



Child obesity and socioeconomic status data factsheet

Key points

- Obesity is strongly related to socioeconomic status in children and this result remains, almost entirely consistent, across a range of different socioeconomic status indicators
- There are significant inequalities in obesity prevalence for both girls and boys, and across different age groups
- The pattern of socioeconomic inequalities is consistent across a variety of different measures of deprivation using two different data sources: the National Child Measurement Programme (NCMP) and the Health Survey for England (HSE)
- There is an almost linear relationship between obesity prevalence in children and the Index of Multiple Deprivation 2010 (IMD) decile for the area where they live. Child obesity prevalence in the most deprived tenth of local areas is almost double that in the least deprived tenth (Figure 1)
- The Income Deprivation Affecting Children Index (IDACI) shows a similar increase in child obesity as income deprivation increases. Child obesity prevalence in areas with the highest level of income deprivation is almost double that of areas with the lowest level (Figure 3)
- Household income data drawn from the Health Survey for England (HSE) gives a similar picture: child obesity prevalence rises as household income falls, and is significantly higher in the lowest income group than in the highest (Figure 4)
- Child obesity prevalence also varies by occupation-based social class. Children in households where the main income-earner works in a professional occupation have lower rates of obesity than those where the main income-earner is in a manual occupation (Figure 5)

Introduction

The term 'socioeconomic status' is generally used to identify a person's status relative to others based on characteristics such as income, qualifications, type of occupation, and where they live. As a result, a number of measures have been developed to classify people into groups based on different characteristics. These measures are based on individual, household, or regional characteristics and are used to assess inequalities between social groups. This factsheet summarises the data on the relationship between obesity prevalence in children and socioeconomic status in the English population.

Current figures for obesity in children

The Health Survey for England (HSE) showed a steady increase in the prevalence of obesity in children aged 2–15 years between 1995 and 2004. The rate of increase has slowed since 2005, suggesting a flattening out of the previous upward trend.

Data from the National Child Measurement Programme (NCMP) in 2012/13 show 9.3% of children in Reception (4–5 years) and 18.9% of children in Year 6 (10–11 years) were classified as obese. Table 1 shows NCMP data for the last three years.

Table 1: Prevalence of overweight and obesity in children by school year

	2010/11 (%)	2011/12 (%)	2012/13 (%)
Reception (aged 4–5 years)			
Overweight	13.2	13.1	13.0
Obese	9.4	9.5	9.3
Overweight including obese	22.6	22.6	22.2
Year 6 (aged 10–11 years)			
Overweight	14.4	14.7	14.4
Obese	19.0	19.2	18.9
Overweight including obese	33.4	33.9	33.3

Source: National Child Measurement Programme

Table 2 shows that the prevalence of obesity in 2–15 year olds from the latest three years of HSE data is around 15% and the prevalence of overweight and obesity is around 29%.

Table 2: Prevalence of overweight and obesity among children aged 2–15 years

	2010 (%)	2011 (%)	2012 (%)
Overweight	14.3	13.7	14.2
Obese	16.0	16.3	13.7
Overweight including obese	30.3	30.0	27.9

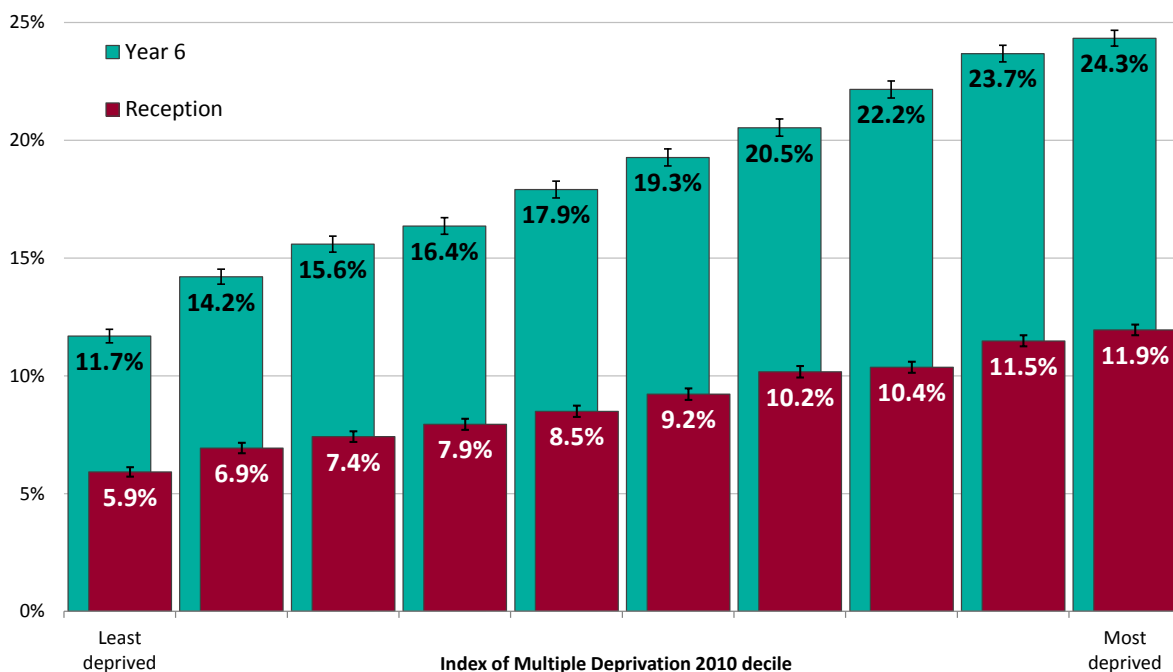
Source: Health Survey for England

Child obesity and deprivation

The Index of Multiple Deprivation 2010 (IMD) is a composite measure of deprivation based on data from seven domains (income; employment; health and disability; education, skills and training; housing and services; crime; and living environment). It is based on the characteristics of a small area (usually a geographical unit called a Lower Super Output Area (LSOA) with an average population of around 1500). Figure 1 groups all children surveyed by the NCMP into ten equal-sized bands (deciles) based on the IMD score of the LSOA where they live. It shows the prevalence of obesity for Reception and Year 6 children within each decile, ranging from the least deprived to the most deprived tenth of the population.

Figure 1 shows that the prevalence of obesity in children is closely related to deprivation. There is an almost linear relationship for both age groups: among children in Reception, obesity prevalence ranges from 5.9% in the least deprived tenth of the population to 11.9% in the most deprived tenth, and for those in Year 6 it ranges from 11.7% to 24.3%.

Figure 1: Prevalence of obesity in children by school year and IMD 2010 decile, 2012/13



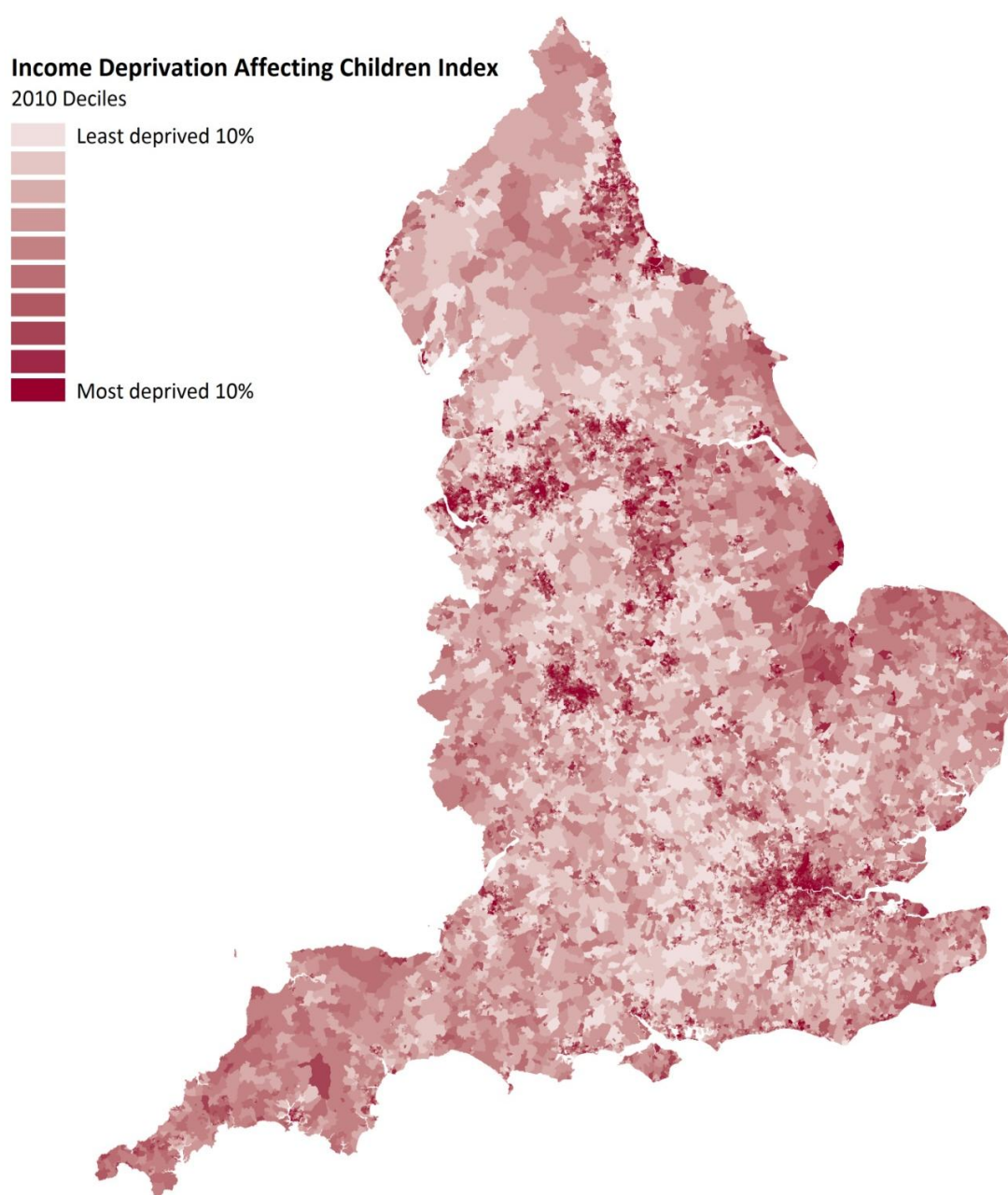
Source: National Child Measurement Programme

Obesity and income deprivation

The Income Deprivation Affecting Children Index (IDACI) measures the proportion of children under 16 years of age who live in income deprived households in a given area, such as an LSOA. Areas have been ranked, and then split into ten equal-sized groups (deciles), from least deprived to most deprived.

Figure 2 shows the distribution of child deprivation using IDACI deciles across England. The most deprived areas (darker shades) are predominately in the urban areas in the North West, North East, West Midlands, and London. However every region has some areas in the most deprived decile.

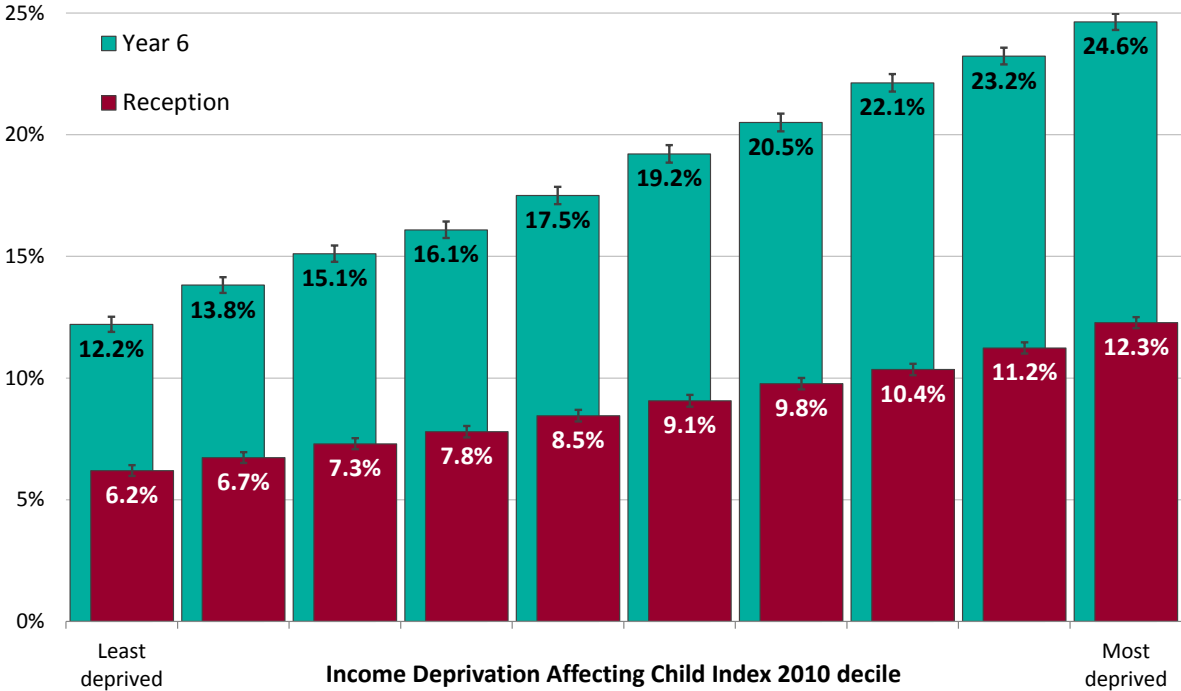
Figure 2: Distribution of Income Deprivation Affecting Children Index 2010 deciles in England



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Figure 3 shows the prevalence of child obesity within each IDACI decile. As with the IMD, obesity prevalence is closely related to deprivation. It is higher in more deprived areas for both sexes and both school year groups. In Reception, obesity prevalence ranges from 6.2% in the least deprived areas to 12.3% in the most deprived, and for those in Year 6 it ranges from 12.2% to 24.6%.

Figure 3: Prevalence of obesity in children by school year, by Income Deprivation Affecting Children Index (IDACI) 2010 decile, 2012/13



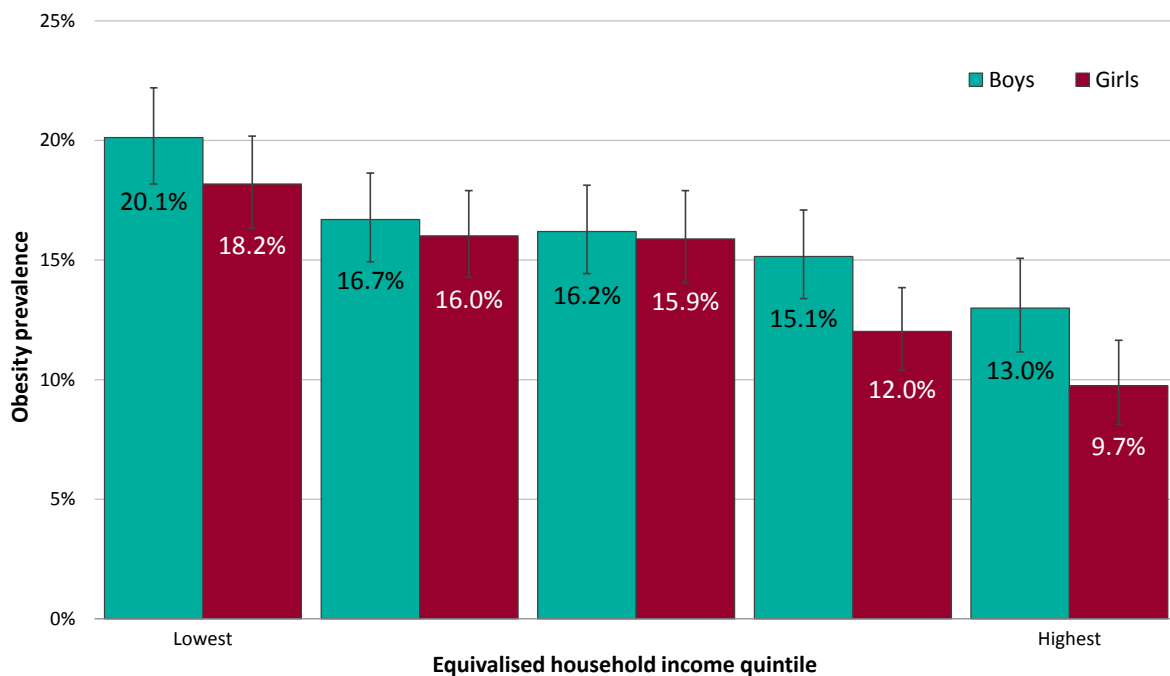
Source: National Child Measurement Programme

Child obesity and household income

The HSE collects information on household income, adjusted to take into account the number of people living in the household (equivalised household income), which can be used as a measure of socioeconomic status. Figure 4 illustrates the prevalence of obesity among children split into five equal-sized groups (quintiles) by household income level. Owing to the small sample size in the HSE, data from 2008 to 2012 has been combined to make the figures more robust.

Figure 4 shows a general trend of decreasing obesity prevalence with increasing household income. For both girls and boys, obesity prevalence was significantly higher in the lowest income quintile than among those in the highest.

Figure 4: Prevalence of obesity among children (aged 2 to 15 years) by equivalised household income quintile: Health Survey for England, 2008–2012



Source: Health Survey for England

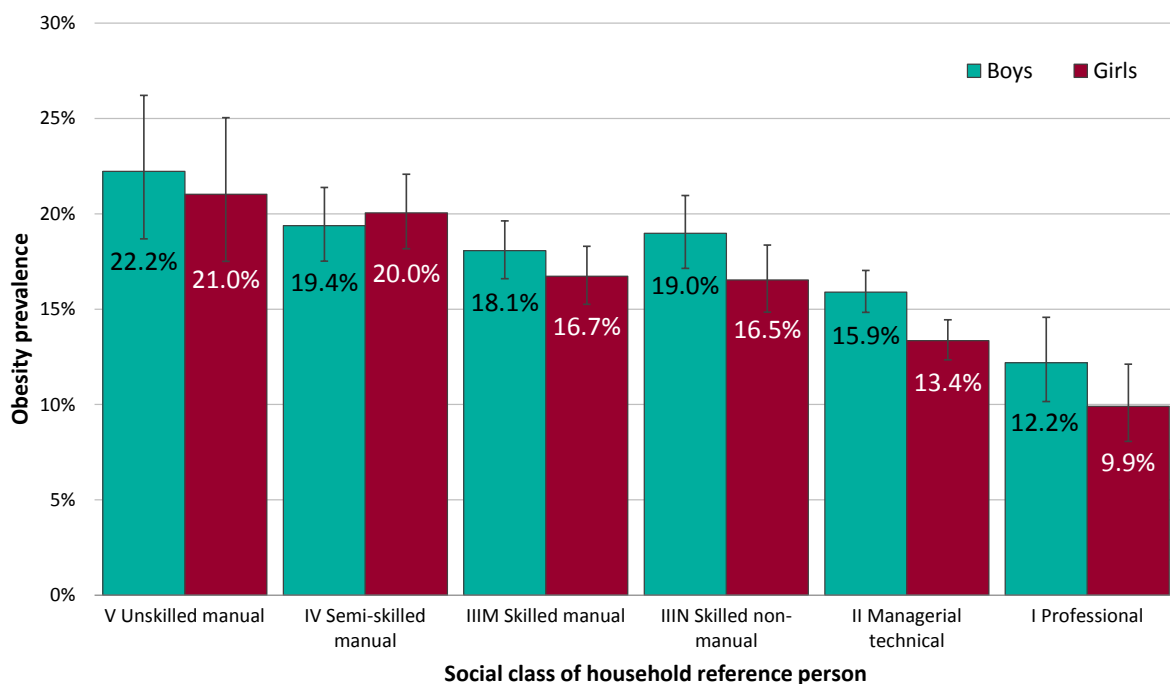
Child obesity and social class

The HSE provides a definition of social class according to occupation groups based on skill levels, ranging from 'professional' to 'unskilled manual'. In this analysis social class is derived from the occupation of the reference person in the household – the main income earner. As with equivalised income, data from 2005–2009 has been combined to make the estimates more robust. Social class was not available in the 2010 or 2011 HSE data, so these charts have not been updated.

Figure 5 illustrates obesity prevalence in children by the social class of the household reference person. It shows a general trend of decreasing obesity prevalence with increasing occupational skill level, from professional occupations to unskilled manual occupations.

Obesity prevalence among both girls and boys from professional households is significantly lower than among those from the skilled and unskilled manual groups. If social classes are combined into manual (IIIM, IV, V) and non-manual groups (I, II, IIIN), obesity prevalence is significantly higher in children in the manual group (this analysis is not illustrated here).

Figure 5: Prevalence of obesity among children (aged 2 to 15 years) by social class of household reference person: Health Survey for England, 2005–2009



Source: Health Survey for England

What different deprivation measures tell us

It is clear that there are significant inequalities in obesity prevalence within the child population. Obesity is strongly related to socioeconomic status in children and this result remains, almost entirely consistent, across a range of different socioeconomic status indicators.

If up-to-date, individual-level information (for example income or social class) is available for children and their families, this provides the most accurate way of identifying children at high risk of obesity. If only geographic information such as postcode is available, then area-level indicators of socioeconomic status, such as the IMD and IDACI, provide a good indication of risk of obesity for children.

Data sources

Health Survey for England

<http://www.hscic.gov.uk/catalogue/PUB13218>

The HSE is a cross-sectional survey that samples a representative proportion of the population.

Timing of data collection: The survey is conducted annually. Data for some of the time series are available from 1995 onwards. Certain years include 'boost samples' that focus on specific population groups: eg 2004 included a boost of individuals from minority ethnic groups.

Date of next release: The report on the HSE 2013 should be published online in December 2014. The data should be available from the UK Data Archive in the spring following publication of the report.

Health Survey for England, 1995-2012. Joint Health Surveys Unit (Nat Cen Social Research & UCL) 2014. The Health and Social Care Information Centre: Leeds. Copyright © 2014, Re-used with the permission of the Health and Social Care Information Centre. All rights reserved.

National Child Measurement Programme

<http://www.hscic.gov.uk/ncmp>
<http://www.noo.org.uk/ncmp>

The NCMP is an annual programme that measures the height and weight of children in Reception (aged 4–5 years) and Year 6 (aged 10–11 years) attending schools in England. Although the NCMP only covers certain age groups, it includes the majority of children in those year groups. The participation rate in 2012/13 was 93%.

Timing of data collection: The NCMP was established in 2006. Data are collected annually during the school year.

Date of next release: The Health and Social Care Information Centre will publish NCMP data for the 2013/14 school year in December 2014.

Statistics on Obesity, Physical activity and Diet: England, February 2014

<http://www.hscic.gov.uk/catalogue/PUB13648>

Indices of Deprivation 2010 (includes IMD and IDACI)

<http://www.communities.gov.uk/communities/research/indicesdeprivation/deprivation>
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Definitions

Body mass index classification in children

BMI is a measure of weight status that adjusts for height. BMI is a person's weight in kilograms divided by the square of their height in metres. In this briefing the British 1990 growth reference (UK90) for BMI is used to determine weight status according to a child's age and sex. Children whose BMI is between the 85th and less than the 95th centile are classified as overweight and those at or above the 95th centile are classified as obese. This definition is commonly used in England for population monitoring rather than clinical purposes.

For clinical assessment, children whose BMI is between the 91st and less than the 98th centile are classified as overweight and those at or above the 98th centile are classified as obese.

Confidence intervals on the charts

Error bars (I) on the charts are 95% confidence intervals. These indicate the level of uncertainty about each value on the chart. Wider intervals mean more uncertainty.

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First published: March 2010 Updated: August 2014

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