Child Obesity and National Child Measurement Programme (NCMP)

Introduction

Childhood obesity is a public health concern due to immediate and long-term impacts; it is well known that childhood overweight/obesity without proper intervention persists into adulthood. Obesity increases the risk of many health conditions including type 2 diabetes, coronary heart disease, stroke, certain cancers and poor mental health and self-esteem. A recent study found that the risk of diabetes and high blood pressure are significantly lower in middle age in UK adults given low sugar in first 1,000 days of life, highlighting the importance of promoting healthy lifestyles in all children. [1]

This briefing is an analysis of data collected through the National Child Measurement Programme (NCMP). NCMP is a Public Health surveillance programme operating across England. It measures the heights and weights of primary school children in schools in Reception Class (ages 4 and 5) and Year 6 (ages 10 and 11) to monitor and assess population weight status. This briefing describes how the programme operates in Norfolk, how it is delivered, and what the latest data from the programme tells us about children's weight in relation to health and well-being.

Obesity is a complex condition. Poor diets (especially high in sugars) and physical inactivity are primary causes of unhealthy weight. However, socioeconomic factors (such as deprivation and unhealthy behaviour), genetics (including parental obesity), disability and ethnicity are all contributing and related factors.[2]

With an increasing overall population in Norfolk and renewed focus on addressing wider indirect health impacts highlighted by the covid 19 pandemic, tackling overweight and obesity is important for improving the health and wellbeing of Norfolk residents and reducing inequalities.[3]

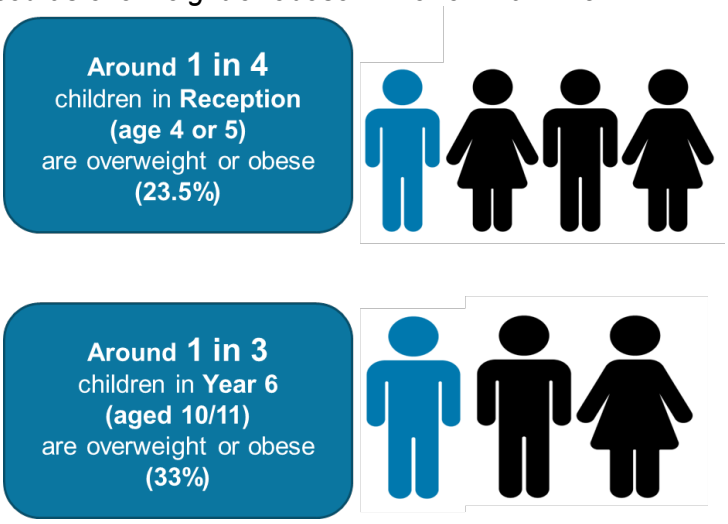
Summary

Since 2006, the National Child Measurement Programme (NCMP) has provided data on the patterns and trends in the prevalence of overweight and obesity among Reception Class and Year 6 children in England. This data contributes to local strategic planning and development of public health interventions in Norfolk, targeting children's nutrition and healthy weight lifestyles according to needs. NCMP is also a screening tool to identify children in need of further support.

Overall, the proportion of children in Reception Class and Year 6 in Norfolk that are overweight or obese is similar to the national rate – however, these rates are still high with many children affected. The latest figures for Reception children in Norfolk (aged 4/5) are 23.5% overweight or obese, and for Year 6 (age 10/11), 33% overweight or obese (2024/25). In context, one in three children in Norfolk are likely to be over a healthy weight by the time they leave primary school.

[1] NHS. (2023). Obesity. Retrieved April 8, 2025, from https://www.nhs.uk/conditions/obesity/
[2] Public Health England, 2017. *Health matters: obesity and the food environment.* [Online] Available at: https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2#factors-behind-the-rise-in-obesity-levels
[3] Norfolk County Council. (2023, June). *Public Health Strategic Plan.* Retrieved from Norfolk Insight: https://www.norfolkinsight.org.uk/jsna/public-health-strategic-plan/2023/06/23/

Figure 1 Children who classed as overweight or obese in Norfolk 2024/25.



This report analyses the trends in terms of deprivation, geography and ethnicity, considering the impacts of social and environmental factors in obesity in children. As with national trend, children in the most deprived areas, as well as black ethnic groups in Norfolk have a higher prevalence of overweight and obesity. In both year groups, prevalence of overweight and obesity is generally higher in boys. The paper also highlights current local services aimed at targeting those living with excess weight to help make long-term, sustainable changes to health of children and young people.

Background

This report focuses on children in reception (ages 4 and 5) and year 6 (ages 10 and 11) in Norfolk, the year groups which take part in the NCMP. Due to associated health risks, service pressures and trends, the focus is on those whose weight is classed as overweight or obese (including severe obesity), defined below. Unless otherwise stated, this report generally refers to this grouped category 'overweight or obese'.

The data timeframe will refer to the latest data (2024/25) or, where appropriate, be aggregated over multiple years; this will be clearly stated alongside the data.

The National Child Measurement Programme (NCMP) was established in 2006 and measures height and weight of children in Reception (aged 4 to 5 years) and Year 6 (aged 10 to 11 years). This information is collected every year across mainstream state schools in England allowing services to support families to lead healthy lives. NCMP operates as a data collection but also as screening to identify children in need of further support.

The definition of overweight and obesity in children is more complex than adults, this is because children of different ages and sexes grow and develop at different rates.[4] Body Mass Index (BMI) is a measure of whether someone has a healthy weight. BMI is calculated by dividing the weight (in kilograms) by the square of the height (in metres). For adults, fixed thresholds are used to classify weight but for children, this figure is compared to a reference sample of measurements gathered in 1990, which take age and sex into account. In England the National Institute for Health and Care Excellence (NICE) recommend using the British 1990 (UK90) growth reference.

The child's BMI centile is a measure of how far a child's BMI is above or below the average BMI value for their age and sex in a reference population. For example, a girl on the 85th centile is heavier than 85 out of 100 other girls her age. For population monitoring purposes, a child's BMI is classed as overweight or obese when it is on or above the 85th centile or 95th centile respectively, based on the UK90 growth reference data, Table 1.

[4] National Child Measurement Programme - NHS England Digital

Table 1 - UK90 population monitoring cut offs used in the Obesity Profile[5]

BMI centile range	**BMI Category**
Less than or equal to 2nd centile	Underweight
Greater than 2nd and less than 85th centile	Healthy weight
Greater than or equal to 85th and less than 95th centile	**Overweight**
Greater than or equal to 95th centile	**Obesity**
Greater than or equal to 99.6th centile	Severe obesity

A specially trained member of the Healthy Child Service attends the school to carry out the measurement.[6] The process for the NCMP in Norfolk is:

Parental notification: parents are informed about the programme and given the option to opt their child out if they do not wish to participate.

Measurement process: trained healthcare professionals visit schools to measure the height and weight of children in Reception and Year 6. The measurements are conducted in a sensitive and confidential manner.

Data collection: the data is recorded and sent to NHS Digital for collation. Individual results are not shared with schools or other children.

Feedback to parents: parents receive a letter on their child's measurements, including information on their child's weight status if not in the healthy range. It also includes next steps with links to helpful information and support offered by the provider for CYP Healthy Weight Service (DDM, trading as Gro Health).

Public health use: the anonymised data is used to monitor trends in child obesity and to plan and evaluate public health interventions.

Participation in NCMP

The participation rate can affect the accuracy of obesity estimates. A child, parent or schools can opt out of NCMP. Participation is encouraged to helps ensure success of the programme to improve child health and wellbeing through targeted support. Participation in the NCMP (proportion of eligible pupils being measured) is usually high nationally at around 95%,[1] Norfolk also has a high participation rate of 96% Reception and 94.4% at Year 6 (2024/25). The target is for a minimum 95% participation rate in Norfolk.

From the 2025/26 collection year NCMP is available to both mainstream schools and Special Educational Needs and Disabilities (SEND) schools.

Participation was impacted by Covid-19, notably in collection years 2019/20 and 2020/21. The spring 2020 lockdown heavily impacted reception in the 2019/20. NCMP operates as a data collection but also as screening to identify children in need of further support. In 2020/21 resources were targeted to schools with known higher obesity rates. Whilst this enabled more service referrals, it skewed the data and is not representative of the population.

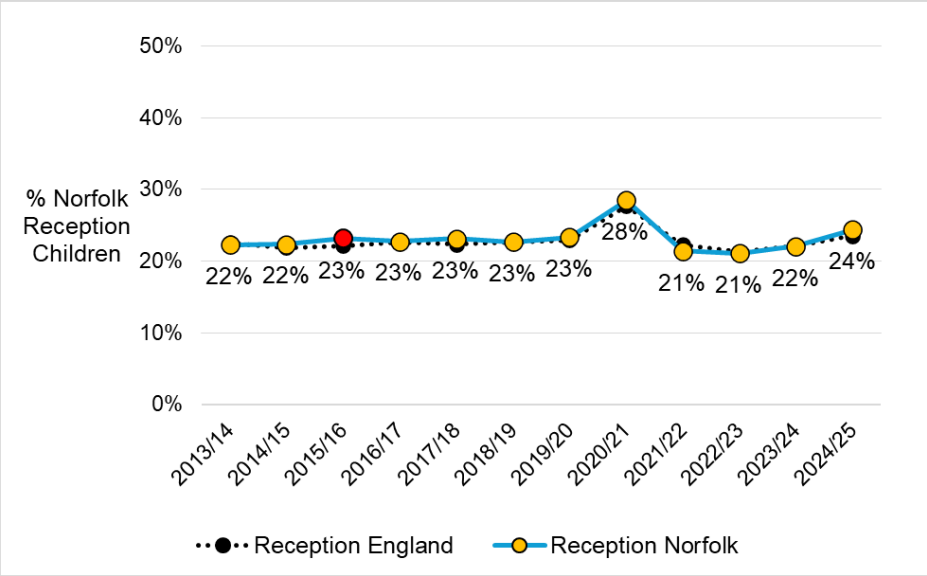
[5] National Obesity Observatory (2011) A simple guide to classifying body mass index in children https://webarchive.nationalarchives.gov.uk/ukgwa/20170110173352/http:/www.noo.org.uk/uploads/doc/vid_11762_classifyingBMIinchildren.pdf

[6] Just One Norfolk (2024). https://www.justonenorfolk.nhs.uk/our-services/school-height-and-weight-checks/national-child-measurement-programme-ncmp/ (Accessed 17/12/2024)

Trends in overweight and obesity in Norfolk

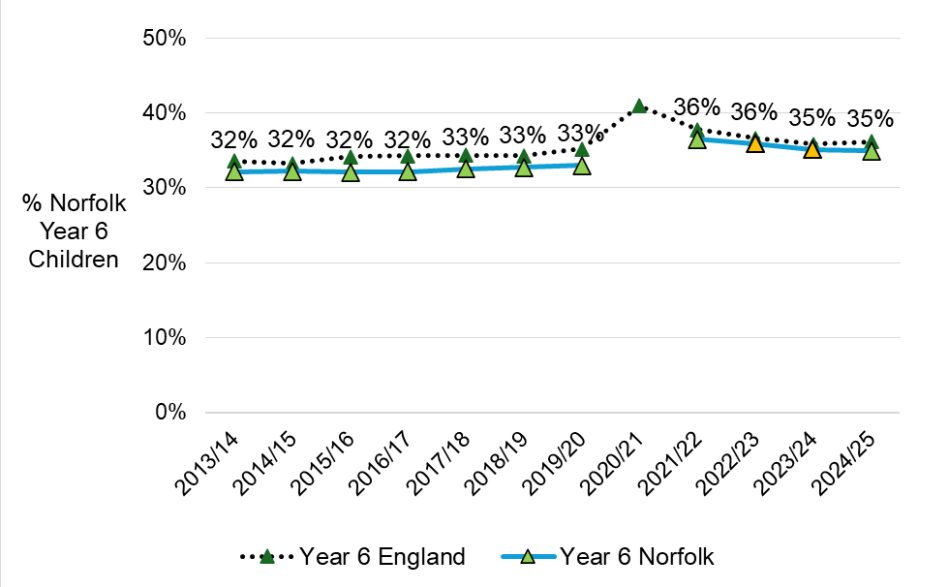
Rates of overweight and obesity for Reception in Norfolk have mostly been statistically similar to England and have generally been between 22% and 24% (see figure 2). The latest trends indicate no significant change. The spike in 2020/21 reflects the changes in delivery during the Covid 19 pandemic.

Figure 2 - Trends in overweight and obesity in Reception (Norfolk and England). 2024/25.



The proportion measured as overweight or obese in Year 6 is statistically significantly better than the national average, with no significant recent trend, although and the latest year remains notably above pre-pandemic levels at 34.9% compared to 33% (see figure 3). The spike in 2020/21 reflects the changes in delivery during the Covid 19 pandemic.

Figure 3 Trends in overweight and obesity in Year 6 (Norfolk and England). 2024/25.



Recent analysis at national level links data collected at Reception and Year 6 children to explore change over time and how children move between BMI categories between the start and end of primary school.[7] Whilst most children who were healthy weight in Reception remain so by Year 6, the flow of children from a healthy weight to a higher BMI category (overweight or obese) was higher than children going a from a higher BMI category to healthy. This means relatively more children are gaining excess weight during primary school than are reducing it. In Norfolk, 21.2% of children in reception moved to a higher BMI by year 6, similar to national rate (21.5%).

Influences on Health and Wellbeing

There is concern about the rise of childhood obesity and the implications of obesity persisting into adulthood. The risk of obesity in adulthood and risks of future obesity-related ill health are greater as children get older. Studies tracking child obesity into adulthood have found that the probability of children who are overweight or living with obesity becoming overweight or obese adults increases with age. The health consequences of childhood obesity include: increased blood lipids, glucose intolerance, Type 2 diabetes, hypertension, increases in liver enzymes associated with fatty liver, exacerbation of conditions such as asthma and psychological problems such as social isolation, low self-esteem, teasing and bullying.[8]

[7] Public Health England. (2023). *Changes in the BMI category of children between the first and final years of primary school*. Retrieved April 8, 2025, from https://fingertips.phe.org.uk/static-reports/national-child-measurement-programme/Changes-in-the-BMI-category-of-children-between-the-first-and-final-years-of-primary-school-2.html#main-messages

[8] Office for Health Improvement and Disparities. Obesity, physical activity and nutrition profile. 2025 https://fingertips.phe.org.uk © Crown copyright

Social, environmental, population context

This section explores variation in rates of overweight and obesity by sex and then by deprivation, geography and ethnicity, interconnected factors.

By Sex

In both school years, boys generally have higher rates of overweight and obesity than girls, with the difference more marked in Year 6. The latest figures show at Reception age (age 4/5) 23.4% for boys and 20.7% for girls are overweight or obese and in Year 6 (age 10/11) 37.2% for boys and 33.0% for girls are overweight or obese. See figures 4 and 5.

*Figure 4 - Trend in overweight and obesity in **Reception by sex** (spike in 20/21 due to Covid 19). Shaded area shows confidence intervals. 2024/25.*

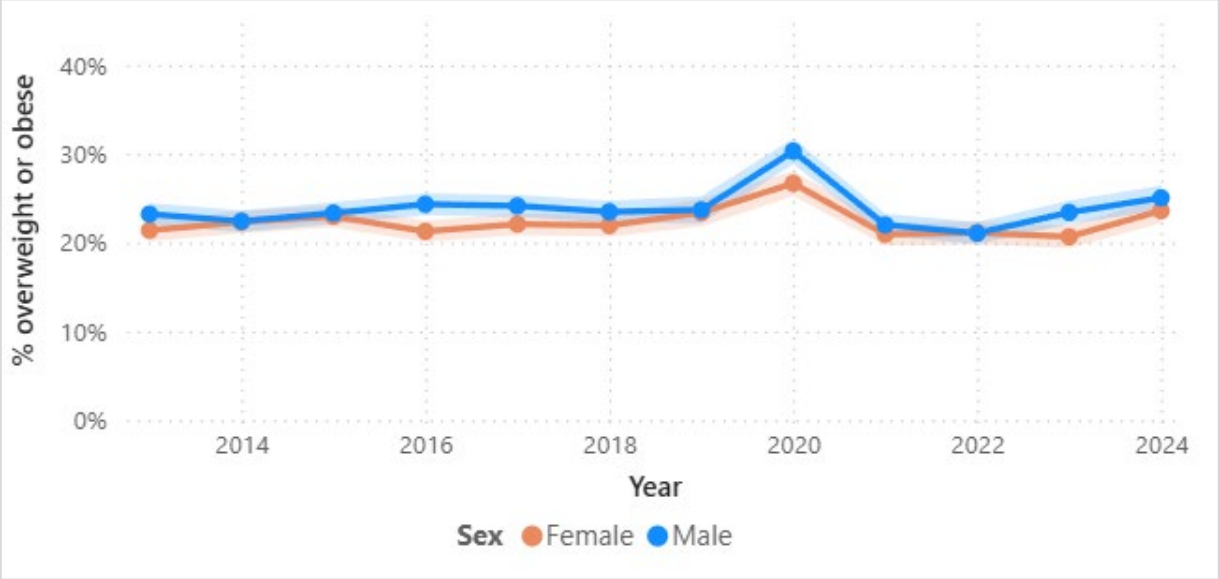
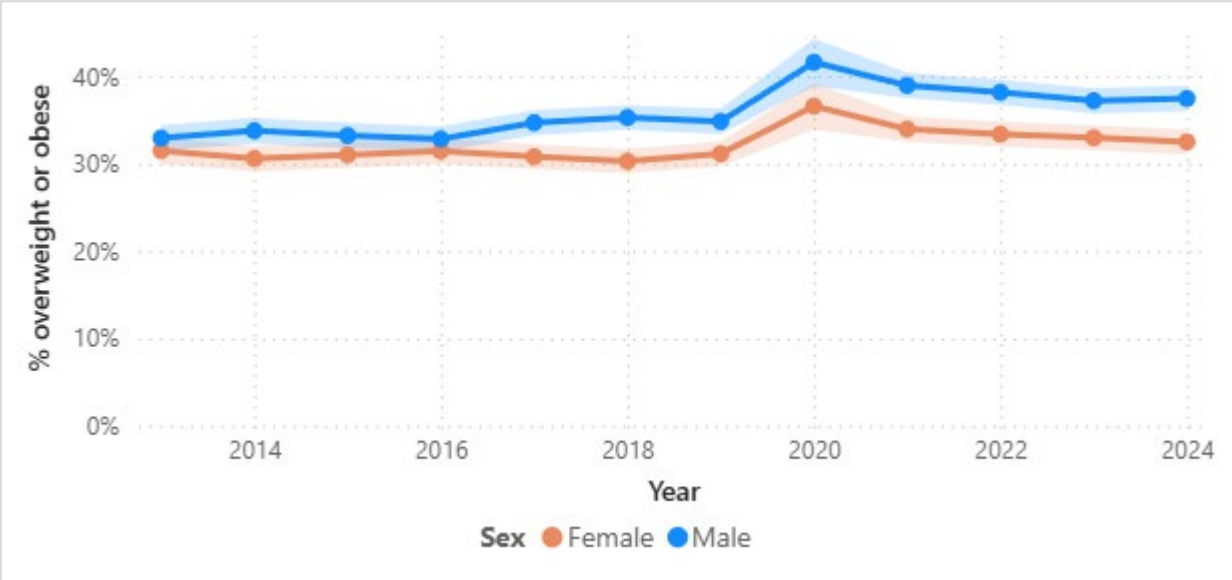


*Figure 5 - Trend in overweight and obesity in **Year 6 by Sex** (spike in 20/21 due to Covid 19). Shaded area shows confidence intervals. 2024/25.*



By Deprivation

There is a strong relationship between deprivation and obesity - children resident in the most deprived parts of the country are more than twice as likely to be living with obesity than those in the least deprived areas. This is due to a range of interconnected sociodemographic factors, but research shows that poor diet is a primary contributor to obesity and that people living in more deprived areas generally have less healthy diets. One of the reasons for this is the cost of healthy food – research found that that on average, healthier foods were more than twice as expensive per calorie as less healthy foods, with the cost of healthier food increasing in price at twice the rate.[9]

Based on the Indices of Multiple Deprivation (IMD), areas are divided into ten groups (or deciles), with Decile 1 being the most deprived and Decile 10 being the least deprived nationally. In Norfolk, Great Yarmouth, King's Lynn and Norwich have a higher number of areas which are in the 20% most deprived areas in the county (Deciles 1 and 2).

For both school years, rates of overweight and obesity are significantly higher in the most deprived deciles compared to the least, consistent with national data (latest three years). Deciles 1,2 and 3 are also significantly higher than Norfolk as a whole (see Figure 6 and Figure 7).

*Figure 6 – Percentage overweight or obese by **IMD decile – Reception Class**. Decile 1 is most deprived and decile 10 is least deprived. Three years 2022/23 - 2024/25.*

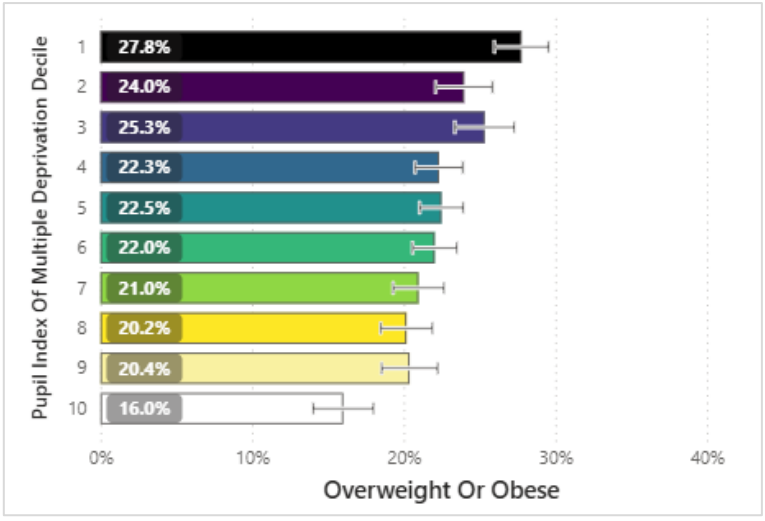
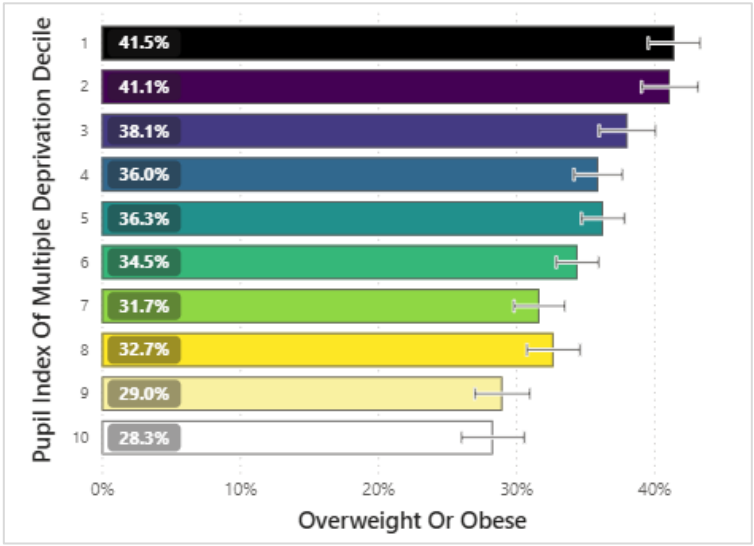


*Figure 7 - Percentage overweight or obese by **IMD decile – Year 6**. Decile 1 is most deprived and decile 10 is least deprived. Three years 2022/23 - 2024/25.*



[9] Public Health England, 2017. *Health matters: obesity and the food environment.* [Online] Available at: https://www.gov.uk/government/publications/health-matters-obesity-and-the-food-environment/health-matters-obesity-and-the-food-environment--2#factors-behind-the-rise-in-obesity-levels

The trend overtime shows that the gap between most and least deprived increases with age and is greater in Year 6 (15 percentage points difference in 2024/25 between Decile 1 and Decile 10 as opposed to 12 at Reception).

Figure 8 - Trend in overweight and obesity by Deprivation Decile for Reception (decile 1 is most deprived and decile 10 is least deprived).

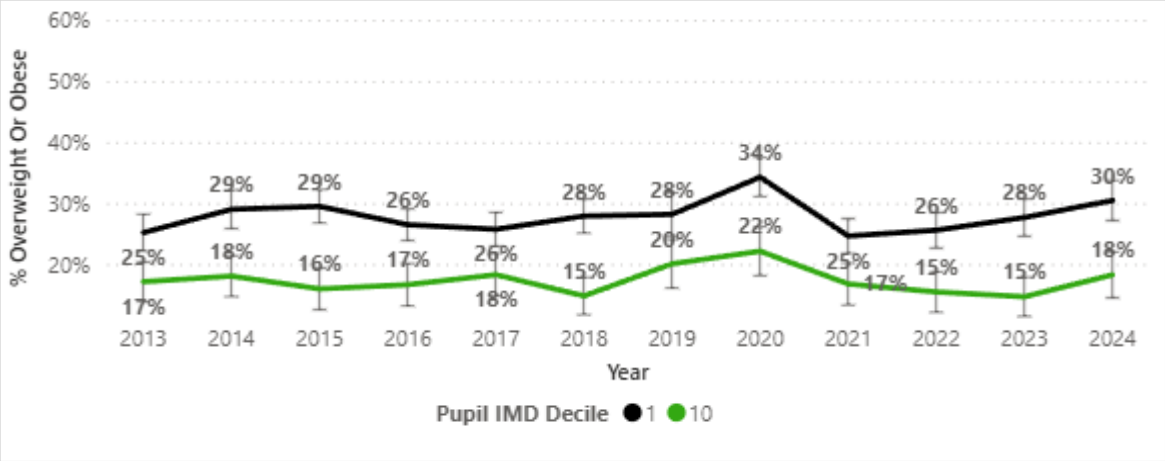
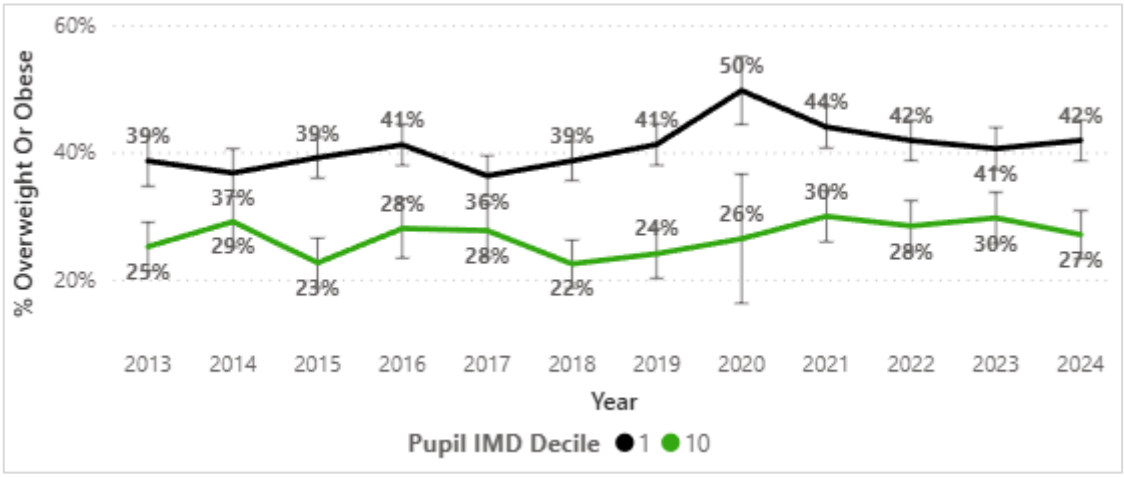


Figure 9 - Trend in overweight and obesity by Deprivation Decile for Year 6 (decile 1 is most deprived and decile 10 is least deprived).



By Geography

Latest data shows higher rates of overweight and obesity in King's Lynn and West Norfolk at Reception age and Great Yarmouth at Year 6 (see Figure 10 and Figure 11). Both these districts contain more deprived areas of Norfolk. In contrast, South Norfolk and Broadland are significantly lower than national and these districts are generally less deprived overall.

*Figure 10 – Percentage overweight or obese by **Norfolk District – Reception Class** (age 4/5). Dotted line shows Norfolk rate. 2024/25.*

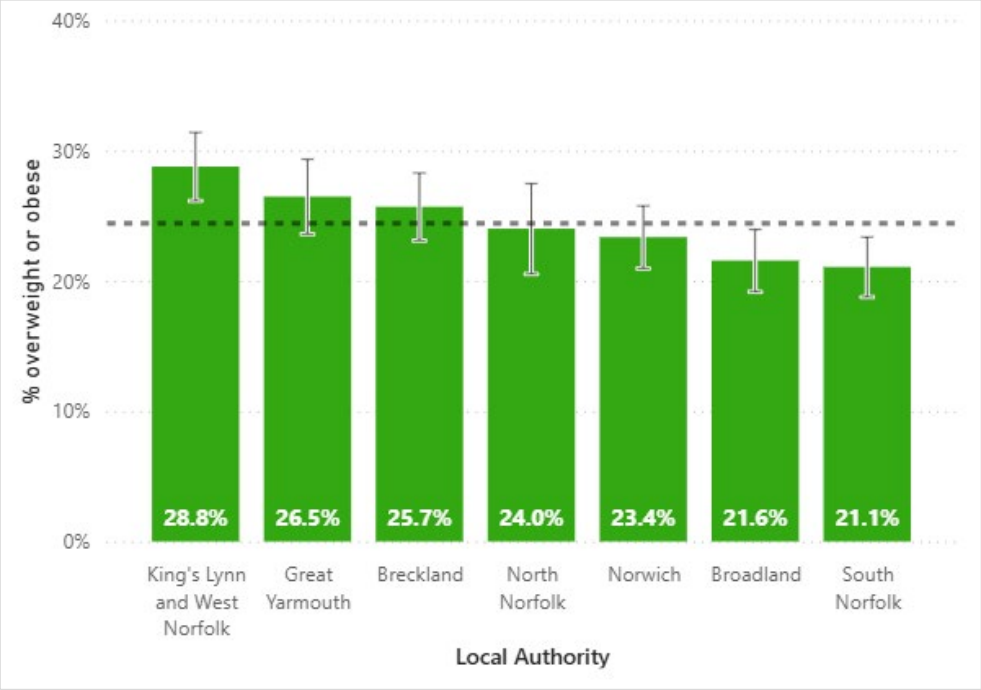
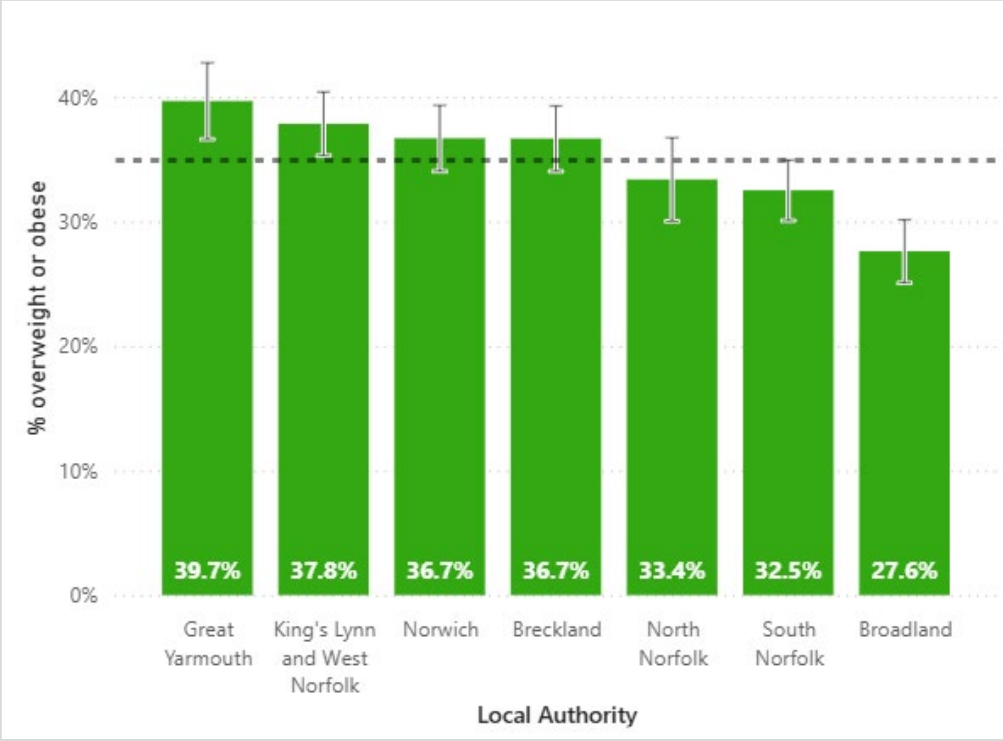
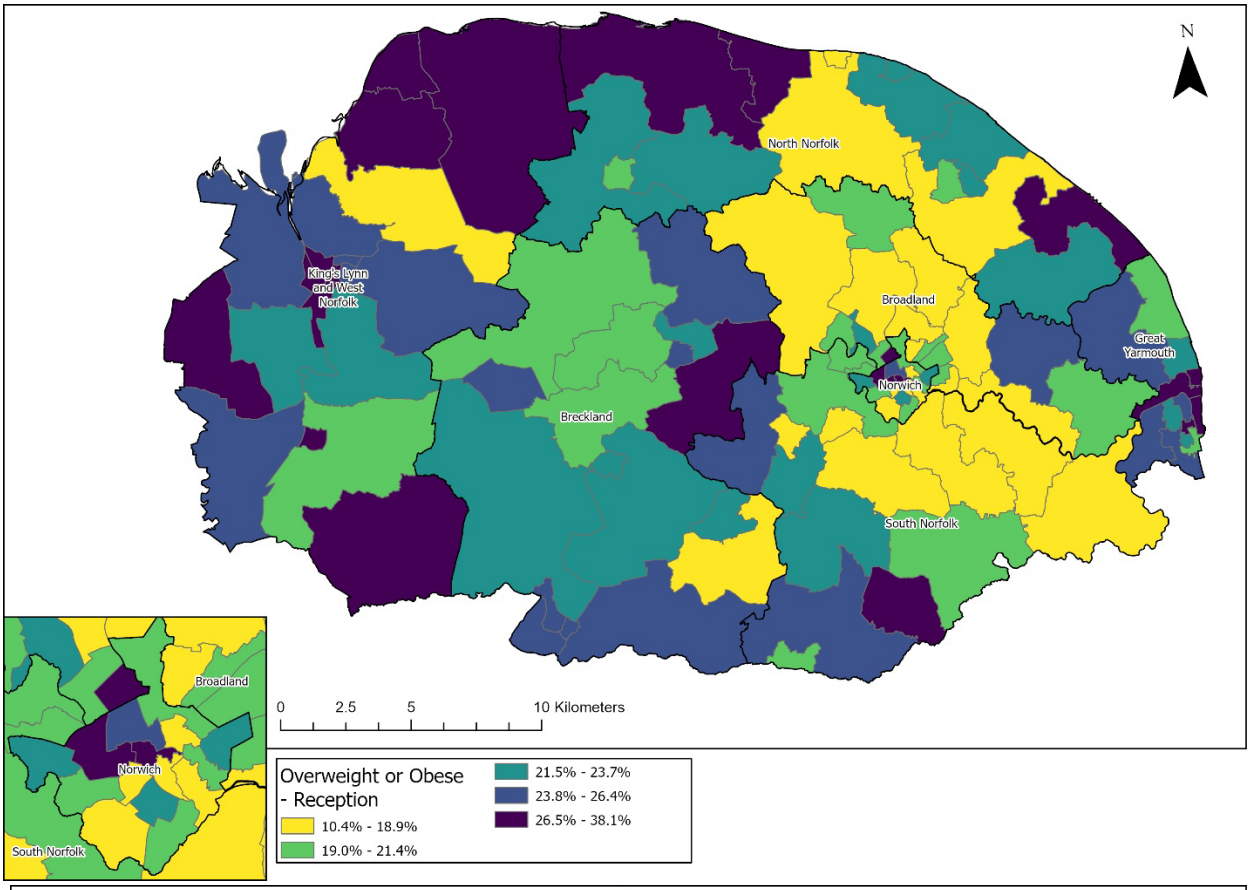


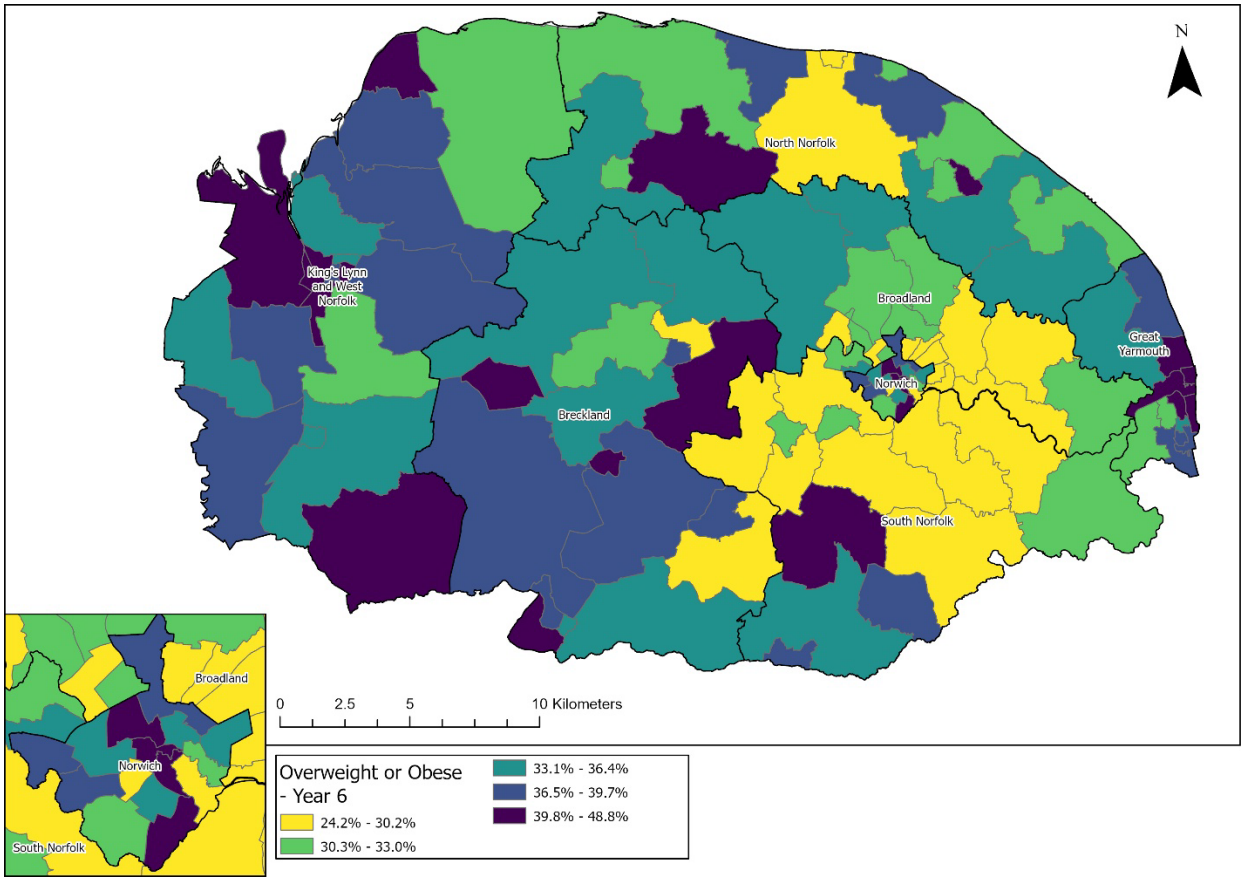
*Figure 11 - Percentage overweight or obese by **Norfolk District - Year 6** (age 10/11). Dotted line shows Norfolk rate. 2024/25.*



Breaking this down further, the following maps show variation in overweight and obesity rates across Norfolk in Middle Super Output Areas (MSOAs), statistical geographies with populations of 5,000 to 15,000. Data from 2022/23 to 2024/25 is aggregated for a fuller dataset. Note that the areas of highest prevalence are not always the same across the two school years.

Figure 12 & 13 - Overweight and obesity rates by MSOA Reception & Year 6. 2022/25.





By Ethnicity

Latest data (2024/25) shows that nationally, prevalence of overweight and obesity is highest in the Black African ethnic group in both Reception and in Year 6. A national study found that ethnicity has an independent effect on obesity prevalence in both Year 6 and Reception boys and girls even when factors like deprivation are controlled for. However, controlling for differences in height suggests that previous findings showing that children from Black backgrounds are more likely to be obese are to some extent due to physical characteristics related to ethnicity, in particular height.[10]

Norfolk overall is less ethnically diverse than the national population and so ten years of data has been aggregated (2014/15 to 2024/25) to give a larger sample size. This shows that the black ethnic group has a significantly higher proportion of overweight and obese children in both Reception and Year 6 in Norfolk. Whilst this data is consistent with national findings, it should be noted that relatively smaller sample sizes mean this data should be treated with caution.

*Figure 14 - Percentage overweight or obese by **Ethnicity – Reception Class** (age 4/5). 2014/15 to 2024/25.*

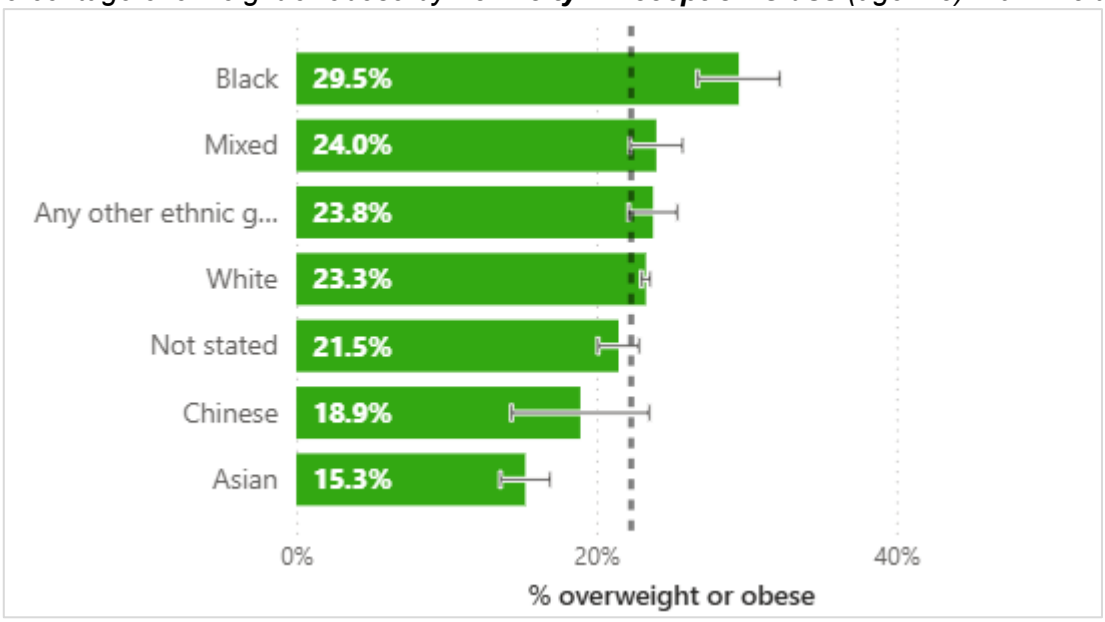
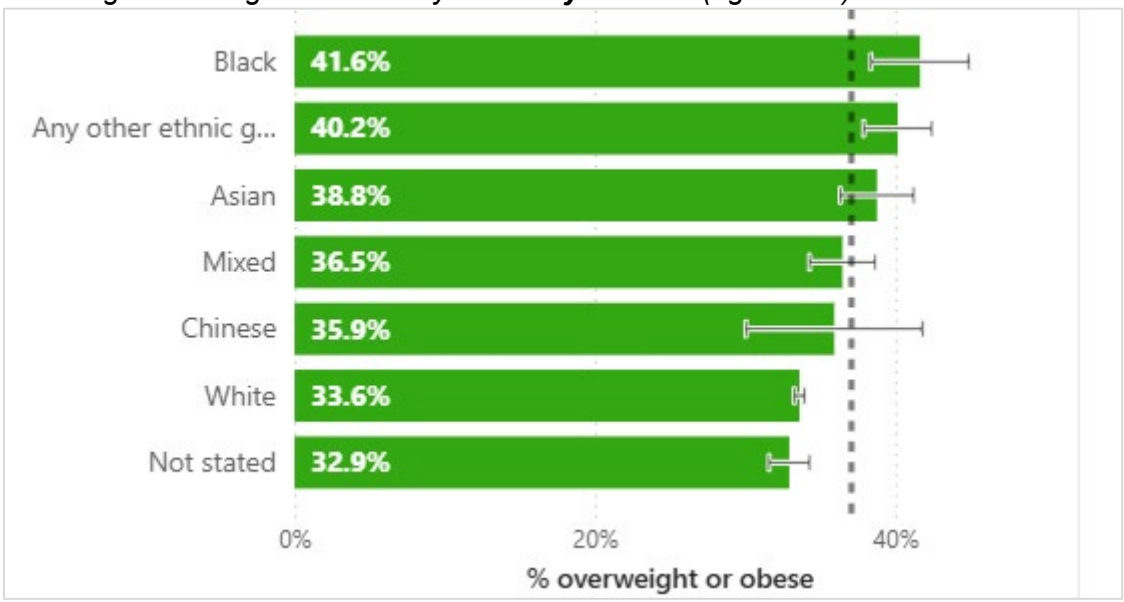


*Figure 15 - Percentage overweight or obese by **Ethnicity - Year 6** (age 10/11). 2014/15 to 2024/25*



[10] Public Health England (2019) Differences in child obesity by ethnic group. Differences in child obesity by ethnic group - GOV.UK

Current services, local plans and strategies

Weight management services for Children and Young People (CYP) are grouped by Tiers from 1 to 3 with increasing levels of intervention/need, detailed below. Local Authorities are responsible for commissioning Tier 1 and 2 services and Tier 3 delivered by NHS Trusts.

Tier 1 Healthy Weight Service

The Norfolk County Council commissioned Tier 1 Healthy Weight support, part of East of England Community Health and Care NHS Trust's universal Healthy Child Service, promotes healthy behaviours and prevents obesity in children aged 0–19 through health visiting and via platforms like Just One Norfolk[11], Just One Number[12], and For Your Information (FYI)[13]. School Nursing delivers the National Child Measurement Programme and Health Visiting services offering infant weight checks, feeding advice, and early-years nutrition.

Tier 2 Healthy Weight Service

The Tier 2 Healthy Weight Service, commissioned by Norfolk County Council, is delivered by DDM Health (Gro Health). It supports children and young people aged 4 to 18 with a BMI at or above the 91st centile through a 12-week programme. Strand 1 targets primary-aged children and their families, while Strand 2 supports older children with flexible, independent lifestyle changes. The programme covers topics including nutrition, physical activity, wellbeing, and sleep to help children and young people achieve and maintain a healthy weight. It is delivered both digitally and in person.[14]

Tier 3 NHS Weight Management Service

The Tier 3 Healthy Weight Service for children and young people (CYP) in Norfolk is delivered across three NHS hospitals, each offering different services:

Norfolk and Norwich University Hospital (NNUH): Children & Young People's Complications from Excess Weight (CEW) Clinics. This service is for CYP aged 2 to 18 and focuses on identifying factors involved in the development of severe obesity, treating complications associated with severe obesity, and creating an individualized holistic plan.[15]

The Queen Elizabeth Hospital King's Lynn (QEHKL): Services for fussy/restrictive eating, Avoidant Restrictive Food Intake Disorder (ARFID), and weight management/obesity.[16]

James Paget University Hospital (JPUH): Medical assessments and dietetic & lifestyle advice for overweight and obese children aged 2 to 18.[17]

National Action

At the national level, the Government is taking action to encourage healthier food choices and to tackle excess weight, including: The Soft Drinks Industry Levy (removing sugar from soft drinks), calorie labelling, legislation to restrict the placement of foods high in fat, sugar or salt in supermarkets to reduce the likelihood of impulse

[11] NHS Cambridgeshire Community NHS Trust (2026), Just One Norfolk. Available at https://www.justonenorfolk.nhs.uk/
[12] NHS Cambridgeshire Community NHS Trust (2026), Just One Number. Available at https://www.justonenorfolk.nhs.uk/our-services/just-one-number-parentline
[13] NHS Cambridgeshire Community NHS Trust (2025), For Your Information. Available at https://www.fyinorfolk.nhs.uk/
[14] Gro Health. (2025). Norfolk's Healthy Weight Service for children and young people. Available at: https://web.grohealth.com/norfolk
[15] NHS England (2025), Complications from Excess Weight (CEW) clinics for children. Available at https://www.england.nhs.uk/get-involved/cyp/specialist-clinics-for-children-and-young-people-living-with-obesity/
[16] The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust (2025), Nutrition and Dietetics. Available at https://www.qehkl.nhs.uk/Dietetics.asp
[17] James Paget University Hospital Foundation Trust (2025) The Cove Children Clinic. Available at https://www.jpaget.nhs.uk/departments/children-and-young-peoples-services/the-cove-childrens-clinic/

purchases, helping children and young people have an active start to life, with funding for the PE and Sport Premium and the School Games Organisers network, and the junk food advertisement ban.

Conclusion

Unhealthy weights in children are complex. Diet, physical activity, deprivation, unhealthy behaviour, genetics (including parental obesity), disability and ethnicity are all contributory factors. The NCMP data not only highlights some these health inequalities to identify the local population's needs, but it is also used to monitor progress in achieving the targets and help families get support.

Rates of overweight and obesity for Reception in Norfolk have mostly been statistically similar to England and have generally been between 22% and 24%. The latest trends indicate no significant change. The proportion measured as overweight or obese in Year 6 is statistically significantly better than the national average, also with no significant recent trend, although and the latest year remains notably above pre-pandemic levels at 34.9% compared to 33%.

In both years, prevalence of overweight and obesity is generally higher in boys. There is variation by geography with more deprived areas experiencing higher rates of overweight and obesity. Data also shows that the black ethnic group has a significantly higher proportion of overweight and obese children in both years, similar to national average.

Tackling child and adult obesity is a priority at both national and local level.

Online feedback:

Send us your query or feedback online using our online feedback form at http://www.norfolkinsight.org.uk/feedback

Email: JSNA@norfolk.gov.uk