of developing depression, and patients with depression have a 58% increased risk of becoming obese[13].
- Being overweight or obese significantly increases the risks of developing and dying from cardiovascular disease, cancer and kidney and liver disease and the risk increases as BMI increases[14].
- Around 58% of Type 2 diabetes, 21% of heart disease and between 8-42% of cancers (endometrial, breast and colon) are attributable to excess weight.[1]
- Obesity severely increases the risk of getting Type 2 Diabetes[15].
- People with morbid obesity live on average 8–10 years less than people who are a healthy weight which is similar to the effects of life-long smoking[14].
- The Department of Health estimate that the costs for Hampshire of managing diseases related to overweight and obesity to be £312.2 million in 2010 rising to £333.8 million by 2015 and costs to the wider economy considerably more[16].

[9] Confidential Enquiry into Maternal and Child Health (2007). Saving Mothers' Lives: Cross-Government Obesity Unit (2008)

[10] Doak, et al (2006) The prevention of overweight and obesity in children and adolescents. *Obesity Reviews 2006; 7:111-136.*

[11] Rudolf MCJ (2004).The Obese Child, Archives of Disease in Childhood; Education Practice Edition 89.

[12] Chief Medical Officer (2008) The Chief Medical Officer's report 2007. Under their skins: tackling the health of the teenage nation. London: Department of Health.

[13] Luppino FS, de Wit LM, Bouvy PF, Stijnen T, Cuijpers P, Penninx BWJH, et al. (2010). Overweight, obesity, and depression: a systematic review and meta-analysis of longitudinal studies. Archives of General Psychiatry;67(3):220-9.

[14] Prospective Studies Collaboration. (2009). Body-mass index and cause-specific mortality in 900 000 adults: collaborative analyses of 57 prospective studies. Lancet; 373: 1083-96.

[15] Comptroller and Auditor general. The Management of adult diabetes services in the NHS, session 2012-13. National Audit Office. May 2012

[16] Healthy Weight, Healthy Lives: A Toolkit for developing Local Strategies, National Heart Forum; Cross Government obesity Unit; Faculty of Public Health, 2008.

1.3 Benefits of weight loss

NICE[17] recommends that overweight and obese adults should aim for a realistic 5-10% weight loss. This is because there is strong evidence that this can significantly reduce cardiovascular and metabolic risk[18]. SIGN (2010) recommends that adults with a BMI ≥ 35 kg/m2 may require a greater proportion of weight loss which will always be above 10 kg.

The aim of weight management programmes for children and young people may be either weight maintenance or weight loss, depending on their age and stage of growth.

2. Level of need in the population

The Public Health England Obesity Knowledge and Intelligence Team formally the National Obesity Observatory is a useful source of information on data, evaluation and research related to obesity and its determinants www.noo.org.uk

2.1 Children & Young People

- The Health Survey for England shows that obesity prevalence among 2–10 year olds rose from 10.1% in 1995 to 13.9% in 2011. There are some indications that the upward trend maybe flattening.
- The 2011/12 National Child Measurement Programme (NCMP) showed that obesity prevalence among 4-5 year olds in England was 9.5% and among 10-11 year olds it was 19.2%. This national data shows a trend of increasing obesity prevalence among both boys and girls in Year 6.
- The NCMP data shows the strong links with obesity and deprivation: as deprivation rises so does the prevalence of obesity for both 4-5 year olds and 10-11 year olds.
- There is a variation in obesity prevalence by ethnic group for both 4-5 year olds and 10-11 year olds. Boys aged 10-11 years from all minority ethnic groups are more likely to be obese than White British boys and girls aged 10-11 years from Black African and Black Other ethnic groups have higher rates. The reasons for these differences are complex.
- Obesity is more common in people with learning disabilities and it is estimated that 24% of children with learning disabilities are obese[19].
- Children who have a limiting illness are more likely to be obese, particularly if they also have a learning disability. 40% of children aged under 8 years old with limiting illness and learning disability are obese or overweight compared with 22.4% of children with neither condition[20].

[17] National Institute for Health and Clinical Excellence (2006). Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children (NICE Clinical Guideline 43)

[18] Scottish Intercollegiate Guidelines Network (SIGN), 'Management of Obesity. A national clinical guideline' (Clinical Guideline 115, 2010)

[19] Kerr MR, Felice D (2006). Paper based on data also included in an unpublished study for the Disability Rights Commission: Equal Treatment – closing the gap. London: Disability Rights Commission.

[20] Child & Maternal Health Observatory (2011). Disability and Obesity: the prevalence of obesity in disabled children. www.chimat.org.uk

- Children who are overweight or obese are most likely to have parents who are also overweight or obese[21].

2.2 Prevalence in Hampshire children & young people

The National Child Measurement Programme (NCMP) is an annual programme that measures the height and weight of children aged 4-5 years (reception, Year R) and 10-11 years (Year 6) in England and fulfils a public health surveillance function.

Since 2007/08 participation in the NCMP across Hampshire in both year groups has exceeded 85% and in 2011/12 94% of Year R and 90% of Year 6 children were weighed and measured. A three year rolling analysis of the Hampshire NCMP data has been undertaken to show prevalence by smaller geographical areas (local authority districts and boroughs, clinical commissioning groups and children's centre clusters). This analysis provides a more reliable indication of the trends in these geographies and the results for Hampshire Local Authorities (Districts and Boroughs) is provided by year group and weight category (Healthy Weight; Overweight and Obese) using the NCMP population monitoring thresholds.

2.2.1 Year R (4-5 year olds)

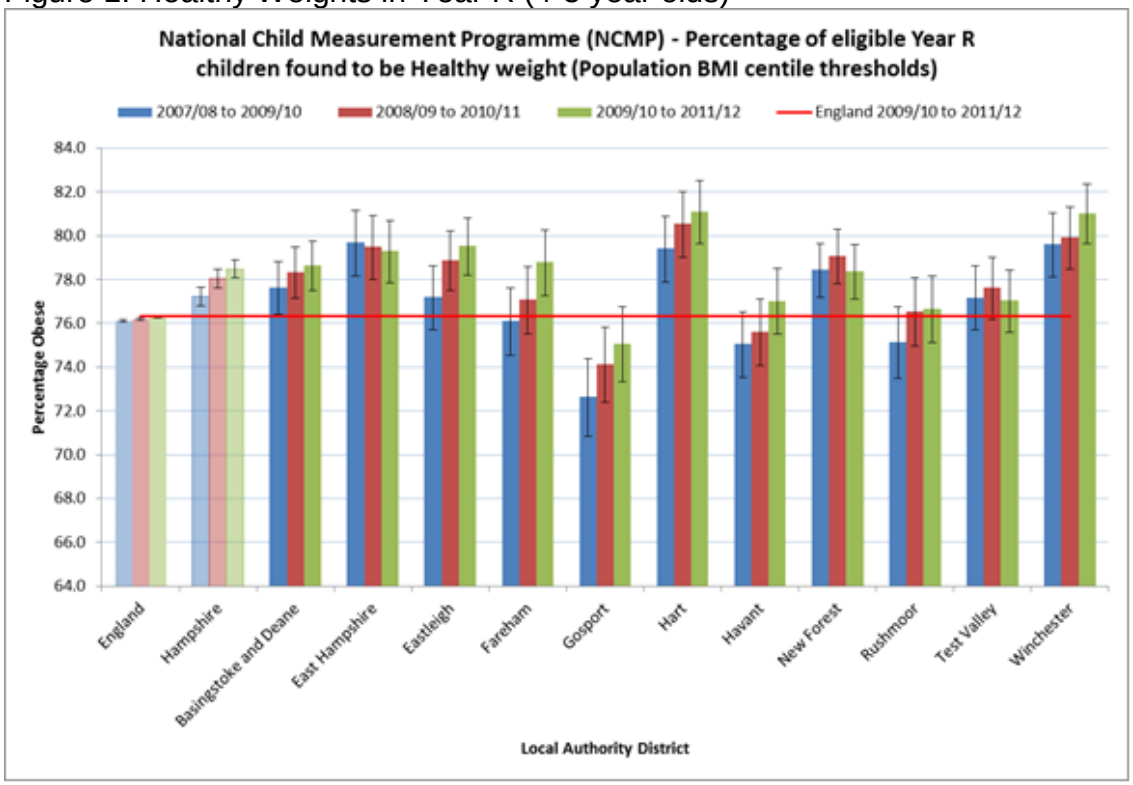
Healthy Weights: BMI greater than 2nd percentile but less than 85th percentile

In Hampshire the percentage of children with a healthy weight is 78.5% compared with 76.3% for England (Figure 1). Apart from Gosport all the local authority areas have rates better than the England average. Whilst national trends show no overall change from 2007/08 to 2011/12 the data for Hampshire shows an improving trend.

[21]Cross-Government Obesity Unit (2008) Healthy Weight, Healthy Lives: A Cross-Government Strategy for England. London: DH/DCSF

Obesity

Figure 1: Healthy Weights in Year R (4-5 year olds)

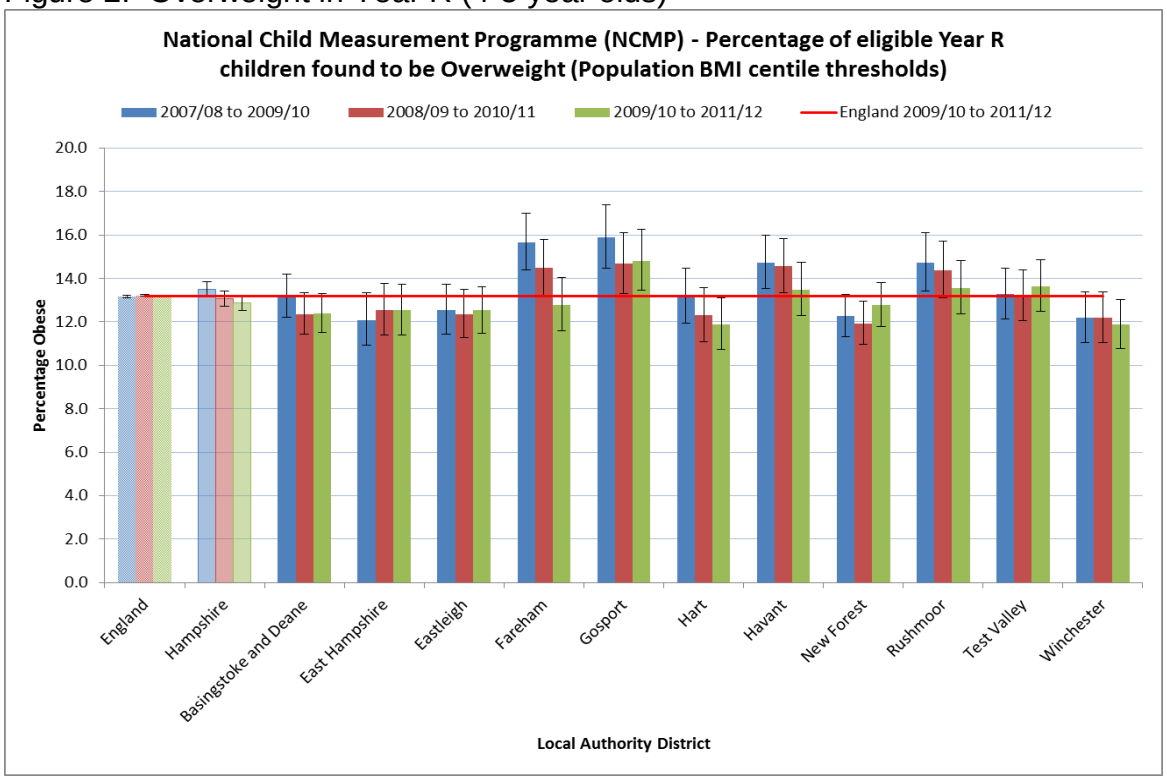


Obesity

Overweight: BMI greater/equal to 85th percentile but less than 95th percentile

In Hampshire the percentage of overweight children in Year R is 12.9%, compared to the England rate of 13.2% (Figure 2). Levels of overweight children in Gosport, Rushmoor, Test Valley and Havant, exceed the England rate. Whilst national trends show no overall change between 2007/08 and 2011/12, figures suggest an overall decrease among Hampshire children. Findings are mixed at a local authority area level, with some areas moving in a 'healthy' direction, but for others such as the New Forest, Test Valley, Gosport and Eastleigh there has been an increase in the latest 3 year period.

Figure 2: Overweight in Year R (4-5 year olds)

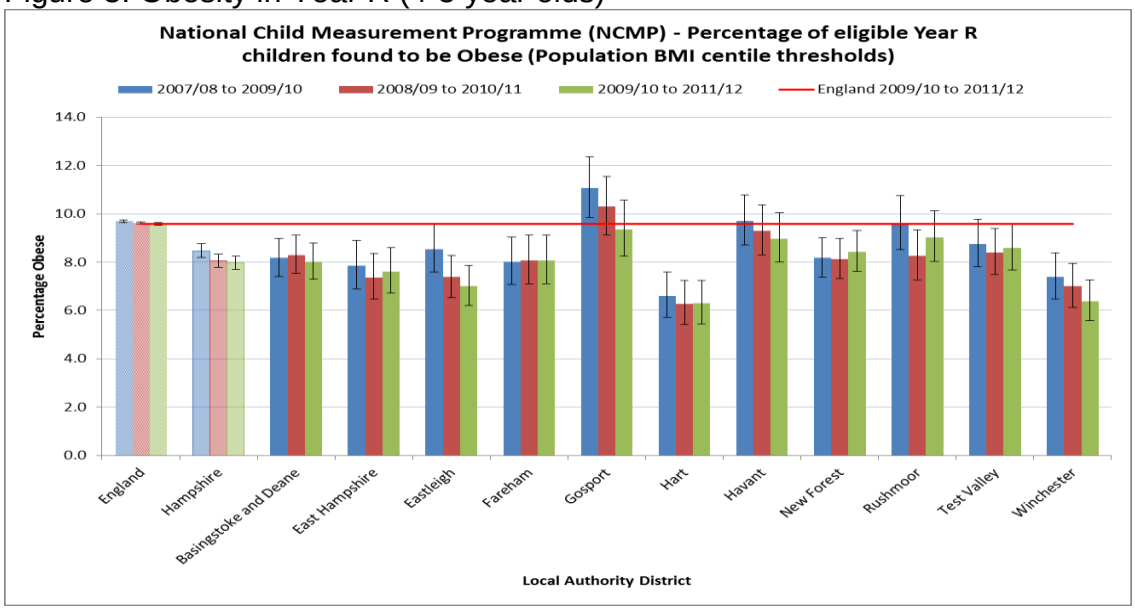


Obesity

Obesity: BMI greater than or equal to the 95th percentile

In Hampshire the percentage of obese children in Year R is 8%, compared to the England rate of 9.6%. At a local authority level Gosport; Havant and Rushmoor have the highest levels of obesity, mirroring the map of deprivation and childhood poverty (Figure 3). Hart has the lowest obesity levels.

Figure 3: Obesity in Year R (4-5 year olds)



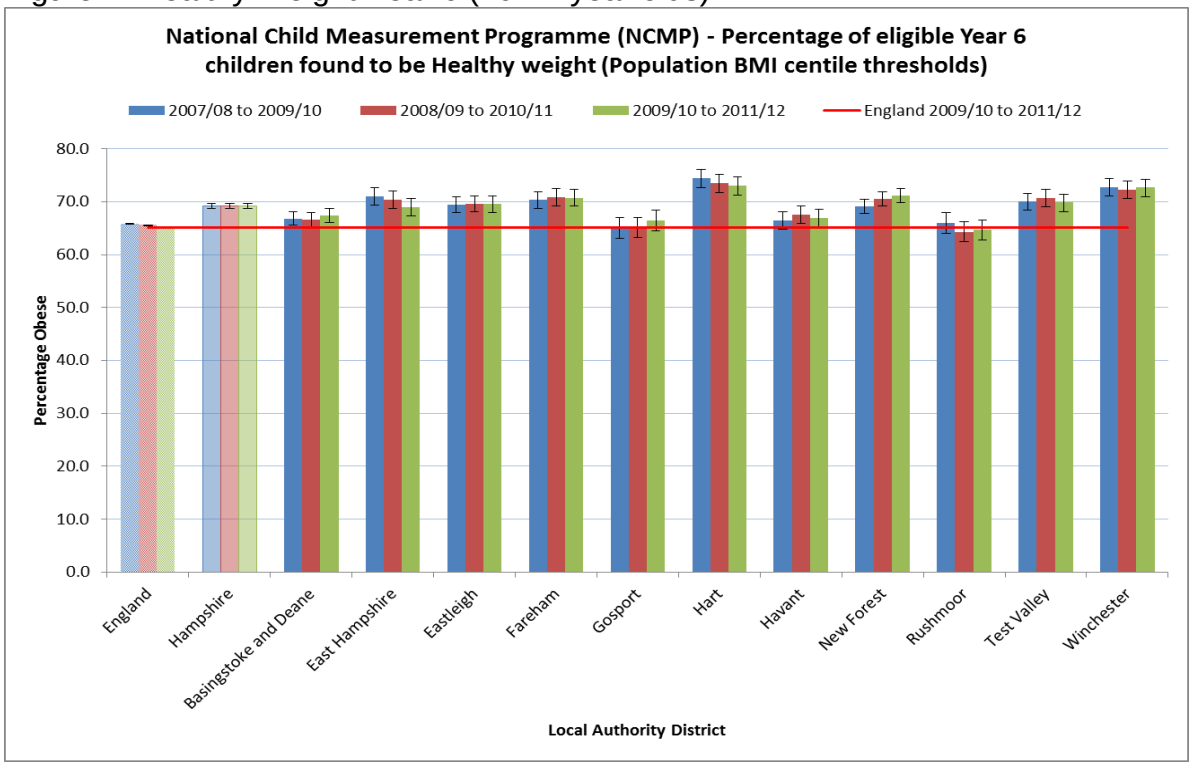
Trend analyses suggest that obesity prevalence in Year R is levelling off both nationally and in Hampshire. The picture is mixed across Hampshire with some areas showing a steady decline but others such as Rush moor, Test Valley, New Forest, and East Hampshire showing an increase in the latest 3 year period.

2.2.2 Year 6 (10 - 11 year olds)

Healthy Weights: BMI greater than 2nd percentile but less than 85th percentile

In Hampshire the percentage of children in Year 6 with a healthy weight is 69.3% compared with 65.2% for England (Figure 4). Apart from Rushmoor all the local authority areas have rates better than the England rate. Whilst the national trend showed a worsening picture from 2007/08 to 2011/12 the rates for Hampshire have remained steady.

Figure 4: Healthy Weight Year 6 (10-11 year olds)

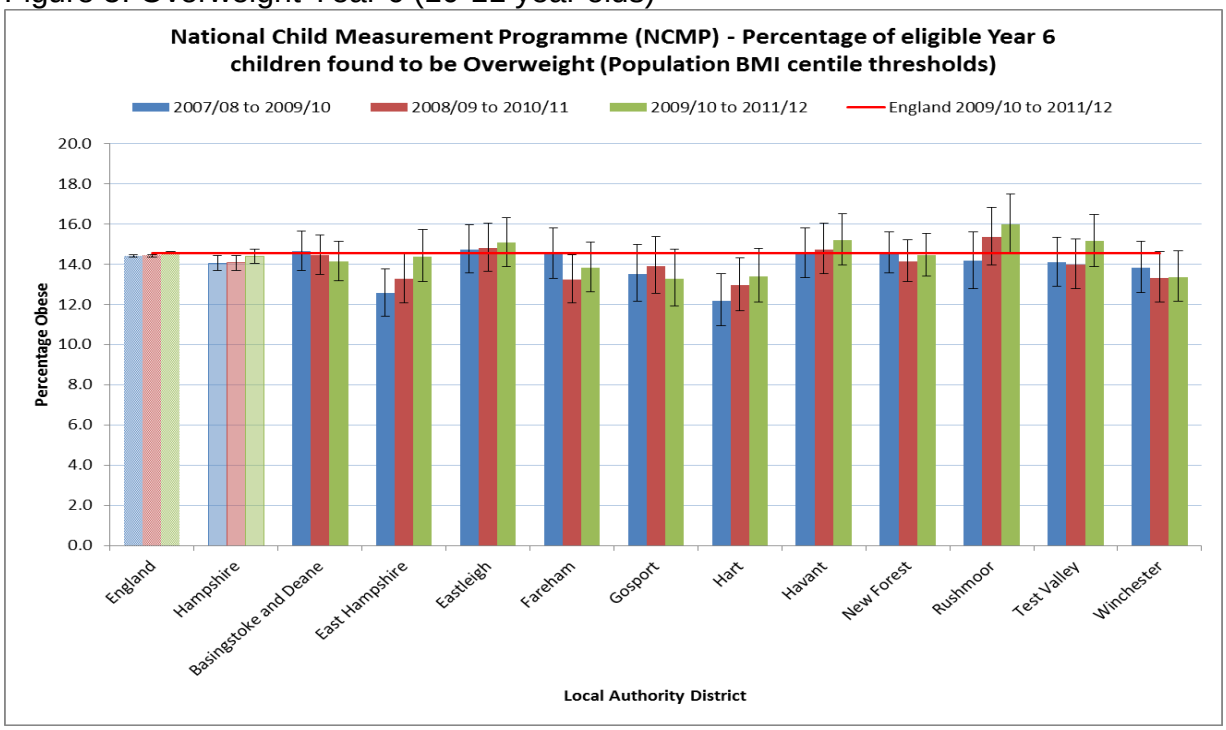


Obesity

Overweight: BMI greater/equal to 85th percentile but less than 95th percentile

In Hampshire the percentage of overweight children is 14.4% compared to the England rate of 14.6%. In Rushmoor, Havant, Eastleigh and Test Valley the levels are above the national rate (Figure 5). The data suggested an upward trend both nationally and for Hampshire.

Figure 5: Overweight Year 6 (10-11 year olds)

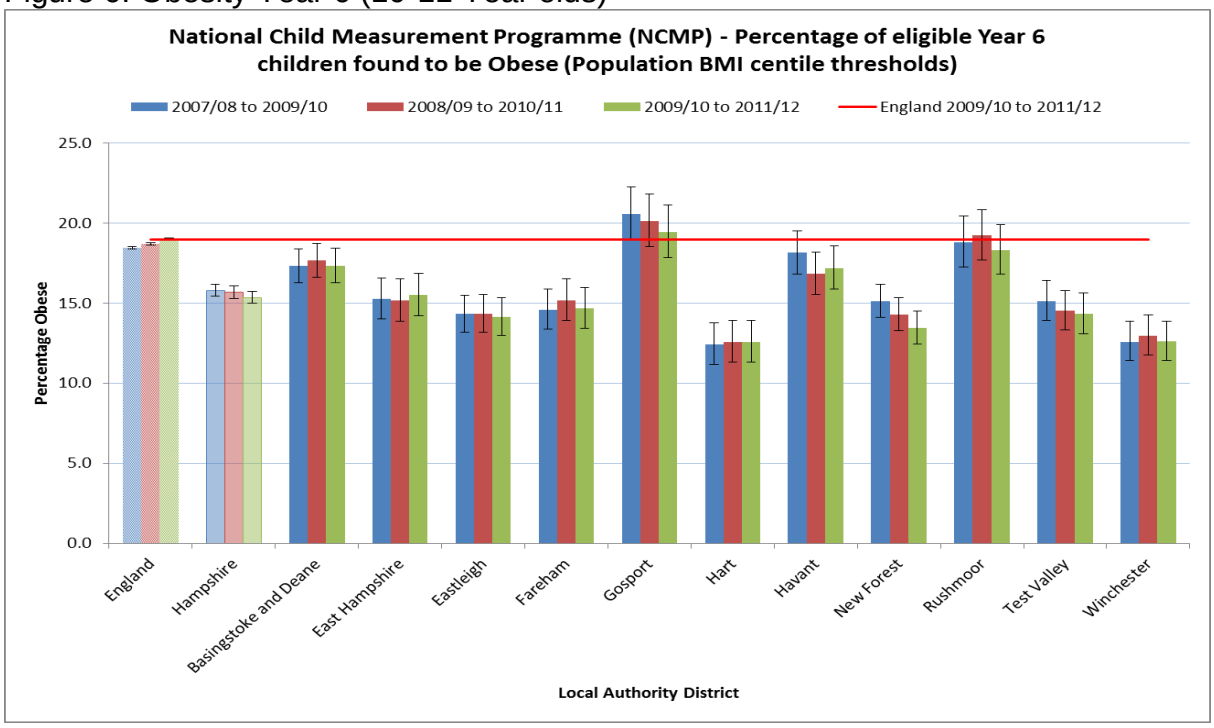


Obesity

Obesity: BMI greater than or equal to the 95th percentile

In Hampshire the percentage of obese children in Year 6 is 15.4% compared to the England rate of 19% (Figure 6). Gosport has levels above the national rate. The trend data suggests that obesity levels are undergoing a decline across Hampshire whereas for England the levels are still rising.

Figure 6: Obesity Year 6 (10-11 Year olds)



Sex differences in children and young people

Across Hampshire males have a higher prevalence of obesity than females. In the three year period up to 2011/12 the obesity prevalence for boys in Year R was 8.6% compared with 7.3% for girls. By Year 6 the difference had increased further with 16.9% of boys compared with 13.7% of girls classified as obese.

2.2.3 People aged 16 years and over

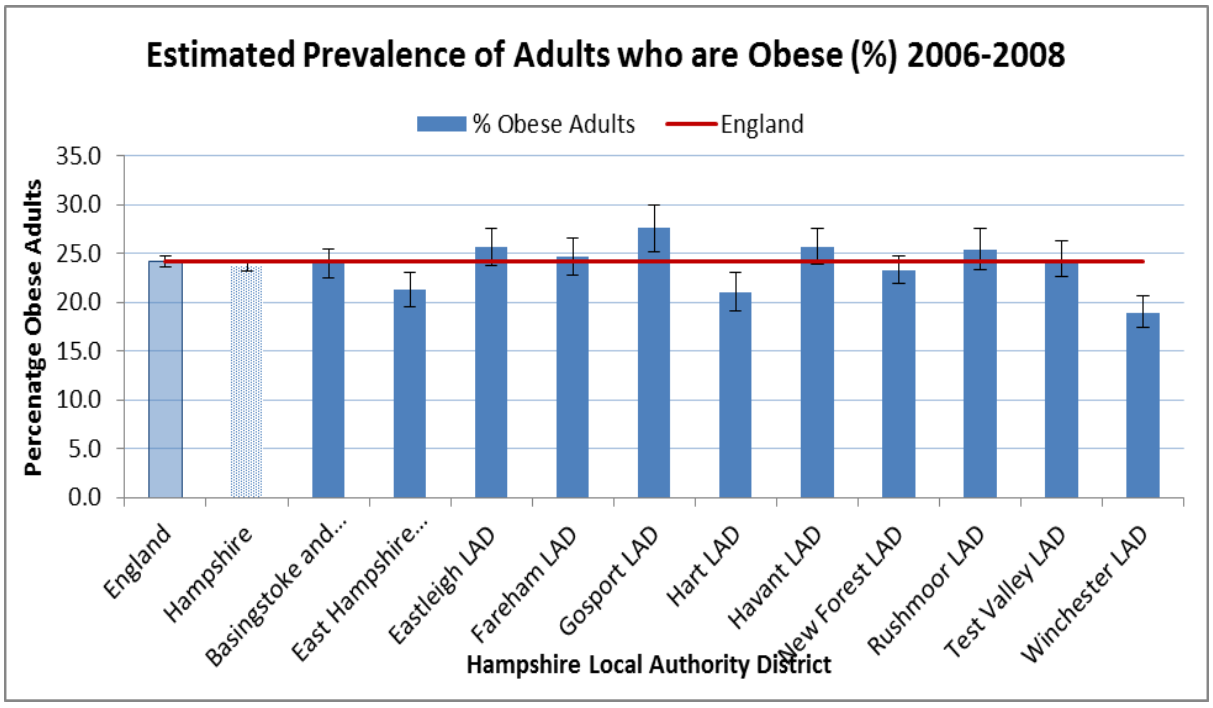
- The prevalence of obesity in adults rose from just over 15% in 1993 to 25% in 2011. The rate of increase was higher between 1993 and 2001 than it has been since 2001.
- In 2011 an estimated 62% of adults (aged 16 and over) were overweight or obese. Around 2% were underweight and 2.5% were morbidly obese.
- Men and women have a similar prevalence of obesity, but men are more likely to be overweight (41% compared to 33%).
- There are more women than men with extremely high BMI values.
- The prevalence of obesity and overweight changes with age. Prevalence is lowest in the 16-24 year old age group and gets generally higher in the older age groups for both men and women. There is a slight decline in prevalence in those aged 75+ most notably seen in men.

- The proportion of pregnant women in England who are obese doubled between 1989 and 2007 from 8% to 16%[22].
- Women living in more deprived areas have the highest prevalence of obesity and those living in less deprived areas have the lowest. This association between social deprivation and obesity is not evident for men.
- Women from Black African groups appear to have the highest prevalence of obesity and men from Chinese and Bangladeshi groups the lowest[23]. However research has shown BMI may overestimate obesity in Africans and underestimate obesity in South Asians.
- Obesity is associated with four of the most prevalent disabling conditions in the UK (arthritis, mental health disorders, learning disabilities and back ailments)[24].

2.3 Prevalence in Hampshire adults

The most reliable data available at a Hampshire level for adult obesity are the modelled Health Survey for England data produced by the Association of Public Health Observatories (APHO) and is shown in Figure 7 and Table 3. It shows Hampshire and most districts having an estimated prevalence similar to that of England. Gosport is estimated to have rates which are significantly worse than those for England whereas Winchester, Hart and East Hampshire are estimated to have rates which are significantly better.

Figure 7: Prevalence of Adult Obesity
Source: Health Surveys for England, National Centre for Social Research



[22] Hazlehurst, N., Rankin, J., Wilkinson, J. R., Summerbell, C. D. (2010) A nationally representative study of maternal obesity in England, UK: trends in incidence and demographic inequalities in 619 323 births, 1989–2007. International Journal of Obesity 34, 420–428.
[23] NHS Information Centre(2006) Health Survey England, 2004. Health of Ethnic Minorities. Full Report.
[24] Ells, LJ, Lang, R, Shield, JPH, Wilkinson, JR, Lidstone, JSM, Coulton, S & Summerbell, CD 2006. Obesity and disability - a short review.

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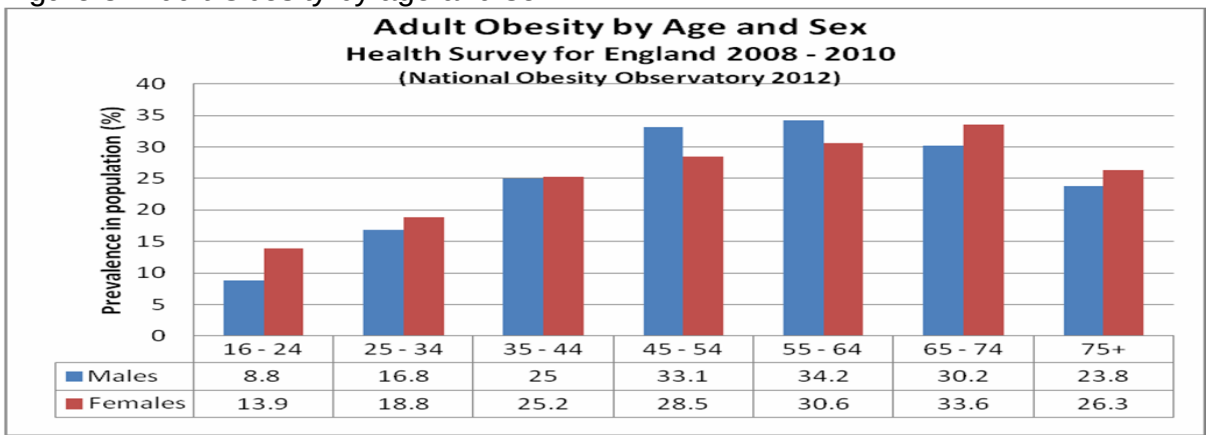
Table 3: Adult Obesity Prevalence
(* Red = significantly worse than national average, Yellow = not significantly different from national average, green = significantly better than national average)

Area Name	% Obese Adults	Lower 95% CI	Upper 95% CI	Significance*
England	**24.20**	**23.60**	**24.70**	
Hampshire	**23.70**	**23.20**	**24.30**	
Basingstoke and Deane LAD	23.90	22.50	25.50	
East Hampshire LAD	21.30	19.60	23.00	
Eastleigh LAD	25.60	23.70	27.50	
Fareham LAD	24.70	22.80	26.60	
Gosport LAD	27.60	25.20	30.00	
Hart LAD	21.00	19.10	23.00	
Havant LAD	25.70	23.90	27.50	
New Forest LAD	23.30	21.90	24.80	
Rushmoor LAD	25.40	23.30	27.50	
Test Valley LAD	24.40	22.60	26.30	
Winchester LAD	18.90	17.40	20.60	

In the absence of specific or detailed data for the adult Hampshire population (different BMI classified groupings, high risk populations or trend data) and until this is available we have to use the national data and extrapolate for the Hampshire population.

The prevalence of obesity generally increases with age and Health survey for England data shows the change in prevalence by age in males and females (Figure 8).

Figure 8: Adult Obesity by age and sex.



3. Projected service use and outcome in 3-5 years and 5-10 years

3.1 Prevention (Universal and targeted)

The evidence is for a strategic approach to tackling obesity and its determinants at a community level using both universal (whole population) and targeted approaches with communities and populations known to be more at risk e.g. communities experiencing social disadvantage.

The Hampshire Healthy Weight Strategy 2012-15 for children and young people aims to increase year on year the number of children with a Healthy Weight and reduce obesity prevalence. Targets are agreed which will be monitored through the Hampshire Children & Young Peoples Plan 2012-15. These are set out in Table 4.

Table 4: Hampshire Healthy Weight and obesity targets for children.

Hampshire Targets for Healthy Weight and Obesity in Children			
Description	**2012/13**	**2013/14**	**2014/15**
Healthy Weights Year R (4-5 years)	80.9%	81.4%	81.9%
Obesity Year R (4-5 years)	6.5%	6.3%	6.0%
Healthy Weights Year 6 (10-11 years	69.7%	70.1%	70.6%
Obesity Year 6 (10-11 years)	15.6%	15.4%	15.1%

3.2 Services for Children and Young People who are overweight or obese

Although there are signs that the prevalence of overweight and obesity overall may be levelling off in children across Hampshire, it is too early to be confident that the upward trend has been curtailed.

The NCMP data is used in Tables 5 and 6 to show the numbers of children in just two year groups (Year R and Year 6) who meet the overweight and obese clinical thresholds for intervention (by District Local Authority area). These data can be used to help estimate the need for local access to weight management services.

Table 5: Numbers of children meeting the Clinical thresholds in Year R

Year R	Count Overweight (Clinical BMI threshold)			Count Obese (Clinical BMI threshold)		
Local Authority District	2009/10	2010/11	2011/12	2009/10	2010/11	2011/12
Hampshire	1,192	998	1,194	531	418	568
Basingstoke and Deane	139	130	156	65	55	99
East Hampshire	94	86	101	37	42	47
Eastleigh	105	104	120	41	38	41
Fareham	111	90	101	23	31	37
Gosport	91	90	93	47	32	40
Hart	80	63	75	41	26	30
Havant	109	79	113	60	37	57
New Forest	147	92	148	80	57	57
Rushmoor	110	82	98	51	36	59
Test Valley	123	96	105	47	37	66
Winchester	83	86	84	39	27	35

Table 6: Numbers of children meeting the Clinical thresholds in Year 6

Year 6	Count Overweight (Clinical BMI threshold)			Count Obese (Clinical BMI threshold)		
Local Authority District	2009/10	2010/11	2011/12	2009/10	2010/11	2011/12
Hampshire	1,743	1,464	1,533	1,052	1,085	886
Basingstoke and Deane	275	237	205	158	175	140
East Hampshire	137	111	138	90	97	85
Eastleigh	176	143	156	88	95	72
Fareham	135	122	135	100	93	55
Gosport	117	95	103	104	105	65
Hart	105	103	113	48	58	59
Havant	148	136	140	118	103	94
New Forest	245	157	185	110	92	94
Rushmoor	118	137	121	87	107	89
Test Valley	142	117	131	91	90	72
Winchester	145	106	106	58	70	61

3.3 Services for Adults who are overweight or obese

The levels of overweight and obesity and the trends are likely to be similar to those seen nationally with gender, age and social deprivation all playing a part. Future projections do not indicate any flattening out of the current rising trend in obesity but

instead predict a significant rise in obesity and morbid obesity[25]. This will need to be reflected in the nature of support for tehse people across communitites.

Weight Management interventions and services should be aligned to other related disease specific programmes such as the "NHS Health Checks" and Type 2 Diabetes.

Although the need for weight management services, both children and adults would seem to be high (based on prevalence data) experience over the last 3 years across Hampshire has been a very low uptake of commissioned services relative to this need. Although an individuals "readiness to change" and commitment to making lifestyle changes is one factor in this, there are likely to be other reasons which need further investigation.

4. Current services in relation to need

4.1 Hampshire Healthy Weights Strategy 2012-15 (Children & Young People)

Since 2009 partners across Hampshire have taken a strategic approach to reducing childhood obesity. The current strategy and action plan can be found at http://www3.hants.gov.uk/childrens-services/families/healthyweights.htm.

The refreshed plans for 2012-15 aim to sustain work already started through schools and provide the National Child Measurement Programme to quality standards. The focus of new work streams is:

- Prevention and early intervention with families of pre-school children.
- Providing evidence based interventions to indentify and work with families who are high risk for obesity[26].[27]
- Developing the "Care Pathway" for children and young people with excess weights and providing Tier 2 Family Weight Management Programmes.
- Developing the workforce to engage and work effectively with families.

4.2 The National Child Measurement Programme (NCMP)

From April 2013 this national programme became a mandatory public health function for Hampshire County Council and School Nursing services are commissioned to provide this in all state schools across Hampshire.

In 2012/13, 88% of 4-5 year olds and 92% of 10-11 year olds were weighed and measured. The parents of all children who engage with the programme are sent the

[25] Brown M, Byatt T, Marsh T, McPherson K (2010) A prediction of Obesity Trends in Adults and their associated diseases: Analysis from the Health Survey for England 1993 – 2007. Report. London: National Heart Forum.

[26] Rudolf, M. (2009) Tackling Obesity through the Health Child programme: A framework for Action. National Obesity Observatory.

[27] BERTIE. Babies and Early Years Risk: trying to implement the evidence. October 2011. National Obesity Observatory.

results of their child's measurements with additional information on healthy lifestyles and sign posting to weight management programmes if appropriate.

4.3 HENRY

The prevention, early intervention workstream includes the phased implementation of "Henry" across Hampshire. ***Henry (Health, Exercise, Nutrition for the Really Young)*** is an evidence based prevention programme to tackle obesity and is focused on families with children aged 0-5 years. Staff from Childrens Centres and Health Visiting Teams across Hampshire are being trained and developed to work in a structured way with families to promote healthy lifestyles and address issues of overweight. From 2014 families should have access to "Lets Get Healthy with HENRY" courses and families at particular risk of overweight and obesity will be offered "Right from the Start with Henry" a structured 1:1 programme.
Further information on the Henry programmes can be found here www.henry.org.uk

4.4 Care Pathway for Children & Young People with Excess Weight (Hampshire)

The aim of weight management programmes for children and young people may be either weight maintenance or weight loss, depending on their age and stage of growth. The Hampshire Care Pathway has three tiers, summarised in Table 7.

Table 7: Hampshire Care Pathway for Children & younfg People with Excess Weight

Tier	Description
3	**Specialist support** This level is aimed at children and young people with: • a BMI greater than or equal to the 99.6th centile or • a BMI greater than or equal to the 98th centile **with** a medical cause of obesity, significant co-morbidity or complex needs.
2	**Targeted and early intervention services** This level is aimed at children and young people with a BMI above the 91st centile. Services at this level should be multi-component, family-based interventions, generally taking place in community settings.
1	**Families " At Risk"** Preventative service for families with children who have been identified as having one or more risk factors. Risk factors have been defined using *Babies and Early Years Risk – Trying to Implement the Evidence* (BERTIE)[28]

The pathway is in the early stages of implementation with new services at Tier 1 planned for 2014 and "MEND" Tier 2 Family Weight Management programmes commencing in 2013. Provision for children at tier 3 (severe obesity with complex medical needs) needs to be mapped and dedicated services commissioned.

[28] BERTIE. Babies and Early Years Risk: trying to implement the evidence. October 2011. National Obesity Observatory.

4.5 MEND (Mind, Exercise, Nutrition…Do it)

MEND is an evidence based weight management programme designed to help families with a child who is overweight or obese to reach and maintain a healthy weight. Further information on MEND can be found here www.mendcentral.org A new programme of MEND 5-7years and MEND 7-13 years has been commissioned for Hampshire. Delivery commenced in July 2013 and the programme will be monitored and adapted in response to demand for services.

4.6 Adult Weight Management Care Pathway (Hampshire)

For those who are already overweight or obese there is strong evidence that a 5-10% weight loss can significantly reduce cardiovascular and metabolic risk. NICE recommend that weight management programmes should be multi-component, including assessment and interventions relating to diet, physical activity, behaviour and psychology. The evidence to show which model of non-surgical weight management interventions is most effective is still emerging.

The Hampshire pathway is summarised in Table 8. It has 4 tiers and services at all tiers are accessible via Primary Care.

Table 8: Hampshire Adult Weight Management Care Pathway

Tier	Criteria / Threshold for access	Interventions
4	• BMI 35+ and with comorbidities • BMI 40+ without comorbidities. • Engagement with Tier 3 type service for 1-2 years	• Bariatric Surgery • Structured, systematic follow-up for 2 years after surgery.
3	• BMI 35+ and with co morbidities. • BMI 40+ without comorbidities • Tried Tier 2 but unable to sustain wt loss	• Community Specialist Weight Management Service. Multi-disaplinary team with specialist expertise including psychological therapy . • Primary Care Development & consultative service.
2	• BMI 30+ (28+ Asian population) and with co-morbidities • Unsuccessful at Tier 1	• Primary Care - brief intervention; and structured weight management programmes; anti-obesity medication. • Slimming on Referral Scheme.
1	• BMI 25-30. • First attempts at weight loss	Universal prevention and health promotion services. Raise the issue and provide advice and support for weight loss (diet and physical activity). Signpost to: • NHS Choices www.nhs.uk/livewell • Change4Life www.nhs.uk/change4life

The Hampshire Tier 2 “Slimming on Referral” service is available via Primary Care in all areas of Hampshire. Patients are offered a choice of weight management service (Slimming World or Weight Watchers in all areas and in Rushmoor, Havant

and Gosport also the "Health Trainer" 1:1 services). Over 1000 patients accessed the service during 2012/13 with 51% of those achieving at least a 5% weight loss. These results are good and it is disappointing that only 50% of the available service capacity was used. Work is underway to address this and the service will be evaluated during 2013/14.

The new Tier 3 Specialist Community Weight Management service has been operational since October 2011. The service is commissioned to take 378 Hampshire patients per annum but only received 302 appropriate referrals in 2012/13. The service is being promoted to primary care and will be evaluated in 2013/14 with results available in April 2014.

From April 2013 the BMI thresholds for access to Tier 4 services was lowered considerably for Hampshire (previously BMI 60 without comorbidities and BMI 45 with serous comorbidities). Patients are required to engage with Tier 3 type services for a period of 1-2 years before being eligible for referral to surgery. The impact of this policy change will need to be monitored over time by the commissioners of services (Specialised Commissioning, Clinical Commissioning Groups and Public Health Commissioners).

5. User and provider views

The local developments to date have largely been informed by local stakeholders such as primary care and from national research and evaluations which include insight reports conducted for policy development and the Change4Life marketing campaigns.

Recent research undertaken to consider the impact of providing parents with the results of their childs NCMP results found a positive impact with the majority of parents finding the feedback "somewhat or very helpful" [29]. Importantly the study found no detectable harmful effects. Parents in this study identified a lack of knowledge about local services, conflicting information from health professionals and perceived cost of services as a barrier to seeking help. Parents perceptions that they were already providing their child with a healthy lifestyle, lack of parental knowledge about what constitutes a "healthy lifestyle" and difficulties in controlling all aspects of their childs lifestyles were cited as barriers to lifestyle behaviour change.

The Tier 2 Family Weight Management service will be evaluated in 2014/15 and include user and stakeholder views. Evaluations of the local Tier 2 and 3 services for adults are taking place during 2013/14 and will include interviews and feedback from users and stakeholders. Results will be available April 2014.

It would be helpful to build a better understanding of the views and perceptions of the different Hampshire populations in relation to obesity prevention and weight

[29] Falconer, CL et al (2013). The benefits and harms of providing parents with weight feedback as part of the National Child Maesurement Programme.

management services e.g. the barriers and incentives for positive lifestyle changes and engagement with services.

Equally there is a need to understand and address the issues for frontline staff, particularly providers of universal services, in engaging with their service users and providing effective brief interventions to prevent excess weight gain or to support those already engaged in weight reduction. Although a lack of knowledge is often cited, when training is provided and accessed this does not always translate into delivery.

6. Evidence of what works

The following NICE guidance (Public Health and Clinical Guidance) provides the current evidence and recommendations relevant to the prevention and treatment of obesity:

Table 9: NICE Obesity Publications

NICE Ref	Title	Date
PH 42	Obesity: working with local communities.	2012
PH 35	Prevention of Diabetes	2011
PH 25	Prevention of cardiovascular disease.	2010
PH 27	Weight management before, during and after pregnancy.	2010
PH 17	Promoting physical activity: active play and sport for pre school and school-age children and young people in family, pre-school and school and community settings.	2009
PH 13	Promoting Physical Activity in the workplace	2008
PH 11	Maternal and child nutrition.	2008
PH 08	Physical activity and the environment.	2008
PH 6	Behaviour change.	2007
CG 43	Obesity the prevention, identification, assessment and management of overweight and obesity in adults.	2006
PH02	Four commonly used methods to increase physical activity: brief interventions in primary care, exercise referral schemes, pedometers, and community based exercise programmes for walking and cycling	2006

The most recent guidance NICE PH 42 (2012) [30] supports effective, sustainable community wide action to prevent overweight and obesity in adults and children. The guidance has a strong focus on local partnership working and should support the development of a strategic approach for Hampshire.It covers:

- developing a sustainable, community-wide approach to obesity
- strategic leadership
- supporting leadership at all levels
- coordinating local action

[30] National Institute for Health and Clinical Excellence (2012). Obesity: working with local communities (NICE Public Health Guidance 42)

- communication
- involving the community
- integrated commissioning
- involving businesses and social enterprises operating in the local area
- local authorities and the NHS as exemplars of good practice
- planning systems for monitoring and evaluation
- implementing monitoring and evaluation functions
- cost effectiveness
- organisational development and training
- scrutiny and accountability.

Further NICE guidance is due in the next year on managing overweight and obesity in adults and children:

- Managing overweight and obesity in children and young people (lifestyle weight management) expected October 2013
- Managing overweight and obesity in adults (lifestyle weight management) expected May 2014

Department of Health and NHS Commissioning Board Policies and Guidance relevant to obesity are:

- Healthy Lives, Healthy People: A call to action on obesity in England. Department of Health 2011.
- Department of Health (2013). Developing a specification for lifestyle weight management services. Best practice guidance for Tier 2 services (Adults and children).
- NHS Commisioning Board (2013) Clinical Commissioning Policy: Complex and Specialised Obesity Surgery Ref: NHSCB/A05/P/a.

Maternal obesity has been related to higher levels of infant mortality amongst lower socioeconomic groups. A reduction in the prevalence of obesity amongst this group has been modelled as an evidence-based intervention to reduce infant mortality.[31]

The Healthy Child Programme is a universal preventive programme that begins in pregnancy and continues through childhood.[32] It is an evidence based programme of development reviews, health promotion and parenting support underpinned by the principle of progressive universalism supported by the Kennedy Review *Getting it Right for Children and Young People* [33]. Further guidance and practical direction to reduce the risks of obesity for babies, toddlers and preschool children is provided in *Tackling Obesity through the Healthy Child Programme: a framework for action*

[31] Department of Health (2007). Implementation Plan for Reducing Health Inequalities in Infant Mortality: A Good Practice Guide.
[32] The Healthy Child Programme (Pregnancy and the fist five years of life) 2009; The Healthy Child Programme (From 5-19 years) 2009. Department of Health
[33] Kennedy, I (2010) Getting it Right for Children and Young People. Department of Health.

(2009)[i34]. Nineteen themes for action are outlined that have the potential to encourage the development of lifelong healthy lifestyles and reduce the risk of obesity. These are grouped under the headings of parenting; eating and feeding behaviour; nutrition; play, inactivity and sleep; and enhancing practitioner effectiveness.

The 'Babies and Early Years Risk' Project Team (BERTIE)[35] have identified risk factors to identify infants at risk of later obesity based on the appraisal of published evidence and debate with a panel of experts.

7. Recommendations

1. Develop and implement a strategic approach to reducing obesity across the Hampshire population (adults and children), building on and strengthening existing work and working with a range of partners to address the wider determinants. This should:
    - Implement the NICE PH 42 guidance[36] which supports effective, sustainable community wide action to prevent overweight and obesity in adults and children.
    - Take a life-course approach, seeking to identify key times when individuals and populations are either susceptible to weight gain and/or receptive to lifestyle and behavioural change. As a priority this should include pregnancy and early years and the working age population.
2. Work with employers to develop workplace environments that facilitate and promote healthy lifestyles and provide positive support to employees who would benefit from weight management programmes.
3. Ensure that universal and frontline services are engaged to provide effective brief interventions to prevent excess weight gain and support people who are engaged in weight reduction.
4. Continue to develop the Care Pathways for overweight and obese adults and children, making the links and aligning interventions and services with other disease specific programmes and relevant clinical pathways e.g. "NHS Health Checks", Diabetes, Mental Health and Disabilities.
5. Monitor and evaluate existing weight management services for adults and children and share the results.
6. Investigate and increase the uptake of commissioned weight management services across Hampshire.

[34] Rudolf, M. (2009). Tackling Obesity through the Healthy Child Programme: A Framework for Action. National Obesity Observatory www.noo.org.uk

[35] BERTIE. Babies and Early Years Risk: trying to implement the evidence. October 2011. National Obesity Observatory.

[36] National Institute for Health and Clinical Excellence (2012). Obesity: working with local communities (NICE Public Health Guidance 42)

Obesity