

5. HEALTHY LIFESTYLES

5.2 Healthy Weight – Children and Young People

This section defines what is meant by healthy weight, outlines the health impact of healthy and unhealthy weight in children and young people and presents information on what is known about the weight of children and young people in Buckinghamshire.

Body mass index (BMI) is used as an indicator of body fat. BMI is calculated by the following formula: $BMI = \text{Height}^2 \text{ (m)} / \text{Weight (kg)}$. A child's BMI changes as they mature, and growth patterns differ between boys and girls, so different BMI thresholds are used for children at different ages which also take into account their gender. The thresholds are derived by comparing with a reference population, which was calculated by weighing and measuring a large number of children to identify how BMI varies by age and sex across the population. Individual children can then be compared with the reference population¹.

BMI thresholds in children are often defined by centiles on the reference population, that is, by what proportion of this population of children were above or below a particular BMI level. In the UK the thresholds used are usually derived from a 1990 UK reference population, and different cut-off points are used for individual children or populations of children. These are:

- Individual:
 - 2nd centile for underweight
 - 91st for overweight
 - 98th for obese
- Population:
 - 2nd centile for underweight
 - 85th for overweight
 - 95th for obese.

5.2.1 The impact of weight on health in children and young people

Childhood obesity is associated with a wide range of negative physical, mental and social outcomes, in both the short and long-term, including²:

- Reduction in a child's self-esteem and quality of life.
- Increase in the risk of being bullied or stigmatised.
- Increase in school absence impacting educational attainment.
- Increased risk of depression in adolescence.
- A range of physical health problems including high cholesterol, high blood pressure, increased asthma prevalence, pre-diabetes and bone and joint problems.

- A risk of these health issues being carried into adulthood leading to type 2 diabetes, heart disease, stroke and some cancers.
- Obesity persisting into adulthood.

5.2.2 Information on weight among children and young people in Buckinghamshire

The data on the weight of Buckinghamshire children is derived from the National Child Measurement Programme (NCMP), which is carried out annually with school children in Reception Year (4 to 5 year olds) and Year 6 (10 to 11 year olds). The data for 2014/15 are shown in table 1. These show that 80.2% of Reception Year and 71.2% of Year 6 children were healthy weight, and a total of 18.6% of Reception Year and 26.8% of Year 6 children were overweight or obese³.

Table 1 Proportions of Reception Year and Year 6 Buckinghamshire children who were underweight, healthy weight, overweight or obese, 2014/15 school year

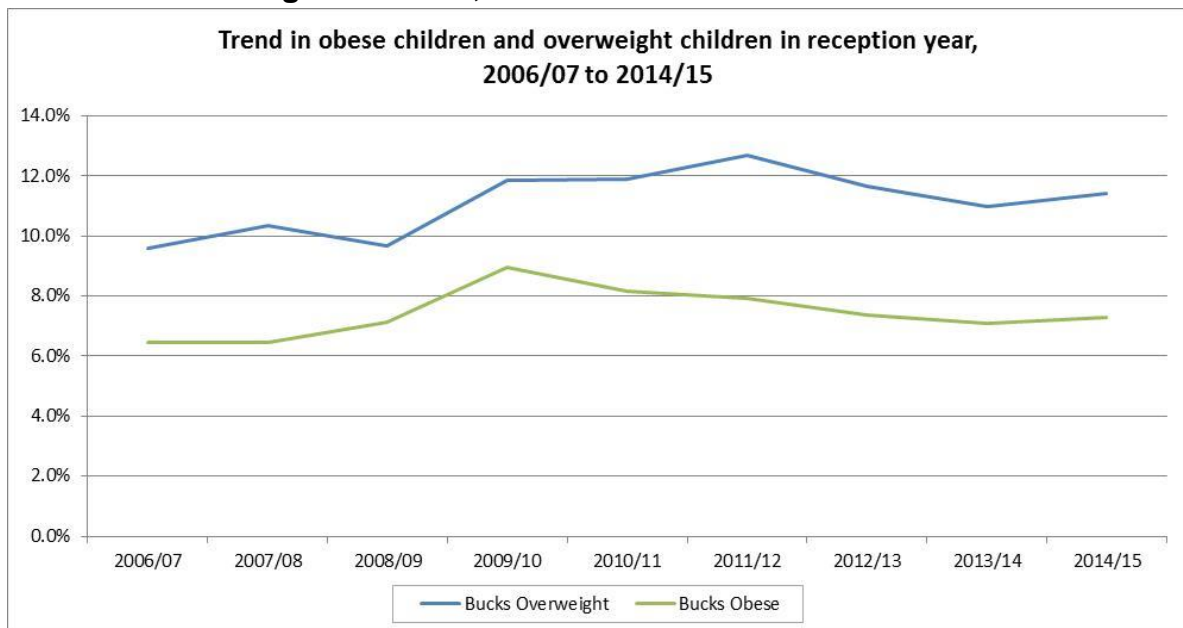
	Under-weight (%)	Healthy weight (%)	Overweight (%)	Obese (%)	Total excess weight (%)
Reception Year (age 4-5)	1.2	80.2	11.3	7.3	18.6
Year 6 (age 10-11)	2.1	71.2	12.6	14.2	26.7

Source: NCMP 2014/15 national data

Figures 1 and 2 show the trends in the proportions of children who were overweight and obese since measurement started in 2006/07 up to NCMP year 2014/15⁴. The proportion in Reception Year who were overweight rose from 9.6% to 11.3%, and in Year 6 fell very slightly from 13.2% to 12.6%. The proportion in Reception Year who were obese rose from 6.5% to 7.3%, and in Year 6 rose from 14% in 2006/07 to 16% in 2011/12, but has declined again to 14.2%.

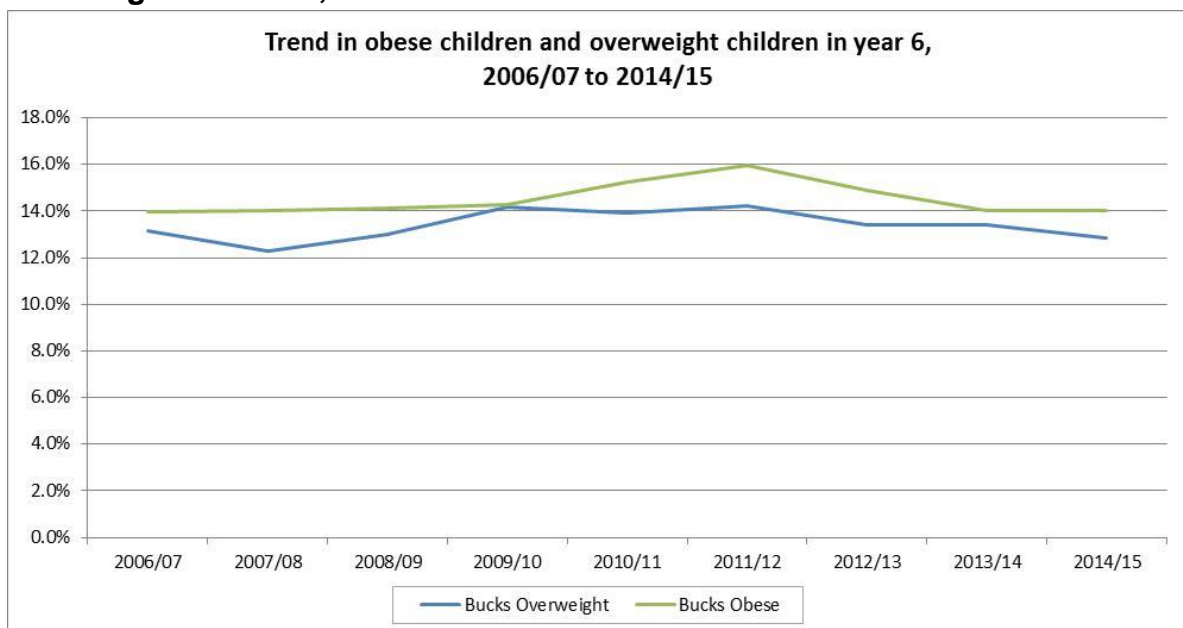
The trends for all four measures have declined or plateaued in recent years after previous increases. This decline is encouraging, but it is too soon to say whether there is a sustained downward trend, and there are still too many children entering and leaving primary school with weight issues. There are more overweight pupils in Reception than those who are obese and concerted effort is required to stop those children moving into the obese category.

Figure 1 Trend in the proportion of Buckinghamshire Reception Year children who were overweight or obese, 2006/7 to 2014/15



Source: Buckinghamshire NCMP data local analysis 2014-2015¹

Figure 2 Trend in proportion of Buckinghamshire Year 6 children who were overweight or obese, 2006/7 to 2014/15



Source: Buckinghamshire NCMP data local analysis 2014-2015¹

The NCMP local data set can also be used to track changes in cohorts of children as they grow older. In 2007/8 6.4% of Reception children in Buckinghamshire were

¹ Note: charts use local data analysis. This uses very slightly different population figures to national data, affecting the overall level of obesity and overweight minimally (+/- 0.2%).

obese, but by the time this group of children reached Year 6 in 2013/14 more than double that proportion was obese (14%). In the same cohort, 10.3% were overweight in 2007/8 and this had risen to 13.4% in 2013/14. However, fewer of this group of children were underweight in 2013/14 (1.4%) than in 2007 (2.7%). This suggests a pattern of weight gain with increase in age, which increases the likelihood that these children will progress to become overweight or obese adults with the health and mental wellbeing challenges that may bring.

The prevalence of underweight is relatively low in Buckinghamshire in comparison with overweight and obesity, with a total of 1.6% (180 children) of the measured population in 2014/15 categorised as underweight. However this is an increase over the previous year and for Year 6 children is significantly above the South East and England average. Data from 2014/15 shows that Reception underweight remained unchanged but Year 6 underweight increased from 1.4% to 2.1%. In Reception more male children were underweight than females at a statistically significant level, whilst by Year 6 the proportion between males and females is almost equal. Underweight is more frequent in children of Asian origin in both Reception and Year 6.

5.2.3 Weight in different population groups of children and young people

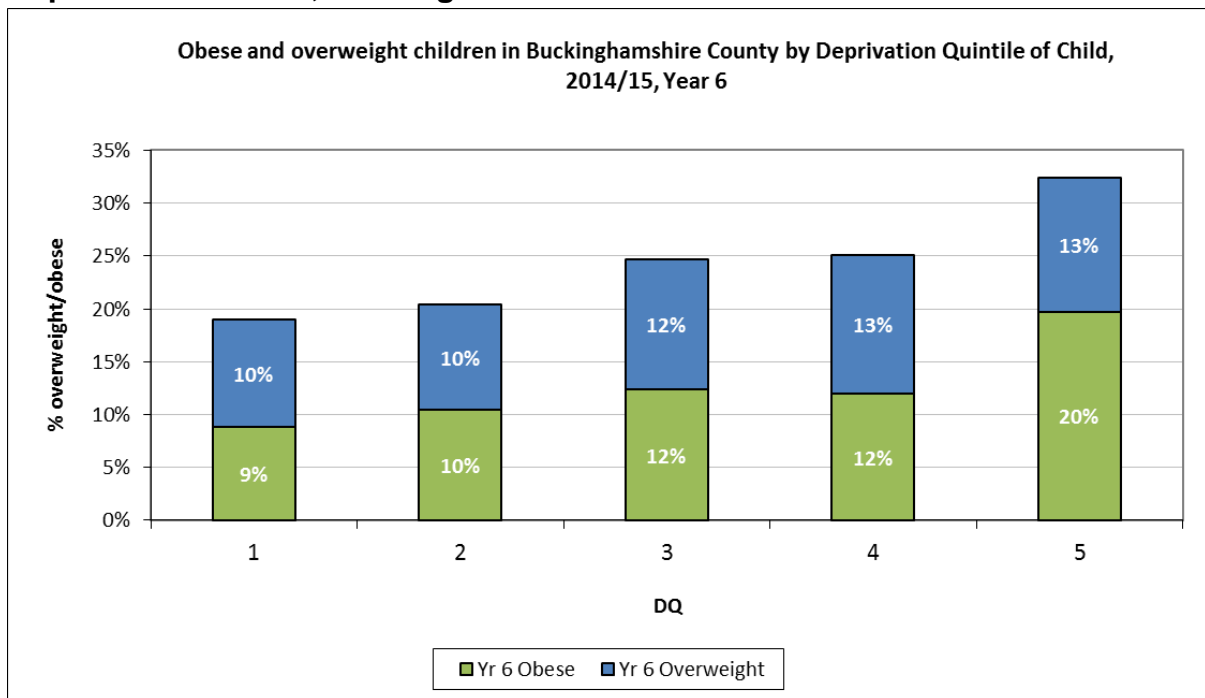
5.2.3.1 Deprivation

The prevalence of obesity is generally higher among more deprived groups of the population and highest in the most deprived areas. Figure 3 shows the prevalence of overweight and obesity among Year 6 children in Buckinghamshire by deprivation quintile (DQ1 being the least deprived and DQ5 the most deprived fifth of the population) for 2014/15⁴. The prevalence of obesity in DQ5 was 20%, over twice that in DQ1 and statistically significantly higher. However, there was no significant difference in the prevalence of overweight, with 10% in DQ1 and 13% in DQ 5.

Figures 4 and 5 show the trend in overweight and obese children in Year 6 (10-11 year olds) respectively, by Buckinghamshire's most and least deprived population quintiles from 2007/08 to 2014/15. They reinforce the above pattern, i.e., that there is no difference in the prevalence of overweight between children in the most and least deprived population quintiles in Buckinghamshire (Figure 4), but that the prevalence of obesity is greater in the most deprived population quintile than the least deprived population quintile (Figure 5).

The Reception Year data show a similar pattern but with less marked differences, with the range in the prevalence of obesity from 5% in DQ1 to 8% in DQ5 (Figures 6 and 7).

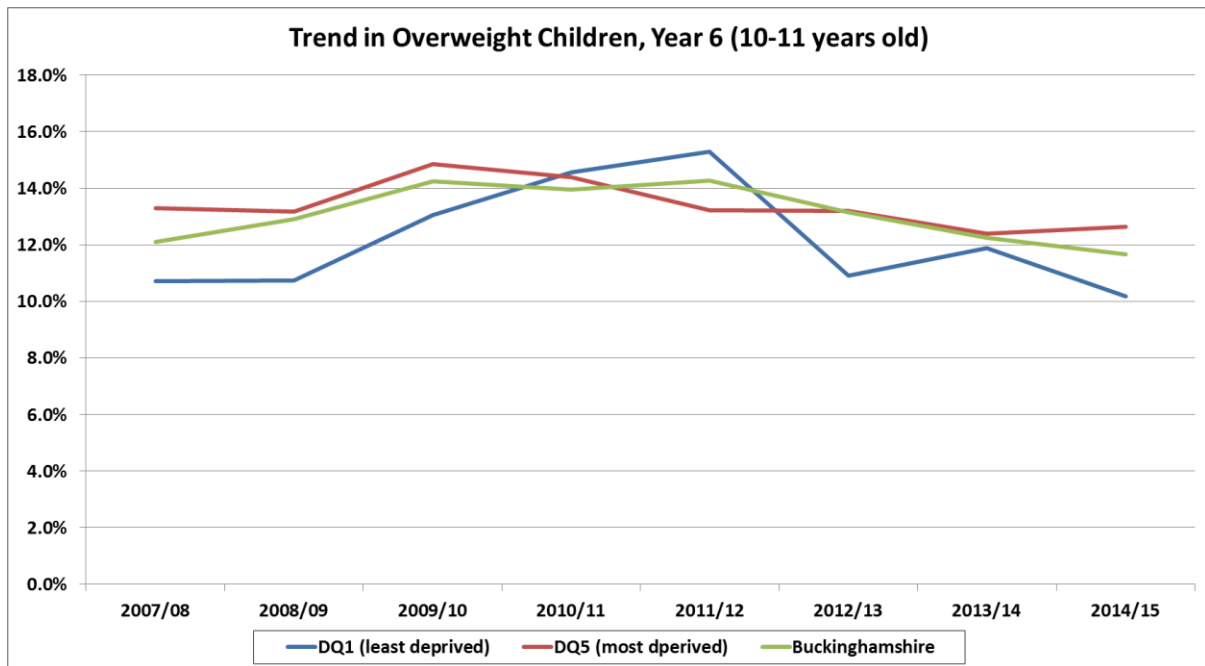
Figure 3 Proportion of Year 6 children who were overweight or obese by Deprivation Quintile, Buckinghamshire 2014/15



NOTE: DQ1: least deprived DQ5: most deprived

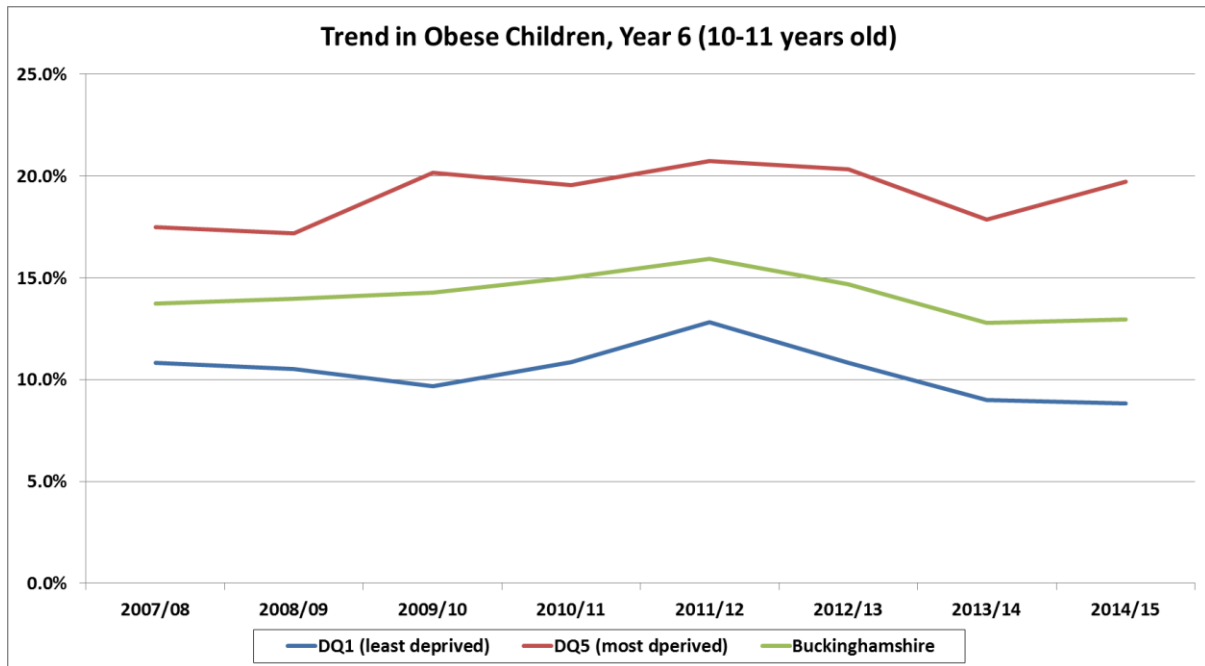
Source: Buckinghamshire NCMP data local analysis 2014-2015

Figure 4: Trend in overweight children, Year 6 (10-11 year olds), by Buckinghamshire's most and least deprived population quintiles, 2007/08 to 2014/15



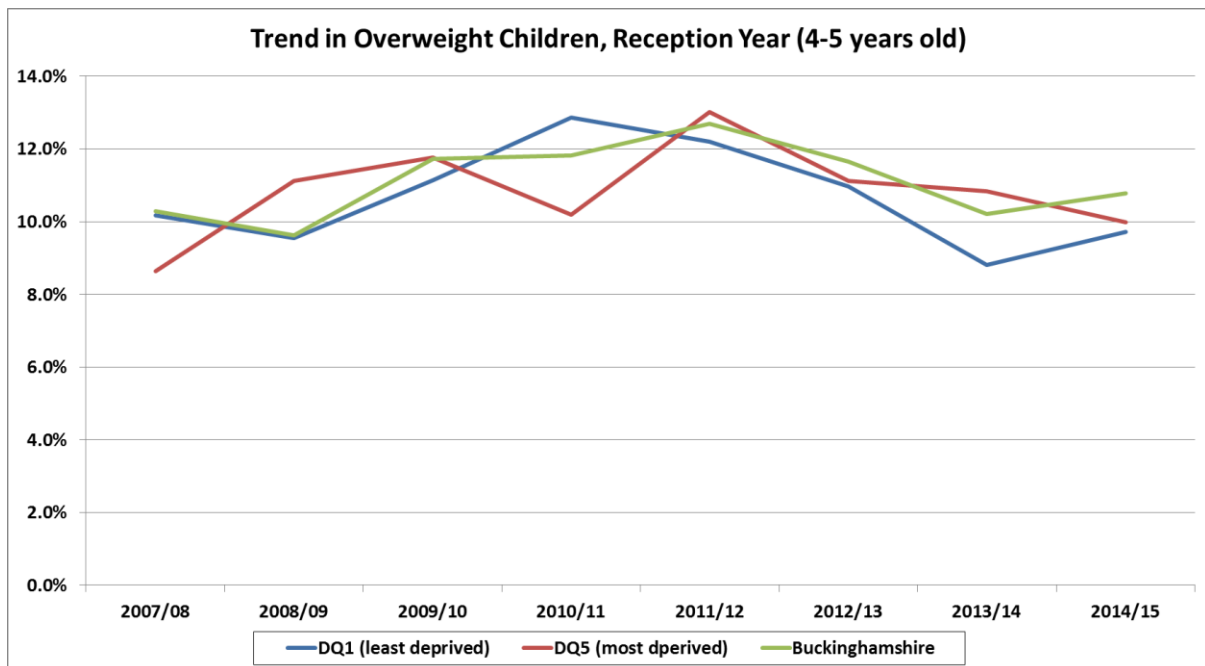
Source: Buckinghamshire County NCMP Extract

Figure 5: Trend in obese children, Year 6 (10-11 year olds), by Buckinghamshire's most and least deprived population quintiles, 2007/08 to 2014/15



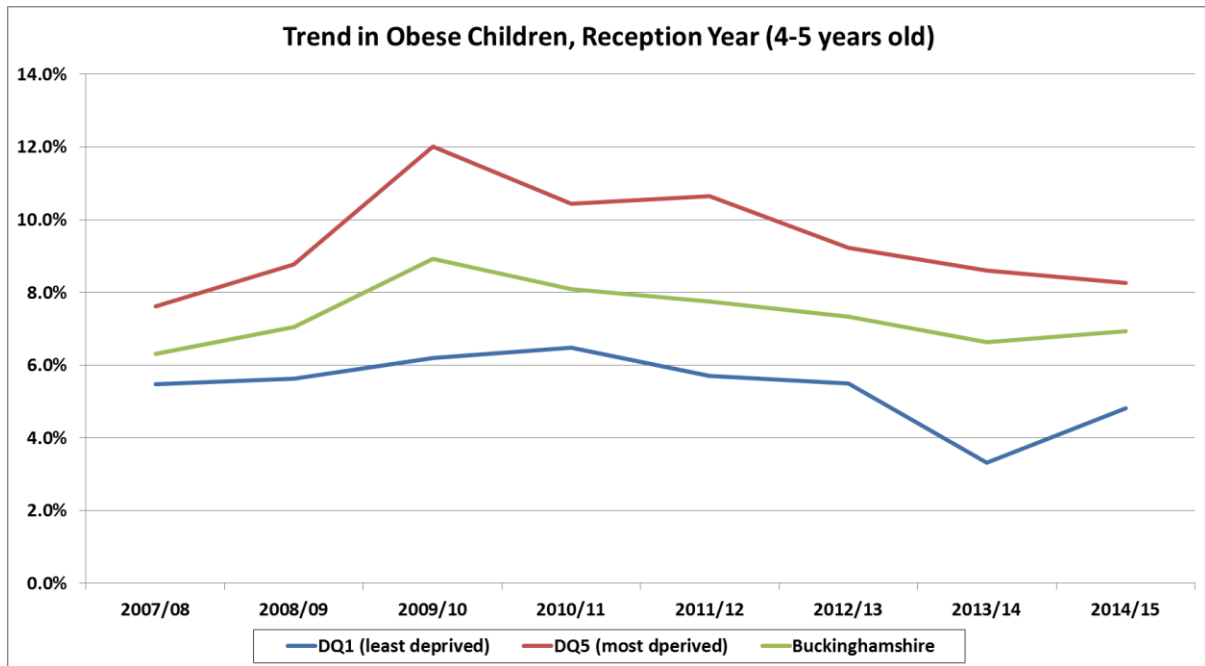
Source: Buckinghamshire County NCMP Extract

Figure 6: Trend in overweight children, Reception year (4-5 year olds), by Buckinghamshire's most and least deprived population quintiles, 2007/08 to 2014/15



Source: Buckinghamshire County NCMP Extract

Figure 7: Trend in obese children, Reception year (4-5 year olds), by Buckinghamshire’s most and least deprived population quintiles, 2007/08 to 2014/15

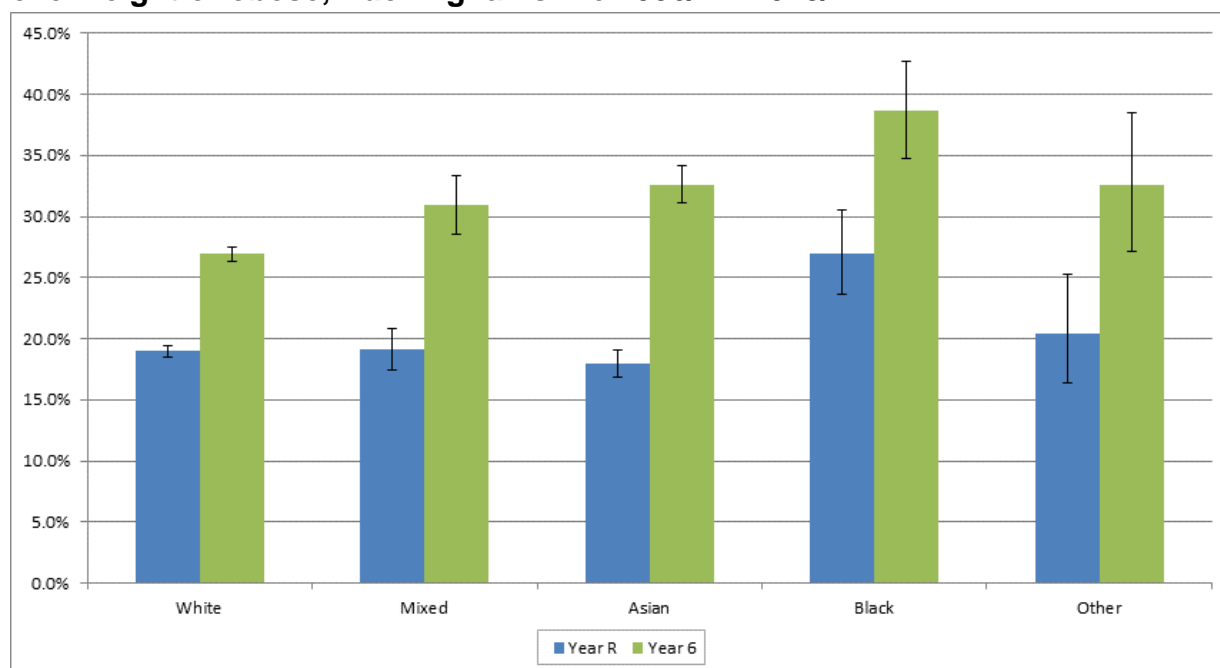


Source: Buckinghamshire County NCMP Extract

5.2.3.2 Ethnicity

Figure 8 shows data on overweight and obesity in Year 6 children in Buckinghamshire using combined data from 2006/07 to 2013/14, split by broad ethnic group⁴. This shows that the prevalence of excess weight among Black children in both Reception Year and Year 6 was statistically significantly higher than among their peers from all other main ethnic groups. The prevalence of excess weight among Year 6 children from Asian and Mixed ethnic groups was also significantly higher than that among children from White ethnic groups. These differences are similar to those found between different ethnic groups nationally. In adults, obesity thresholds have been re-evaluated for some ethnic groups, In 2009, an expert group examining ethnicity and childhood obesity definitions concluded that current thresholds remain the most appropriate for use in the UK⁵.

Figure 8 Proportion of children in different broad ethnic groups who were overweight or obese, Buckinghamshire 2006/7 – 2013/14



Source: Buckinghamshire NCMP data local analysis 2013-2014⁴

5.2.4 Geographical variations in the weight of children and young people

Within Buckinghamshire, there were no statistically significant differences between District Council areas in the proportion of children who were obese for all the NCMP measurement years between 2007/08 and 2014/15; table 2 shows the data for 2014/15. Wycombe District had a greater proportion of children who were underweight than other Districts in 2014/15, with 2.6% of the Reception population underweight, compared to the Buckinghamshire average of 1.6%, and 2.9% of Year 6 compared to a Buckinghamshire average of 2.2%.

Table 2 Proportions of children who were obese, Reception Year and Year 6, Buckinghamshire Districts, 2014/15

	Year R (%)	Year 6 (%)
Aylesbury Vale District	7.7	15.6
Chiltern District	7.3	11.4
South Bucks District	7.6	13.0
Wycombe District	6.7	14.2
Buckinghamshire Total	7.3	14.0

Source: Buckinghamshire NCMP data local analysis 2014-15

Comparing data for the two Clinical Commissioning Groups (CCGs) in Buckinghamshire, the proportion of Reception Year children who were overweight or obese in 2013/14 was statistically significantly higher in Aylesbury Vale than in Chiltern CCG; however in Year 6 the proportions were similar for both (table 3)⁶. Both CCGs include areas of deprivation.

Table 3 Proportion of children with excess weight (overweight or obese) by Clinical Commissioning Group in Buckinghamshire, 2013/14

	Year R (%)	Year 6 (%)
Aylesbury Vale CCG	20.3	27.7
Chiltern CCG	16.5	27.0

Source: National Obesity Observatory, NCMP data by Clinical Commissioning Group (2014/15 data not yet available)

Table 4 shows the proportion of children who were overweight or obese in Buckinghamshire compared with the rest of England and the South East. For Reception Year children, levels of overweight and levels of obesity were statistically significantly lower in Buckinghamshire than in England and the same as the South East. For Year 6 children, levels of overweight were significantly lower than England and similar to the South East, and levels of obesity were significantly below both England and the South East³.

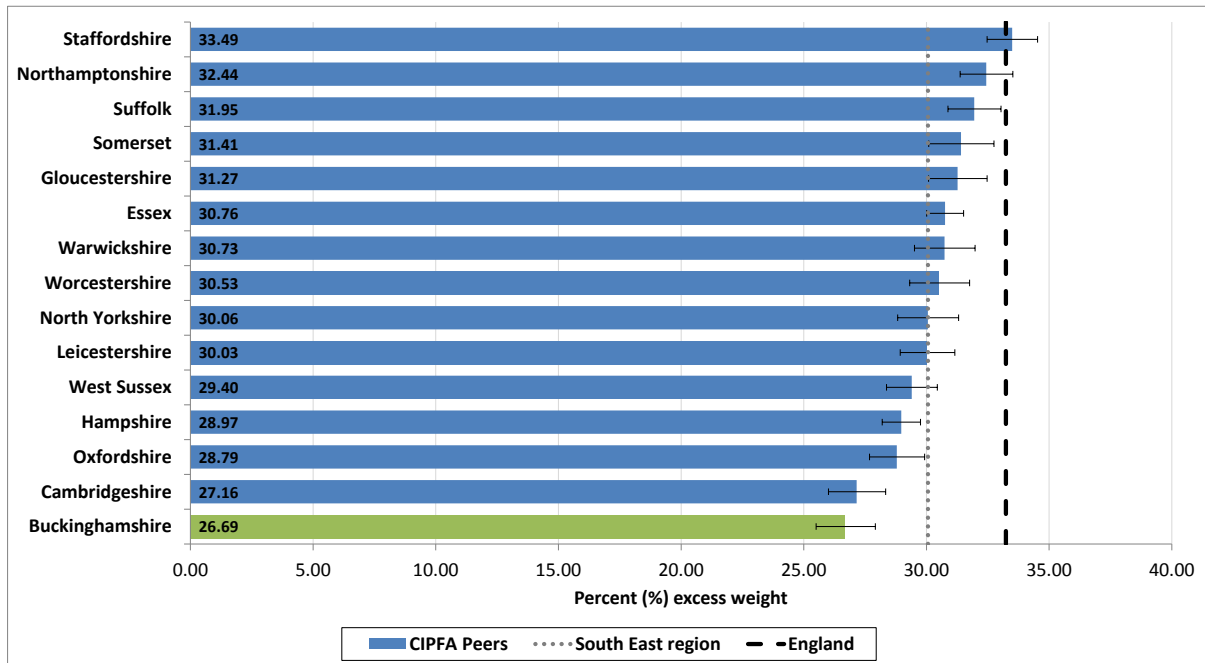
Table 4 Proportion of children who were overweight or obese, Buckinghamshire, South East and England, 2013/14

	Year R (%)		Year 6 (%)	
	Overweight	Obese	Overweight	Obese
Buckinghamshire	11.3	7.3	12.6	14.1
South East	12.4	7.9	13.6	16.4
England	12.8	9.1	14.2	19.1

Source: NCMP data

Buckinghamshire has the lowest proportion of 10-11 year olds who were obese compared to 14 CIPFA peer Local Authorities (figure 9); the picture is the same for 4-5 year olds.

Figure 9 Proportion of Year 6 (10-11 year olds) with excess weight (overweight or obese), Buckinghamshire and CIPFA comparator local authorities, 2014/15



Source: PHOF data 2014/15

5.2.5. Horizon scanning

There are likely to be around 12,760 children in Buckinghamshire aged between Reception and Year 11 (5 to 16 year olds) who are overweight or obese, so there is potentially a large demand for any services which may help. However, there is still stigma and misinformation about overweight and obesity and the impact of weight management services has been relatively small. Attention is being turned to the need to take a whole system approach with a demonstration project being launched by Public Health England. Components of such an approach include fiscal and regulatory measures to support individual behaviour change, alongside active travel, and better access to and availability of healthier foods, including in schools, workplaces and institutions.

5.2.6 Conclusions

Data from the NCMP suggest that around 80% of Reception Year and 71% of Year 6 children in Buckinghamshire are a healthy weight. Although Buckinghamshire compares favourably with England and with much of the South East in levels of childhood obesity, this still means that 19% of Reception children and 27% of Year 6 school children in Buckinghamshire are overweight or obese. Levels of overweight and obesity increase as a group of children gets older, and there are also significant inequalities, with higher levels of excess weight among children in more deprived groups of the population and among those from some ethnic minority groups.

While there has been a recent slight decrease in the proportion of Buckinghamshire school children measured in the NCMP who were found to be obese, it is still too early to say if this is a sustained downward trend. Current levels of obesity are still comparable to those in 2006/7 when the NCMP started, and levels of overweight are higher. Addressing this means ensuring services are easy to access and appropriate for different population groups, as well as taking broader whole system approaches including regulatory and environmental measures.

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References

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² PHE Obesity Knowledge and Intelligence website http://www.noo.org.uk/NOO_about_obesity/obesity_and_health/health_risk_child (accessed 6/11/2015)

³ National Child Measurement Programme - England, 2014-15 HSCIC
<http://www.hscic.gov.uk/article/2021/Website-Search?productid=19405&q=NCMP+2014%2f15&sort=Relevance&size=10&page=1&area=both#top>
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⁴ Higgins N (2016). NCMP 2014/15 - Local analysis. Buckinghamshire County Council Public Health Team. Unpublished

⁵ National Obesity Observatory (2011). Obesity and ethnicity.
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⁶ National Obesity Observatory. Child Obesity and excess weight prevalence by Clinical Commissioning Group <http://www.noo.org.uk/visualisation> (accessed 16/01/2016)